

Taking Sustainable Rural Water Supply Services to Scale: A Discussion Paper



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Water and Sanitation Program

An international partnership to help the poor gain sustained access to improved water supply and sanitation services

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Discussion Paper

Taking Sustainable Rural Water Supply Services to Scale: A Discussion Paper¹

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Abstract

Whereas many successful rural water supply (RWS) initiatives have been documented, few have evolved into sustained national programs. In this paper we review some of the issues associated with scaling up an effective RWS initiative, by which we mean that it reaches (or is expected to reach) the vast majority of the target population with sustainable, improved services within a reasonable time frame (inclusion), and that a system of actors and institutions (public, private, and/or civic) is in place that has the necessary capacity and resources to carry out the RWS service delivery approach indefinitely (institutionalization). We identify four broad categories of constraints to scaling up in RWS: insufficient resources, lack of knowledge/shared understanding, resistance, and untested implementation conditions. Drawing on relevant literature and empirical data from a limited number of cases, we offer some preliminary thoughts on these bottlenecks and suggest an agenda for research that can yield guidelines for more scalable project design.

1. Introduction

In a recent letter to staff, World Bank President James Wolfensohn identifies scaling up as the key to increasing the impact of development throughout the developing world. “The major challenge we face,” Wolfensohn notes, is “turning what works for 1,000 people into a successful program for 10,000, then 10 million, then 100 million.”⁴ Scaling up is increasingly cited as a concern among decision-makers and practitioners working in virtually all sectors of development and in all regions of the globe. Elaborated most thoroughly in the development literature with reference to expanding the scope and influence of non-governmental organizations (NGOs) (Uvin *et al.*, 1996 and 2000; Edwards and Hulme, 1992), scaling up has also been cited as a principal challenge for developing-country initiatives in agriculture (Faminow and Klein, 2001), HIV/AIDS prevention and treatment (DeJong, 2002), education (Healy and DeStefano, 1996; Elmore, 1996), nutrition and population (Pyle, 1981), irrigation (Pangare, 2001; Korten, 1980), and urban slum upgrading (Cohen, 1988; Kar and Phillips, 1998).

The growing emphasis on scaling up successful development programs could be interpreted to mean that consensus exists regarding what constitutes an effective approach. Countless best practice cases published in the academic and professional literature, highlighting successes in different sectors and with particular development tools across sectors (e.g., poverty or gender assessment), support this notion. Clearly, innovation and experimentation remain important elements of effective development work; after all, what was considered best practice in a given sector even a decade ago can be quite different from what is deemed best practice today. Nevertheless, with respect to

project design, the philosophies of most development agencies exhibit a high degree of congruence. What remains elusive is the transformation of these many success stories into programs that benefit more people in developing countries, not for a limited time period, but indefinitely.

In this paper we explore the challenge of scaling up with reference to the rural water supply (RWS) sector. Despite continued gains over the past several decades in the proportion of rural residents with access to a safe, adequate supply of water, roughly one billion rural residents in developing countries remain unserved (WHO, 2000). These statistics might suggest that, despite sustained effort both in research and project work, we have not yet learned how to deliver sustainable, safe water supply services in rural areas. At the same time, the literature is replete with cases that accomplish exactly this — albeit often limited in scope and divorced from RWS planning at a serious scale. What can be done to help these initiatives reach more communities or, better yet, to institutionalize them such that rural water supply planning is reformulated to reflect these more sustainable, effective approaches?

Our goals for this paper are more modest than attempting to answer this question. We hope to contribute a set of terminology and a framework for the discussion of scaling up (Section 1); present some overarching issues, as well a taxonomy of common challenges, to scaling up effective RWS programs (Sections 2-6); and suggest an agenda for future research (Section 7). By conducting a broad literature review, we were able to draw on experience related to scaling up across a number of development sectors. In addition, we conducted approximately 50 interviews with practitioners, decision-makers, and other key informants in six countries: China, Ghana, India, Indonesia,

⁴ Letter dated 31 May 2002, from James Wolfensohn to World Bank staff, written during a trip to China.

South Africa, and the United States. Although most of these individuals work in the RWS sector, we also spoke with professionals in the energy, transportation and health sectors, as well as with rural development specialists.⁵ Given the non-random selection of cases and informants, the experiences or findings related here should be considered illustrative rather than generalized.

1.1 Terminology

The term scaling up, is used with a variety of meanings, the most common of which is simply to expand a given initiative to benefit a larger number of individuals. Our conception of scaling up in rural water supply comprises two elements:

- (1) *Inclusion*: The vast majority of the target population is provided with sustainable, improved services within a reasonable time frame. Inclusion should not necessarily be equated with full coverage, as discussed in the following section.
- (2) *Institutionalization*: A system of actors and institutions (public, private, and/or civic) is in place with the necessary capacity and resources to deliver sustainable RWS services indefinitely.

Clearly each of these criteria has a subjective component, which leaves room for disagreement about the scalability of a particular RWS initiative in a particular context. At the same time, focusing on what is easy to measure (e.g., construction milestones) can divert attention from what is important to measure. In the case of rural water supply, this is, arguably, the extent to which a set of policy, institutional, financial, and human-resource supports has been established such that an effective approach can operate indefinitely and can reach the entire target population. Identifying a set of factors that

enables such scaling up is the ultimate goal of this research effort.

1.2 Who comprises the target population for RWS planning?

Any discussion on scaling up RWS initiatives invokes the notion of a target population, *i.e.*, the set of persons to whom improved services are expected to be extended. RWS planning often gives scant attention to this important issue. Instead, the launch of an RWS initiative typically involves estimating existing service coverage levels, with the assumption that all un-served rural residents are members of the target population. Setting aside the difficulty of obtaining reliable RWS coverage statistics, this approach employs two problematic assumptions. First, households deemed to have access to some type of improved service are excluded from the target population, whereas they may want (and be willing to pay for) a higher level of service. Second, given a set of requirements for participation in an RWS initiative, not all eligible households may want to participate.

The case of Bolivia can help illustrate these points. At the start of the World Bank-assisted Yacupaj pilot project in 1990, Bolivia's rural population was 2.76 million, of which 24% (662,000) were considered covered with improved water and sanitation services.⁶ The project, which was implemented in four provinces of the Department of Potosí, had a target population of 115,000 unserved rural residents. Of these, roughly 61,000 (53%) received improved services through the project. How should the remaining 54,000 residents of these departments be classified when planning to scale up the Yacupaj project into a national

⁵ We elicited the views of roughly a dozen development professionals who participated in an electronic conference entitled "Scaling up Community Management in RWSS" that was hosted by WEDC. Information and archives are available at <http://www.jiscmail.ac.uk/lists/WSSCMANP.html>.

⁶ All information on the Bolivia case was drawn from J. Sara *et al.* (1996), as well as from personal communications with Bank staff.

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program? The typical approach would be to consider them as remaining members of the target population. Yet surveys suggest that the vast majority (~85%) of these residents did not have effective demand for the project; in other words, they were satisfied with their existing service levels, and/or were unwilling or unable to meet the project's cost-sharing requirements for service improvements.⁷

One interpretation of these findings is that for any rural water and sanitation (W&S) project in Bolivia built on Yacupaj principles, one should expect that 40% of residents will not be included. In Yacupaj, 45,900 of the 115,000 members of the target population opted out of the project, despite having full information about it. The national program, PROSABAR, that emerged out of the Yacupaj experience could be viewed as reaching full coverage of the target population long before it provides improved water supply services to all of Bolivia's rural residents.⁸ Critics might understandably be concerned that those residents excluded from PROSABAR are among the country's most disadvantaged rural households. As Grey (1988) notes, a "common conundrum in developing countries is that the poorest people tend to be those living in the driest area of a country, where the cost of water supply provision is generally highest, the need greatest, but the ability to pay is lowest."⁹

Program rules and obligations for users will dictate, for a given initiative, which types of households will receive improved RWS services and which will be left behind. For example, the current emphasis on demand filters, such as cost sharing and community participation in RWS services, while demonstrably linked to longer-lived systems (e.g., Katz and Sara, 1997), may be less scalable to communities with limited financial, institutional, and human-capital resources. In Indonesia's multi-sector Kecamatan Development Program (KDP), for example, one facilitator noted that villages whose residents have higher incomes and more education "have less trouble writing proposals and their proposals are judged better. [In contrast,] the very poor villages do not have the administrative capacity to prepare proposals or receive money for grants. ...So, KDP does not reach the poorest." Our objective is not to question the design of particular initiatives, but to note that effective RWS planning must grapple with the fact that some proportion of households, to whom we would like to extend improved services, will nevertheless be unwilling and/or unable to meet the participation requirements. Such households should not be considered part of the target population. Alternative strategies, either within the RWS sector or apart from it (e.g., poverty reduction programs), will be needed to attain the universal service goals so often articulated by government.⁹

⁷ A smaller proportion was also ineligible for participation in the project because physical conditions (e.g., location of nearest water source, widely dispersed settlements) resulted in *per-capita* costs of improved supply exceeding the project's limits.

