

Alternative Financing of Water and Wastewater Infrastructure in Rural Communities

*Prepared for David Miller, Community Programs Director
United States Department of Agriculture, Rural Development*



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Executive Summary

The Office of Rural Development within the United States Department of Agriculture (USDA) is a primary source of funding for small, low-income communities interested in carrying out water and wastewater infrastructure improvements. In the past, USDA has provided in excess of \$600 million per year in grants for investments in water and wastewater infrastructure. However, this figure has dropped precipitously in recent years, to roughly \$200 million in Fiscal Year 2005.

The significant decline in USDA grant resources has impacted the ability of rural communities to make needed upgrades to their water and wastewater infrastructure, and in the coming decades this situation will become all the more taxing. Due to a variety of reasons, primary among them an aging infrastructure base and increasingly stringent state and federal regulations, various organizations estimate that the United States will have to invest as much as one trillion dollars in additional water and wastewater improvements over the coming two decades. These two contrasting trends—the diminishing availability of grant funding and the need to increase spending in the future—represent a considerable challenge for small communities nationwide.

Three primary financing alternatives can be used by local governments to replace declining USDA grant funds: co-funding with other government agencies, privatization, and pooled transaction fees. Governments throughout the United States and in other countries have experimented with these methods, providing valuable lessons concerning the positive and negative aspects of each option. Notwithstanding the differences with regard to the specifics of these three alternatives, all share one common outcome: they will likely result in increased water rates. However, the ability of rural communities to absorb greater water costs varies greatly, and thus no single solution exists.

These facts lead to three interrelated recommendations. First, USDA should encourage communities to access the alternative financing mechanisms highlighted above. Second, USDA should help communities achieve greater operational efficiencies, which in theory reduces infrastructure costs and thus lessens communities' dependence on grant funding. Third, given that alternatives regarding both financing and operational efficiencies are often at odds with existing laws and regulations, USDA should advocate for a more



responsive legislative environment in addition to educating rural communities on understanding the ways in which better planning processes can reduce their long-standing reliance on grants.



Background and Methodology

The United States Department of Agriculture (USDA) Office of Rural Development in the State of New York has, among other responsibilities, the task of assisting rural communities with developing and paying for necessary water and wastewater infrastructure projects. This assistance comes in the form of both grants and low-interest loans. In recent years, USDA has faced a continuous decrease in the amount of grant money available, while needs for funds have increased.

USDA is preparing for future fiscal years with the assumption that there will be little to no grant money available to distribute to rural communities. USDA staff has asked for a Maxwell Capstone project to analyze the current state of financing water and wastewater infrastructure projects, and to explore alternative financing measures that call for less reliance on grant money.

The Maxwell Capstone group has employed both financial and policy analysis techniques to analyze this issue. Financial analysis was applied to observing funding trends

for the past fifteen years in regards to loans and grants, as well as comparing federal interest rates on loans against private-market rates.

From there, the group consolidated existing data on projections of future funding needs for water and wastewater infrastructure projects.

In order to ascertain the needs and financial limitations of rural communities in New York, the group conducted informational interviews with communities that have received grants and/or loans from USDA during the current fiscal year. The findings were used to inform the analysis on alternative funding mechanisms that communities are using to fund their projects.

Community Feedback: Unavoidable Infrastructure Investments

Although many communities contacted for this project applied for USDA funding to pay for installing or upgrading infrastructure out of their own volition, several other communities sought funding to finance infrastructure required by court injunction. Many communities feel caught off-guard by changing state and federal regulations, which require enhancements in infrastructure that many communities feel are unaffordable. Inevitably, the courts require communities to comply with all regulations. One notable example of the drastic financial consequences of such legal actions that we encountered is an \$8 million investment that a community of 500 people of limited means is making. Forcing the community to fully fund such an investment would push the average water rate for community members well above EPA's affordability guidelines.



As the needs of rural communities are not unique to New York, the group conducted research on the financing methods utilized by other communities in the United States and abroad. As part of this research, the group has analyzed whether such practices can be adopted by USDA. The analysis concludes with recommendations for rural communities regarding financing water and wastewater infrastructure projects in the absence of USDA grants.



Project Limitations and Challenges

Due to the nature of this project, as well as the research available, the project team encountered some challenges and limitations. First, in addition to this technical report, the Maxwell Capstone group originally offered to prepare an informational document to be used by communities. In the process of conducting research, the project team determined that recommendations would include very little information relevant to individual communities, and would contribute little beyond what is already available through USDA documentation. As such, we did not include a community guidebook in our project deliverables. Second, the Maxwell Capstone group was unable to correspond with the EFC, though we did attempt to interview the staff. While we certainly would have benefited from speaking with this group, we feel that we were able to find all necessary data from other sources.

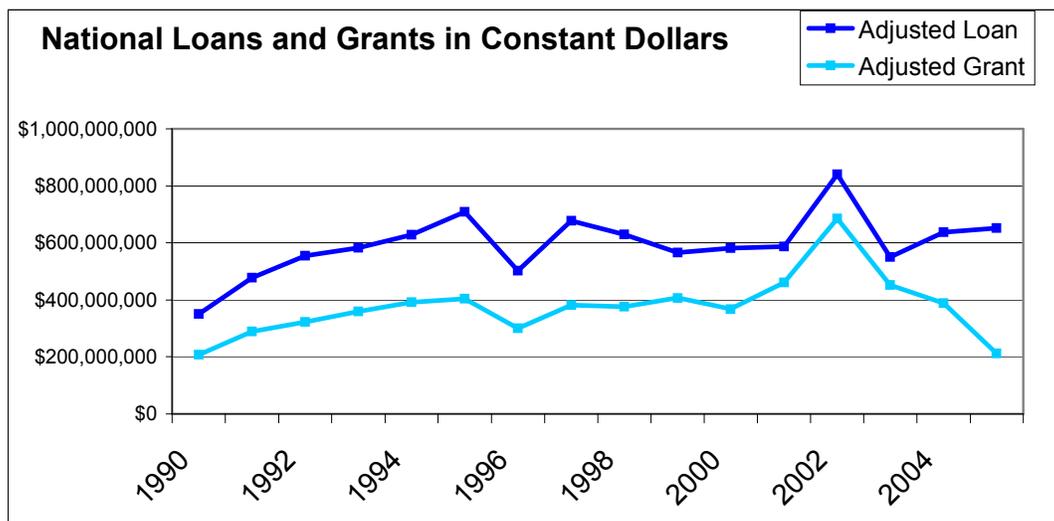
We contacted approximately 35 communities that have received USDA grant or loan funding in the current fiscal year and conducted interviews with ten communities. We felt these interviews would provide us with interesting and relevant “on-the-ground” community information about: how they are financing infrastructure; their options outside of USDA funding; and some of the challenges they encountered in going through the loan and grant application and receipt process. Although we believe that representatives of these communities answered our questions honestly, we recognize that some may have either tempered or exaggerated their experiences for our benefit. We are also aware that respondents may feel politically motivated to praise USDA and inflate the importance of grant funding; however, we do not feel that this threatens the integrity of the interviews.

The final challenge we encountered in conducting this project was the theme of the project itself. Alternative financing for water and wastewater infrastructure is an inherently narrow topic for several reasons. First, there are a limited number of ways to obtain financing. Second, alternative technologies and other issues related to utility operations are a promising means of reducing the cost of infrastructure to rural communities; however, researching these issues pushes us well outside the topic of infrastructure financing itself, and so is mentioned only in passing as part of our recommendations.

Financing Trends: National and New York State

An analysis of the past fifteen years shows that there have been few dramatic changes in the allotment of loan and grant money for rural water and wastewater infrastructure projects in the United States. This analysis employed the Consumer Price Index (CPI) for the northeastern United States from 1990 through April 2005 to put loan and grant amounts in constant 2005 dollars,¹ enabling us to observe if there have been any distinguishable periods of increasing or decreasing funding. It must be noted that the CPI is not perfectly accurate, though it does provide reliable information to observe data trends.

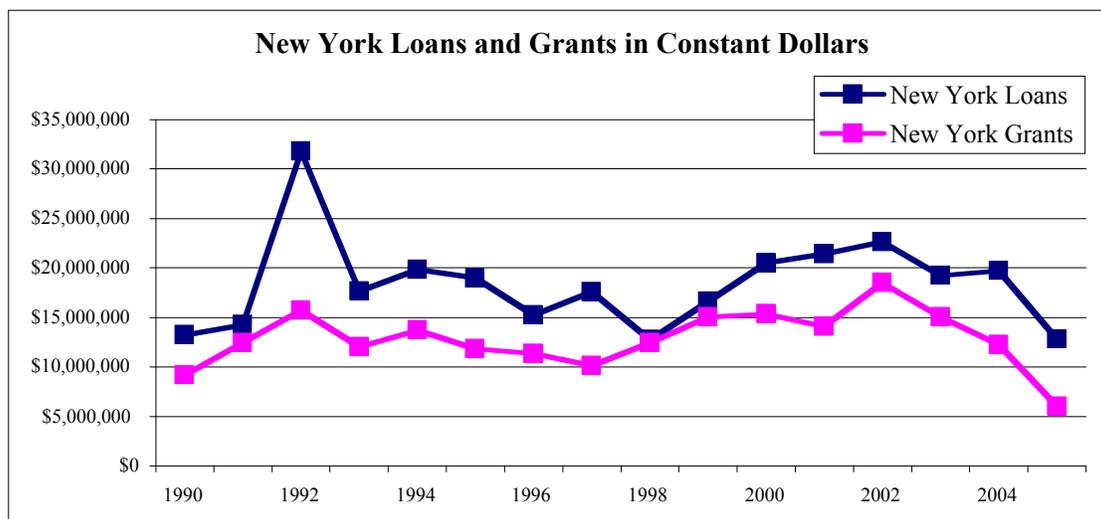
Loan levels have grown steadily over the last fifteen years, with the exception of 1996 and 2002 when loans took a significant decrease and increase, respectively. These sudden changes were followed by years in which loan amounts returned to near pre-spike levels. From 1990 to 2003, grants have roughly followed the same pattern as loans—both grew and declined over the same period. Since 2003, grants and loans have diverged, as loans have been increasing while grant money has been steadily declining.



Source: USDA Rural Development, Water and Environmental Programs. (2005). *Annual Activity Reports*.

¹ Consumer Price Index Home Page, U.S. Department of Labor. (2005). Retried from <http://www.bls.gov/cpi/>.

