

ENGAGING COMMUNITY MEMBERS IN WASTEWATER DISCUSSIONS

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Abstract

The Green Mountain Institute for Environmental Democracy (GMI) recently completed a one-year project to improve the availability of information and tools for communities that are working towards a solution for their wastewater needs. Earlier work had found that many community members do not have sufficient motivation or experience necessary to access the wide range of information, tools, and expertise available and to take the steps necessary to address their local needs.

There were two major foci to this work. The first was to help community members build the motivation to participate in a community project, and the second focus was to help build a project structure that identifies and describes the components of a public process that are necessary to move a community from planning to action. The primary product from GMI's work is the development of "A Starter's Guide for Community-Based Wastewater Solutions."

A General Theory of Motivation and Participation

Wastewater projects suffer from the twin tendencies of people to be motivated by a set of long-term goals, but to act in the short term towards those things that they control. The goals for effective wastewater treatment include human health, economic prosperity, property rights, and a general responsibility to the natural environment. Accomplishing effective wastewater solutions requires meetings, data gathering, technical review, project financing, regulatory relations, and communication. In most cases, the gap between what is desired from wastewater treatment and what is necessary to get there is too large for the general public to bridge. The inability to bridge that gap is a primary reason why some locally-driven wastewater projects stall.

A well-planned and executed project requires some connection between program activities and long-term goals. For wastewater, the goals are met through the effective treatment of water from homes and businesses at a cost that is affordable. This is accomplished through one of many wastewater strategies that can include onsite, cluster, or centralized technologies. Designing and implementing those strategies requires an understanding of local conditions and a decision process that ensures that the treatment solution meets the goals of the community. And finally, the implementation of a solution requires some day-to-day operations—first for completing the design and construction of a system, and over the long run for actually operating the systems.

All phases of a project require attention; from a clear description of the goals, through the identification of strategies, decision making and project management. Working with a community that does not have wastewater as a high priority requires building participation through a combination of discussions about community outcomes, and the more detailed action steps of technology identification, design work, and management.

Goals → Technology choice → Detailed design → Project and system management

This project was focused on the beginning of this sequence, identifying activities that would help communities understand the motivations that would engage community members. At the same time, individuals interested in seeing a complete project through to completion require a long-range view that recognizes the importance for completing all of the steps of technology choice, system design, and management.

Building Interest

Wastewater treatment is not a primary interest for home or business owners or for the officials that must also keep track of municipal services such as education, roads, police, and fire. Despite this lack of interest, there can be compelling reasons to pay attention to wastewater, and the first section of the “Starter’s Guide” helps interested community members enlist greater support for local wastewater issues.

A key message in this first session is that in most communities, there is not a compelling case to be made that wastewater is critical to meeting the goals of health or economic prosperity. Therefore, any event to display or discuss information about wastewater should be considered with other marketable attractions. For example, meetings that are taking place around other topics such as town planning, local conservation, economic development, or public health may allow an opportunity to introduce the issue of wastewater. In addition to pre-existing meetings, wastewater advocates can use of food and music as a draw to attract the initial interest of local citizens.

When vaguely interested citizens are present at an event, a stimulating environment to capture their attention can be provided through the use of physical models of septic tanks and leach fields, or through interactive exercises such as surveys and games. For those people who express an interest in continuing on the learning curve about future wastewater projects in the community, the project leaders should be prepared to offer some actions such as door-to-door surveying or water quality monitoring in addition to keeping the new recruits on the mailing lists for future planning and outreach meetings.

The content of the early message regarding local wastewater conditions is only critical to the extent that it provides a direct connection to pending home- and business-owner decisions. For example, if the initial motivation to act on wastewater is a government agency order for action, the local residents may need to know some of the potential outcomes with and without action. Or, any evidence of significant impact from current, poorly performing systems such as drinking water contamination or beach closures can be the sort of precipitating information that gets people to the table. However, in many cases, a community may not have access to the detailed description of wastewater contamination and its impacts—gathering such information may be an important step for a community project later in its development.

