

Impact of Cost-Shared Water Supply Services on Household Welfare in Small Towns

Impact evaluations go beyond the standard project assessment criteria and add value by explicitly estimating the development impact of Asian Development Bank supported interventions on the intended beneficiaries. The subject of this ex-post impact evaluation was the Small Towns Water Supply and Sanitation Sector Project implemented in 29 towns in Nepal between 2000 and 2009. This evaluation aimed to add to the thin evidence base on cost-shared community-based water supply and sanitation interventions in small towns, and to fill broader gaps in global evidence and knowledge especially on the institutional and non-health impacts of water supply and sanitation interventions.

RECOMMENDATIONS

For future ADB operations, this paper offers the following recommendations:

1. Further test the model that was the object of this evaluation (cost-shared, community-managed water supply systems with institutional support) in other countries with a similar context to see whether it can be replicated and scaled-up.
2. Devote more attention to understanding the geohydrological setting when preparing water supply systems in multiple small towns, so that variability in quality and quantity of the source water can be better accommodated in project design.
3. Strategically plan and implement impact evaluations for future programs or projects that have potential for replication and scale-up as identified by sector and thematic groups.

FEATURED THEME:

Water Supply in Small Towns in Asia-Pacific

- The Sustainable Development Goals set out demanding new targets for water and sanitation, like achievement of universal and equitable access to safe and affordable drinking water for all by 2030.
- The rapid pace of urbanization in Asia puts pressure on towns and cities to provide its inhabitants with basic amenities and services—none more important than the provision of clean drinking water and adequate sanitation.
- Small towns, with typically fewer than 50,000 inhabitants, have been largely neglected in water supply and sanitation
- investments, and lack viable models for water service provision.
- Small towns provide a critical role linking rural and urban economies, providing access to markets and acting as centers for nonfarm activities.
- Cost-shared water supply projects, managed by the community with initial support from governments or international organizations, are increasingly common in South Asia. But evidence is thin on their effectiveness in small town settings.

THE PROJECT AND EVALUATION OF ITS IMPACT

At the request of the Government of Nepal, the Asian Development Bank (ADB) approved a sector investment project which was to support the government's Fifteen-Year Plan for Small Towns Water Supply and Sanitation Development, 2000–2014. Main project inputs were cost-shared water supply and sanitation facilities, public awareness campaigns, and health and hygiene education carried out by nongovernmental organizations, and technical support to water user and sanitation committees which included technical and financial training.

The primary aim of this ex-post impact evaluation was to assess the impact of the project on the sustainability of water service providers and on household welfare. A quasi-experimental design and mixed methods combined qualitative and quantitative primary data collected during the evaluation. A purposive sample of 10 project towns were matched with 10 comparison towns, and a random sample of households in 20 towns were interviewed using a structured questionnaire. Semi-structured interviews were conducted with water user and sanitation committees, water supply and sanitation divisional offices and municipalities. In the absence of baseline data on outcomes at the town or household level, the evaluation estimated differences in outcomes between project and comparison small towns at a point in time, and between households in these towns by using econometric methods.

FINDINGS

The evaluation found that:

1. In small towns in Nepal supported by the ADB project, a cost-shared, community-based approach to provision of water supply and sanitation services infrastructure, together with training, awareness campaigns, and institutional development improved the operational and financial sustainability of water services providers, compared to providers in towns that did not receive this support.
2. The improved operational and financial sustainability of the water service providers resulted in household access to greater quantity, better quality, and greater continuity of water supply services in project towns compared to towns that did not receive this package of investments.
3. Despite the use of best available methods to mitigate selection bias, there could be residual upward bias in the estimated impact of the project.
4. In project towns, improvements in performance of the providers translated to improved health and better non-health outcomes like education and

increase in women's personal leisure time from reduced burden of water collection.

5. Findings also suggest that the project contributed to increases in wage income and household consumption expenditure; while there are plausible explanations for these impacts, the evidence must be interpreted cautiously since the chain of causation could not be established conclusively.
6. Some avoidable technical design flaws in project towns were observed; had these been correctly anticipated during project preparation, the sustainability gains would have been demonstrably greater. Another shortcoming was the lack of subsidies for poorer households, which was remedied in subsequent phases.

LESSONS

The lessons gathered from this evaluation are:

1. The impact evaluation shows that in small towns, the project approach to water service provision of community-managed systems of cost-sharing with government and institutional support and training is more successful than an approach that is less comprehensive, and community based.
2. Progressive tariffs, which are essential for financial viability, are made easier to accept through transparent reporting of the financial status of the water schemes and through demonstrated improvements in level of service.
3. Technical design flaws that are not anticipated can impact significantly on sustainability of water supply systems, irrespective of the capacity of the water service provider. Institutional and household gains would have been greater had these issues been addressed.
4. Baseline data collected from project and comparison groups are superior to the approach of generating counterfactual data from ex-post identification of comparison group, and will lead to higher quality impact evaluations.