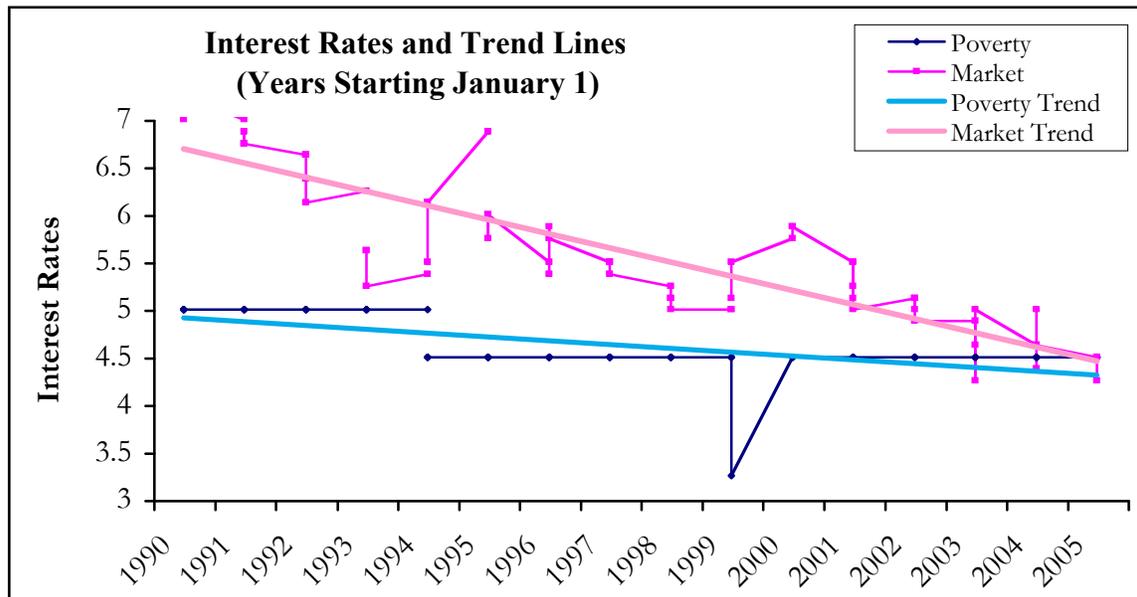
With the exception of a spike in 1992, there was little consistency in the growth or decline of loan and grant funds for New York State from 1990 through 2002. In 1998, loans and grants were distributed at nearly equal levels. Loans increased at a greater rate than grants, however, and in 2002, both grant and loan funding began to decline. Since 2002, loan funds have decreased 43 percent, and grant funds have fallen by more than 67 percent. Discussions with USDA staff indicate that grant funds will continue to decrease, while loan amounts are expected to stabilize.



Source: USDA Rural Development, Water and Environmental Programs (2005). Annual Activity Reports

While New York state loan funding has been decreasing, from 2003 to 2005 national loan funding has increased by 18 percent. New York State has received less loan funding as a percentage of national funding over the past three years—in 2003, New York State received 2.69 percent of national loan funding, while it received just 1.96 percent in 2005.

Currently the market rate for a private loan is lower than any rate offered by USDA to rural communities. The private market has been far less stable than government loan rates, in that there is little distinguishable trend from quarter to quarter that would indicate either an increase or a decline in the rate. However, rates for the private market have been steadily declining since 1990. The private rate is currently at its lowest point of the past fifteen years at 4.25 percent.



Source: USDA Rural Development, Water and Environmental Programs (2005). *Rural Utilities Service- Water and Waste Poverty Lines and Interest Rates*.

In addition to the data analysis, we conducted a thorough literature review to determine the extent to which infrastructure projects are financed through private firms. Other than brief examples, very little formal research exists on this topic in the United States. Moreover, all of the reports we examined have focused solely on public financing, and no available government reports attempt to analyze this topic or provide a comprehensive view of privatization of water and wastewater infrastructure financing in the United States. This fact reveals the lack of private sector participation in this sector.

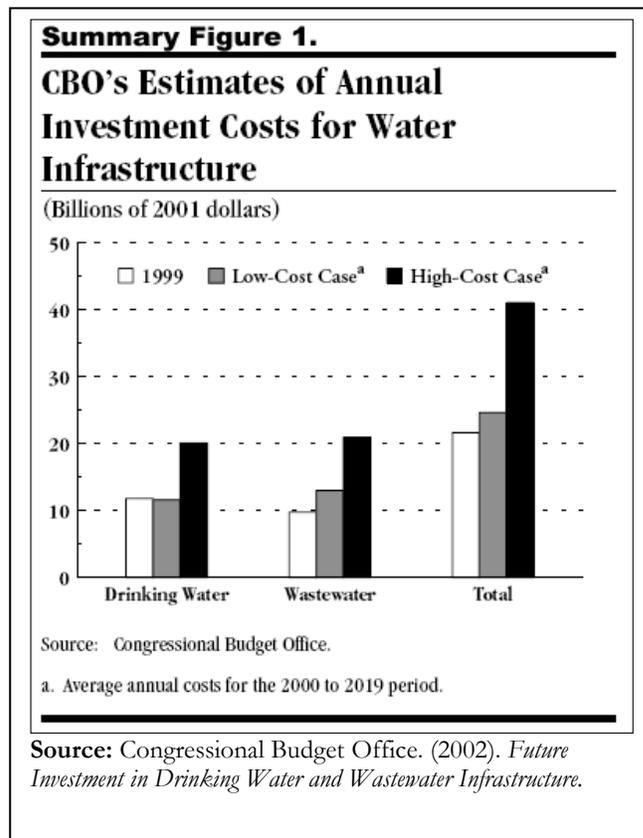
If the trends that are indicated in this analysis continue, USDA will be unable to continue to fund infrastructure projects at the current levels of support provided. Grant money—which is obviously preferable to loans for communities—is disappearing, with no indication that it will increase in the near future. The amount of money for loans is also decreasing, though discussions with USDA indicate that loan funding will stabilize. These trends indicate that grants in and of themselves are no longer viable, and that communities must depend more heavily on loans for future infrastructure projects.

Future Water Infrastructure Investment Projections

Perhaps the most alarming aspect of the large decrease in USDA grant funding is that communities nationwide will need to make significant additional investments in the near future in water and wastewater infrastructure. The three primary industry estimates—from the Environmental Protection Agency (EPA), Congressional Budget Office (CBO), and the Water Infrastructure Network (WIN)—place the cumulative demand through 2020 at levels ranging from \$492 billion to \$1 trillion dollars.

National Capital-Investment Projections

According to EPA’s *Drinking Water Infrastructure Gap Analysis*,² the estimated capital needs, including financing costs, for clean water from 2000 to 2019 ranges from \$321 billion



to \$454 billion. With regard to drinking water, EPA estimates that capital expenditures for drinking water over the twenty-year period range from \$178 billion to \$475 billion, inclusive of financing costs. Thus, EPA estimates a cumulative 20-year water and wastewater capital investment need ranging from \$499 billion to \$929 billion.

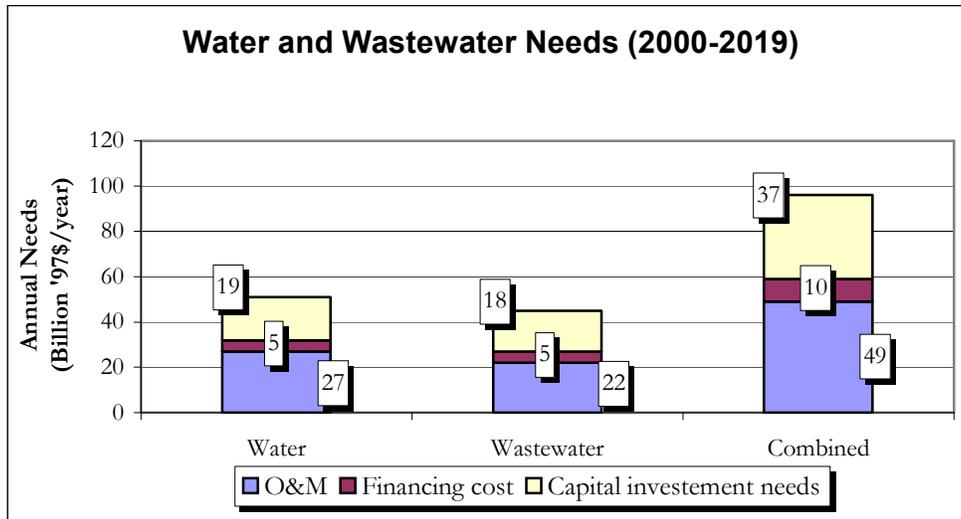
As indicated in *Future Investment in Drinking Water and Wastewater Infrastructure*, CBO’s calculations range from a low-cost estimate of \$492 billion to a high-cost estimate of \$820 billion, or roughly

the same as that projected by EPA.³

² U.S. Environmental Protection Agency. (2002). *The Clean Water and Drinking Water Infrastructure Gap Analysis*. Washington, D.C.



WIN’s *Clean and Safe Water for the 21st Century* projects a much higher need over this 20-year period.⁴ As indicated by the following graph, WIN estimates the cost of capital investments in water and wastewater systems to be approximately \$940 billion. WIN’s projections are higher than those of EPA and CBO because it includes all financing costs to be incurred after 2019 for capital investments to be made through 2019.



Source: Water Infrastructure Network. (2001.) *Clean and Safe Water for the 21st Century*.

The large projection ranges presented by both EPA and CBO reflect the limited quality of data required to estimate future needs accurately, in addition to the inclusion of various interest-rate levels and growth factors.

³ Congressional Budget Office. (2002). *Future Investment in Drinking Water and Wastewater Infrastructure*. Washington, D.C.

⁴ Water Infrastructure Network. (2001). *Clean and Safe Water for the 21st Century*. Washington, D.C.



New York Capital Investment Projections

Drinking Water

The water and wastewater infrastructure needs of the State of New York are among the highest in the country. According to a 1999 EPA analysis, the total drinking water infrastructure need for the state during the 2000-2019 period is \$13.15 billion.⁵ This projected need is second highest in the nation after California, and represents 9.4 percent of the total national need of \$139.4 billion. The breakdown of this total by specific investment type is as follows:

State of New York Total 1999-2019 Drinking Water Infrastructure Needs (millions of \$)					
<i>Transmission and Distribution</i>	<i>Treatment</i>	<i>Storage</i>	<i>Source</i>	<i>Other</i>	<i>Total</i>
8,590.8	2,852.7	994.3	675.5	43.1	13,155.3

Source: U.S. Environmental Protection Agency. (1999). *1999 Drinking Water Infrastructure Needs Survey*.

Of the total projected investment demand for New York, \$2.4 billion is for small communities with fewer than 10,000 residents (and thus eligible for USDA Rural Services financing), as indicated by the following table.

State of New York Total 1999-2019 Drinking Water Infrastructure Needs, Small Communities (millions of \$)				
<i>CWSs Serving 10,000 and Fewer People</i>			<i>CWS Need (All Sizes)</i>	<i>Percent of Need for CWSs</i>
<i>Current Need</i>	<i>Future Need</i>	<i>Total Need</i>	<i>Total Need</i>	<i>Serving 10,000 and Fewer People</i>
1,655.7	746.0	2,402.6	13,059.3	18.4%

Source: U.S. Environmental Protection Agency. (1999). *1999 Drinking Water Infrastructure Needs Survey*.

The above projections for New York place the state behind just three other states in the country—California, Illinois, and Texas—and signifies that New York represents five percent of total national demand of \$48 billion for small-community water infrastructure needs.

⁵ U.S. Environmental Protection Agency (1999). *1999 Drinking Water Infrastructure Needs Survey*. Washington, D.C.



Wastewater

For wastewater infrastructure over the same period of time, EPA estimates that New York communities would require roughly \$16 billion in investment in the wastewater sector over a 20-year period.⁶ This figure represents the highest projected investment need of any state in the country, and 11.5 percent of the total estimated national need of \$139.5 billion. The breakdown of the required investment in clean water infrastructure is presented in the following table.

State of New York Total 1996-2016 Clean Water Infrastructure Needs (millions of \$)									
Secondary Treatment	Advanced Treatment	Infiltration/ Inflow Correction	Sewer Replacement/ Rehabilitation	New Collector Sewers	New Interceptor Sewers	Combined Sewer Overflows	Storm-water	Nonpoint Sources	Total
3,377	5,955	74	1,166	327	351	3,990	80	636	15,956

Source: U.S. Environmental Protection Agency. (1996). *1996 Clean Water Needs Survey*.

