India: The Swajal Project, Uttar Pradesh

Background

Rationale and Objectives. The World Bank-assisted Uttar Pradesh (UP) Rural Water Supply and Environmental Sanitation Project (the Swajal project) has two main development objectives: (a) to deliver sustainable health and hygiene benefits to the rural population through improvements in water supply and environmental sanitation services and (b) to promote the long-term sustainability of the rural water supply and sanitation sector by providing assistance to the government of UP to identify and implement an appropriate policy framework and strategic plan. The Swajal project also aims to test and validate an alternative service delivery mechanism in order to scale-up. Through the promotion of a demand-responsive approach in collaboration with NGOs, the project seeks to strengthen the capacity of rural communities to plan, implement and maintain their water supply and sanitation schemes. In the process, local ownership would be increased and management and decisionmaking capacity at the grassroots level would be strengthened.

Scope and Scale. The project has three main components: (a) water supply, including piped water supply systems, hand pumps, rainwater harvesting structures, and dug wells; (b) environmental sanitation, including individual latrines, drainage systems, and compost pits; (c) health and environmental sanitation awareness, women's development initiatives, and non-formal education; and (d) studies and sector development. The total project size is $71 million, covering approximately 1,000 villages with a population of 1.2 million, in 19 districts in the Hill and Bundelkhand regions over a period of six years (1996-2002). The project is being implemented in four overlapping phases, or batches: 90 villages in Batch 1, 260 in Batch 2 and 325 each in Batches 3 and 4. More than half of the project beneficiaries are considered to be in the poverty group.

Setting. UP has a population of 160 million, of which about 80 percent live in rural areas. It is one of the poorest states in India, with an annual per capita income of $450 (as of 1999) and having roughly 40 percent of its population in the poverty group. The two project areas selected, the Hills and Bundelkhand, are the most water-scarce in the state. The level of community development in these two project areas, however, is uneven. In the hills of UP, the level of community initiative and cohesiveness is relatively high. The hills have seen several community-led initiatives, such as the women-led forest conservation “Chipko” movement. On the other hand, in the Bundelkhand plains at the southwestern end of the state, the level of social capital is relatively low.

Existing rural water service delivery in UP operates through a public sector organization, the highly centralized UP Jal Nigam (UPJN), which is also excessively staffed. Funded by government grants, the UPJN constructs and maintains water supply schemes in the state. It uses a top-down approach to service delivery, rarely taking into account consumer preferences. There is no capital cost recovery, and operation and maintenance (O&M) costs are rarely collected. Poor O&M is a major problem, with about one-third of schemes non-functional at any one time.

The lack of sustainable government investments in the rural water supply sector led to some important government policy and institutional reform efforts, namely the creation of a new institutional arrangement for rural water and sanitation service delivery in the state. This came about through the World Bank-assisted Swajal project. The state now has two models running side by side, the existing system and the new Swajal system.

Program Evolution. The project commenced in mid-1996 and, by May 2000 had about 130 villages in the O&M stage—about 270 villages undergoing construction and about 650 in the planning phase.

Program Design

Rationale for Single-Sector Approach. The main reasons for following a single-sector (rural water supply and sanitation) approach in the project were: (a) the project area was the most water-scarce in the state and the greatest demand there was for improved water supply; (b) the single-sector approach was particularly relevant in this case because appropriate sector policies and institutional rules supportive of a community-based, demand-responsive approach for water supply were not in place; (c) the unique institutional arrangement required for water...
supply service delivery needed to be tested and validated on a meaningful scale; and (d) the single sector focus on water supply and sanitation was expected to enhance the quality of implementation.

**Rationale for Institutional Structure.** There were at least three possible institutional models that the project could have adopted. The first was simply to use the existing state public organization, the UPJN, for service delivery directly to the project villages. The second was to use the existing rural local government bodies, the Panchayat Raj Institutions (PRIs). The third was to try out a new and parallel institutional arrangement, which revolved around a partnership between three agencies: an autonomous registered society at the state level, NGOs at the district and sub-district level, and communities at the village level.

The first option was not seriously considered because the UPJN did not have the experience or capacity to implement a community-driven, demand-responsive approach in rural water supply (RWS). The second option was taken more seriously because the PRIs in rural areas were set up to manage all rural development activities. This option was finally ruled out because it was felt that the PRIs in UP, despite being elected bodies, did not yet have the capacity and inclination to facilitate a demand-responsive approach. In addition the Gram Panchayat (the lowest village level tier of rural local government) would also not be the appropriate agency to implement a truly demand-responsive, community-driven approach. Hence the third and final option seemed to be most appropriate for a project like Swajal.

