



# Increasing Local Involvement in Wastewater Treatment Planning: A Case Study from Lebanon's Bekaa Valley

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## Introduction

Through the “**Small Village Wastewater Treatment Systems (SVWTS)**” project, the United States Agency for International Development (USAID) Mission to Lebanon seeks to provide a solution to uncontrolled discharges of untreated domestic wastewater which contribute to the degradation of the water quality in the Litani River. To mitigate this problem, the project team, led by CDM, is designing sub-regional treatment plants to serve local municipalities.

Upon completion of the plants, the beneficiary municipalities will have responsibility for plant operation and maintenance (O&M). Concerns raised by the municipalities include:

- Maintaining continuity between subsequent municipal administrations, i.e. continuing operation of the plant after municipal elections occur; and,
- Establishing the financial and technical capability to provide O&M for the plants.

These concerns are addressed through communication with municipalities and Lebanese ministries; careful plant design; and activities supplemental to the project, such as public education and operator training. This paper discusses the approaches to communication with municipalities and the public and specific examples to illustrate relative successes. Early communication is believed to improve overall project sustainability by increasing a feeling of end user responsibility and ownership.

## Initial Meetings with Municipal Government

The project team drove through the area to locate villages that had a wastewater collection network, and were of a size capable of supporting a wastewater treatment facility. The team then arranged for formal meetings with the mayors and/or engineering staff of the village to complete an informational survey and discuss the project. The team collected detailed information by visiting the most promising villages at more length, collecting wastewater and river water samples, viewing data collected by the municipality, and discussing the project with both municipal representatives and local residents.

The project team presented the project

overview to municipal representatives, including the responsibilities of both parties: CDM/USAID to design and build a treatment plant suitable to the region and to municipal needs; the municipality to provide the land for that plant and to operate and maintain the plant once constructed.

Initial meetings with mayors and municipal officials were quite productive and positive. Those present were all extremely enthusiastic about the project. However, in several villages, issues and objections surfaced at subsequent meetings or between meetings. Although the majority of municipalities initially approached maintained high interest in the project, several dropped out of the program voluntarily. These municipalities were concerned about the political impact of working with a foreign entity and about the financial burden of maintaining and operating the plant in perpetuity. Municipalities that made the decision to go forward with the project were asked to submit a letter stating their interest, and to assist in scheduling a meeting inviting the general public to learn about the project.

## Public Meetings

Public meetings gave the project team the opportunity to inform the public



about the project, discuss the municipal responsibilities should the project go forward, and gauge the public opinion about the project. The presentation was in Arabic and included proposed plant locations, technical details about the proposed treatment process and details about the projected benefits, and responsibilities for each village and its population.

Those present at the public meetings varied from municipality to municipality. Some meetings were attended by a broad cross section of the population (including boy/girl scouting groups, professional and working men and women, and retired men and women), while some were exclusively the male heads of households of the prominent local families. The project team preferred broad cross section meetings that gave the entire community an opportunity to learn about the project and raise concerns early, while it was still possible to address those issues easily.

In the often lengthy question and answer period following the presentations, the public was found to be generally very supportive of the project. Environmental degradation due to uncontrolled wastewater discharge was seen as an important public health and quality of life issue by those attending the meetings.

## Meetings with Governmental Officials

The project team made an effort to include all levels of government—from national government to end users—in major project decisions and approvals, although the focus was on beneficiary municipalities. Discussions were held with the Ministry of Energy and Water (MEW) (responsible for wastewater treatment), the Ministry of Environment (MoE) (responsible for environment impact assessment permit approval), and the Ministry of Interior and Municipalities (MoIM) (responsible for overview of municipal actions and budgets). Initial meetings with the municipalities highlighted the importance of the MoIM in the project, as several of the municipalities requested MoIM approval before becoming involved.

## Examples of Method

Village of Ablah – This municipality was very eager for a treatment plant. An early public meeting identified a potential odor problem; the parcel initially identified by the municipality was near land that residents had earmarked for future residential development. During discussion of the location of the proposed parcel in the public meeting, when objections to the identified

parcel arose, those present examined a map for an alternative parcel. A second potential parcel of land was identified with the assistance of the public and the municipal officials present. Subsequent investigations (survey, geotechnical review, etc.) found this parcel to be a better location for the plant, resulting in a very good solution for all parties. This public presentation was very small compared to other presentations, with only 12 persons attending. However, having fewer people present allowed a detailed discussion that would not have been possible at a meeting of 50 persons.

Villages of Qaraoun, Baaloul, Machghara, and Aitanit – These villages are all located near the southern tip of Lake Qaraoun, a man-made impoundment of the Litani River important for irrigation in the region. Several schemes were investigated, including each village having its own treatment facility. However, even though there is hilly geography and relatively long distances between the communities, the project team, municipal governments, and public together decided to establish one plant with a discharge directly to the Litani River, south of the lake for all of the villages. Although other adjacent villages in Bekaa were not willing to work together, these villages sharing a shoreline saw the common good resulting from wastewater treatment.

## Results of Method

Overall, the results of this method of approaching municipalities and end users were very positive. In the absence of a strong national authority to operate planned treatment plants, the local end users can be empowered to take control of wastewater treatment. It certainly helped that wastewater treatment is deemed quite important by the end users and is related to environmental and public health through agriculture and river water quality.

The municipalities that voluntarily dropped out of the project were perhaps less likely to have been successful in eventual operation and maintenance of the plant. Moving forward with only municipalities enthusiastic about the future responsibilities may heighten the chances of long-term project success.

*Note: The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the U.S. Agency for International Development.*

*The above is a summary of a paper was presented at EMPOWERS Regional Symposium: "End-Users Ownership and involvement in IWRM" in Cairo, Nov 2005.*

*A broader overview of this project, including brief author biographies, further discussion on village selection, and bibliography, can be found at <http://www.empowers.info/page/1976/offset/10>.*