Of this total, \$699 million would be required for communities with fewer than 10,000 residents, for the purposes indicated in the subsequent table.

State of New York Total 1996-2016 Clean Water Infrastructure Needs, Small Communities (millions of \$)									
Secondary Treatment	Advanced Treatment	Infiltration/ Inflow Correction	Sewer Replacement/ Rehabilitation	New Collector Sewers	New Interceptor Sewers	Combined Sewer Overflows	Storm-water	Nonpoint Sources	Total
241	21	30	19	184	89	99	0	16	699

Source: U.S. Environmental Protection Agency. (1996). *1996 Clean Water Needs Survey*.

Similar to the case of drinking water, New York represents five percent of the total national small-community wastewater infrastructure needs of \$13.9 billion. This projected demand level places the state fifth in the nation after North Carolina, Ohio, Pennsylvania, and West Virginia.

⁶ U.S. Environmental Protection Agency. (1996). *1996 Clean Water Needs Survey*. Washington, D.C.

Causes for New York Infrastructure Needs

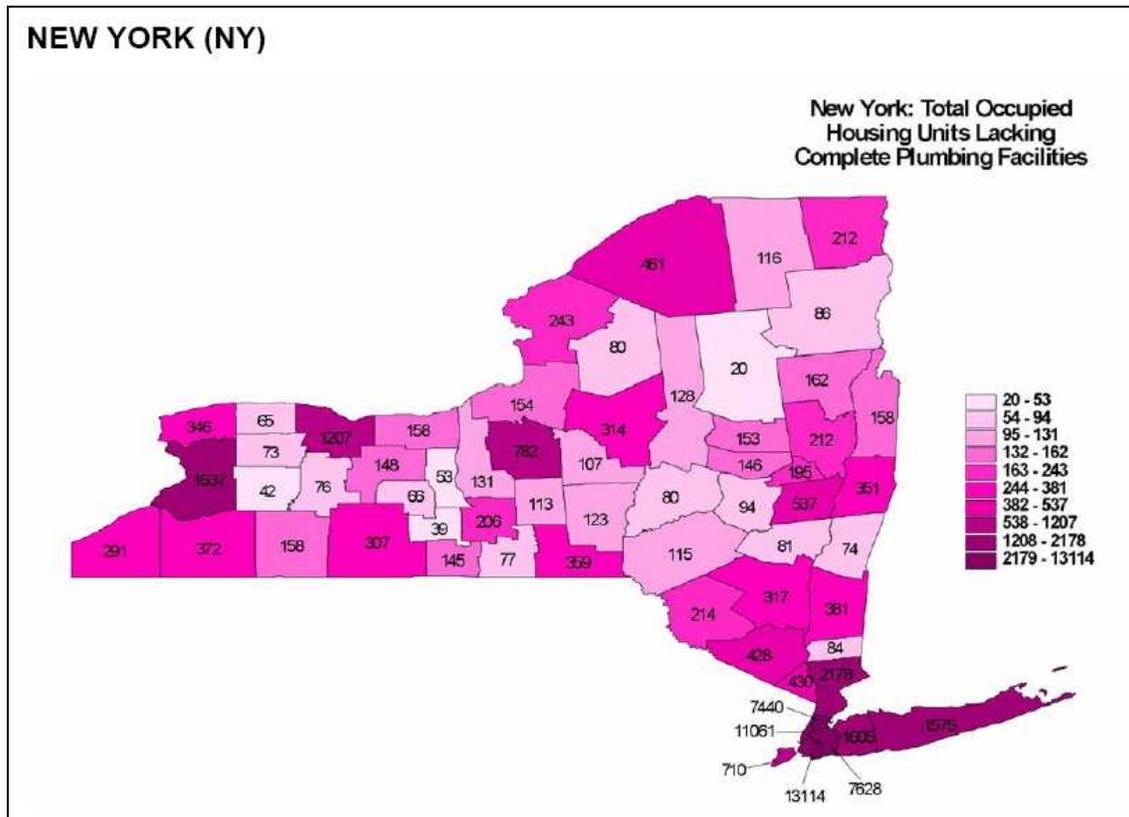
New York’s high future water and wastewater infrastructure investment need is a result of the ongoing necessity to provide all state residents with adequate sanitation services. According to an analysis of 2000 Census Bureau data by the Rural Community Assistance Partnership—as presented below—New York ranks behind only California in terms of the total number of occupied housing units that lack complete plumbing facilities, with 58,418 such homes noted in the 2000 national census.⁷

Total/Percentage of Occupied Housing Units Lacking Complete Plumbing Facilities, 2000						
U.S./State	Occupied Housing Units lacking Complete Plumbing					% Change 1990-2000 in Total Households
	Total (2000)	% (2000)	Total (1990)	% (1990)	% Change 1990-2000	
United States	670,986	0.64	721,693	0.78	-7.03	14.72
California	85,460	0.74	57,974	0.56	47.41	10.8
New York	58,416	0.83	50,428	0.76	15.84	6.29
Texas	54,853	0.83	56,844	0.94	-3/5	21.78
Florida	30,134	0.48	22,861	0.43	36.59	23.43
Pennsylvania	24,450	0.51	26,355	0.59	-7.23	6.25
Illinois	23,959	0.52	21,572	0/51	11.07	9.27
Arizona	21,086	1.11	18,352	1.34	14.91	38.9
Virginia	19,550	0.72	35,788	1.56	-45.37	17.77
Ohio	19,407	0.44	24,394	0.60	-20.44	8.76
North Carolina	19,295	0.62	33,192	1.32	41.87	24.43

Source: U.S. Bureau of the Census, Census of the United States, 1990-2000.

It is important to note that the vast majority—roughly 90 percent—of the wastewater needs in New York are in the large cities, primarily New York City, as indicated in the following graphic.

⁷ Rural Community Assistance Partnership. (2004). *Still Living Without the Basics in the 21st Century: Analyzing the Availability of Water and Sanitation Services in the United States*. Washington, D.C.



Source: Rural Community Assistance Partnership. (2004). *Still Living Without the Basics in the 21st Century: Analyzing the Availability of Water and Sanitation Services in the United States.*

Future Investment Financing Gap

The most notable aspect of the significant level of required infrastructure investment through 2019 is the proportion of this total that 1999 levels of funding would not cover. EPA, CBO, and WIN have made estimates of this gap based upon various expenditure levels. Importantly, these estimates do not consider the decline in grant funding that has occurred in the past several years, and thus likely underestimate the funding gap.

Size of the Financing Gap

The following table highlights EPA’s estimated funding gap for wastewater infrastructure and operations and maintenance (O&M).⁸ The no-revenue-growth scenario

⁸ U.S. Environmental Protection Agency. (2002). *The Clean Water and Drinking Water Infrastructure Gap Analysis.* Washington, D.C.



assumes total spending on water infrastructure would remain at 1999 levels, whereas the revenue-growth scenario assumes that spending on water infrastructure would grow in real terms by three percent per year.

EPA's Projected Capital and O&M Payment Gap for Clean Water, 2000-2019

Payments—without growth assumptions	Payments are a measurement of cash flow in billions of constant dollars. The annual payment gap is the difference between yearly projections of payments and current spending. The Total payment gap over 20 years is the sum of the annual payment gaps.					
	<i>Total Payments (20 years)</i>		<i>Total Payment Gap (20 years)</i>		<i>Average Annual Payment Gap</i>	
	<i>Range</i>	<i>Average</i>	<i>Range</i>	<i>Average</i>	<i>Range</i>	<i>Average</i>
Capital	\$321 to \$454	\$381	\$73 to \$177	\$122	\$4 to \$9	\$6
Capital/O&M	\$736 to \$1,007	\$862	\$154 to \$397	\$271	\$8 to \$20	\$14
Payments—with revenue growth assumptions	The payment gap in this scenario assumes that the economy grows at a real rate of growth of three percent, and municipal wastewater expenditures grow at an identical rate. A real rate of growth is a rate of growth above inflation. All figures are in billions of constant dollars.					
	<i>Total Payments (20 years)</i>		<i>Total Payment Gap (20 years)</i>		<i>Average Annual Payment Gap</i>	
	<i>Range</i>	<i>Average</i>	<i>Range</i>	<i>Average</i>	<i>Range</i>	<i>Average</i>
Capital	\$321 to \$454	\$381	\$0 to \$94	\$21	\$0 to \$5	\$1
Capital/O&M	\$736 to \$1,007	\$862	\$0 to \$143	\$31	\$0 to \$7	\$2

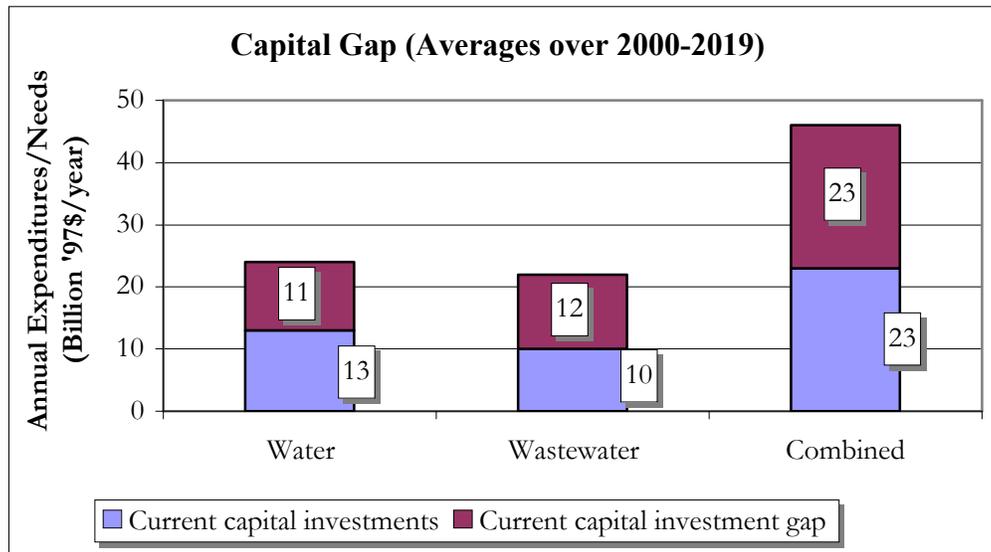
Source: U.S. Environmental Protection Agency. (2002). *The Clean Water and Drinking Water Infrastructure Gap Analysis*.

With regard to drinking water projections for 2000-2019, EPA estimates a capital investment gap of between \$0 and \$267 in the no-revenue-growth scenario, and between \$0 and \$205 for the revenue growth scenario.

In comparing fixed 1999 expenditure levels versus average annual capital needs for 2000-2019, CBO has estimated an annual capital gap ranging from \$3 billion to \$19.4 billion, or a total gap ranging from \$60 billion to \$388 billion.⁹

⁹ The Congressional Budget Office (2002). *Future Investment in Drinking Water and Wastewater Infrastructure*. Washington, D.C.

WIN, in turn, provides the following annual financing gap estimates:¹⁰



Source: Water Infrastructure Network. (2001). *Clean and Safe Water for the 21st Century*.

Thus, WIN projects a potential 20-year funding gap of \$460 billion, assuming a fixed level of 1999 expenditures.

Causes of the Potential Funding Gap

According to EPA and WIN, the substantial future gap between infrastructure needs and current funding levels result from the following factors:

- The infrastructure system is aging.
- Population is growing and shifting geographically to areas with existing water systems that cannot handle large increases in demand.
- Current treatment is often insufficient in meeting growing federal standards, which requires more complex technology and increased use of energy and chemicals.
- Services are non-centralized and, notably, there is a lack of small-community economies of scale in utility management.
- States have historically under-recognized replacement costs.

