

WATER SUPPLY AND SANITATION FOR LOW INCOME COMMUNITIES: INDONESIA*

(Note: This case study documents the project details as per the latest available data. Specific information on the effectiveness of the monitoring, evaluation and supervision activities, and information on the impact and effectiveness of the project's programmatic structural learning component was not available in the public domain)

I. Abstract

The Water Supply and Sanitation for Low-Income Communities (WSSLIC) project was jointly initiated by the World Bank and the Government of Indonesia (GOI) in 1993. The project was designed to improve the water supply and sanitation conditions in some of the poorest rural communities of Indonesia. It was expected that improved access to safe and reliable water supply and sanitation facilities, along with the provision of hygiene and sanitation education would result in improved health and increased productivity of the community members.¹

Community participation was encouraged in all phases of the project, from project design to implementation and maintenance. Mechanisms such as meetings, community surveys, focus group discussion, training, and capacity-building exercises facilitated active community involvement. Information sharing and dissemination was ensured through community notices and updates on project rules, roles, and responsibilities. Such data sharing also induced transparency in the project's activities.

WSSLIC was completed in September 1999 and contributed substantially to improve the water supply and sanitation facilities in rural communities, although sanitation and hygiene education did not result in any major behavioral changes. Some of the other issues that remained partially unresolved were administrative and fund channeling arrangements, mechanisms to encourage the active participation of women, and the delegation of community control over the water supply and sanitation systems.

The Second Water Supply and Sanitation Project (WSSLIC 2) began operation in 2000. The project builds on the drawbacks and lessons learnt from WSSLIC and other rural infrastructure development projects in Indonesia.

II. Background

The majority of the rural population in Indonesia lacks access to basic reliable water supply and sanitation services. Data from a household health survey carried out by the

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¹ It was presumed that access to reliable water supply would save the time spent in collection of water from different sources, thereby enabling communities to spend more time on productive activities. Similarly, access to sanitation and safe water supplies would bring down the rate of morbidity due to sanitation and water borne diseases, and would improve community health.

Ministry of Health in 1998 indicated that only 30 percent of the population had access to safe drinking water, and rural sanitation coverage was estimated to be only 25percent.² A large number of households that did not have access to regular water supply dug their own wells, which were unprotected and thus easily contaminated. Other households fetched water from long distances, with women and children carrying most of the burden. With regard to sanitation, people often relied on unhygienic practices for defecation. Consequently, water-borne diseases became a major cause of morbidity and mortality, particularly among small children.

The Water Supply and Sanitation (WSS) sector received considerable attention from the Government of Indonesia (GOI) since late 1960s. Many small-scale projects had been undertaken, funded by NGOs (CARE, Indonesia) and external donor agencies such as World Health Organization (WHO), United Nations Development Program (UNDP), and United Nations Children's Fund (UNICEF). The experience of these projects indicated that demand-responsive approaches that extensively involved communities in planning, financing, and managing WSS services were more likely to be successful.

As part of their ongoing efforts to improve rural water and sanitation services, the World Bank and the Government of Indonesia jointly financed several large-scale projects. The first of these was the WSSLIC, which spanned six years from June 1993 to September 1999.³ The objectives of the WSSLIC project were to provide safe, adequate, and easily accessible water and sanitation services, to improve community health awareness and behavior, and to develop sustainability and effectiveness through public participation. WSSLIC was expected to serve 2 million people in the villages of six Indonesian provinces: Central Java, Maluku, Nusa Tenggara, Timor, and Southeast, Central and North Sulawesi. The main consideration for selecting the target villages was their inclusion in the list of Government's "Left Behind Villages" Program (INPRES program), a part of the national poverty alleviation program.⁴ After this initial screening, the villages were considered for project assistance based on five additional criteria: incidence of water-borne diseases, water scarcity, water quality, infant mortality, and willingness to pay for operation and maintenance (O&M).

The project consisted of two broad components:

1. Direct Infrastructure Development Support.
 - This included construction of a water supply and sanitation infrastructure. Water supply construction included piped systems and non-piped systems, while sanitation construction included setting up of communal toilets.
2. Institutional Development and Capacity Building Support.

This included the following subcomponents:

 - Hygiene and Sanitation Education (HSE)

² Source: Staff Appraisal Report, WSSLIC. (World Bank Document) May 26,1993.