This sequence of event-information-discussion can be complemented with more one-way communication tools such as newspaper articles and the internet. However, these one-way communication tools are rarely sufficient to build momentum and participation in a community starting down the path of solving its wastewater problems.

Building a Community Project

One advantage to human nature is that not all actions are dictated by a direct link to long-term goals. The world is too complicated and multi-faceted to always rely on such connections. A review of several case studies shows that the goals of human health, economic prosperity, or a responsibility to the environment may not be compelling for local citizens, and moving along the project path to identify particular strategies can take place even without those strong connections.

In the absence of those strong connections, projects build momentum by focusing on the next steps towards action. Completing more detailed assessments of local conditions and beginning the process of choosing among technologies provides project participants some concrete tasks to pursue while getting closer to the real decisions that local citizens will have to make. The second part of the “Starter’s Guide” focuses on the activities necessary to ensure that a community project can progress towards the implementation of a wastewater solution. The challenge in community process is not in finding information about what projects need to include. There are many guides identifying the steps of assessment, outreach, regulatory considerations, and finance. The more important challenge is to construct a framework that makes carrying out each activity easier. Our observations in working with projects and reviewing past efforts is that one or more of the important tasks in a community project are left un-done, not out of ignorance, but out of a lack of interest and experience in taking on each piece. The Guide lays out a set of activities for helping project participants identify the necessary steps and build a project road map to at least describe a path for ensuring each activity’s completion. However, our work with service providers is still on-going to find more mechanisms for convincing local project participants the value in community process and the confidence to take on each task.

The Importance of Service Providers

One of the important conclusions in our earlier work (GMI, 2003) is that service providers play an important role in working with communities struggling with their wastewater issues. No community that we are aware of has carried out a project that identifies the technical solutions, gains citizen support for moving forward, and leads to an implemented solution for wastewater treatment without the assistance of someone with significant experience in community wastewater solutions. In some cases the experience is hired from an engineering consultant. In other cases, assistance organizations such as the Rural Communities Assistance Corporations (with various names across the country) or non-profit rural development agencies have staff that can work closely with interested community members.

As a result of this observation, GMI worked closely with service providers in reviewing the content of a draft Guide and continues to explore opportunities of integrating the approach within the Guide with on-going activities to support rural communities. Their review has led to significant changes in the content and delivery of the Guide.

Some Details from the Guide

Technical assessments – A starting point for this project is that effective and low cost solutions for small communities can never result from a cookie-cutter approach of system design. Therefore, a community must carry out an assessment process that characterizes the local needs and conditions that are going to affect the ultimate wastewater system design. Some aspects of

assessment can be carried out by local citizens, such as surveys gauging local knowledge of existing systems and the identification of critical features to be included in the final design. Other aspects of assessment are more technical, such as soil mapping and the impact of wastewater on local water resources. The Guide emphasizes the need for community members to recognize the attributes of assessment so that information that is gathered locally can be integrated with information from outside experts.

Communication – Initially engaging local citizens in wastewater issues remains a primary consideration to start a project. Beyond those first communication efforts described in the first part of the Guide, our experience shows that maps can be a very useful mechanism to maintain the interest and engage local citizens in an overall wastewater project. Another valuable mechanism to enhance communication is the use of schools and students as the basis for educating local citizens as well as a means to gather information about local conditions. As with many other issues, the interest in wastewater by students, formed through local water quality assessments and hands-on data gathering exercises is easily translated to a more general interest in wastewater by their parents.

It is important to note that while the internet can be a valuable source of information on a range of topics, small communities will find it challenging to use a local web site as a primary means of distributing information. Establishing a website is still not a widely available skill within small communities. More important, it is not practical to expect local citizens to develop the habit of tuning in to www.mycommunitywastewater.org.

Regulation – Innovative wastewater solutions face a hurdle in many parts of the country in the form of skeptical regulators. The key to engaging regulators is establishing early communication. The Guide offers some initial questions which not only help the community develop realistic expectations for system design, but also establish the early link between community and regulator, decreasing the chances that a system will be designed that does not meet the regulatory needs of the state or county.