⁸ It is important to note that the *per-capita* cost limits in PROSABAR were somewhat higher than that of the Yacupaj pilot project. In addition, several respondents noted that the provinces served in Yacupaj were among the poorer and more technically challenging in the country. Both these factors should serve to increase the proportion of rural households that PROSABAR could reach; however, it's unclear how big this increment might be.

⁹ In the US, a mix of programs and policies extended full coverage of water and sanitation services in rural areas. Programs to support the 200,000 public rural systems in the US, as well as for the 40 million Americans, who obtain their water from private wells, are administered by the Environmental Protection Agency and the Department of Agriculture, among others. Households benefit from direct and indirect subsidies, while communities can receive grants, subsidies, and technical assistance.

China has also developed multiple mechanisms to supply different kinds of rural communities with improved water supply services. Smaller, remote communities with limited effective demand typically receive basic water supply services (e.g., hand pumps and rainwater collection systems) funded by government and provided for nominal fees or free of charge. Larger and more affluent communities can receive higher levels of service (e.g., household connections) through externally-supported programs that require substantial cost recovery from users.

1.3 Scalability versus sustainability

Those familiar with externally supported RWS initiatives over the past several decades recognize that scale is often invoked to explain the disappointing results of some projects. Many of these critiques, however, conflate issues of scale with both scope and a supply orientation. Multi-sector development initiatives were often deemed too complex, which generally meant their broad scope required coordination among a number of sectoral institutions that were unaccustomed to working with one another (World Bank, 1988a and 1977a). Rural water supply projects were criticized for employing cookie cutter planning approaches and focusing excessively on physical construction targets, both of which have become associated with a lack of service sustainability (e.g., Therkildsen, 1988). Because many of these projects were also large-scale — *i.e.*, they were designed to deliver improved services to a high proportion of the relevant target populations — big projects were, by implication, unable to deliver sustainable services.¹⁰ Today, observers still regularly call for donor agencies to support a larger number of smaller-scale projects.

Thus, on the face of it, the growing call to scale up RWS initiatives seems to countermand the critiques of scale arising from the rural development literature of the past three decades. Much of the literature on fostering sustainability in rural water supply services has identified features that one tends to associate with smaller-scale initiatives.¹¹ These keys to sustainability include meaningful involvement of local institutions and users in the planning, implementation, and operation of W&S systems; social intermediation and education at the


community level; and the delivery of services that users want and for which they have developed a sense of ownership (e.g., through cost-sharing and/or participative decision-making). Such research, along with the lessons of previous decades, has driven the movement toward a new RWS planning approach that the World Bank's Senior Water Advisor describes as comprising the four steps of listening, piloting, demonstrating, and mainstreaming (World Bank, 1998b). This approach also gives more emphasis in RWS service delivery to decentralized and locally based institutions — an issue to which we return in Section 3.

1.4 The new generation of pilots

A final point should be made in this section regarding the presumption that many, if not most, RWS initiatives follow this four-step model of pilot or small-scale initiative, followed by a process of expansion. Some individuals we interviewed felt that the idea of pilot RWS projects that emerges from a discussion of scaling up seems outdated. This reaction results principally from the association of the term, pilot project, with the testing of RWS technologies, such as that pioneered by IDRC, UNDP, and other agencies in the 1960s and '70s. It is still the case, however, that most RWS initiatives follow a pilot or staged approach, and that most of our respondents identified substantial benefits of this strategy. For example, early stages of an initiative are often used to pilot administrative, financial, or technical innovations. Indonesia for example, used a pilot phase to experiment with a new funds disbursement procedure. Seeking to give greater autonomy to *kecamatan*s (the sub-district level of administration in Indonesia),

¹⁰ Some critics of the UN's Millennium Development Goals note that the agency's renewed emphasis on extending coverage to large numbers of unserved households will encourage a return to unsustainable supply-side RWS planning. As with the critiques of projects in the '70s and '80s, these warnings presuppose that large scale and supply orientation go hand in hand.

¹¹ See, for example, E. Kleemeier (2000), S. Manikuttu (1997), and W. Reweta and R. Sampath (1998).



The growing call to scale up RWS initiatives seems to countermand the critiques of scale arising from the rural development literature of the past three decades.

KDP released project funds directly to village councils through a kecamatan forum, comprising village representatives and key local officials. “We had to test this out,” one respondent recalled. “Making sure that all councils could set up bank accounts, and thinking through how to keep the process transparent, was not easy.”

Early phases of an RWS initiative may also serve as a period of consensus-building that precedes implementation activities. As one Bank staff member noted, “Pilots are still an important means of demonstrating to decision makers that an approach can work.” In India, for example, senior officials flatly rejected a full-scale national RWS program as too risky to garner widespread political support. Instead, the recently launched Indian Sector Reform Program (SRP) — covering 10% of the country’s 593 districts — was viewed as the only feasible strategy for introducing a new RWS service delivery approach that would include a decreased role for state-level public health engineering departments, cost sharing by users, and new responsibilities for local government. “We must have the pilot program to demonstrate the effectiveness and public acceptance of these new approaches,” one senior Indian official noted. “One cannot simply launch the program at a national level.” A first-stage or pilot initiative is thus often considered an essential proving ground for generating political support of a new RWS strategy.

Even RWS programs that are deemed national-scale initiatives typically follow this staged approach on the ground. Sri Lanka’s national RWS program, for example, is expected

to begin implementation in two of the country’s nine provinces. A similar approach has been followed in the World Bank-assisted multi-village RWS program in China. In fact, today only a handful of RWS initiatives are truly national in scale. For some countries, a national RWS program is viewed as the only politically feasible way forward in the sector. One Ugandan official commented that the country’s history of civil strife has created an environment in which serving selected communities or districts would likely generate public turmoil. In other cases such as Rwanda, rural water supply is one among several elements of a larger national rural development program (called the Poverty Reduction Strategy Paper, or PRSP).¹²

Debate will persist regarding the best strategy for bringing effective, sustainable water supply services to a country’s rural residents — launching a national RWS program, incorporating RWS into broader rural development initiatives, or building gradually from a limited or pilot program.¹³ In this work we focus principally on the process by which a successful, yet limited, RWS initiative is taken to scale nationally. Nevertheless, our findings should also be of interest to those involved with currently unfolding large-scale RWS programs, inasmuch as establishing rules that determine which communities and households will be served first creates a *de-facto* staged approach as well. Thus, for virtually all decision-makers and practitioners, understanding the persistent obstacles to scaling up is critical to increasing rural households’ access to improved water supply services.

¹² As of March 2002, seven World Bank-sponsored PRSPs included a rural water supply component. See *Review of the Poverty Reduction Strategy Paper (PRSP) Approach: Early Experience with Interim PRSPs and Full PRSPs*, IDA/IMF, March 26, 2002. <http://www.worldbank.org/poverty/strategies/review/earlyexp.pdf>

¹³ While not necessarily promoting the idea of piloting with subsequent scaling up, the World Bank’s new emphasis on programmatic lending appears to embrace the idea of a sequence of operations, each building on the previous ones. With respect to RWS, “[I]nvestment operations with a sector-wide focus may or may not be programmatic, depending on whether they are designed as [a] series of operations or as self-standing one-off operations” (World Bank, 2002).

1.5 Summary

The persistent shortage of safe, reliable water supply services for rural households in the developing countries is driving the development community to call for the rapid scaling up of RWS initiatives. Yet most effective, sustainable projects documented in the rural development literature embody a small is beautiful philosophy. How can such initiatives be scaled up without losing the characteristics that made them successful in the first place? What are the challenges that arise when an effective RWS initiative expands to include all members of the target population? A taxonomy of such scaling up challenges is presented in the following section.

2. Scaling up: Where are the bottlenecks?

Accepting the notion that successful RWS initiatives exist, our interviews and literature review yielded four broad explanations for the failure to take them to scale:

- (1) *Resource constraints*: Inadequate funding, human capital, institutional capacity, supply chains, or other resource limitations render a successful small-scale initiative infeasible on a larger scale.
- (2) *Lack of knowledge or shared understanding*: Individuals responsible for planning or implementing an RWS initiative do not fully understand its principles and/or the roles they are expected to play in scaling up.
- (3) *Resistance*: Despite having full understanding of a successful, sustainable approach to RWS service delivery, key stakeholders are unwilling to support scaling up.

(4) *Untested implementation conditions*: When extended to new areas/communities, a successful initiative encounters difficulties because of its unique features (e.g., technical, social, policy, user demand) not confronted in the pilot communities.