¹⁰ Water Infrastructure Network. (2001). *Clean and Safe Water for the 21st Century*. Washington, D.C.

Financing Alternatives

Bearing in mind that USDA grant funding is decreasing, yet rural communities are facing a growing and unavoidable need for infrastructure investment, the vital question is: how can rural communities balance these two trends? Although limited, the key alternative financing arrangements for rural communities are:

- collaborative efforts and co-funding,
- privatization, and
- pooled transaction fees

This section details each of these approaches to financing in rural communities.

Collaborative Efforts and Co-Funding

One way in which rural communities can respond to the loss of grant funding is to access other sources of government funding. Currently, eight federal agencies administer 17 programs designed to assist communities across the United States in constructing, repairing, or expanding rural water and wastewater infrastructure. The objectives of these programs are very similar, but each has different eligibility requirements. As a result, rural communities with limited capacities are often unable to seek funding from more than one agency. A 1995 Government Accountability Office report addressed this situation at length. According to this report, there are three major issues affecting rural communities using federal aid: “(1) differences among the agencies in their timetables for grant and loan awards can delay needed financing, which in turn delays project construction; (2) the need to seek funding from multiple sources can require the applicant to duplicate essentially similar processes, which increases overall project costs; and (3) requiring projects to meet the same standards as large projects can delay the development of small but important projects.”¹¹

¹¹ Government Accountability Office. (1995). *Rural Development: Patchwork of Federal Water and Sewer Programs is Difficult to Use*, 13.



New York Co-Funding Initiative

In response to these issues, New York State, along with a handful of other states, has been in the vanguard in attempting to harmonize the disjointed federal infrastructure-financing system. In addition to USDA, there are eight other primary sources of funding that comprise the New York State Water and Infrastructure Co-Funding Initiative. Each source has different qualifying criteria and each focuses on slightly different characteristics of a community when making funding decisions. In addition to USDA's rural loan and grant program, rural communities can apply for funding from the following Co-Funding Initiative members.

Clean Water State Revolving Fund (CWSRF)

The Clean Water State Revolving Fund (CWSRF) was established in 1990 and is managed by the New York State Environmental Facilities Corporation. Its mission is to

**Community Feedback:
Impacts of Diminishing USDA Resources**

Several community officials contacted for this project—and who represented towns and villages that had received USDA financing in Fiscal Year 2005—commented on the notable reduction in available USDA fund from the time they started the application process to the time their applications were approved. Given that applying for USDA funds can take up to three years, various community officials noted that they were sent scrambling when it became evident that the initially indicated amount of grant funding would be reduced. Communities responded by scaling back infrastructure projects or seeking funding from other government sources. Although all community officials who commented on this problem understood that USDA has to work with the resources available to them, they all felt that the decrease would curtail near-term investments and could possibly lead to larger problems in the long run.

provide low-interest financing to municipalities in order to provide aid for capital costs associated with water pollution control facilities. The CWSRF also provides financing to municipalities and not-for-profit organizations for land acquisition projects for water quality protection. These types of projects include wastewater treatment facilities, sewer systems, and non-point source pollution prevention projects. The SRF provides loans of up to three years that are interest free, and long-term low interest loans of up to 30 years. Since 1990 the CWSRF has provided over \$10 billion in financing.

The CWSRF also has a Hardship Assistance Fund. This fund provides assistance for wastewater projects that are under \$10,000,000 to communities where the total annual sewer service charge exceeds a target



service charge, determined using the median household income of the community. The fund provides low-interest-rate loans for as long as 30 years; the interest rate may be as low as zero percent.

Drinking Water State Revolving Fund (DWSRF)

The Drinking Water State Revolving Fund (DWSRF), established in 1997, is managed jointly by the New York State Environmental Facilities Corporation and the New York State Department of Health. It is intended to provide incentives to communities to upgrade or implement drinking water systems, including treatment and storage facilities, as well as transmission and consolidation projects. Much like the CWSRF, the DWSRF provides interest-free loans for up to three years, and low interest rate financing for up to 20 years. The New York State Environmental Facilities Corporation handles the financing while the NYS Department of Health assesses potential projects for their potential overall public health benefit, as well as community needs.

The DWSRF has a Hardship Assistance Fund as well. Under the requirements of this fund, grant money is only offered to communities who cannot achieve target user fees with no-interest financing over 30 years. The projects also must cost under \$10,000,000. This fund provides interest-free financing for up to 20 years and also provides grants based on need up to \$2,000,000 or 75 percent of eligible costs, whichever is lower.

Small Cities Community Development Block Grant Program

The Small Cities Community Development Block Grant Program was established by the Governor's Office for Small Cities. This program was established with very broad goals and objectives and is not limited to water and waste water financing. The mission of the program is to improve public health, welfare, and safety. The program therefore also supports economic development, as well as other types of infrastructure projects.

Towns and cities with a population under 50,000, as well as counties with an unincorporated population under 200,000, are eligible for block grants through this program. The Small Cities Community Development Block Grant Program provides two types of grants. The first is through an annual competition. This application process is general and requires no specific qualifications besides those that meet the mission of the program.

Eligible cities, towns and villages can receive up to \$400,000 in grants, and eligible counties and joint applications can receive up to \$600,000 in grants. The second category of grants is made available through the economic development open competition. In order to be eligible for these grants, projects must generally benefit low- and moderate-income individuals and must improve or prevent health and safety issues, slums, or blight. Communities that qualify for these grants can receive between \$100,000 and \$750,000.

Appalachian Regional Commission (ARC)

The Area Development Program (ADP) is a funding program managed by the Appalachian Regional Commission (ARC). ARC is a federal-state partnership whose mission is to create self-sustaining economic development and an improved quality of life for residents of Appalachia. The ADP provides grants for infrastructure projects in Appalachian New York with the intention of providing economic development assistance or where there is a health and safety risk. While public safety is important in the eligibility-assessment process, an economic development feature greatly enhances the probability of receiving a grant. Grants range from \$150,000 to \$200,000.

Community Feedback: Partnering with Neighboring Towns

The issue of regionalization of operations was a hot topic for the communities we contacted. Most claimed that jointly planning water and wastewater infrastructure projects was impossible. To some towns operating under court injunction, they felt that their investments were unique and had to be done in a timely fashion that precluded partnerships. Other communities noted that the populations of rural communities were too dispersed and small to increase the efficiencies of their water systems by sharing assets with neighboring towns. Yet other community officials noted that they had particular needs and standards that they do not feel they could compromise by collaborating with other towns. Notwithstanding these comments, one community official rebutted all claims by noting that all towns—his included—could collaborate more, even if the gains were limited.

Clean Water/Clean Air Bond Act

The Clean Water/Clean Air Bond Act was enacted in 1996 and is managed by the New York State Department of Conservation. Its purpose is to improve the state's environmental infrastructure and natural resources. The bond proceeds are intended to be directed towards infrastructure projects that have no other clearly identified source of funding, although projects that already have attained some funding are not precluded.



The state has floated \$1.75 billion in bonds; however, much of this money is dedicated to projects that are not related to water and wastewater needs. In total, \$790 million is available for clean water projects and \$355 million is available for drinking water projects. This act provides grants for up to 85 percent of the construction costs associated with a project. Projects that qualify for funding include: aquatic habitat restoration, pollution prevention, non-point source abatement and control, and municipal wastewater treatment improvement.

For a summary of the above programs, see Appendix D.

Utilization of Co-Funding in New York State

Collaboration between USDA and other government agencies has become a common practice in financing water or wastewater infrastructure investments in rural New York. As of mid-May 2005, USDA had awarded 28 financing packages totaling \$17,457,900. Of this total, \$9,127,200 represented loan funding and \$8,330,700 consisted of grant awards. Eleven of these financing packages—representing 39 percent of projects funded to date in 2005—also received co-financing from one or more other New York Co-Funding Initiative sources. Other government agencies provided an additional \$30,738,232 to these 11 projects.

Excluding the 17 projects that did not receive co-funding, through mid-May 2005 USDA had provided \$7,167,100—\$2,080,300 in loans and \$5,086,800 in grants—for co-funded projects. These figures indicate that USDA funds represented 18.9 percent of the \$37,905,332 provided to these 11 co-funded projects.

Co-funding can provide significant levels of financing not otherwise available to rural communities in New York. In 2004 there were 43 co-funded wastewater infrastructure treatment projects in the state, with per-project funding levels as high as \$25,858,100.¹²

¹² New York Water Environment Association, Inc. (2004). “Water Views.” *Clearwaters* 34(4): 9.

Utilization of Co-Funding in Other States

Other states have also developed coordinating mechanisms that both facilitate the access of rural communities to additional funding sources and allow the government to take advantage of economies of scale to stretch existing resources. Arizona's Rural Water

Infrastructure Committee, for instance, is a "one-stop" entity with a principle goal of maximizing resources made available for rural infrastructure financing. This program has assisted about 200 communities in Arizona, and the coordinated

Other Notable State Co-Funding Programs

- ◆ Arizona Rural Water Infrastructure Committee
www.wifa.state.az.us
- ◆ California Financing Coordinating Committee
<http://www.commerce.ca.gov>
- ◆ Montana Water, Wastewater and Solid Waste Action Coordinating Team
www.dnrc.state.mt.us/caridd/wasact.htm
- ◆ Washington Community Economic Revitalization Team
www.oted.wa.gov/ed/wacert/Home.asp

approach has expedited funding and assistance for community projects. This collaborative combines representatives from infrastructure loan and grant programs, state lending authorities, technical assistance providers, private banks, and engineering firms. Likewise, the California Financing Coordinating Committee aims to foster cooperation and reduce administrative costs for agencies and applicants through more efficient use of funds. The program offers a preliminary common inquiry form for communities (see Appendix E), which are then directed to the appropriate funding agency for their proposed project. Annually, the program assists between 200 and 500 applicants.

Montana's Water, Wastewater and Solid Waste Action Coordinating Team addresses another concern of collaborative programs. This program was designed to increase information available to communities and to help local governments take full advantage of state and federal programs. The program also includes resources to assist communities in funding project planning, including hiring engineers and conducting needs analyses. The Washington Community Economic Revitalization Team also works to provide increased information to local areas. This committee is a single point of entry for rural communities seeking federal and state aid. Washington also established the Infrastructure Assistance Coordination Council in the mid-1980s as an information clearinghouse. The program combines representation from federal, state, and local governmental associations, non-profit

firms, and universities. The main goal of this program is to improve the delivery of technical and financial assistance to rural communities.

Privatization

Privatization is a popular theme in the provision of many governmental and public services, including the financing of water and wastewater services. Privatization potentially offers several benefits: cost savings, knowledge-sharing, and efficiency-building in construction and operation, increasing access to private capital, and improving the quality of services (as a response to competition). The private sector has played a large role in the

**Privatization Case Study:
Noosa Shire Council in Australia**

The most popular way to privatize water utilities is to pass the managerial functions to private enterprises, rather than privatize the utilities at the stage of construction. There are very few examples of the successful privatization of municipal water/wastewater utilities at the stage of project planning. One of those is the case of the Noosa Shire Council in Australia, which hired Australian Water Services to build a new wastewater treatment plant for 66,000 users. The benchmark costs were \$23 million for construction and \$2.4 million for annual operations. In 1995 a tender was issued and in May 1996 a 25-year operations contract was signed. The new plant was commissioned in December 1997 for a cost of \$18 million, well below the benchmark figure. Current operation costs are also lower than the government's benchmark, at \$1.4 million per year.