**The Inverted Pyramid**

![Inverted Pyramid Diagram](image)

**Institutional Structure and Key Actors.** The new model was specially designed to serve as the vehicle for the community-based approach envisaged in the project. This framework (see inverted pyramid figure opposite) consists of a partnership of three organizations: the Project Management Unit (PMU), the NGOs and the Village Water and Sanitation Committees (VWSCs). There is a close relationship between these three partners, going beyond a mere contractual obligation.

(a) The role of the PMU: the PMU, which plays a facilitating, coordinating and monitoring role, was established by the UP Government as a legally registered body under the Indian Societies Registration Act of 1860. It has complete autonomy and flexibility of operation. PMU has a core multidisciplinary and gender-balanced team of 14 experienced professionals, who have been drawn from both public and private sector including NGOs. This public-private mix in the PMU has led to a cross-fertilization of ideas, experiences and attitudes.

(b) The role of the NGOs: NGOs in the project serve as the link between the PMU and the project village communities and help both to select (on the basis of both demand and need) and build the capacities of the communities. They are known as support organizations because they provide an integrated package of engineering and community development support to the project villages. While NGOs have traditionally provided "software" or community development support to villages, Swajal has, perhaps for the first time in India, used them for
hardware” or engineering support to communities. In fulfilling the latter role, they have become effective substitutes for the UPJN.

(c) The role of the VWSCs: the cutting edge of the institutional mechanism created in the Swajal project is the community-based VWSC. This is because it is the VWSC that plans, implements and ultimately manages the water and sanitation scheme. The VWSC consists of 7 to 12 members, is democratically elected and representative, with a minimum of 20 percent representation from the socially and economically marginalized sections of the community and at least 30 percent women.

**Financing and Resource Allocation.** Swajal only provides grant financing. The construction grants are allocated in tranches to all villages that have qualified for the implementation phase of the project. The community contribution to the capital cost of the water supply schemes is 10 percent, which can be made in cash, through labor, or in-kind. This is the first time in India that project communities are contributing toward the capital cost of water supply schemes. For latrines and other individual assets, like compost pits, the individual household contributes 40 percent of the capital cost. Community management of funds has increased transparency and greatly helped in reducing the misuse of funds traditionally associated with public sector service delivery in India. In addition to contributing toward the capital costs, the communities undertake full responsibility for operation and maintenance (O&M) of the water supply system, including paying all costs. To accomplish this, they levy user charges at differential tariff rates from both household connection holders and public tap stand users.

**Community Mobilization and Capacity Building.** The NGOs provide crucial support to the communities in both the year-long planning phase and the implementation phase. The main outputs of the planning phase are (a) community mobilization through use of a specialized PRA-type tool for water and sanitation called SARAR (Self-esteem, Associative Strengths, Resourcefulness, Action Planning, Responsibility); (b) formation of a representative and democratically elected VWSC; (c) women’s development initiatives, hygiene and environmental sanitation awareness and non-formal education; (d) preparation of the water supply and sanitation engineering designs; and (e) collection of the community’s share of the scheme’s capital cost. The NGO field workers work closely with both the VWSC and the community as a whole and, as part of the capacity building component, also arrange cross visits for community members to other successful project villages. Village level technicians and masons are also trained during the project.

**Choice of Technology and Engineering Design.** The project community chooses its water supply technology through a feasibility process—a team of NGO engineers presents a menu of possible technology options, and following a village-wide assembly, the community makes a final choice. The major factor influencing choice is the cost, both capital and O&M, of the water supply and environmental sanitation schemes. The following table gives an example of the different water supply technology options considered and the one found most feasible by a Swajal village called Samli:

<table>
<thead>
<tr>
<th>Options</th>
<th>Total Scheme Cost</th>
<th>Average O&amp;M Cost per Household per Month</th>
<th>Scheme Found Most Feasible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lift Scheme</td>
<td>Rs. 6,00,000</td>
<td>Rs. 60.00</td>
<td></td>
</tr>
<tr>
<td>Gravity Scheme</td>
<td>Rs. 4,25,000</td>
<td>Rs. 15.00</td>
<td>X</td>
</tr>
<tr>
<td>Rain Water Harvesting</td>
<td>Rs. 5,28,000</td>
<td>Rs. 10.00</td>
<td></td>
</tr>
</tbody>
</table>

Note: $1 at the May 2000 exchange rate was worth about Rs. 44.

The gravity system was selected because: (a) the capital cost was the lowest and O&M cost was also low; (b) it was easy to operate and maintain; and (c) the water source was safe and adequate. Once the technology choice is made, the NGO engineer, in close cooperation with the VWSC and the community, prepares the water supply engineering design. The engineering design must receive the formal approval of both the PMU as well as the VWSC.