The implication of this simple categorization is that investigating the scaling up of sustainable RWS approaches incorporates issues related to the dissemination of information, ideas, and new technologies; political economy of resource allocation; organizational learning and change; public finance; project management and public administration. We drew to some extent on all of these fields in formulating this taxonomy, which is a first step in thinking about the necessary and sufficient enabling factors for scaling up sustainable RWS initiatives. We could find no published or processed work that investigates scaling-up bottlenecks in development initiatives systematically, much less in the context of rural water supply.¹⁴ The following sections elaborate this scaling-up taxonomy, drawing on our literature review and primary data collection activities.

3. Resource constraints

Clearly, a rural water supply initiative can only be extended insofar as resources are available to do so. Resources of all types were the most commonly cited bottlenecks to scaling up in RWS among respondents we interviewed; the issue has long been acknowledged in the development literature as well (e.g., Churchill, 1987).¹⁵ In this section, we discuss four types of resource constraints that inhibit scaling up in

¹⁴ Robert Boydell (1996) did author a short piece on scaling up rural water and sanitation projects for a WEDC conference, but his focus is to argue for the scalability of demand-responsive RWSS planning rather than to identify scaling-up bottlenecks more generally.

¹⁵ From Churchill (1987): "To be replicable, a program must be financially sustainable, not just at the demonstration site but also on a large scale. Programs fail to be replicable when they are too costly (for example, if overly expensive technologies have been employed), when insufficient funding is available to cover the costs (for example, from user payments or subsidies), or when the design is not flexible enough (for example, unable to adapt to different or changing consumer needs)."



Understanding the persistent obstacles to scaling up is critical to increasing rural households' access to improved water supply services.

RWS: insufficient financial resources, lack of human capital, inadequate institutional and organizational capacity, and weak supply chains. As noted in Section 1.2, without a clearly identified target population, it is difficult to know what having enough resources means. Respondents who cited resources constraints to scaling up conceded that they rarely undertook analysis designed to identify a target population accurately and estimate the resource requirements of reaching it with improved services.

Several respondents made the related point that the considerable amount of off-book resources often afforded to pilot communities, make it exceedingly difficult to carry out an accurate analysis of a project's scalability. In El Salvador, for example, the first phase of a national RWS program, PROSAGUAS, implemented by the NGO, CARE, installed about 80 systems benefiting more than 130,000 rural residents. Evaluators gave the program high marks for sustainability after five years, crediting a very strong community participation in the implementation process, a strong focus on financial management and administration, the formation of water user associations and the generally high levels of inputs on the part of CARE during the implementing phase (EHP, 2001). As one program staff member noted, however, PROSAGUAS enjoyed a Cadillac approach to RWS, whose true costs were not captured in its documentation. One member of the review team noted that no one was able to estimate either the per-scheme or per-capita costs of the project, inclusive of indirect, software, overhead, and other off-book costs. Whereas the 80 installed systems were, by all

accounts, quite successful, he felt that "the costs of making [them] sustainable were prohibitively high to think about taking the approach to any sort of scale."

3.1 Financial resources

As with the PROSAGUAS case, most respondents we interviewed acknowledged that they did not undertake a financial scalability analysis in which cost estimates for reaching a target population were compared to financial commitments expected from government, users, and other sources. Yet it is only with such analysis that the tradeoffs between coverage and project rules, such as *per-capita* cost caps, subsidy levels, and planning time horizons can be clarified.¹⁶ As one example, the Government of India (GOI) has publicly committed to full coverage of rural areas with water supply services by the year 2005. In the state of Andhra Pradesh (AP), scaling up the new Sector Reform Program (SRP) to all rural habitations will require an investment of roughly US\$192 million. During the 2001-02 fiscal year, the state expended US\$35 million on the sector, which includes all capital, operations, and maintenance expenditures for both SRP and non-SRP districts. Unless additional sources of funding become available, Andhra Pradesh will require a minimum of 10 years to expand water supply service to the state's un- and under-served rural residents — more than three times the length of time pledged by the GOI.¹⁷

The case of South Africa reminds us that tradeoffs between costs and coverage are made within a political environment that may sacrifice inclusion for other objectives. A low-cost approach to rural water supply planning

¹⁶ Even if *per-capita* costs are deemed affordable at the local level, such scalability analysis should also assess how, when extended to the entire target population, the fiscal burden of a full-scale program will be met.

¹⁷ Better accounting would also shed light on which cost components tend to rise, fall, or remain constant as an RWS initiative goes to scale. Respondents were divided on this issue, and cost functions likely vary by case (we have assumed a linear cost function in our discussion of the Indian Sector Reform Program above). Several respondents felt that learning curve effects would allow costs to fall during scaling up, while others felt that the costs of added administration (e.g., at the regional and national levels) necessary to scale up most RWS initiatives will raise unit costs.

pioneered by the Mvula Trust in the early 1990s was rejected by government in favor of one whose financial scalability is infeasible given current RWS budget allocations. Mvula's low-tech approaches carry an average *per-capita* cost of US\$40, of which communities were expected to contribute 5%.¹⁸ The government's Community Water Supply and Sanitation Program (CWSSP), by contrast, requires no cost sharing from communities and permits substantially higher *per-capita* scheme costs (~US\$125). By one estimate, extending service to the CWSSP's target population within the 10-year timeframe will require an annual investment of US\$240 million; the government's current budget allocation is approximately US\$90 million a year. Several explanations have been offered for government's adoption of a policy that implies a three-fold increase in the financial resources necessary to extend services to 7.6 million unserved rural residents, including the need to avoid the perception that residents were being provided sub-standard services; an imperative to construct schemes quickly; and vested interests that favored the use of large private-sector contractors.

3.2 Human capital

Given the increasing emphasis on community involvement in planning, implementation, and management in RWS initiatives, it is not surprising that many respondents cited as a resource constraint the identification of sufficient trained social intermediation professionals, who could motivate, organize, and train community members to play an active role in planning and service delivery. As one staff member of an international NGO observed, "We know how to do the engineering. Everybody knows that.

The big pinch now is finding organizations that can do the participation work...[You] see everyone is scrambling to identify these groups and sign them up."

Several respondents cited cases in which insufficient sources of social intermediation skills proved a binding constraint to scaling up. For example, during its second year of operation, Indonesia trained 15,342 village and 959 *kecamatan* facilitators. These facilitators were expected to disseminate information about program procedures; to direct participatory planning activities; and to help villagers submit proposals for KDP funding. Whereas the program had little trouble recruiting sufficient numbers of qualified engineers to provide technical support to the program, finding personnel with appropriate training in community organization and facilitation presented a significant challenge. Indeed, for a period the program capped the number of villages able to participate in part to limit the number of facilitators required (World Bank 1998c).¹⁹

Training in social intermediation is particularly challenging in the context of scaling up because an approach is needed that is standardized while also allowing for unique community characteristics (e.g., cultural norms, leadership, social structure). Many commonly used facilitation techniques provide a solid framework for understanding the history, current conditions, and felt needs of a community. Social intermediation professionals working with RWS initiatives, however, are generally expected to move beyond this initial stock taking to help community members engage in a planning and implementation process that they own and manage. This is a highly localized exercise that often does not lend itself to the kind of widespread replication that scaling up implies.

¹⁸ This cost-sharing policy has had to be changed, however, with the issuance of RSA's national water policy in 1996. All RWS capital costs are now borne by government.

¹⁹ In particular, within eligible *kecamatan*s containing 10 or fewer villages, all of those villages were permitted to participate in KDP; in *kecamatan*s with more than 10 villages, only half were allowed to participate.



Tradeoffs between costs and coverage are made within a political environment that may sacrifice inclusion for other objectives.

By contrast, the work of engineering professionals in RWS initiatives is arguably more standardized, and few respondents indicated a lack of technical expertise as a principal concern for scaling up.²⁰ Nor were most respondents concerned about shortages of private-sector technical support (e.g., drilling or repair services) as a major constraint for scaling up.²¹ In some cases, individuals trained during a pilot or first-stage project did leave to pursue other opportunities before an initiative could be scaled up. In South Africa, for example, the Mvula Trust emphasized the training of black engineers for RWS work. With a new set of professional possibilities available to them, many chose to leave their home areas for higher-paying employment elsewhere. Similarly, in Bolivia substantial investments were made in training private-sector firms for the Yacupaj pilot project. Without a mechanism to maintain contact with these firms, however, many disappeared into the towns before the national PROSABAR program was rolled out.