Source: Dennis O'Neill, *Infrastructure: Case Study 1: Noosa's coastal Wastewater Treatment*, Regional Australia Summit, 2000, from http://www.dotrs.gov.au/regional/summit/program/background/pdf/oneill_paper.pdf.

provision of water and wastewater infrastructure in the past, though not in financing these systems. At present, the trend is shifting towards encouraging private organizations to provide financing resources in meeting local water and wastewater funding requirements. In 1992, U.S. Executive Order 12803 instructed federal agencies to remove regulatory and procedural barriers to the involvement of the private sector. The Order also decreased the financial interest of the federal government in grant-funded facilities, and increased the rate of recovery for local investments over

federal investments.

Notwithstanding the federal government's encouragement of private-sector involvement, EPA stresses that "privatization is never a source of free capital."¹³ Regardless

¹³ U.S. Environmental Protection Agency Office of Water. (2000). *Guidance on the Privatization of Federally Funded Wastewater Treatment Works*, 4.

of whether a community decides to procure funds from public or private sources, the funds have to be paid back through revenues from the projects.

Public drinking water systems are, to a great extent, owned and operated by private entities—over 40 percent of U.S. drinking water systems are private. Private financing of infrastructure projects has occurred to a great extent for infrastructure needs such as telecommunications, electricity, natural gas, wastewater and others, particularly in subdivisions and trailer parks. But because water quality is a regional problem with significant public health, local governments have taken responsibility for providing wastewater and water services. Although the provision of wastewater services has been limited, it is growing. Monetarily speaking, less than two percent of the wastewater industry is private. There are about 320 wastewater facilities using private partners for wastewater operations. “While many communities have explored the outright sale of facilities to private entities as allowed under Executive Order 12803, this option has rarely been used in the wastewater area primarily because of discharge permit and tax-related issues.”¹⁴

Private-sector players face some limitations in their provision of water and wastewater services. If a community is a recipient of federal grants, private firms must comply with grant requirements, and if the community wishes to “dispose of and end the federal interest in the asset”¹⁵ and shift to an agreement with a private entity, the community must get approval from EPA and receive a deviation from federal grant regulations. Most of the privatization in water and wastewater utilities comes in the form of contract operations. While agreements with private entities typically take the form of contracts to operate and maintain facilities, some include capital investments on the part of private firms, so long as the “resulting assets remain the sole property of the local government when construction is complete and the private entity would not have any claim on facilities as a result of the capital investment.”¹⁶

In the water services sector, privatization has taken many forms, from meter reading and accounting and billing, to operation and maintenance of core water supply and wastewater facilities. In some instances privatization has included the sale of system assets. Through privatization public authorities delegate a primary responsibility to a private interest

¹⁴ Ibid, 7.

¹⁵ Ibid, 6.

¹⁶ Ibid, 9.

for delivery of that service. The private sector obtains through the privatization responsibility for securing and maximizing the return to shareholders.¹⁷ But the profit-seeking objectives of private enterprises may conflict with the public objectives of the water service.

The private ownership of the water industry generates passionate debate. By 1980 private operations in water were limited essentially to France, some small areas of Great Britain, the utility-owned distribution schemes in the United States, some cities in Spain, and parts of francophone Africa.¹⁸ The divestiture of Britain's water infrastructure to the private sector in 1989 created great international interest. There was a common assumption that private ownership of water utilities would be more efficient, less prone to corruption, and more responsive to clients. To date, most private operations have achieved real progress in efficiency and, when required by the authorities and as part of their contracts, have affordably served poor municipalities.

But introduction of private operators in a country that has no experience in this matter is a long and difficult process. Compared with other types of infrastructure, the water sector has been the least attractive to private investors, and the sums involved have been the smallest.¹⁹

Water and wastewater utilities privatization in the United States

Early water utilities in the United States were private companies, but urban growth eventually prompted many cities to develop publicly owned water systems. Since World War I, public ownership has been stimulated by various financial arrangements that reduce the cost of capital for public water systems.²⁰

¹⁷ Hall, David. (2001). *Water privatisation and quality of service*, PSIRU evidence to the Walkerton enquiry, Toronto. Retrieved from www.psir.org/reports/2001-07-W-walkerton.doc.

¹⁸ Winpenny, James. (2003). *Financing Water For All*, Report of the World Panel on Financing Water Infrastructure, Global Water Partnership World Water Council, Third World Water Forum, 33. Retrieved from http://www.riob.org/wwf/FinancingWaterForAll_complete.pdf.

¹⁹ Kessler, Tim. (2004). *The Pros and Cons of Private Provision of Water and Electricity Service: A Handbook for Evaluating Rationales*, Citizens' Network On Essential Services (CNES). Retrieved from www.un-nels.org/cso/CNESV1.htm.

²⁰ National Research Council. (2002). *Privatization of Water Services in the United States: An Assessment of Issues and Experience*, Committee on Privatization of Water Services in the United States. Retrieved from <http://www.nap.edu/execsumm/0309074444.html>

Statewide privatization policy has been developed and integrated in the form of the Public Services Accountability Act. While the public supports the concept of improving the delivery of government services, Americans also support laws to ensure the continuity of quality public services.²¹ The tragedy of September 11, 2001, has changed the environment for decisions about privatization and appropriate public-private balance. Those events certainly raised security concerns about water utilities.

Although there has been much effort to promote private-sector involvement by relaxing financial constraints and government oversight, governments have failed to establish clear guidelines for public access and supervision, monitor the public interest, and ensure public participation and transparency with regard to water privatization contracts or agreements.

Nonetheless, in 2002 Senator Bob Graham introduced the new Water Investment Act, which, for the first time in federal water law, specifically endorsed public-private partnerships

as a cost-effective option for municipal infrastructure projects.²² Adoption of this Act may launch a new era of water utilities dominated by the private sector.

Few examples exist of full water/wastewater infrastructure privatization, but currently there are 433 privately operated and publicly owned water facilities in the United States. Thirty-one of these facilities are located in the state of California.²³ Californian

**Privatization Case Study:
Hawthorne, California**

In March 1996, the first-ever long-term lease of an existing municipal water system was completed by the Southern California city of Hawthorne to the California Water Service Company (Cal Water). Cal Water made an up-front payment of \$6.5 million and must pay annual lease payments of \$100,000 for 15 years. The lease made Cal Water responsible for all needed capital improvements, and the city residents will benefit from the economies of scale made possible by sharing some fixed costs with Cal Water's adjacent Hermosa-Redondo Beach operations. The agreement included a provision that existing Hawthorne employees will be transferred to Cal Water at the same pay and benefit levels. Customer rates in Hawthorne will be set at the same level as those in the Hermosa-Redondo district.

Source: *Local Policies, Water Services, Case Study 2: City of Hawthorne, CA — Long-Term Lease*, from http://www.privatization.org/database/policyissues/water_local.html.

²¹ State Environmental Resource Center. (2004). Background, Water Privatization, Policy Issue Package. Retrieved from <http://www.serconline.org/waterPrivatization/background.html>.

²² Hobbs, Erika. (2003). "Low Rates, Needed Repairs Lure 'Big Water' to Uncle Sam's Plumbing." The Center for Public Integrity. Retrieved from <http://www.icij.org/water/report.aspx?sid=ch&rid=54&aid=54>.

²³ Tabarrok, Alexander. (2002). "Market Challenges and Government Failure" In *The Voluntary City* (p. 411). Ann Arbor, MI: University of Michigan Press.

practice shows that such partnership may be profitable for both the community and the private company.

Advantages of privatization

The main advantage of privatization is the contract—it is the mechanism that allows more direct oversight, transparency, and more accountability. Privatized water utilities also have lower capital costs. Cost savings from outsourcing water-delivery services typically range from 10 to 25 percent. A 1996 Reason Foundation study found that investor-owned water companies in California provide water at the same price to consumers as municipal water companies even though the former: must pay local, state, and federal taxes; generally cannot make use of tax-exempt debt; and are expected to earn a profit for their shareholders.²⁴

Moreover, privatization is supposed to prevent executives from receiving outlandish salaries and may help people keep their jobs. For example, Jersey City, which turned to the partial privatization of its water utilities by United Water, set as one of the conditions preservation of existing employee arrangements. As a result water rates were unaffected by the privatization and all 138 employees were guaranteed their jobs for at least one year. After that, the number of employees could be reduced, but to no fewer than 80.²⁵

Other positive effects of privatization are that agencies do not pay dividends to shareholders, and the ratepayers' money remains in the community.

Disadvantages of privatization

There are also substantial difficulties related to privatization. The profit motive may provide private water companies with incentives to avoid conservation and efficiency measures since profits depend upon volumes of water sold. Also, the privatization of water utilities has posed risks of rate hikes, inadequate customer service, and reduced local control. Rates have increased as a way for private water companies to maximize profits in many U.S. communities where water has been privatized. Since the company is under little pressure to

²⁴ Ibid.

²⁵ *Local policies, Water Services, Case Study 1: Jersey City, NJ — Contract Operation and Management*. Retrieved from http://www.privatization.org/database/policyissues/water_local.html.



respond to consumer concerns, this may result in poor customer service. Private water suppliers by nature are beholden to their stockholders rather than to the public, and may not have economic incentives to make long-term investments in infrastructure and water quality monitoring. Moreover, profit-seeking objectives of private enterprises may conflict with the public objectives of the water service. Companies aiming to maximize the benefits from a long-term concession have incentives to engage in corruption. This may take the form of a bribe to a person or a political party, or the allocation of monopoly profits to politicians or their relatives. At present, in July 2001, there are court cases in both New Orleans, Louisiana, and Bridgeport, Connecticut, concerning water contracts where bribes were allegedly paid by executives of Professional Services Group (now part of US Filter, itself part of Vivendi).²⁶

Another problem with privatization is that the operator has a simple incentive to maximize prices. We thus find a diverse range of corporate strategies for raising prices: in Great Britain this has taken the form of bargaining with the regulator; in France and elsewhere it occurs through a series of technical adjustments and renegotiations. Privatized water prices in France are between 10 and 15 percent higher than public sector water prices in the same country.²⁷

There is always a tension between public service objectives and the profit-oriented behavior of a private company. In Great Britain, investment projections formed part of the basis on which companies were allowed to charge prices. Once the price increases were negotiated in 1995, many companies rapidly discovered reasons not to follow the investment forecast, and announced 'capital efficiencies' which enabled them to award the money not spent on investments as increased dividends to shareholders.

A general problem with almost any form of privatization is the creation of uncertain responsibility. One immediate result of water privatization in Great Britain was the loss of this unitary system of responsibility. There are two separate regulatory bodies, Environment Agency and Office of Water Service, responsible for economic regulation and with the power to apply economic sanctions and incentives, although neither of these agencies recognize any environmental responsibilities. Further, once water rights have been signed over, very little can be done to ensure that the private company will work in the best interest

²⁶ Hall, David. (2001). *Water privatisation and quality of service*, PSIRU evidence to the Walkerton enquiry, Toronto, 4. Retrieved from www.psir.org/reports/2001-07-W-walkerton.doc.

²⁷ Ibid.



of the community. After being exposed to these risks, major cities in Georgia, Indiana, Illinois, Kentucky, and Louisiana have canceled water management contracts with private companies or taken steps to buy back the assets of privately owned water utilities.

Pooled Transaction Fees

Falling outside of the general strategies of co-funding and privatization is an approach to infrastructure financing that involves pooling revenues received from transaction taxes or fees. Three examples are provided below.

