Assessing Water Point Sustainability through Community Governance in Ethiopia, Uganda and Mozambique

Background

In the developing world 84 percent of people have access to improved water sources, yet sustained access is a challenge. Many investments in safe water—with some estimates of more than $1 billion USD—have been effectively wasted as water points break down prematurely and are never fixed.

The International Water and Sanitation Center estimates that $1.2 to $1.5 billion of investments have been primarily wasted in sub-Saharan Africa over the past two decades due to the early demise of 30 percent of the 600,000 to 800,000 hand pumps installed in this region. Recent research suggests one-third of all water points in rural sub-Saharan Africa are non-functional. Similarly, WaterAid found that in Tanzania almost half of all investments were "effectively wasted" as half of rural improved water sources were found to be non-functional, with 25 percent of all improved water sources becoming non-functional within two years of implementation.

Less than 5 percent of water points are revisited by the implementing organizations and less than 1 percent of water points are reported to receive any long-term monitoring. Research into how specific factors impact sustainability, especially related to community-based water governance, is relatively novel and sparse. To date, relevant literature is comprised primarily of NGO programmatic evaluations or case studies and only a handful of published academic articles. As a result donors and implementers are increasingly recognizing the need to focus on the sustainability of their projects.

To investigate what factors most strongly influence the sustainability of a water point, CARE USA conducted a preliminary governance study across three countries: Ethiopia, Uganda and Mozambique. A Governance Snapshot Survey (GSS) was used in each country to assess functionality of the water points and quantify the extent of governance in each community. The GSS is a close-ended survey developed and tested by CARE USA consisting of twenty questions addressing governance domains of accountability, inclusivity, participation and transparency.

Accountability encompasses water committee existence and its operating functions. The **transparency** questions cover record-keeping, bylaws and guidelines that govern the committee, the community's knowledge of the committee and its role. Involvement of the community in the decision-making process for initial service provision, labor contributions and maintenance of the scheme are included in the **participation** section. Lastly the **inclusivity** questions covered how inclusive the committee is of all community groups, such as women and those of different ethnicity, age, socioeconomic status, etc. The responses were scored on a 3-point scale (1 = low, 3 = high). Other methods included water point observation in every community recording the

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following: type of improved water source, current functionality, taste of water, and construction date.

Results

There were an average of 92 respondents per country (Mozambique n = 84, Ethiopia n = 81, and Uganda n = 110), and the surveys were conducted in 2011 in Mozambique, Ethiopia and Uganda. In Mozambique and Uganda, about two thirds of the water points were functioning without difficulty at the time of the survey, and a slightly higher 73 percent of the water points were functioning well in Ethiopia.

Across all three countries, it was found that strong governance is associated with well-functioning water points, suggesting that governance is strongly related to sustainability. The average total governance scores were statistically significantly higher for communities that had well-functioning water points than for those communities with water points that functioned with difficulty or were not functioning at all. Specific governance factors that were most strongly associated with having highly functioning water points were:

Maintenance training

Training community members on how to fix a water pump was shown to be associated with increased sustainability. In all three countries, maintenance training was statistically associated with an increased probability of well-functioning water points. Specifically in Mozambique, water points were 2.1 times more likely to be functional if there had been a high level of basic maintenance training.

Committee existence and operations

The strong presence of a committee and its consistent reporting to the community was shown to increase, by about 30 percent, the probability of having a well-functioning water point in Ethiopia and Mozambique (statistically significant in Ethiopia but not in Mozambique). In Uganda, having a committee that meets regularly and that other people are aware of increases the probability of having a functioning water point by 121 percent.

Participation of women and other groups

In Ethiopia, including women in the decision-making process of the water scheme was linked to a 22 percent increase in the probability of functioning water points over communities that did not involve women in the decision-making process. This was also reflected in Mozambique (46 percent increase), although it was not shown to be statistically significant. Also in Mozambique, water committees that encompassed a wide realm of diversity and represented various groups in the community were 71% more likely to have functioning water schemes than communities that did not embrace such diversity. Ethiopia and Uganda did not show that diversity of the committee was related to increased sustainability.

Transparency of committee roles, elections, bylaws and general information sharing

In both Mozambique and Ethiopia, transparency of the water sector had the least impact on water point functionality. For Uganda, transparency actually had some significant results, and the inclusivity domain had the least impact. For example, in Uganda it was found that the existence and functionality of bylaws, guidelines, etc. led to a 63 percent higher probability that the community would have well-functioning water points.

Conclusion

Overall, across the three countries, the most important factors that were shown to be associated with increased sustainability of a water point were whether or not community members had received maintenance training and had confidence that they could repair the pump or knew where to seek additional support. Other significant results include the existence of a committee that meets regularly (of which the rest of the community is aware) is strongly associated with well-functioning water points over time. Including women and other marginalized members of the community was shown to be important for sustained functionality as well. It is clear that strong governance is an important predictor of the continued functioning of a water point, which is ultimately the goal of increasing access to safe water around the world.

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