3.3 Organizational and institutional capacity

A common theme in RWS sector reform is the shifting of responsibility for planning, implementing, and management of services from centralized public agencies to a new set of institutional actors.²² In South Asia and parts of Africa, local government is increasingly

viewed as the most promising institution to assume a lead role in RWS service delivery. In Latin America and parts of Southeast Asia, civic organizations are assuming greater responsibility for the sector. For some practitioners we interviewed, identifying an effective institution that can operate at scale is *the* bottleneck for RWS. One practitioner in Cameroon noted, “There are a good number of NGOs in Cameroon, but most have difficulties setting up and delivering the services. Most are young people with little experience and limited resources, though they show the interest to render services. On the other hand, there are local governments (councils), which have well developed structures, though lack capacity building capabilities.” Another African RWS specialist noted, “We need time, and a lot of hand-holding, to create a system that can really deliver services effectively. Aid agencies don’t want to hear this... They want results right away. But it is difficult for us to point to something specific and say, ‘This is what we have done, we have built capacity in this council’.”

The challenges for scaling up are twofold. First, problems can emerge in the form of turf conflicts as the influence of organizations, traditionally involved in RWS service delivery, is diminished; staff of these agencies are often expected to develop new sets of skills related to facilitating the operations of new service

²⁰ Having adequate technical capacity to *maintain* RWS infrastructure has, of course, been repeatedly identified as a principal challenge for the sustainability of installed systems. This issue is discussed further in Section 3.4.

²¹ One exception is in Malawi, where only about a dozen out of 130 registered drilling companies own their own equipment. One practitioner working in Malawi felt that this situation has led to increasing politicization and corruption in decisions about the staging of communities for participation in a large-scale RWS initiative.

²² Indeed, respondents noted that a principal advantage of a staged approach to RWS initiatives was the ability to shift responsibilities gradually to institutions as they developed the capacity to manage them. In the first Ghana Community Water and Sanitation Project (CWSP-1), for example, District Assemblies (DAs) were expected to apply eligibility criteria and select communities for project participation. In CWSP-2 DAs have also been given the responsibility of contracting drillers and hydrologists for scheme installation, as the number of communities participating in each district is also increasing. By contrast, where RWS initiatives have been launched on a larger scale, some have met with disappointment as institutional weaknesses became apparent. “With the national program,” one respondent recalled, “realizing that district institutions weren’t able to fulfill their role meant a major delay, and eventually major disappointments” regarding the program objectives. “If we had worked with just a few districts, we could have held their hands through it. ... That would have made the job in the other districts much less painful for everyone.”

providers. These issues are discussed further in Section 5. Second, a new set of organizations may be ill prepared to assume the responsibilities of RWS planning and service provision, and/or may not be supported by appropriate institutions from the local to national level (e.g., budgetary authority for long-term planning). The implications for scaling up are daunting: Whereas we were once able to focus on improving the capacity of a few large agencies, scaling up of the dominant state as a facilitator model requires building capacity in dozens or even hundreds of local institutions. “If we are serious about scaling up, we need to be serious about the entire service system, from the center out to the edges,” one bilateral aid agency staff member noted. A Bank staff member concurred: “We focus so much [on the central W&S agency] and just assume that, once we finally take control from it and give it to local institutions, they will know what to do.”²³


A phased approach to implementing a new RWS initiative can provide the opportunity to identify and address capacity-building deficiencies in Indonesia (see Section 1.4). Nevertheless, scaling up requires institutional capacity and logistical networks beyond simply adding the new implementing institutions at the local level. For example, following its pilot phase in six *kecamatan* during 1997-1998 the KDP expanded to include 501 *kecamatan*, comprising 3,524 villages, in its first year of operation (World Bank, 1998c). In only four years, the number of households served by the program increased by almost 500-fold (Guggenheim, 2002). Such rapid scale-up presented any number of institutional

challenges, from developing the capacity to provide management training to 6,000 village councils per year to establishing a system for reviewing project receipts in 3,000 sub-districts. This transition from small to large project, as a step toward full institutionalization and scaling up, requires capacity-building beyond simply replicating the one undertaken during pilot activities.

Indeed, several respondents shared the view that — unlike deficiencies in human capital, which can generally be identified through *ex ante* analysis — identifying institutional and organizational capacity-building needs for RWS service delivery at scale is best accomplished with a learning-by-doing approach. This philosophy has permeated the decentralization program in the state of Kerala, India, where the State Planning Board (SPB) has used a series of standing orders — each of which can be superseded by a later order — to implement its new rural development planning procedures. “When we receive information about a problem, or a good suggestion on improving the water planning procedures, we can simply issue a new order immediately,” a senior SPB official explained. “We also admit that we are still learning. When we have perfected the rules, we will ask [the legislature] to formalize them.”

While this may indeed be an effective means of building institutional capacity, it typically also requires considerable time to develop effective service delivery systems — with obvious consequences for scaling up. Using RWS initiatives for capacity-building objectives may also demoralize communities and implementation staff, as recounted by one local

²³ With the increasing emphasis on partnerships for RWS service delivery, many respondents cited inter-organizational coordination as a principal institutional capacity building need. In China, for example, one official admitted that “we ourselves are a bit unclear” about which ministry would have primary responsibility for RWS. The Ministry of Health is responsible for water quality; the Ministry of Water Resources controls water source development; the Ministry of Construction is responsible for water and sanitation services in small towns; and the State Department of Planning approves annual plans and budgets for all three. Respondents in both the Ministries of Health and Water Resources claimed their agency was responsible for the major share of RWS policy and were somewhat dismissive of their competitor’s claims to a central role.



Scaling up requires institutional capacity and logistical networks beyond simply adding the new implementing institutions at the local level.

government head in Kerala: “This is the first time for many [local governments] to plan water supply projects. I think only about 30% of the projects are good projects....It is not that the other 70% do not have the right objectives, only that they are inexperienced. They will gain experience with these first projects and could be better prepared in future....[But] the people are disappointed. There is a loss of confidence [in the decentralization process]. Maybe they will not want to give this approach another chance.”

It is unclear whether developing new institutional capacity requires more time and resources than would be needed to re-orient a traditional provider of RWS services and associated institutional supports toward a new approach. We return to these issues again in Section 5.

3.4 Supply chains

The development of robust supply chains to ensure availability of hardware, spare parts, and maintenance services is generally a focus of literature on the sustainability of water and sanitation schemes, which perhaps explains why so few respondents mentioned supply chains as a constraint for scaling up.²⁴ Given adequate financial resources, it is generally not difficult to procure and install water supply infrastructure. The supply chain that supports operations and maintenance, however, is critical for sustainable service delivery in the long term (WSP, 2000). The relationship between supply chains and scaling up has received less attention, yet there exists a critical scale for each RWS initiative beyond which the private sector will be interested in its supply chain. Few shop owners will be interested in stocking spares for a small (or first-

stage) RWS program; only when coverage exceeds some threshold would it be profitable for entrepreneurs to invest in such RWS support activities. If true, this observation suggests that staging RWS investments in geographically concentrated areas (e.g., pursuing full coverage in one district before starting work in another) might promote supply chain development to a greater extent than a scattershot approach of one or two villages per district that is sometimes pursued for political or equity reasons.

3.5 Summary

Among the resources needed to scale up RWS initiatives, interview respondents identified social intermediation skills, as well as organizational and institutional capacity as principal bottlenecks. Weak supply chains were not considered by respondents to hamper scaling up substantially — although we expect the issue warrants greater consideration with respect to generating private-sector interest in providing the goods and services necessary for long-term sustainability. Whereas financial resources were also often cited a binding constraint, it was difficult to explore this issue because of an almost complete absence of documented analysis regarding the identification of target populations and expected financial commitments to the sector by government, donors, and users.

4. Lack of knowledge/shared understanding

A second challenge for scaling up concerns the extent to which key stakeholders²⁵

²⁴ For more information on supply chains in rural water supply and sanitation, see www.wsp.org/english/activities/supply-chains.html.

²⁵ By stakeholders we mean those individuals or group representatives who have the ability to influence, directly or through other stakeholders, decision-making relevant to taking an RWS initiative to scale. Stakeholders could therefore include elected officials at various levels of government; staff of planning, rural development, water and sanitation, and other bureaucracies; staff and leadership of private-sector, non-governmental, civic, and community organizations; and donor agency personnel.


responsible for expanding a new RWS initiative share a common view of its objectives and elements, as well as the roles and responsibilities of relevant actors. Our focus here is on the performance of implementation personnel and the ways in which their understanding of program rules, as well as their and others' responsibilities, affect program functioning and scaling up. In one sense, this category of bottlenecks could thus be viewed as a form of organizational capacity (Section 3). A lack of knowledge among implementation personnel is often attributable, however, not to shortcomings within implementing organizations but to fundamental differences among the philosophies of other stakeholders that translate into unclear directives to implementation staff on the ground. For example, some senior donor agency staff we interviewed said the objectives of their RWS programs were to advance democratization, decentralization, or creating citizens with the confidence and capacity to demand services and accountability from public institutions. The fact that these goals were being pursued in the context of a rural water supply initiative was almost incidental. Others — principally actors within implementing institutions, as well as local leaders and politicians — tended to be much more focused on the particulars of planning and delivering improved RWS services and ensuring their sustainability. Such disconnects among stakeholders give rise to a number of challenges. First, the groups have very different ideas about what constitutes success and how it should be measured. They also emphasize different aspects of the program when interfacing with communities, which was noted in one case to create confusion and mistrust that stalled scaling up of the initiative.