Finance – Money remains the most important factor in deciding among options for wastewater management. In many cases, the lack of available money slows or stops any progress in implementing solutions. As with regulation, it is important for community members to engage in discussions with individuals that can help with the financing piece of a project.

Case studies – Despite the success of hundreds of communities in designing and implementing wastewater solutions, most community projects start from the same point regarding a lack of information and a lack of confidence that cost-effective solutions exist. Slowly, a library of case studies is emerging that tells the stories of how different communities have addressed their wastewater needs. Some of these cases focus on the technical aspects of implementing various technologies, and some of the cases focus on process issues. In general, service providers note that the current list of case studies is not broad enough to inform many of their client communities. In general, most case studies reflect communities that have access to significant funding, either through large grants, or due to high income, particularly in lakefront or oceanfront communities.

Scenarios – One of the advanced community tools that we applied in this project was scenarios. For one of our test communities, we constructed scenarios that describe two futures for the town; one future with the implementation of a community wastewater solution and one without. A discussion of these scenarios helped local officials identify the critical issues that a wastewater

solution needs to address. In addition to using the results of a scenario to promote discussion, the actual construction of a scenario is a useful exercise for a community to undertake as it helps frame future discussions and begins the process of making links between wastewater decisions and long-term outcomes.

Computer modeling In another test community, we used a sophisticated computer model to describe the fate of wastewater under different management assumptions, with a focus on the nitrogen contamination of important estuaries and ground water. Computer models can be mysterious black boxes, and the results are only valuable to the extent that the audience is comfortable with the application and the results. For this project, we worked diligently with local citizens to include their input for running the model and for interpreting the results. While the model was still a black box, the output from this model was a useful tool for discussing different policy options, and we were successful in fostering significant public discussion about the nitrogen issue. When the results of the computer modeling were presented to service providers, their skepticism in the potential for its broader applicability reflected the general discomfort with such complicated tools, and also highlighted some real constraints to modeling in areas with karst geology, or where there is a focus on difficult-to-model endpoints such as bacterial contamination.

The Current Status of Support for Community Projects

There is a mountain of information available for communities interested in pursuing wastewater solutions (see for example National Small Flows Clearinghouse, 2003). However, the earlier GMI (2003) report notes that this information is difficult to access and not organized in a way that allows for a comprehensive approach to developing a community project. The Starter's Guide is a beginning effort to consolidate existing information and provide a project planning framework. However, the Starter's Guide is just the beginning and will benefit from extensive expansion—not by adding more pages, but by linking to more of the detailed assistance that is available from other organizations on specific pieces of the wastewater solution.

The Starter's Guide is also intended to be supplemented by the hands-on assistance of experts who have experience in wastewater solution design and implementation. While GMI is working with service providers to fine tune the Guide, there is also the need to consider a more systematic mechanism for communities to identify support, both from individuals with experience in wastewater and for the sorts of locally-implemented activities that are necessary to build local support for the eventual solution to wastewater needs.

Conclusion

Service providers who reviewed the Guide acknowledged the value of an emphasis on the first step in engaging community members for designing and implementing wastewater solutions. The service providers also acknowledged the value of a more systematic approach for completing a project process that does not leave out a valuable activity. Simple outreach with a minimal focus on wastewater is appealing and may help local projects improve the participation of projects at the outset, but keeping a focus on project process will be a continuing challenge.

The service providers recommended a checklist of activities that leaders of community projects should consider. Here is a suggestion for such a checklist:

- **Establish wastewater goals for the community**
- **Develop a communication strategy**
- **Build personal links to regulators**
- **Carry out an assessment of local conditions**
- **Identify a mentor or service provider**
- **Understand the technical requirements for a project**
- **Consider finance options early and often**
- **Build a project road map and include an assignment of responsibilities**
- **Don't forget the need to manage any long-term wastewater solutions**

References

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