**Community Contracting.** All construction-related procurement in the project is undertaken by the community. The main features of community contracting in the project are: (a) all construction funds are transferred to the
community; (b) the community and the support organization jointly operate the bank account, manage funds and procure goods, works and services; (c) the communities are free to contract from suppliers of their choice without any prescribed procedures, following quality-assurance guidelines such as providing proforma invoices to the PMU, and buying only ISI (Bureau of India Standards trademark) material; (d) women VWSC members are actively associated with the contracting; and (e) most supplies are from the local and small-scale private sector.

**Project Implementation.** Each community entering the implementation phase enters into an Implementation Phase Tripartite Agreement (IPTA) with the NGO and the PMU. The roles and responsibilities of each signing party are spelled out in the IPTA. The PMU transfers the construction grants to the VWSC bank account in tranches. The NGO engineer then assists the VWSC in procurement of goods, material and services and helps the community manage the actual construction of the water supply and sanitation scheme.

**Operation and Maintenance.** The project communities have full responsibility for O&M of water supply schemes. The NGO supporting them helps them to prepare an O&M plan, where they are trained on budget preparation, tariff setting for household connections and public stand posts and bill collection. They are also trained in general management. In addition, since each village has a piped water system, each also has a trained water supply technician, who operates and maintains the system.

**Monitoring and Evaluation.** The project has a Management Information System (MIS) that regularly monitors project activities. The MIS processes relevant information at three levels: PMU, NGO and village. The basic field data are generated by the NGOs on a monthly basis and sent electronically to the M&E unit in the PMU for collation and analysis. Apart from this internal monitoring, the PMU uses external agencies for process monitoring. The PMU has also started an innovative sustainability monitoring exercise (through 24-hour village visits made by combined project teams) in villages with completed schemes. Such monitoring addresses the institutional, financial, technical and social aspects of sustainability. This field exercise is undertaken with the community in a participatory manner.

**Incentive Structure.** The project has an incentive system at all levels: PMU, NGO and community. The PMU staff receive a special compensation package, which contributes to their high motivation level. The NGOs are able to build their own capacity through the project. The real incentives, however, are at the community level, at each phase of the scheme cycle. At the village selection stage, there is a big incentive for communities to join the project, since it is difficult for them to obtain any other source of financing for a water supply scheme. At the planning stage, there is a strong incentive to choose the least-cost technology, since they have to share in capital costs and also pay for its O&M. In the implementation phase the incentive to procure good quality materials and services for construction is strong, because it is the community that benefits most from a well-constructed and functional water supply scheme.

**Outcomes**

In four years, the Swajal project has achieved significant outcomes at both the project, state, and national levels.

**Efficiency.** PMU administration takes up about 12 percent of project resources, a much more cost-effective rate than the UPJN, which spends about 35 percent of its resources on its salary bill. About 20 percent of the project budget is spent on capacity building, which is necessary if the capital investment is to be sustainable. The general efficiency of the PMU and the close partnership between the three key players has led to a new and more productive work culture in the project, which is rarely seen in the government’s normal functioning.

**Sustainability and impact.** While it is relatively early to establish impact in terms of health benefits to project communities, indicators of sustainable water and sanitation services are available. The sustainability monitoring exercises have revealed that schemes are functioning well in almost all the 300 completed villages. The VWSCs here are regularly collecting the water tariffs and managing their own systems. Sustainability will, however, have to be monitored regularly and over a period of time.
At the state and national levels the outcomes have been:

**Scaling-up.** Some key lessons from Swajal have driven national RWS policy reforms. In fact, some Swajal principles have been adopted, including 10 percent capital cost recovery, community-driven development, use of NGOs for social intermediation, and government changes in its role from provider to facilitator. Now all states in India are implementing, on a pilot basis, the Indian government’s policy reform package. In UP, with critical inputs from the Swajal experience so far, a long-term sector strategic plan is being prepared mainly to reform the state water supply agency.

**Indirect Outcomes.** Having now developed the capacity to plan, construct and manage their own water supply schemes, many Swajal villages are now initiating other development projects such as community forestry. Furthermore, the Swajal transparency in fund management is rubbing off on other development programs of the government: communities are now demanding transparency in fund management of these programs. Women and socially disadvantaged groups are more assertive of their rights now and take more active participation in both project and general village activities. The Swajal philosophy is also spreading to neighboring village communities. These villages have clearly shown their preference for a Swajal type program with cost recovery rather than a free government development program.

**Key Design Principles**

- Community-driven, demand-responsive approach
- New institutional arrangement—partnership between autonomous registered society, NGOs and communities
- Direct funding to communities, which manage funds, and contract goods and services themselves
- Single-sector RWSS project