India's SRP illustrates a lack of knowledge among implementing personnel can stall or derail a new RWS initiative. In launching the SRP, the Government of India held three-day training

workshops for key implementation personnel in pilot districts. Nevertheless, a recent assessment of the program identified a lack of clarity regarding roles and responsibilities of implementing institutions as one of the key obstacles to progress in the SRP (WSP, 2001a). "In many instances, the work on the SRP has come to a standstill awaiting guidance from [Government of India], State or District level institutions," the review notes, citing many examples of a lack of clarity about and shared understanding of principles, systems and processes to be followed in the SRP. It was noted, for example, that "implementers are unclear whether most or all [of the program's cost-sharing requirements] can be in-kind." Where a shared understanding of program elements is absent, scaling up will either be slowed, as in this case, or may proceed only to result in a large-scale program that loses much of what made it effective in the first place. The SRP review notes that a major risk to scaling up the program is a lack of clarity or, worse, an over-simplified understanding of the processes and institutions at the scheme user and village/community levels.

4.1 Summary

Ideally, a staged approach to RWS planning provides opportunities to test and refine the strategies used to develop a shared vision among implementation staff. "Pilots are an opportunity to get the message right — developing the training materials and simple messages," one senior Bank staff member noted. As one example, he recalled that what seemed to be a fairly simple cost-sharing policy in an RWS initiative in Malawi resulted in poorly coordinated and varied responses because consultants interpreted and implemented the policy in different ways within different communities. A shared understanding both of content (e.g., program rules) and process (e.g.,



Fundamental differences among stakeholders' philosophies translate into unclear directives to implementation staff on the ground.



the allocation of authority among stakeholders) is essential to maintain momentum in scaling up. A consistent message must also extend upward, including senior levels of decision-making, which is related to generating political buy in for a new initiative. We discuss this issue further in the following section.

5. Resistance

Although a majority of our respondents mentioned resource and knowledge constraints to scaling up RWS initiatives, most had strategies to address these challenges (although not always the time or support to do so). By contrast, our third bottleneck category — resistance to change in RWS service delivery systems by key stakeholders — elicited a palpable sense of frustration and far fewer solutions from practitioners and decision-makers. Resistance impedes scaling up in rural water supply at two principal junctures: with the decision to adopt a new RWS planning approach and associated policy reforms, and in the launching of new procedures, training, and activities during implementation.

5.1 Getting to Yes

Most of our respondents, including both donor agency staff and those working in the public or private sphere in developing countries, subscribed to a theory of political elites with respect to policy change: A new initiative must be championed by one or more influential decision-makers for it to be adopted at the national level. This was felt to be true irrespective of the extent to which empirical information indicates that the approach is successful on the ground. “Information from the pilot is used by your champion to convince others, so it is definitely essential,” one bilateral staff member working in South Asia explained. “But without the champion, no amount of data from the pilot” would convert other decision-makers.

Although an advocate is important for increasing awareness of, and negotiating cooperation with, a new RWS initiative among key stakeholders, the principal function s/he serves appears to be as a scapegoat in the event of program failure. As a consultant working in Brazil noted, “You need someone who can take on the risk...If something goes wrong, he will be the one who takes all the blame.” An aspiring

politician in Kerala, India, agreed: “No one wants to back a program that might fail, especially if it means disturbing powerful interests.” One Bank staff member noted that “young, idealistic officials, as well as senior guys, on their way out, who wanted to make one last stand,” were those most willing to accept this kind of political risk.

Another World Bank staff member noted that the champion of a new RWS initiative faced the dual challenges of raising awareness about an innovative approach and creating an environment in which decision-makers “take [it] up as their own idea.” Successful promotion may actually impede local uptake in some cases. In South Africa, for example, the Mvula Trust was established in 1991 and operated as an interim water supply agency in the country’s rural areas until such time that a new government RWS program could be launched. Staff devoted substantial energy to creating what several respondents termed the Mvula brand name. Some observers noted that the effectiveness of this branding actually discouraged the South African Department of Water Affairs and Forestry (DWAF) from adopting elements of the Mvula approach when their own RWS program was formalized. “[The DWAF] needed to have something of their own,” one Mvula affiliate noted. “Politically it was not...acceptable to use an approach that would be recognized as belonging to another organization.”

Branding can also be an issue of contention among donor agencies. One Ghanaian official familiar with the country’s national rural water supply program noted that “[the] bi-laterals have been concerned to have a geographical patch,

where they can show results....the Danish development agency (DANIDA) have been determined to implement in their [three] regions. And there was some concern by the bi-laterals that the World Bank had hijacked the [national RWS] program.” Indeed, another official felt that the principal audience of the World Bank’s first RWS initiative in Ghana, the Community Water and Sanitation Program-I (CWSP-I), was not government but the other donors working in the country’s sector. “The idea was that if the project worked, then other donors would buy into the approach,” he recalled.²⁶

5.2 Implementation

Respondents were more divided about addressing resistance from stakeholders responsible for implementing a new RWS approach. The most effective strategy depends on whether the initiative relieves, re-defines, and/or adds responsibilities to service providers, as well as the socio-cultural context in which it is implemented. Most respondents adopted a rational choice theory perspective, emphasizing the role of incentives in convincing key stakeholders to support a new RWS initiative (e.g., Simon 1995). “Think about it,” one NGO Director in Latin America observed. “You are asking [public water agency] staff to do more, to work harder, but there is nothing in this deal for them. Their salary does not increase...[most of them] will not even [personally] see the results in the villages.” Other respondents felt that conversion of the elected leadership could go a long way in bringing other stakeholders in line; particularly individuals in South Asia, where comparatively stronger ties between

²⁶ The CWSP-I in Ghana was one of the few cases we documented that attempted to confront the challenge of generating donor consensus directly. A series of meetings between 1987-1991 resulted in a general agreement among donors and the government on a community-based approach for RWS. To allow each donor its piece of the pie yet maintain a program with national character, regional offices were established to allocate and coordinate projects. Bi-monthly meetings were set up to share information and ensure that donors continued to sing from the same hymn book. Nevertheless, consensus over key policy elements appears to be fragile. For example, it is several of the donor partners, rather than politicians as is typically expected, who continue to resist and even sabotage the CWSP’s 5% capital cost-sharing requirement.

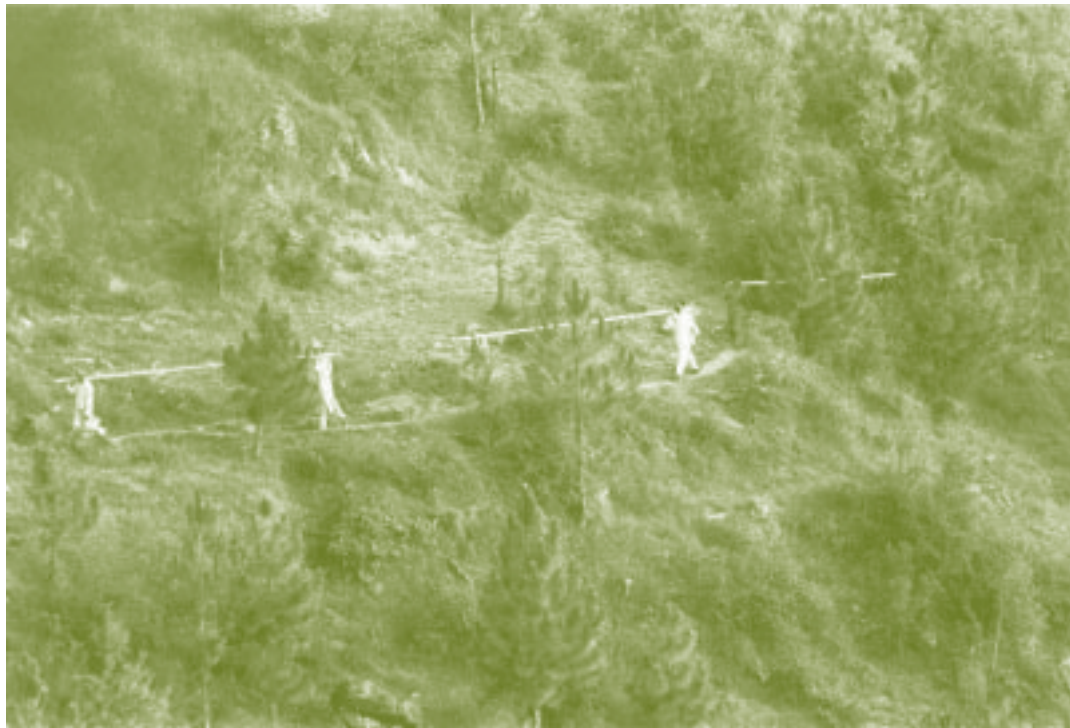
It is equally challenging to help an institution to do “less” as it is to help another do more.

politicians and the bureaucracy exist, voiced this perspective.