³ Other water projects were the Village Infrastructure Project 1(1995) & 2 (1997) and the Kecamatan Development Project (1998).

⁴ The INPRES program or IDT (*INPRES Desa Tertinggal*), initiated in 1974 as a part of the GOI's efforts to accelerate rural development through construction of water supply and sanitation facilities The Program is a part of the National Poverty Alleviation Program and targets villages, which have somehow been left behind by previous national development programs.

- Training and Community/Institutional Development
- Technical Assistance
- Project Management.

The project execution was headed by the Ministry of Health along with the Ministry of Public Works and Ministry of Home Affairs. The provincial and district level project coordination teams were supported by social science consultants (a mix of NGOs and commercial firms) and engineering consultants. While the social science consultants trained the community members in planning and managing the WSS systems, the engineering consultants offered the necessary technical advice. The Public Works Department supervised the design and construction of WSS systems.

Under the project, each village had to form a *Village Implementation Team* or *Village Water Committee*. This committee or team was expected to serve as a focal point for community participation in planning, implementing, and managing the project activities. Every committee had to prepare a *Village Action Plan (VAP)* indicating the type and level of WSS service to be provided along with financial, labor, and managerial commitments of the community, government agents, and contractors. This document was mandatory if the community was to be eligible to receive project finances. With the assistance of the project staff, the committees conducted surveys in their respective villages to identify the WSS needs and the demands of the community members. Based on the results of these surveys and the options presented by the field officers on the technically and financially feasible projects, the villagers prepared the VAP.

VAPs were to be submitted each year through the GOI bottom-up planning process known as PD5.⁵ If the VAP was approved by the central government, the funds for project implementation were sent in the following 15 months. During the waiting period, training and capacity-building exercises were carried out for the government staff (at all levels) and the village water committees. The training activities included:

- Training in planning and implementation of water supply and sanitation facilities
- Hygiene and sanitation education
- Training in operations, maintenance, and water resource management
- Gender training and information for project staff and community leaders
- Skill and managerial training geared to increasing the scope of income-producing activities associated with operations of the water and sanitation facilities.

Women's participation in all phases of the project cycle was encouraged through activities such as special training for women in planning and implementation of WSS systems, and hygiene and sanitation education targeted at women and children.

⁵ PD5 is a "bottom up-top down" planning process involving every level of government. VAPs from the community level move up to higher levels of government, and are changed in accordance with political, financial, and technical considerations. The final decision for project approval, setting budget ceilings, project targets, etc., is made by the central government.

The water systems were mostly contractor-built. Communities paid 4 percent of the capital costs in cash and 16 percent in kind (material and labour) along with 100 percent of the O&M costs.⁶ Funds were channeled through government agencies at central, provincial, and local levels.

The project adopted the programmatic structural learning approach, which incorporated lessons from each year's experience and used these lessons to improve project performance in the following year. Monitoring and evaluation was carried out using process and outcome indicators. Some of the process indicators were the quality of VAPs, records of community contributions in cash and kind, and contract processing time. The outcome indicators were cost per capita of completed systems, construction quality, and health impacts. Communities were trained to "self-evaluate" project activities, from project training, designing, and construction to evaluating their own effectiveness in operating and maintaining the constructed WSS systems.

III. Impact/Results

The project achieved substantial improvements in access to water in rural communities. WSSLIC has been instrumental in bringing water to more than 3 million people in 1,999 villages of Indonesia. Water accessibility increased in all the target villages of the project, cutting down considerably on time and energy required to fetch water, especially in topographically challenging areas.

The project led to the construction of 1,759 public bathing facilities, 1,397 public and 639 school toilets, and helped construction of some twenty thousand private family toilets. Many households seemed to have benefited from the "stimulant package" and built or improved their own toilets.⁷ A survey conducted in 19 villages and among 475 households reported improved health (33 percent of respondents) and decreased levels of diarrhea (25 percent of respondents).⁸

A mid-term review of the project reported reasonable levels of consumer satisfaction in terms of the quality and quantity of water supply, the system in general, management of the system, and planning decisions. The following table reports the satisfaction levels of respondents surveyed in 16 WSSLIC villages by the World Bank in 1996-1997.