In 2004, the Chesapeake Bay Watershed Restoration Fund was established in Maryland. This program is financed through a \$2.50 surcharge on sewer bills and a \$30 fee for septic system owners, and funds upgrades on 66 of Maryland's largest wastewater treatment facilities and failing septic systems. The surcharges are expected to raise about \$66 million, which will be added to leverage \$980 million through state bonds. Interestingly, the program has the potential to raise about \$180 million a year, if the 6 million homes within the Chesapeake watershed area participate.

St. Tammany Parish in Louisiana has also considered a variable approach to financing their wastewater systems, which involves imposing a real estate transfer fee. Each year, about 10,000 real estate transactions occur in the Parish, and the St. Tammany Parish Wastewater Consolidation Program proposes charging \$100 per transaction. This \$1 million could then be used to meet federal grant matching requirements or to invest directly in capital or other infrastructure needs.

The Association of Metropolitan Sewerage Agencies is convinced that dedicated funds are the answer to growing infrastructure financing problems. This organization has proposed a draft "Infrastructure Trust Fund" (similar to a highway trust fund financed through taxes or tolls) that will combine current SRF resources with funds raised through a five-cent fee on bottled beverages. The AMSA anticipates that this program could generate up to \$35 billion over five years. The program would split funds between Clean Water Act and Safe Drinking Water Act needs, funding both grants and loans. Proponents of this system do not anticipate that the trust fund will fund infrastructure projects in their entirety, but rather will fund the gap between regular federal assistance and necessary improvement costs.

Common Conclusion: Higher User Costs

Co-funding, privatization, and pooled transaction taxes all share one common outcome: the potential increase in the price for water service. According to many officials, a hike in water rates is a necessity. “We need to make certain we reauthorize the Clean Water SRFs and fund them adequately,” said Rep. Vernon Ehlers (R-Mich.). “But it would be a mistake for people to look exclusively to the federal government to solve their problems. The public needs to appreciate the need for sewerage infrastructure and be willing to pay the bill.”²⁸ These critics propose increasing means testing—primarily through cash flow and environmental considerations—for communities receiving grant awards to make infrastructure improvements. This proposal, however, provides little in the way of incentives for communities to be proactive in their infrastructure planning, nor does it appear to be a cost-effective or efficient solution to the problems communities will have financing infrastructure projects in the future. Legislators and public financing authorities are also proposing full-cost pricing, a pricing structure that incorporates all costs of building, maintaining and operating a system into its cost.

Community Feedback: How High Is Too High for Water Rates?

The issue of water affordability was foremost on the minds of community officials we contacted for this project. The majority of communities claimed that they would have been unable to finance current projects without USDA grants. The most common solution? Using a “break-and-fix” methodology that in essence avoids making major necessary investments, but which will inevitably cause a crisis. Although some town officials stated that their residents, many of whom are poor, could not afford an increase of any magnitude in their water rates, others avoided such rhetoric and recognized the need for citizens to pay more for water. That being said, we spoke with communities where households paid significant water rates, well above the average figures touted by many publications and official sources. In these cases, the communities noted that they were hitting a rate ceiling because the high cost of water was affecting the residency decisions of both individuals and businesses.

It is standard practice, in fact, to compare the average spending on water and wastewater charges (\$474 per household in 2002) to the average spending on “refreshment beverages” like soda and juice (\$707 per household in 2002). As fresh water grows scarcer, and resources for infrastructure financing are in higher demand and shorter supply, it is nearly inevitable that consumers will end up footing a greater portion of the true cost of

²⁸ Franz, Damon. (2003). Water Infrastructure Network. Retrieved from www.win-water.org/witn/040803.html.



water and wastewater services.²⁹ However, rural communities rarely have the fiscal capabilities to pay for infrastructure projects, particularly if they are not planned. Common responses that call for regional collaboration may not be feasible due to distance, differing needs, poor communication, or any number of other reasons. In our estimation, a “one-size-fits-all” approach to infrastructure financing may not be the best answer to the question of how to pay for the ever-increasing infrastructure needs in rural communities.

²⁹ The affordability of user rates, and different methods of structuring these rates, is the subject of a companion study, and therefore is not addressed in this document.

Recommendations

In formulating recommendations regarding alternative financing methods for water and wastewater infrastructure, we asked two guiding questions:

- How can rural communities fund infrastructure development with dwindling amounts of grant funds?
- In light of the facts that grants are disappearing and projects are becoming more costly due to legal and environmental requirements, how can communities reduce costs, as well as increase the economy and efficiency of grant and loan monies that are distributed?

We also recognize that communities are often placed in a financially, politically, and even emotionally unstable situation when undertaking water and wastewater infrastructure projects. This situation will only grow more precarious as grants are replaced by loans and costs to communities inevitably go up. Many towns complain unjustly—they can afford to pay more for infrastructure improvements and projects. However, it is important to recognize that other communities truly cannot afford to fully finance such projects, and that forcing these communities to undertake expensive projects can have negative effects on a variety of factors, including the business climate, overall competitiveness, home ownership, and more.

Our recommendations fall into three general areas. The first set of recommendations fall under financing, the second under increasing efficiency, and the third under improving the general climate for USDA funding of water and wastewater infrastructure in rural communities.

Financing

One of the biggest challenges communities will face in upcoming decades will be overcoming the diminishing grant funds available from the federal government. It will be very important for rural communities to grow towards financial independence and reduce their reliance upon government resources. This may be done through community-based trust funds, improved interest rates, and improving support for infrastructure projects.



<i>Create earmarked trust funds for water and wastewater infrastructure</i>	<ul style="list-style-type: none">• Either through use of surplus funds or through funds raised by fees or surcharges, communities should work towards financial independence. As grants decrease, communities will be forced to accept more responsibility for paying for their infrastructure improvements and projects—any amount of cash that a community can utilize to offset loans will result in lower charges to customers.• Communities that choose to build an infrastructure trust fund will have to find a balance between funding the account to an adequate level and utilizing those extra funds for tax reductions or other needed projects
<i>Reduce interest rates on previous loans</i>	<ul style="list-style-type: none">• One measure USDA might consider is reducing the interest rates on payments towards previously completed infrastructure projects. One community we spoke with indicated that if they had been able to refinance their existing loans at a rate of two to three percent, they would be able to forego grant funding in the future. This measure might also positively affect communities' ability to save money, keep user rates relatively low, and plan more efficiently for future projects.
<i>Create incentives for private financing of infrastructure</i>	<ul style="list-style-type: none">• There are no real incentives for private companies that are not involved in water and wastewater services to take a role in financing the infrastructure. USDA should consider building partnerships with chambers of commerce in rural communities, or other business associations, to raise awareness of infrastructure projects, and to develop a meaningful incentive system for private investment in public projects.• Incentives may take the form of tax abatements, reduced water rates, additional pollution credits, or other valuable savings to the business.• Often, infrastructure projects require sacrifices far beyond the obvious monetary ones. In rural communities, businesses may suffer lost revenues if roads are torn up or tourist attractions are less desirable than in previous years. These losses can negatively impact public support for projects, and can further deteriorate community officials' ability to leverage more funds and plan future projects. Incentives may take the form of reduced water bills, reduced property taxes, or a one-time cash offer.



<i>Institute a grace period for loan payback</i>	<ul style="list-style-type: none"> • This recommendation resembles the program offered to students—most college students receive a six-month grace period after graduation to begin loan payback. This enables students to get established in a job, earn some money, and build a small nest egg before being responsible for loan payments. Towns, too, should be afforded this opportunity. One community we spoke with expressed dismay at the fact that their first loan payment came due before the project was even completed. USDA should consider instituting a grace period for communities receiving loan funding, either for a set amount of time, or until the project generates revenue.
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Increasing Efficiency

In addition to replacing diminishing USDA grant funds with other sources of finance, rural communities can take a distinct approach: reducing infrastructure costs—and thus the amount of funding needed by communities to build or upgrade such infrastructure—by eliminating redundant assets, utilizing better technology, improving the efficiency of water and wastewater system O&M, or facing a more timely and efficient application process. Following are several options for reducing financing costs through improved efficiencies, including shortcomings of these approaches.

<i>Regionalization</i>	<ul style="list-style-type: none"> • Regionalization of water infrastructure is a means of increasing the economies of scale related to rural water and wastewater systems. By working with neighboring communities, rural towns can in theory spread new infrastructure costs across larger service populations and eliminate certain types of redundant assets. Similar to privatization, regionalization is inherently limited in rural communities given the relatively small population size served by the water and wastewater systems of most rural towns. As indicated by one village official interviewed for this project, the gains to regionalization are further limited by the fact that the population of most rural communities in New York is either static or shrinking. This fact is in contrast to the dense, rapidly growing population bases of many cities in the United States, where the economic benefits of larger service areas are more readily apparent. • It is important to note that the village official mentioned above
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	<p>noted that regionalization would likely lead to a reduction in infrastructure costs, notwithstanding the limits imposed by small service populations. This opinion was in contrast to that of several other rural town officials, who do not view regionalization as a feasible option. These individuals dismissed regionalization for three primary reasons. First, their communities are too geographically isolated for them to see economies of scale by collaborating with other towns. Second, many communities are investing in water and wastewater infrastructure as a result of a court injunction, which they feel are situations that do not allow for them to collaborate with other communities. Third, several communities noted that most of the funding they are soliciting is for upgrading existing infrastructure that is, in some cases, as much as 100 years old. Thus, these communities are not installing new infrastructure that could in theory be shared with neighboring towns.</p>
<p><i>Technological advancement</i></p>	<ul style="list-style-type: none"> • Although a discussion of the specifics of water and wastewater technology goes beyond the scope of this report, both USDA and village officials interviewed for the project have commented on the conservative nature of water and wastewater regulations, both at the state and federal level. These regulations typically concern environmental and phytosanitary requirements that limit rural communities to using old, pre-approved technologies. In many cases, other countries have access to technology not permitted in the United States that would potentially reduce the cost of providing water and wastewater services.
<p><i>Privatization of service provision</i></p>	<ul style="list-style-type: none"> • As is the case with many government services, communities can privatize water and wastewater O&M. This type of privatization is distinct from outsourcing the cost of construction of water or wastewater infrastructure, which often places infrastructure under private-sector ownership. Under O&M privatization, local governments maintain ownership of water and wastewater assets. Although this type of privatization on its own will not reduce infrastructure costs, it can potentially lessen the user charges that must support both infrastructure financing charges and O&M costs. Thus, as higher financing costs exert an upward pressure on user charges, more efficient O&M through privatization can potentially operate in a countervailing manner. This balancing act can in turn make communities willing to finance a larger portion of their infrastructure through interest-bearing loans. • In theory, the competitive nature of contracting out O&M contracts may lead to lower overall costs. However, privatization is by no means a panacea, and the gains are at



	<p>times limited, if they exist at all. The relatively small size of rural water and wastewater systems limits the potential efficiency gains from privatization. Further, small communities often have little capacity to efficiently manage and oversee private contracts. A final consideration is that little competition exists in many cases when rural communities wish to competitively select a private contractor. Research has shown that in New York it is typical for only one organization to bid on service contracts, which in turn eliminates the need for these companies to reduce service costs due to competitive pressures.³⁰</p>
<p><i>Universal application process</i></p>	<ul style="list-style-type: none"> • Most community officials interviewed for this project commented on the lengthy amount of time required to coordinate applications for the various members of the Co-Funding Initiative. Even though several officials were pleased with the coordination among Co-Funding Initiative members, all were concerned by the amount of time the process took, which many blamed on the disparate requirements of each involved agency. Although USDA, EPA, HUD, and other funding sources operate under different laws, and thus most impose different requirements on applicants, other states have attempted to further streamline the process. As one example, California uses a common inquiry form that any government in the state can use to start an infrastructure-finance application process. The state distributes the completed form to the relevant state and federal agencies, which then proceed to work with the applicant community. A more robust example is Montana’s uniform application, which allows rural communities to fill out a single application for all agencies providing water and wastewater finance.³¹ • Although a universal application on its own will not reduce infrastructure costs, it could greatly reduce and further integrate the application process, which can allow for communities to more easily plan and cost out infrastructure plans. Several community officials interviewed noted that the length of time required to apply for various sources of funding increased the costs of their projects due to inflationary reasons, or by delaying repairs and thus exacerbating the cost of infrastructure replacement. Further, as the process extended over several fiscal years, the resources made available by funding agencies typically declined, making initial project plans obsolete and requiring communities to either scale back project

³⁰ Van Slyke, David. M. (2003). The Mythology of Privatization in Contracting for Social Services. *Public Administration Review*, 63(3), 296-315.