Elected officials, bureaucrats, and consultants from developing countries gave particular emphasis to reform and re-orientation of implementing organizations as a bottleneck to scaling up. “It is equally challenging to help an institution to do *less* as it is to help another do *more*,” a government official in Kerala, India, observed regarding his state’s policy of devolving substantial responsibility for RWS to local government. The Kerala Water Authority (KWA), which has managed both urban and rural water and sanitation services in the state since 1984, is now expected to supply engineers for technical backstopping in RWS services managed by district government. KWA engineers have no incentive to support the proposal, which will shift a substantial proportion of staff from urban to less attractive rural posts; make them directly accountable to local government; and significantly reduce their involvement in contracting and procurement. Only one of the 23 KWA engineers we

interviewed could identify a potential professional benefit of the new arrangement — the exposure to different kinds of problems that would challenge his ability to innovate technically. “[But] I don’t think many other engineers will have this view,” he acknowledged. “Most people are very worried and are asking the Secretary [of KWA] to take some action” to prevent the program’s implementation.

Similar accounts of generally centralized public agencies struggling to retain control over resources and influence in RWS planning were offered by more than a dozen respondents. In Paraguay, both the World Bank and Inter-American Development Bank are pursuing rural water supply projects in collaboration with the National Environmental Sanitation Service (SENASA). Staff of both agencies described difficulties in convincing SENASA personnel that partnerships with private and civic organizations could be an effective way of overcoming capacity constraints within the agency. “There is no hope that SENASA will be able meet all the needs,” one respondent observed. “Scaling



up for SENASA is stalled by resource constraints. [T]here are resources available...and we could be doing more. But SENASA wants to keep control of everything." A related challenge concerns the need for such organizations to develop skills related to their new roles as facilitators and backstopping agencies (e.g., contract administration and technical review of engineering designs). One respondent noted: "This moves bureaucrats out of their comfort zone and may empower younger (and more junior) actors within the sector agency," who could more easily develop these new skills.

5.3 Summary

While dangers exist in giving inexperienced institutions principal responsibility for a new rural water supply initiative (Section 3.3), entrenched resistance to a new RWS approach within an existing service agency and among its allies in the private sector and government may make this the only viable strategy. Another approach — one with potentially detrimental implications for the institutionalization needed for long-term scaling up — is to create temporary arrangements for program implementation while parallel efforts in policy and institutional reform are undertaken. This is the theme of our final category of scaling-up bottlenecks, discussed in the following section.

6. Untested implementation conditions


A common theme in our discussions with respondents about scaling up sustainable RWS approaches is that many features of pilot or first-stage initiatives that make them successful are often not maintained during scaling up. Many respondents spoke of the nurturing, excessive attention, or even babying that new initiatives receive but that are subsequently withdrawn or spread more thinly as the programs expand.

Supports such as off-book allocations of time and expertise to first-stage communities (Section 1) are typical of the accommodations that many respondents feel are needed to establish an early success and thus generate support for a new RWS planning approach. Insulating an initiative from the conditions that confront everyday service delivery systems, however, may undermine the long-term prospects for scaling up of sustainable RWS services.

6.1 Where to pilot?

Whether planning a pilot or a first stage of investment in a large RWS initiative, program architects must decide where they will begin activities. From a scalability perspective, the first set of districts or communities would ideally be fairly representative of the entire target population with respect to technical challenges; the socio-cultural profiles of communities; priorities, preferences, and demand for improved services among residents; and capacity of key institutions. Representativeness, however, was not named as an objective in first-stage RWS planning by any of our respondents. Instead, decision-makers and practitioners said that the areas selected for first-stage investment in an RWS initiative were chosen because "that's where we knew [the approach] would work," or "we could negotiate political commitment" to the approach with particular selections.

Clearly both decision-makers and practitioners have strong incentives to select areas in which the likelihood of successful implementation of their RWS initiative is high. Picking the low-hanging fruit, as this strategy is sometimes termed, can be effective in garnering support for scaling up. Regions might be selected in part because gravity schemes, rather than more expensive and complex pumping schemes, are sufficient to improve water supply. Districts with sympathetic officials — or local government that is entirely defunct and moldable — will also be more appealing. Such cream



Insulating an initiative from the conditions that confront everyday service delivery systems, however, may undermine the long-term prospects for scaling up of sustainable RWS services.

skimming continues at the village level as well. Communities with comparatively homogeneous class and ethnic profiles, or those without conflicts over access to water points, might be chosen to minimize delays during project implementation. In India, the Water and Sanitation Program (2001b) itself has advised that “sector reforms will be easier in single source villages and districts should be encouraged to select habitations with this in mind.”

With such a strategy, of course, an RWS approach is tested in places where technical, financial, political, and/or social challenges are minimized, rather than against a range of conditions that better reflect real world circumstances of the target population. Selecting a small number of easy or homogeneous trial communities does not allow for the re-evaluation of program elements based on a variety of field experiences. Little opportunity exists to develop the flexible program guidelines that many researchers have documented as being fundamental to the effectiveness of rural development initiatives. Working in communities with relatively high effective demand may also under-estimate resource requirements for scaling up if good data relating demand with socio-economic and demographic characteristics are not available for the pilot and target populations.

Similar problems can arise when states or districts are selected in view of political considerations. A senior official, when asked about the choice of six pilot districts for a large RWS initiative, replied that “the selection was probably not adequately debated.” He named five senior politicians who, he said, were responsible for the selection of five of the districts; the sixth was chosen for regional balance. In another case, the education minister was brought on board a new RWS initiative through the inclusion of his home district in the first round of investments. The minister

subsequently used his influence to convince reluctant communities to comply with the program’s cost-sharing requirements; in particular, he promised to construct primary schools for three clusters of villages if they successfully constructed piped water supply systems. As one senior program officer noted, “The demand we are meeting is the demand for a school — not the demand for water.”

6.2 A consistent policy framework

One of the more important differences between the institutional context of RWS pilots and that of their target populations concerns the policy environment in which they are carried out. Many first-stage initiatives are granted policy exceptions (e.g., with respect to subsidy ceilings, technical standards, and cost-sharing) to allow a new approach to be demonstrated and refined. This strategy allows progress to be made quickly, without the need for lengthy negotiations that typically accompany policy changes. Moreover, if a new approach to RWS planning is being tested, a flexible policy framework prevents the cementing of changes that may themselves need subsequent modification (e.g., the Kerala case discussed in Section 3.3).

In order to scale up, however, a national policy framework that addresses ownership of systems, authority for planning and budgeting, tariffs, cost-sharing rules, etc., must eventually be established and aligned with provincial, state, and local policies. As one UNICEF officer observed, “All policies relating to communities must be in harmony — the national constitution, the water policies, local government laws, etc.” He noted that, in Uganda, the Water Act of 1995 gives rural communities ownership of water development projects, while the Local Government Act confers ownership to local government of *all* development within its jurisdiction. Elected officials will point to the policies that serve their needs at any given

moment, thus creating an uncertain environment for scaling up.

Respondents we interviewed offered different views regarding the best strategy for establishing a supportive policy framework for RWS service delivery. Some felt that a clearly articulated sector policy would increase the transparency of budget allocations and more clearly delineate roles and responsibilities among stakeholders. Others supported the integration of RWS planning into a comprehensive rural development policy (e.g., the Poverty Reduction Strategy Papers mentioned in Section 1). Proponents of this latter strategy felt that the impact of budget raiding that inevitably occurred would be diminished if water supply were integrated into a package of rural development or poverty alleviation activities. This type of broad lending approach has been identified as a good opportunity to support fiscally sustainable strategies for countrywide scaling up of RWS sector reforms (WSP, 2002).


