

## Technical Assistance and Rural Water Supply: Whitley County, Kentucky's Water System

### Community Context

The Whitley County Water District is located in Whitley County in southeastern Kentucky along the Tennessee state line. The Water District's service area encompasses the entire southeast area of Whitley County, an area defined by its steep rugged landscape and hilly to mountainous topography. According to the 2000 U.S. Census, more than half (50.6 percent) or 18,148 residents of the county's 35,865 total population are low-to-moderate income, and 32-percent (11,477) are low-income. Less than two percent after population is being minority (equal percentages of African Americans, American Indian, and Asian).

Whitley County is economically distressed with a median household income (MHI) of \$22,777 and a per capita income of \$12,777. Although the coal industry remains in a state of recession and the County has lost industry in recent years, the unemployment rate holds steady at 6.7 percent. Residents travel to other communities, even into the state of Tennessee, to work.

Drinking well water in Whitley County has been proven to be a health risk. Years of mining operations, failing septic systems, and illegal straight pipe discharges of sewage from homes and businesses have polluted the county's ground/surface water supplies. Well water was the only source available to rural citizens of Whitley County. Not only did these wells contain bacterial contaminants but mineral as well. Although most homeowners treated their well water onsite with individual water treatment systems, these systems did not filter bacterial contaminants.

County residents reported that they believed the previous political administrations received funding for their own water project and spent the funds in other areas of the county. Having felt that their needs had been ignored for years, citizens rallied together to obtain petitions, and made weekly visits to the newly elected (1998) County

Judge/Executive's office demanding action. This administration responded immediately to the outrage of the community by securing both a grant writer and an engineering firm to assist them in the investigation and documentation of the dire need for a safe, potable water supply within the southeastern portion of the county. The County Judge/Executive recognized that water was a major issue within Whitley County and maintained providing potable water was a centerpiece in his campaign platform that led to his second term in the 2002 election.

The grant writer held a public hearing where citizens were given an opportunity to voice their needs. At that meeting, citizens mentioned several instances of water borne illnesses documented by local doctors. The grant writer asked a local doctor to provide a letter confirming what was asserted during the public hearing. A general practitioner within Whitley County noted concerns with county water sources, including ongoing diagnosis of Shigella, salmonella, certain types of hepatitis, and other bacteria in his practice. The number of people dying of cancer within this area of Whitley County prompted a Lexington television news program to investigate. The three-segment story alluded to the water supply as being a contributing factor. In addition, the county health statistics noted a high rate of cancer deaths in the area, including thyroid cancer, which has been linked to water toxins.

The grant writer, working with the Whitley County Health Department, obtained water samples throughout the proposed water project area. The results yielded an overall bacterial contamination rate of 71 percent, 15 percent of the sample had evidence of fecal contamination, and 11 percent had the presence of *E. coli*.

The grant writer helped the Whitley County Water District apply for resources to carry out the proposed water extensions and to establish responsibility as the owner of those

resources. The Rural Community Assistance Program (RCAP) provided assistance with identifying and procuring the expertise to carry out critical pre-project and on-going project activities. The relationship between RCAP and Whitley County was facilitated when RCAP hired the county grant writer.

### **The Project**

In order to demonstrate the local interest and capacity to install a new water system the proper water user agreements and easements on property for the water lines. RCAP assisted the Whitley County Water District community by conducting 1200+ door-to-door visits to obtain income surveys, water user agreements, and the right-of-way easements.

RCAP also made contacts and carried out site visits with Whitley County Water District officials. This allowed RCAP to better understand the capacity of the existing water system to meet the needs of this rural population. As a result of these visits, RCAP helped the County and the Water District determine cost effective ways to resolve the potable water problem by extending the existing water distribution line along Highway 92E from the existing water system.

The RCAP technical assistance provider (TAP) facilitated meetings with the USDA-Rural Utilities Service (RUS) Program Director, the area Rural Development Manager, other state and federal rural development specialists in the area, and the Kentucky EPA staff. These meetings contributed in three important ways. First, they helped to create interest in the project among representatives of the federal and state organizations who could provide funding or other types of support. Second, the state health and environment regulators understood that a resolution to the problems in the county were in the process of being resolved. Third, they provided an opportunity to ask that they forestall compliance orders or other regulatory actions that may have been considered.

Once the easements had been completed and water user agreements obtained sufficiently to allow for the bidding of the next phase of the project, RCAP helped the community to prepare

the bid schedule for the bidding of the service lines within the project area. RCAP assisted the Water District with this bidding process to ensure all regulations were met during the proper installation of service lines.

After the bid opening, the community discovered that the project could be expanded. They have asked RCAP to assist through both the construction phase of the original scope of work and the additional scope of work. The project was expanded from forty-five (45) miles of water line to eighty doubling the number of households being potentially served from 600 to 1200.

The Water District having been pleased with RCAP's performance in the Highway 92E Water Line Extension Project has recently requested RCAP's assistance with a water loss audit on the original water system. RCAP will work to facilitate this process, working in collaboration with other organizations and individuals when needed.

### **Resources Used in Project Completion**

A truly collaborative effort, the Highway 92E Water Line Extension project has been brought near completion through the direction of the County Judge/Executive and the work of many including the Whitley County Water District, RCAP, the area planning agency, local, state, and federal officials. To do this, they have used the following resources:

- USDA - Rural Development provided a \$900,000 grant and a \$1,860,000 loan;
- HUD-Community Development Block Grant program provided a \$1,000,000 grant;
- Appalachian Regional Commission provided a \$350,000 grant;
- Abandoned Mine Land provided a \$640,000 grant;
- Kentucky state Coal Severance Grant provided a \$100,000 grant;
- Whitley County Water District provided \$67,200 in collected over-income tap fees and \$32,800 cash; and
- \$100,000 in local monies.

As is implied from the funding sources, the process of moving this project to completion has involved interaction with multiple local and federal organizations. RCAP TAP played a critical role in facilitating these connections.

### Program Outcomes

**Community Impact.** The WCWD-Hwy 92E Water Line Extension Project nears completion with overwhelming success. Eighty plus miles of water line were laid versus the 40 originally proposed. The project will improve political support for the county elected official who has encouraged the project to move forward. Most significantly, the project will result in potable water supply for the very first time for approximately 1200+ households of Whitley County. It will improve access and reliability of potable water for more than 3,000 additional residents.

The health impacts of this investment in infrastructure are expected to be significant. RCAP will work with the County, the state Department of Health, and the County's general practitioner in an attempt to track changes in public health and waterborne disease morbidity over time.

Further, the infrastructure developed will likely increase the value of housing stock. The availability of piped water services should also allow for increased economic development activity, though it is too early to measure this impact.

The work with RCAP has also provided the community with access to multiple financial and TA resources that will be useful in managing or expanding the existing infrastructure. Effectively, this amounts to increased community capacity—local practitioners now know to ask if resources are available for both the financing and implementation of community development initiatives.

**Organizational Impact.** This project provided an opportunity for collaboration among multiple funding and technical assistance entities. In so doing, it demonstrated the role of the TA

provider in creating relationships and dialogue among these entities. This case should provide an important example of the positive contributions cross-agency collaboration can produce as a result of the clear public health and social justice implications.

### Lessons Learned

The media and local medical community played a critical role in moving this initiative forward through the development of environmental justice and public health claims—producing the change in local political administrations that led to local political support for the project. In addition, intermediaries can also help facilitate turning community initiative into action. Even with champions at the local and county level, the TA provider played a significant role of moving this project forward—specifically in carrying out the assessment of need, developing the engineering bids, developing relationships with the funding and regulatory entities and other critical parts of the project.

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