³¹ See also <http://www.dnrc.state.mt.us/cardd/wasact.htm>.



	<p>plans or commence new application processes for funding from additional sources. As noted by one community official, scaling back project plans increases costs over the long run by forcing communities to focus on small-scale, and therefore cost-inefficient, infrastructure-improvement initiatives.</p>
<p><i>Increase the information available to communities</i></p>	<ul style="list-style-type: none">• We recommend the greater use of forums for communities to collaborate and share information, as well as the development of an accompanying database. Several communities we spoke with had no idea of opportunities for collaboration with other communities, nor any idea of where other communities stood in their infrastructure needs. It is doubtful whether these communities will gather on their own—USDA should take responsibility for bringing communities together and informing them of funding sources, opportunities for collaboration, innovative approaches, and fostering the exchange of information. Alternatively, USDA could encourage the Environmental Finance Center at Syracuse University’s Maxwell School to expand its existing Partnership Forums. This may increase the efficiency with which communities approach their infrastructure projects, and may encourage communities to adopt the very approaches proposed by USDA.• While the coordination of community efforts may increase efficiency and collaboration, USDA must also realize that in many cases, collaboration and economies of scale may not be relevant for some communities and should therefore provide the same high level of support to these communities as well.



General Challenges

The following recommendations examine larger-scale issues that should be addressed over the long term by USDA. By taking these actions, USDA could remove the constraints to the effectiveness of the recommendations made above under financing and increasing efficiency.

<p><i>Help communities look beyond a “break and fix” policy</i></p>	<ul style="list-style-type: none"> • Communities often do not want to conduct infrastructure projects or repairs, but are forced to either due to deteriorating materials or mandates from the state or federal government. As such, towns may exaggerate the impacts that these projects have on community members, particularly when they do not receive grants to finance their projects. However, many communities do have legitimate concerns when projects are legally mandated—they are often surprised by the mandates and can do very little to improve their ability to pay. • Rather than waiting until a mandate requires them to repair or replace infrastructure, communities should participate in an ongoing process designed to keep communities abreast of the state of their water and wastewater infrastructure. If communities are aware that they will require significant investment into their infrastructure in a certain time period, they will be better able to plan and raise rates and save funds accordingly.
<p><i>Encourage creativity and innovation</i></p>	<ul style="list-style-type: none"> • As discussed earlier, improvements in technology may help communities through increased efficiency. However, currently, there is little incentive for engineers to design innovative projects, and there is little in the way of legislative support for financing of innovative projects. Yet, USDA is aware of many innovative techniques that could save communities and funding agencies considerable money and time in infrastructure projects. To encourage innovation and efficiency, USDA should consider instituting a system that rewards engineers who plan efficient and innovative projects, either through financial or professional incentives, and a waiver system for innovative projects (where projects that demonstrate significant cost-savings, new technology, or improved efficiency).
<p><i>Focus on USDA as an advocate</i></p>	<ul style="list-style-type: none"> • In collaboration with its Co-Funding Initiative partners, USDA should continue to develop informal advocacy programs that are responsible for helping policy-makers and legislators facilitate private-sector finance, technological innovation, and other necessary policy and regulatory changes that will enable rural



	communities to more effectively respond to a diminishing level of grant funding.
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Appendix A: Scope of Work

- I. Trends
 - a. Overview of past 30 years – federal and state funding of water and wastewater infrastructure projects (volume)
 - b. Overview of past 5 years – trends in interest rates of federal funding vs. municipal bonds vs. private lending agencies (rates)
- II. Projections
 - a. Needs of water and wastewater funding in the future
- III. What are the impacts and implications of these trends on rural communities?
- IV. What is already available in New York
 - a. Address the structural, efficiency, effectiveness of these programs
 - b. How are municipal bonds and private lending agencies utilized?
 - c. Do communities use a blended financing approach?
 - d. Are there any communities that are self-funding water and wastewater infrastructure? How did communities overcome the artificially low cost of water services?
- V. What's happening elsewhere
 - a. “Best Practice” approach: identify the innovative or unique approach to financing the infrastructure in context of a community or organization, explain it well, and include a brief case study
 - b. Include examples of practices from US and international communities, NGOs, non-profits, private-public partnerships
- VI. Project limitations and challenges
- VII. Recommendations for communities
- VIII. References and Appendices



Appendix B: Interview Questions

- 1) In your opinion, what are the limitations/shortcomings of USDA's application and funding processes?
- 2) Did your community utilize the New York Water and Sewer Infrastructure Co-Funding Initiative?
- 3) If you answered yes to Question 2, what are your opinions on the efficiency of the Co-Funding Initiative?
- 4) What other options did the community consider to finance the project, even while the application was processing?
- 5) What types of efficiency issues—such as innovative technologies, economies of scale, collaboration, or regional partnerships—did your community consider when designing the project, as a means of reducing financing costs?
- 6) What would you have done to fund your infrastructure project had the USDA grant not come through?
- 7) Hypothetically speaking, if USDA grant funding were not available in the future, how would your community finance these types of projects?
- 8) Did you consider a self-funding mechanism, such as tax increases or private financing, for the project?
- 9) Given your community's demographics, how much do you feel water rates/sewer rates could be increased?

Appendix C: Town Case Studies

Chateaugay

The town of Chateaugay received two financing packages from USDA in May 2005: one involved a loan of \$35,000 and grant of \$79,100, and the other a loan of \$50,000 and grant of \$371,200. With the latter funding package, the town also received \$153,800 from the state's Clean Water State Revolving Fund. The town did not get additional Co-funding Initiative resources for the first financing package as USDA money covered the entire cost of the project. The representative we spoke with noted that interactions with both USDA and the Co-funding Initiative were very positive.

The town noted that it is in a very poor part of the state, near the Canadian border, and the representative claims that it could not have financed the two projects without grant funding. The projects the town is carrying out are required by a court injunction, and so it is not carrying out the projects of its own volition. The representative noted that the residents in the area would not be able to pay the additional costs from the court-ordered infrastructure improvements, and might have to move. As it is, citizens will face a marginal increase in water rates. Thus, additional borrowing costs would not be feasible for the town's residents. Further, the town would be unable to build future infrastructure without grant funding.

Lessons Learned:

- Many communities are forced to invest in infrastructure projects by court order, and then face the prospect of passing these costs to low-income citizens.
- National standards can impose a particularly heavy burden on low-income, rural communities to pay for infrastructure they might not otherwise have built.
- Even very low-income communities face higher water charges for new infrastructure. However, citizens can only absorb increases up to a certain level.



Eden

The town of Eden financed its over \$600,000 project through loans and homegrown funds: the community received \$453,000 in USDA loans, and raised \$125,000 through local levies raised in anticipation of the project. According to the representative we spoke with, Eden was not eligible for grant assistance because the Census shows the community as having no poverty. Of course, using other sources indicates that the community indeed does have impoverished residents. The community is anticipating two projects in the future—an upgrade of a pump station, which is awaiting final engineer approval, and a \$40 million project involving running a new pipeline from the water authority station in Sturgeon Point through Eden and ending at the Collins correctional facilities. The representative expects that the communities will receive some rural development money, but the project’s main funding will come from the Environmental Facilities Corporation.

Lessons Learned:

- The USDA definition of poverty may be ill-equipped to properly assess the level of poverty actually in a community.
- The anticipation of future projects may encourage more thoughtful planning by communities.

Hanover

The town of Hanover received a \$100,000 loan and \$500,000 grant from USDA in May 2005. Additionally, the town received nearly \$4.5 million from the New York drinking water state revolving fund. The representative we spoke with noted that the town was not that closely involved in the application process, as the consultant they hired completed most of the paperwork. That being said, the town felt that both USDA and the state's Co-Funding Initiative were well-organized and very easy to work with. The only exception was the amount of time that the process took, which had two financial impacts for the town. First, the cost of the project increased due to inflationary factors. Second, the amount of grant funds available was reduced by half due to decreasing grant availability from the beginning to the end of the application process, which crossed several fiscal years. A result of this issue was that the town had to unexpectedly apply for additional funding and change some aspects of the original project. Further, the government has had to deal with the negative repercussions of such changes on the perceptions of citizens, who had come to expect a different financing package and project scope. The town is currently applying for funding from the Governor's Office Small Cities fund. The town is also using tax revenues that have allowed the locality to develop a small fund balance. That being said, the town expects to increase water rates to cover its borrowing costs.

Even had the town lost more or all of the grant funds it received, it would have gone forward with the project, and would have hopefully gotten the resources from other Co-Funding Initiative members. It would also continue to borrow even if no grant funds were available in the future. However, if this were to happen, the town would only be able to take a "band-aid" approach to water improvements, and not invest in the size of projects that it should to maintain its water system. Given the age of the town's water infrastructure—roughly 80 years—the town has no choice but to invest in fixing this system, and the more it has to cut back on infrastructure investment the worse the general quality of the system will suffer over time.

The representative noted that the fact that it is trying to maintain an old system instead of building a new one brings specific benefits and challenges. One is that it can postpone or reduce its investment projects, but in many regards this practice is simply pushing to the future necessary infrastructure upgrades. Further, the town noted that it



seems that the government lending agencies place greater emphasis on providing resources to new infrastructure instead of fixing existing infrastructure, which punishes communities such as the representative's own.

Lessons Learned:

- Communities can more easily alter infrastructure projects related to fixing existing networks, but this may create bigger expenditure needs in the future.
- Communities feel that the Co-funding Initiative is well-coordinated and the participating organizations work quite well together.
- Communities face significant financial repercussions from the length of the application process, which can alter the amount of grant funding available or increase the overall project costs, which in turn makes them have to re-work significant parts of the process or apply for additional funding. This issue also creates significant problems with regard to community perceptions.
- Some communities use tax resources to help fund infrastructure.



Laurens

The town of Laurens has experienced some frustration over the last several years. The representative we spoke with is especially frustrated. He relates a tale in which the USDA approached him with promises of a \$750,000 grant (the total Laurens project costs \$1.2 million). He was excited. “We’d convinced people they’d be paying less,” he said. But after two years, when the grant money came through, Laurens received only \$220,000 in grant funding, and had to make up the remainder of the project in loans.

According to the representative, the city is currently operating its water service with 110 year old pipes, making infrastructure investments a necessity. But had the community been required to finance the entire project, the town representative doubts they would be able to proceed. “We’re not a savvy community,” he commented, and as such, he feels that the community is not in the best position to determine alternative financing mechanisms. In addition, due to the rural nature of the community, economies of scale and collaboration with other communities were not options for Laurens.