A few respondents also noted that “one derives a false sense of security” from a highly detailed RWS policy. “In a country like India,” one elected official felt, “it is not possible to describe one process by which rural water supply will be improved in all of the states.” At the same time, some degree of standardization is essential to establish a national program — flexibility is thus both essential and problematic to scaling up. In fact, the recent review of India’s Sector Reform Program notes that “in many cases, the states do not have a clearly articulated RWS policy, beyond the compliance to nationally accepted prioritization by coverage and quality. ...[The SRP] needs to take account of the differing levels of importance accorded to sector reforms sector across states and consider developing a basic minimum agenda for states to ratify in their State Water and Sanitation Missions “ (WSP, 2001a).

Scaling up is particularly impeded when a new RWS approach co-exists with another strategy that places different requirements on

users and implementing personnel. In South Africa, staff of the Mvula Trust felt that their policies of (1) using low-tech, inexpensive approaches and (2) requiring 5% of capital cost-sharing by users were undermined by the newly created government Department of Water and Forestry (DWAFF), which installed more costly systems with no user contribution. “In many cases, there was no possibility of [DWAFF] implementing a project for many years...so we were seen as a village’s only option,” one former Mvula associate recalled. “But there were some cases in which we were asked why we were charging more to deliver less....It is not a very satisfying answer to say ‘Just wait, and in the long term you’ll see why this approach is better’.” Similar tensions have been documented in the Sector Reform Program (SRP) in India, where one evaluator noted that “the continuance of the conventional supply-driven paradigm alongside the SRP poses significant challenges for user communities and institutional stakeholders” (WSP, 2001a). This appears to be a persistent challenge for practitioners using a staged approach to RWS planning.

6.3 Artificial institutional settings

Because wresting control from currently dominant RWS organizations seems one of the most difficult changes to make, it is common for architects of new initiatives to avoid serious engagement of the problem during pilot or first-stage activities. The IDA-assisted rural water supply in Azad Jammu and Kashmir in Pakistan, provides a good example of the compromises that are often struck between institutional reform goals and practical considerations in launching RWS initiatives. A formal project management unit was not established in the project, although a clear division in administration was created between core and project staff of the Local Government & Rural Development Department (LGRDD) that historically managed rural water



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supply and sanitation. After a disappointing attempt at promoting the project among LGRDD technical staff, the Bank approved hiring of contract staff, who faced a distinct set of incentives and motivations as compared to their core counterparts (Davis *et al.*, 2001).

This approach clearly created a sense of pride and commitment among project staff; it also promoted competitive pressure between core and project employees that resulted in increased monitoring and scrutiny of the project. Capacity building and motivational training, however, were often limited to project staff, and what began as healthy competition in some cases turned to bitter resentment. Because regularization of project staff was held up for several years in the legislature, many of the most talented individuals trained by the project left to take positions in other organizations. Equally important, the efforts of project staff to create an IDA project identity apart from the LGRDD undermined efforts to change public

perceptions of the LGRDD as an unresponsive government agency.

Artificial institutional arrangements are not limited to those responsible for implementing an RWS program. The use of externally supported supply chains, for example, is also common both to promote particular technologies and to encourage rapid adoption. The international NGO Development Workshop, for example, has been working with a private South African company and Angolan merchants to develop a supply chain for the AFRIDEV pump and associated spare parts in Angola. In the short term, Development Workshop itself is stockpiling spares in order to keep momentum in their program. We heard many similar accounts of NGOs, donors, and central government filling this supply-chain role temporarily. Often, however, such stop-gap arrangements end before a strong local supply chain is established, thus limiting both the extent to which RWS initiatives can expand and their longevity.

6.4 Summary

It is important to note that the artificial conditions, under which many pilot or first-stage RWS initiatives are carried out, are often created in response to resistance, resource constraints, or the need to develop a shared vision regarding a new approach to service delivery. Many respondents felt that supports such as donor-organized supply chains, project management units, and policy holidays were needed to establish early success with and generate support for a new RWS service delivery approach. Others were skeptical that government officials would follow through with lasting policy reform once a new RWS planning approach was demonstrably successful. “That’s no way to proceed,” a consultant working in Brazil scoffed. “[The government] want[s] the funding and will agree to anything as long as it’s small enough to be off the political radar....The pilot could be very successful, but it will never go any further than that.” Another said his “sense is that government is very happy to make all sorts of exceptions for the pilot, but if it happens to be a success then they find they have a problem on their hands. They know they can’t possibly support its expansion.” Recognizing that the choice may be one between an insulated first-stage RWS initiative or none at all, it appears that the likelihood of scaling up is inversely related to the degree of artificiality of institutions and organizations, as well as to the extent of non-representativeness of communities involved in the pilot phase.

7. Toward a research agenda


Thinking about the kinds of research that can support scaling up sustainable RWS approaches, we note that our taxonomy of

scaling-up challenges embodies an *ex-post* perspective while we are working toward guidelines for *ex-ante* consideration of scalability in project and program design. We found no prospective research that traces the evolution of pilot projects in any rural development sector through a process of scaling-up, successful or otherwise. A minority of our respondents said that they had considered how different features of projects and programs in which they were involved might affect the prospects of scaling up. The more common strategy appears to be, as one NGO staff member termed it, “pray big, but work with what you have...make whatever progress you can on the ground, now.”

Scalability appears to be a distinct and secondary objective to making a pilot initiative successful, rather than a design criterion that receives consideration from the start. As one World Bank respondent noted, “Most of these [rural water supply] projects didn’t expand because they were never designed to.” Incorporating scalability planning into RWS project design is challenging not simply because of the nature and extent of uncertainty involved (e.g., as regards the size of the true target population, extent of available human capital, etc.) but because it is affected by many factors outside of the sector. Indeed, critical supports, such as funding commitments and policy reform, may be forthcoming only upon successful demonstration of a new approach, thus setting the stage for a host of scaling-up challenges described in Sections 3-6.

Returning to the four-part approach to rural water supply promoted by agencies like the World Bank (listening, piloting, demonstrating, and mainstreaming), it seems clear that most practitioners we interviewed would emphasize the need for research on mainstreaming effective RWS service delivery approaches.²⁷

²⁷ One of the principal recommendations from a focus group discussion at the World Bank in May 2002, involving more than 20 RWS professionals, was a set of detailed case studies that present real world strategies for addressing scaling-up bottlenecks.



Scalability appears to be a distinct and secondary objective to making a pilot initiative successful, rather than a design criterion that receives consideration from the start.

Practitioners expressed a pressing need for concrete suggestions about addressing many of the obstacles to scaling up, particularly those related to generating political consensus and overcoming resistance of implementing organizations. Many noted that the best practice literature gave scant attention to such challenges, while the prescriptive literature was too general to be of practical use. Developing a series of case studies that focus on issues of scalability — including candid and detailed discussion of both successful and failed strategies²⁸ — would be a valuable contribution toward helping existing initiatives reach more communities.

With standardized analysis, such case studies could suggest which pilot or first-stage project design elements have important (positive or negative) effects on scalability. For example, reviewing design points from a set of RWS initiatives could suggest whether focusing on low-hanging fruit is actually a useful strategy for generating support around scaling up, or is detrimental because it diverts resources toward first-stage initiatives that decision-makers are rarely committed to expanding. Ultimately, such investigations are only valuable if they lead to the design of more scalable projects. While academics and practitioners alike have been advocating a more institutionalized approach to development planning for some time (e.g., Tandler, 1975), few have gone beyond general explanations for the persistence of “projectized” development work to investigate the conditions under which projects are most likely to be expanded and institutionalized.

7.1 Institutional arrangements for scaling up

Our respondents held strong and diverse opinions about the relationship between

institutional arrangements for sustainable RWS service delivery and scalability. Our taxonomy of scaling-up challenges was deliberately developed with reference to cases representing a variety of institutional settings. Are particular arrangements more conducive to scaling up sustainable RWS service delivery than others? It is the qualifier, sustainable, that makes this issue particularly hard to tackle. Historically, large centralized organizations have done a good job at installing improved water supply services that have been unsustainable. Smaller and/or locally based organizations, from community associations to local government, are often portrayed as having better records on sustainability, but are inherently limited in scale. Social funds have been the subject of recent debate regarding both the sustainability of their outputs and the prospects of institutionalizing the decision-making processes they employ (e.g., Abraham and Platteau, 2001; Tandler, 2000).

Given the complex relationship between scalability and institutional form, the scope for comparative research may be limited. India’s SRP, however, is an important exception. In the state of Kerala, the SRP is administered through local government, with the Kerala Water Authority (the historical RWS provider for the state) entirely bypassed. In Uttar Pradesh and Assam, the Rural Development Department and Public Health Engineering Department, respectively, have assumed a predominant role in the SRP process. Flexibility in the SRP guidelines gives states a variety of institutional options for the initiative’s implementation. As such, this case could provide an interesting opportunity to examine the comparative scalability of different institutional arrangements in


²⁸ As one bilateral aid agency staff member noted, “We have dozens of cases where it appears that everything worked perfectly, and you know it’s not true. Why won’t anyone write cases that really show what went right and what went wrong? We learn as much—we learn more—from the failures as we do from the successes.”

delivering sustainable W&S services to India's rural areas.