⁶ The costs of both routine O &M and replacement of assets with less than seven years of expected life were covered by community contributions. If the community was unable to meet the cost of unexpected major repairs from its own resources, and if such a village had collected 75 percent of the amounts due from households for O&M as set forth in VAP, the district government supplied funds from the general budget to cover cost of such repairs.

⁷ GOI collaborated with UNICEF to provide "stimulant" materials worth about U.S.\$12.00 for one toilet to a group of households who requested assistance.

⁸ Source: www.inform.umd.edu/IRIS/IRIS/docs/wp251.pdf

Table 1: Consumer Satisfaction

<i>Dimensions</i>	<i>Satisfied consumers (% of respondents)</i>
1. Satisfaction with service	93%
2. Satisfaction with management	83%
3. Satisfaction with hours (availability of water)	67%
4. Satisfaction with choices made	85%

Note: The figures reported above present approximate values in percentages.

Source: www.wsp.org/english/focus/conference/main_indonesia.pdf

IV. Key Elements of Empowerment

Access to information

The project rules, roles, and responsibilities were posted at public places in project villages as a part of the pre-construction training. Training and capacity-building exercises, focus group discussions and meetings ensured easy information access for the community members. The final decision about the construction of all physical works was to some extent influenced by ‘informed choice’ process, whereby communities were informed of the technical and feasible options, and the option chosen by the villagers was reflected in the Village Action Plans.

An evaluation study reported a good understanding of the responsibilities of operation and maintenance among the respondents (84 percent).⁹ Although details of community financial contributions were displayed publicly, the local government officials hesitated to post total project costs or contract values. Consequently, few villagers (15 percent or less) had knowledge on cost-related data.¹⁰

Inclusion/Participation

One of the objectives of the project was to develop sustainability and effectiveness of the water system through public participation. To accomplish this objective, community participation was advocated at each phase of the project. For instance, the draft of the VAP in the design phase of the project reflected the felt needs and demands of the community members, which were identified jointly by the villagers and the project staff. The pre-construction activities included training and capacity-building exercises, meetings, and focus group discussions at the community level. These activities also encouraged women to be a part of the water management system. The communities were also actively involved in post-construction activities such as O&M, cost recovery, and

⁹ Survey conducted in 16 WSSLIC villages in 1996-1997.

Source: www.wsp.org/english/focus/conference/main_indonesia.pdf

¹⁰ Survey conducted in 16 WSSLIC villages in 1996/1997.

Source: www.wsp.org/english/focus/conference/main_indonesia.pdf

cleaning water systems. Participation in all stages of the project cycle developed a sense of ownership among the community members.

Accountability

Regular access to information and active community participation in the project made the project functioning transparent. The VAP clearly demarcated the duties and responsibilities of the government officials and project staff. This information, to some extent, enabled the communities to supervise project proceedings.

Local Organization Capacity

WSSLIC played an important role in organizing the villagers to work jointly towards the project's implementation. Organization at the village level was evident in the formation and working of the village water committees, construction of WSS systems, and the operation and maintenance of those systems. Surveys, meetings, and discussions with the project staff enabled the villagers to identify and voice their demands, express their joint opinion over WSS options, and, later, to execute project activities in coordination with the project staff.

V. Issues and Lessons

Challenges

The project involved lengthy and complicated fund channeling arrangements. Funds were dispersed through INPRES program to different sector agencies at three levels of government. This made the entire process slow, expensive, and opaque and at the same time induced budgeting and disbursement constraints in the project. In addition, the project also suffered from administrative complexities. Each year of project implementation had separate technical and non-technical contracts requiring considerable effort in procurement and administration. There were multiple agencies involved in project execution, adding on to the project complexity.

Under WSSLIC neither the design engineers nor the contractors (in contractor-built systems) were accountable to the community in any way. Furthermore, no control over activities affecting physical condition was handed to the community until after construction. The final project design was often distorted by the government's PD5 process, which sometimes did not take into account the actual community demands. This often resulted in low satisfaction levels and lack of ownership. Not surprisingly, the cash contribution was perceived as a tax rather than a voluntary payment for a desired service.