Lessons Learned:

- Rural communities require higher levels of technical assistance than may be presently offered
- Economies of scale and collaboration are often not feasible for rural communities.
- Communities need to be informed from the beginning of project development that grant funding may be less than expected.

Lyndonville

In May 2005 the Village of Lyndonville received a loan of \$882,000 and grant of \$175,400 from USDA's Rural Development unit. The representative we spoke with noted that USDA personnel were quite helpful, although some "typical" issues related to bureaucracy—such as the untimely replacement of a key USDA contact—slowed things down. He also noted that the application process is very lengthy, perhaps the biggest drawback to the process. The village did not use funding from other members of the New York State Co-funding Initiative, although it had applied for funding through the initiative. The village was told that other funding was not available for its project.

The village noted that the amount of current debt service for a town of fewer than 1,000 residents is already as high as it can support, particularly given that resident village pay \$6.75 per 1,000 gallons of water, and rural residents pay \$8.78 per 1,000 gallons of water, the highest rates in Western New York. The representative noted that these rates are high enough to impact the home-buying decision of individuals in the village. Thus, private financing—which would drive rates up more—is not an option. With this in mind, he noted that the village could not have gone forward with the project without grant funding, even though grant funding represented only a small proportion of total funding.

The representative also discussed the impracticality of collaborating with other towns or villages to reduce per-user costs due to the lack of compatibility between their water system needs and requirements and those of neighboring communities. He claimed that his village had one of the highest water quality standards in the state, at a level not shared with neighboring communities. Further, the current USDA-funded program is being used to construct the last component of its water system. This component is unique to the village's infrastructure, and thus collaborating with another community makes no sense in that it would require the village to start from scratch and scrap its existing system. Moreover, he did not see the possibility of agreeing with neighboring communities and what level of water quality to provide, even when setting aside different infrastructure needs. The representative commented that the community would be unable to fund similar projects in the future without grant funding. However, he did note that if the debt service on previous loans were lowered, this would potentially free up additional funds that would allow them to get around a lack of grant funding.



Lessons Learned:

- Infrastructure needs are often unique to villages or towns, and thus it is not feasible to collaborate with neighboring communities to increase economies of scale. To collaborate would require—in many cases—for communities to scrap their existing infrastructure and start from scratch. Collaboration would also require villages to reach agreement on water standards, which may vary from town to town.
- Collaboration with neighboring communities seems relevant largely for new projects, whereas most localities are repairing or extending existing infrastructure networks.
- Contrary to popular belief, some communities pay significant water bills each year. In this village, a household using 100,000 gallons of drinking water per year—a fairly middle-of-the-road amount—would pay \$676 per year if they live in the village, or \$878 if they live outside the village.
- High enough water rates will impact home-buying decisions; there is a limit to what residents will pay.
- Reducing interest rates on previous USDA loans could potentially free up resources that would enable communities to deal with a lack of grant funds.
- The application process is very long.



Richmondville

In May 2005 the Village of Richmondville received from USDA a loan of \$100,000 and a grant of \$368,500. In addition, through the New York State Co-Funding Initiative the Village received a Clean Water State Revolving Fund loan of \$257,500 and an Appalachian Regional Commission grant of \$146,000. The representative we spoke with praised both USDA and the Co-Funding Initiative. He noted that even though the village did not receive Bond Act funding, he was happy with the high level of coordination he felt the Initiative exhibited. He noted that all parties were very responsive and provided timely and effective communications. He noted that the process indeed took a long time, but he recognized this fact as a natural part in dealing with several government bureaucracies at once. Along these lines, he suggested that towns should learn to be more patient in going through the application process.

The representative claims that the village would have been unable to go forward with its project without grant funding. Were grant funding to be unavailable in the future, the village would have two options. First, it could use a policy of “break and fix,” which the representative noted would be an ineffective long-term strategy, especially considering that some parts of the village water system is over 50 years old. Second, the village could focus only on limited-scope projects, which would not be cost effective or address large-scale problems over time.

The representative we spoke with insisted that citizens could not afford to pay more and that the village was entirely reliant on grant funding. Unlike in large cities, which can count on growing populations to spread out additional costs, communities such as his are either not growing or shrinking in size, and simply do not have a sufficiently large population base to cover the entire cost of new water or wastewater infrastructure.

That being said, he did note that regionalization of water infrastructure investments is never considered as an option by small towns and villages, but if funding were sufficiently limited he felt that towns would begin to see regionalization as a viable alternative. He stated that it is not difficult to integrate disparate infrastructure systems from neighboring communities, as items such as pipes and distributions systems can be integrated regardless of age. Even with this option, however, the returns are limited by small service populations.



The representative we spoke with praised the Partnership Forum run by the Environmental Finance Center at Syracuse University’s Maxwell School. He noted that this program provided small towns with an excellent opportunity to share experiences and provide input into the policy-formulation process at the state and federal levels. He stated that more such efforts are necessary.

Lessons Learned

- In opposition to the concerns voiced by other community leaders, regionalization of water needs is a viable option; however, communities have not been forced to truly evaluate this option as of yet.
- A stagnant or decreasing population base makes full cost recovery difficult for small communities, and limits the potential benefits from options such as regionalization.
- Many communities will follow a “break and fix” investment strategy that will lead to large problems with their water infrastructure over the long run.
- Small communities can effectively share ideas through venues such as the Partnership Forum and work to influence public policies of interest to them.

Saranac Lake

The Village of Saranac Lake has a population of roughly 5,000 and is located in the Adirondack Mountain region of New York State. The village has recently received \$600,000 in grant money and \$207,300 in a loan from the USDA-RUS. These funds are to go towards a new sewer system, a project which has been mandated by New York State environmental regulations. The current total cost of the project exceeds \$6 million.

The village is aware of the co-funders, though finds it to be a hardship to utilize the process of applying for funds. Due to economic constraints, the town cannot hire consultants to prepare the applications, as other towns may choose to deal. The village is also suspicious of back-door deals that may go on between the co-funders. In regards to the USDA-RD, there have been instances in which the village was awarded a grant, only to see it later reduced due to participation in the co-funding process. It was relayed that these decisions were made without the input of the village, raising questions if there is an equitable distribution of grant money to communities such as Saranac Lake that meet the poverty requirements for grant eligibility.

Saranac Lake also believes that the USDA should do some more hand-holding regarding the application process, especially for communities that are smaller and with less personnel resources. The location of Saranac Lake prevents economies of scale applying to infrastructure development, but the village concedes that the various communities of the region should meet to plan their grant writing together.

The official interviewed did not have the exact information regarding the village's water rates, but believed that due to the ongoing sewer project, will be close to \$1,000 per person, per annum. It is anticipated that this project will account for a 15 percent increase in the water rates.

Lessons Learned:

- The application process to utilize the co-funders is daunting, and time prohibitive.
- Collaboration with other communities is possible for the drafting of grant proposals and applying for grants and loans. However, due to the distance between communities, collaboration on the projects themselves is not possible.
- Greater transparency from the co-funders to the communities while the applications are being processed will increase trust.



- Mandated infrastructure projects can raise water rates to be well above the national average, making the project unaffordable to the community.
- Communities will appreciate more hands-on assistance in the preparation of an application for a grant and/or loan from USDA regional offices.



Van Etten

The town of Van Etten received a \$100,000 loan, and a \$326,200 grant from the USDA. The town was expecting to receive more funding from the USDA, but missed the funding cut off in 2004 and therefore received less in 2005 due to funding cuts in the USDA budget. The representative we spoke with noted that while the USDA funding was helpful, the town would have gone ahead with the project without the USDA funding because the town had received a very large loan and grant package from the State Revolving fund of \$2,923,000.

The representative also noted that it took the town four years to receive its funding from the USDA, but that it was his understanding that four years was about the average period of time for the process of receiving funding from the USDA. The town did not look into co-funding opportunities because community leaders were unfamiliar with the program.

The town must make its first payment on the loans it has received at the end of the year. However, the project will not be completed by that time, so no revenue will be generated to pay for the loans. The town is facing the prospect of having to issue debt in order to cover its initial payment.

Lessons Learned:

- With grant funding for the USDA dropping yearly, a speedier process could lead to more funding
- Some consideration for when a town can generate revenues from its project with regard to when a town must begin paying back its loans could be helpful for the communities, much like student loans



West Port

The town of West Port recently began an \$8,000,000 water project. This project was initiated under consent orders by the Department of Health. The town of West Port has a population of 500 and 20 percent of its population earns under \$15,000 per year. The representative we spoke with noted that the town expected to receive around \$2,000,000 in aid from the USDA, but, due to funding cut backs, received a \$348,000 grant, and a \$100,000 loan. They also received a \$2,000,000 grant from the EFC. However the town has been forced to borrow the rest.

Before the project was initiated, the average combined cost per household for sewer and water was \$200 per year. The town estimates that after the project is completed the average cost per household will be \$535 for sewer and \$300 for water each year. The representative believes that many residents will not be able to afford the rise in prices and will be forced to leave the town.

Lessons Learned:

- Some mandated projects are not affordable for small rural and largely poor communities
- National standards may impose an unbearable burden on rural communities

Appendix D: Summary of Co-Funding Initiative Programs

Funding Source	Managing Organization	Mission	Types of Funding
Clean Water State Revolving Fund	New York State Environmental Facilities Corporation	To provide low-interest financing to municipalities in order to provide aid for capital costs associated with water pollution control facilities. The CWSRF also provides financing to municipalities and not-for-profit organizations for land acquisition projects for water quality protection.	The SRF provides loans of up to 3 years that are interest free, and long-term low interest loans of up to 30 years
Clean Water State Revolving Fund Hardship Assistance	New York State Environmental Facilities Corporation	To provide assistance for wastewater projects that are under \$10,000,000 to communities where the total annual sewer service charge exceeds a target service charge, determined using the median household income of the community	The fund provides low interest rate loans for as long as 30 years; the interest rate may be as low as 0 percent
Drinking Water State Revolving Fund	Managed jointly by the New York State Environmental Facilities Corporation and the New York State Department of Health	To provide incentives to communities to upgrade or implement drinking water systems, including treatment and storage facilities, as well as transmission and consolidation projects	Provides up to interest-free loans for no longer than three years, and low interest rate financing for up to twenty years
Drinking Water State Revolving Fund Hardship Assistance	Managed jointly by the New York State Environmental Facilities Corporation and the New York State Department of Health	Grant money is offered to communities who cannot achieve target user fees with no-interest financing over 30 years when	This fund provides interest-free financing for up to twenty years and also provides grants based on need up to \$2,000,000 or 75% of eligible costs, whichever is lower
Small Cities Community Development Block Grant Program	Governor's Office for Small Cities	To improve public health, welfare, and safety, towns and cities with a population under 50,000, as well as counties with an un-incorporated population under 200,000 are eligible for block grants through this program	Communities that qualify for these grants can receive between \$100,000 and \$750,000
Area Development Program	Appalachian Regional Commission	To create self-sustaining economic development and improved quality of life for residents of Appalachia	Grants range from \$150,000 to \$200,000
Clean Water/Clean Air Bond Act	New York State Department of Conservation	To improve the state's environmental infrastructure and natural resources	Provides grants for up to 85 percent of the construction costs associated with a project



All correspondence regarding this inquiry will be sent to the individual named below. You will receive a written acknowledgement of the receipt of this inquiry form and be contacted by staff of the appropriate CFCC member agencies to pursue additional assistance.

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