Seeking a best institutional form for RWS service delivery is misguided, however, because both the effectiveness and the scalability of any given arrangement is affected by the positioning of the sector within the larger development policy context. Current approaches include incorporating rural water supply into national rural development policy, with the idea of exchanging some degree of local planning authority for explicit budgetary commitments to the sector; devolving planning and/or budgeting authority to local-level institutions; and maintaining highly centralized control over both budgeting and planning RWS initiatives, with local institutions limited to an implementation role. A variety of organizational arrangements for planning and service delivery are possible under any of these arrangements. Exploring how the policy context and organizational structure interact, however, is essential both for understanding where scaling-up bottlenecks exist and what types of external support for scalable RWS initiatives will be most effective (e.g., sector investment loans versus sector adjustment loans).

7.2 Summary

The shift during the past two decades toward a phased approach with piloting has delivered more sustainable and successful RWS projects in developing countries. Clearly, changes in the design of pilots (such as those discussed in Section 6) can increase the likelihood that such initiatives will be expanded and institutionalized. At the same time, it is important to recognize that some aspects of scaling up have little to do with experiences in pilot or first-stage communities (Section 3.3). Practitioners, thus, need different kinds of support at different junctures, including designing more scalable pilots, garnering the support necessary to expand and institutionalize projects, and addressing the management and logistic challenges that arise once scaling up begins. Focused investigations with practical advice from other professionals were emphatically encouraged not only by the RWS specialists we interviewed but by those working in other areas of rural development. Indeed, given the widespread interest in scaling up, such research has the potential, in James Wolfensohn's terms, to make a substantial contribution toward increasing the impact of development.



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References

- Abraham, A. and J.P. Platteau. 2001. "Participatory development in the presence of endogenous community imperfections." Paper presented at the 13th Annual Conference on Development Economics, World Bank, Washington D.C.
- Blackburn, James and Jeremy Hollands, Eds. 1998. *Who Changes?: Institutionalizing participation in development*. London: Intermediate Technology Group.
- Boydell, R. 1996. "Scaling up rural water and sanitation projects." Paper prepared for the 22nd WEDC conference held in New Delhi, India.
- Churchill, Anthony. 1987. *Rural Water Supply and Sanitation: Time for a Change*. World Bank discussion paper 187. Washington, DC: The World Bank.
- Cohen, Michael A. 1988. "Replicating Urban Shelter Programmes: Problems and Challenges." In Dennis A. Rondinelli and G. Shabbir Cheema, eds., *Urban Services in Developing Countries: Public and Private Roles in Urban Development*. Basingstoke: Macmillan.
- Davis, J., S. Tankha, A. Ghosh, P. Martin, T. Samad, B. Zia, and G. Prunier. 2001. "Good governance in water and sanitation: Case studies from South Asia." Report to the Water and Sanitation Program, South Asia regional office. 148 pages.
- DeJong, Jocelyn. 2002. *A Question of Scale: Expanding NGO Impact in HIV and AIDS*. London: Intermediate Technology Development Group Publishing.
- Edstrom, J. 2002. "Indonesia's Kecamatan Development Project: Is it Replicable? Design Considerations in Community Driven Development." World Bank Environmentally and Socially Sustainable Development Network, Social Development Paper No. 39.
- Edwards, Michael, and David Hulme. 1992. Scaling up NGO impact on development: Learning from experience. *Development in practice* 2(2).
- Elmore, Richard F. 1996. "Getting to Scale with Good Educational Practices." *Harvard Educational Review* 66:17-25.
- Faminow, M.D., and K. Klein. 2001. "On-farm testing and dissemination of agroforestry among slash-and-burn farmers in Nagaland, India." *Development in Practice* 11(4): 471-486.
- Grey, David. 1988. "Rural Water Supply and Sanitation Issues." Draft paper, UNDP-WB Water Supply and Sanitation program.
- Guggenheim, S. Undated. "Community Driven Development Case Study: Kecamatan Development Program." Unpublished mimeo, the World Bank.
- Kar, Kamal, and Sue Phillips. 1998. "Scaling up or scaling down? The experience of institutionalizing PRA in slum improvement projects in India." In Blackburn, J., and J. Hollands, eds., *op cit*.
- Katz, T., and J. Sara. 1997. *Making rural water supply sustainable: Recommendations from a global study*. Washington, DC: UNDP-World Bank Water & Sanitation Program.
- Korten, David. 1980. Community Organization and Rural Development: A Learning Process Approach. *Public Administration Review*, v 40 no. 5, 480-511.

Mukerjee, Nilanjana. 1998. "The rush to scale: Lessons being learnt in Indonesia." In Blackburn, J., and J. Hollands, eds., *op cit*.

Pangare, Ganesh. 2001. "Scaling up participatory irrigation management in India: Lessons learned from the Andhra Pradesh model and strategies for the future." In K. Suryanata, G. Dolcemascolo, R. Fisher, and J. Fox, eds., *Proceedings of the Eighth Workshop on Community Management of Forest Lands*. Honolulu, Hawaii: East-West Center.

Parker, R and T. Skytta. 2000. *Rural Water Projects: Lessons from OED Evaluations*. Washington, DC: The World Bank OED Working Paper Series No. 3.

Pyle, David. 1981. "From Project to Program: The Study of the Scaling-Up/Implementation Process of a Community-Level, Integrated Health, Nutrition, Population Intervention in Maharashtra, India." PhD Dissertation, MIT Department of Political Science.

Republic of South Africa Auditor-General. 2002. "Report of the Auditor-General on the financial statements of Vote 35 — Water affairs and forestry-related accounts for the year ended 31 March 2000, and a performance audit of the project management of community water supply." 46 pages.

Sara, Jennifer, Alexandra Gross, and Caroline van den Berg. 1996. *Rural Water Supply & Sanitation in Bolivia: From Pilot Project to National Program*. Washington, DC: World Bank.

Simon, H. 1995. A behavioral model of rational choice. *Quarterly Journal of Economics* 69: 99-118.

Tendler, Judith. 2000. "Why are Social Funds So Popular?" In S. Yusuf and S. Evenett, eds., *Local Dynamics in the Era of Globalization*. Oxford: Oxford University Press.

— — —. 1975. *Inside Foreign Aid*. Baltimore, MD: The Johns Hopkins University Press.

Therkildsen, O. 1988. *Watering white elephants: Lessons from donor-funded planning and implementation of rural water supplies in Tanzania*. Uppsala, Finland: Scandinavian Institute of African Studies.

Uvin, Peter, Pankaj S. Jain, and L. David Brown. 2000. Think Large and Act Small: Toward a New Paradigm for NGO Scaling Up. *World Development*, v. 28 no. 8, pp. 1409-19.

Uvin, Peter and David Miller. 1996. "Paths to Scaling-up: Alternative Strategies for Local Nongovernmental Organizations." *Human Organization* 55:347-348.

Water and Sanitation Program. 2002. "Water supply and sanitation in PRSP initiatives: A desk review of emerging experience in sub-Saharan Africa (SSA)." Nairobi: Water and Sanitation Program-Africa. Available from www.wsp.org/pdfs/af_prsp.

Water and Sanitation Program. 2000. *Supply Chains: A Global Initiative: Assisting Development Practitioners to Create Enabling Environments for Small and Medium Enterprise Delivery of Goods and Services in Rural Water Supply and Sanitation*. Washington, DC: Water & Sanitation Program.

Water and Sanitation Program, South Asia regional office. 2001a. "Rapid review of the GOI rural water supply sector reform programme." Draft report for the Department of Drinking Water Supply, Government of India.

— — —. 2001b. "Launching sector reforms: Supporting the Government of India pilot demand-responsive approaches to rural water supply and sanitation." *Jal Manthan*, 2 August 2001.

— — —. 1999. "Willing to pay but unwilling to charge." Field note, June 1999.

World Bank. 1998a. *Integrated Rural Development: The World Bank Experience*. Washington, DC: The World Bank.

World Bank. 1998b. "Bolivia's Yacupaj water project puts villagers first." *World Bank News*, March 5, 1998. Washington, DC: The World Bank.

— — —. 1998c. "Kecamatan Development Program: Project Information Document." Washington, DC: The World Bank.

— — —. 1977a. *Rural Development: From Vision to Action*. Washington, DC: The World Bank.

— — —. 1977b. *The role and use of consultants in Bank Group projects*. Operations Evaluation Study. Washington, DC: The World Bank.

World Health Organization. 2000. *Global Water Supply and Sanitation Assessment 2000 Report*. Geneva: World Health Organization.



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