The training and capacity-building component did not bring about a noticeable change in the hygiene and sanitation behavior of people in the target villages. One independent study did not find any change in the hygiene and sanitation attitudes and behaviors between study and control villages. People did not seem to have gained new knowledge

and insights, as the training sessions concentrated on sanitation infrastructure.¹¹ Although attempts were made to enforce community discipline over water issues such as washing hands after defecation or boiling water before drinking, no positive change in behavior was observed.

The selection criteria for choosing villages for project assistance was not uniformly followed across all provinces and districts. There did not seem to be a major distinction between the poverty levels of project villages and non-project villages. Political factors appear to have played a major role in the final selection of villages.

Although on paper, participation of women was encouraged at various stages of project planning, implementation, and maintenance, in reality this remained ineffective in most of the villages. At the proposal stage, for instance, women were made to feel that it was not their place to make suggestions. There were very few water systems that saw the participation of women in construction in post-construction activities. However, in the few villages where women did participate actively, they contributed substantially to making the system effective and sustainable.

Like most large-scale developmental projects, WSSLIC suffered from technical flaws and regional variations in the quality of infrastructure. For instance half of the WSSLIC “dug wells” and most of the rainwater catchments had no water in the dry season, and in some piped-water systems the community groups experienced a decline in the water supply over time. The factors listed below seem to be the possible causes of such variation, and require additional focus from the project authorities:

- Starting construction before finalization of Village Action Plans
- Limited use of or ad hoc modifications of VAPs or engineering design plans to accommodate last-minute requests from committees
- Tight budget ceilings which may have forced the contractors and villagers to opt for cheaper products of mediocre quality
- Limited supervision of construction by consultants or government agencies.

Lessons

- One of the possible factors limiting the effectiveness of the training and sanitation component could be the low emphasis on having a hygiene and sanitation system in the village. The importance and benefits of having a toilet, a gutter or a drainage system, observing hygiene in water supply and sanitation activities, etc., were not highlighted sufficiently during the project’s execution. Bringing about a lasting behavioral change in communities is a slow and drawn-out process. Such a change can only result when an attempt is made to change the attitudes of people rather than merely providing infrastructure support.
- In most cases women are the primary collectors of water and key decisionmakers as to which water source to use for what purposes. As women are important

¹¹ Implementation Completion Report on a loan in the amount of US\$80 million to the Republic Of Indonesia for the Water Supply and Sanitation for Low Income Communities Project: World Bank Document, June 16, 2000.

stakeholders, their inclusion in the project management and other related activities is critical for the true level of demand to emerge. Concrete steps such as holding separate meetings for women before general village meetings and increasing women's representation at the village meetings can help increase women's participation. Another step can be to increase awareness levels among the male members of the community, especially the leaders, about the need and reasons for involving women in the project activities.

- Many NGOs of small and medium size were involved in project implementation as independent consultants or contractors. However, their participation in activities such as community development, preparation of VAPs, and hygiene and sanitation activities appears to have been limited. The WSSLIC experience showed a direct relationship between active NGO involvement at community level and high project effectiveness in these villages. Active NGO involvement seems to lead to more participation of villagers in project activities, and better ability of villagers to operate and sustain the new systems.
- It is not always feasible to select project villages on the basis of objective criteria alone; some flexibility should be retained to accommodate political and social considerations. Also, adequate steps need to be taken to maintain a reasonable degree of transparency in the selection process.
- The WSSLIC project shows that poor communities have the capability to contribute, implement, and sustain projects that are designed for their development and welfare, albeit with the requisite technical and managerial guidance. Ensuring community influence over critical issues like final decision making on community-level investments seems to result in more sustainable and effective management of new initiatives of this kind.

Outlook

The second Water and Sanitation Project for Low Income Communities, WSSLIC 2, began in November 2000 as a follow-on project to WSSLIC. It incorporates steps to tackle some of the aforesaid problems faced by the first project. For instance, WSSLIC 2 ensures relatively simple fund channeling arrangements, enhances the degree of beneficiary control over decision making, extends the scope and content of the health and hygiene component, and has a greater level of institutional focus. Scheduled for completion in 2006, the project targets 32 *Kabupaens* (districts) and about 2,000 *Desas* (villages), home to 2 million people in six provinces of Indonesia.

VI. Further Information: References and World Wide Web Resources

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