



West Bank Village Water and Sanitation Program: Findings from Environmental Health Assessments

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The West Bank Village Water and Sanitation (VWS) Program is a two-year initiative funded by the U.S. Agency for International Development and undertaken by the Environmental Health Project in close partnership with Save the Children, the Palestinian Water Authority (PWA) and other concerned national agencies. The objective of the project is to improve the delivery of safe and sustainable water and sanitation services to 170,000 people living in 50 villages in the West Bank—Nablus in the north and West Hebron in the south.



Village in the West Bank

As part of the program activities, two environmental health assessments were carried out—phase I baseline survey in January 2002 and phase II follow-on survey nine months later in October 2002.

Methodology

The same 596 households that had been randomly selected for the first survey were selected for the follow-on survey.

Interviews were conducted with key household informants and caretakers of children under five years of age. Stool samples were collected from one child aged 12–47 months per household, and water samples from internal sources were collected from every third household. A total of 178 water samples were tested.

Highlights from Findings

Access to and quality of water

- Household access to adequate supplies of water has decreased. There was a 19% decrease in households with adequate water supply compared to baseline.
- Water quality has deteriorated. The bacteriological quality of water (zero fecal coliforms) at point-of-use decreased by almost 10%, and more markedly for piped water, which showed a 26% decrease. Quality of tanker water remained poor (35% compared to 38% at baseline).
- Additionally, the cost of tanker water increased during the dry summer months. The poorest communities in rural areas are the worst affected as they rely almost exclusively on tanker water. Assessments show a decrease in use of tanker water from 70% at baseline to 60%, while costs increased by 84%.

Health outcomes

- Prevalence of diarrhea and intestinal parasites in children under-five increased substantially. There was a 42% increase in the two-week prevalence of diarrhea, and a 40-60% increase in the prevalence of intestinal parasites.



- Although seasonal changes were expected, the increase in diarrhea was most likely due to the deteriorating socioeconomic situation compounded by decreased health care seeking behavior. Only 72% of children with diarrhea consulted medical personnel compared to 86% who sought health care at baseline—a 16% decrease.

Health and hygiene knowledge

- Health knowledge and practice related to hygiene behavior associated with safe drinking water and care of children with diarrhea did not improve. 83% (85% at baseline) still believed water is safe, and there was a 37% decrease in households that reported home water treatment (17% compared to 27% at baseline).

Socioeconomic status

- Poverty remained very high and has increased in the West Bank. Fewer household members are fully employed, and the ability or willingness to pay for piped water and electricity dropped from 31% at baseline to 24%.
- Water appears to be less affordable for many households, as evidenced by a 23% reduction in consumption.

Selected Recommendations

Options to improve water quality

- Implement steps to provide reliable, treated piped water.
- Implement procedures to purify tanker water.

Options to improve water quality monitoring systems and procedures

- Enhance the PWA's role in monitoring water sources.
- Improve district-level capacity for water quality monitoring through multisectoral cooperation.

Health and hygiene education programs to maximize the impact of system improvement

- Provide education focusing on
 - simple and effective household water treatment as an emergency measure until safe piped water becomes widely available
 - appropriate home care for children with diarrhea
 - role of community-wide responsibility and action for a healthier environment.
- Train health service providers in the appropriate management of diarrhea.

Conclusion

Although water quality has deteriorated for both tanker water and piped water, piped water remained a much safer water source. Thus, in areas of crisis such as the West Bank, provision of reliable, treated piped water is probably the single most important intervention for improving the health and quality of life within a water and sanitation program context.

For detailed information, please refer to EHP Joint Publication 5 and EHP Joint Publication 6: *USAID Village Water and Sanitation Program, West Bank, Environmental Health Assessment—Phase II*. The reports can be downloaded from the EHP website: <http://www.ehproject.org>.

To request a copy of either report, please email info@ehproject.org.