

# INCREMENTAL IMPROVEMENTS TO COMMUNITY WATER SUPPLY SYSTEMS THROUGH COMMUNITY HEALTH CLUBS IN THE UMZIMKHULU LOCAL MUNICIPALITY

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## **ABSTRACT**

*According to recent assessments, Africa as a whole is currently on track to reach Goal 7 of the Millennium Development Goals, while South Africa in particular already halved the number of people without access to safe water in 2005. Despite this achievement, many rural communities throughout South Africa still lack access to this vital resource, which is exacerbated by a culture of dependency on and institutional limitations of local governments. One such area is the Umzimkhulu Local Municipality of the Sisonke District of the Kwa-Zulu Natal Province, where approximately 66% of the population has no access to water infrastructure of any kind and 99% have access below the RDP standards. To address this gap in coverage, AfricaAHEAD, under the Department of Water and Environmental Affairs' Integrated Water Resource Management project, piloted a Community Health Club (CHC) project to show how the CHC Approach can be utilized to address the historical backlog of water and sanitation service delivery in this rural municipality through the promotion of self-supply water schemes. After six months of structured WASH promotion, three out of the nine CHCs took the initiative to incrementally improve their available water sources and thereby began independently climbing the Water Ladder, while 59% of member households began boiling their household's drinking water. Through a process that changes social norms via structured communal dialogue and peer pressure, the CHC Approach provides communities with a platform from which they can unchain the shackles of dependencies and chart their own developmental course.*

## **INTRODUCTION**

For the first time since the Millennium Development Goals (MDG) were created in 2000, the number of people without access to safe drinking water has fallen below 1 billion, meaning that the world as a whole is currently on track to reach one half of MDG 7. However, much of this progress appears to have been made in urban areas, as 84% of those remaining without access live in rural areas, predominantly in Sub-Saharan Africa. In fact, the majority of countries throughout Africa have yet to achieve 50% coverage in rural areas, highlighting a serious gap in our efforts to reach this goal (1).

When we shift our attention to South Africa, it is clear that enormous improvements have been made. Before 1994, an estimated 30-40% of the population (~14-18 million people) was without access to adequate water supplies while water supplies in rural communities were often of poor drinking water quality (2). According to the Department of Water and

Environmental Affairs (DWEA), South Africa reached MDG 7 in 2005 when water service backlogs were halved, leaving an estimated 12% of the population without access to basic service levels (DWEA, unpublished). As of July 2009, the total number of people without access to any form of water infrastructure is approximately 2,113,880 (4% of the population), while an estimated 9% (4,693,780) have access to water supplies below the Reconstruction and Development Program (RDP) standards (3). While this progress at a national level is indeed impressive, many rural communities throughout vast stretches of rural Eastern Cape and Kwa-Zulu Natal (KZN) still lack access to this vital resource. DWEA currently estimates that 45% (957,371) of the total South African population without access to any water infrastructure can be found in KZN alone (3).

While it is clear that significant progress is necessary in rural areas, it must be understood that these are the areas where progress is typically the most difficult. Standard approaches to address this gap appear more often than not to be insufficient as local municipalities rarely have the financial or human resources necessary to implement classical supply-driven approaches. Therefore, it is time that the Government of South Africa began supporting self-supply water schemes that have successfully addressed this need in rural areas throughout the rest of the continent.

## **BRIDGING THE RURAL WATER SUPPLY GAP**

### Supply-Driven Approaches

During the 1960s and 1970s, most water service providers focused on increasing coverage through “supply-driven”, sector approaches that assumed governments, with support from non-governmental organizations (NGO) and International Organizations (IO) knew what was needed and could provide the maintenance and management capacity required (4). In most cases, the only solutions offered were complex and expensive, which left the majority of people, particularly in rural areas, without services of any kind (5). In addition, the high levels of poverty and low levels of political weight found throughout rural Africa meant that most sector programs ignored the rural areas all together (6). Where sector programs were instituted, it was common for boreholes to be sunk and water systems to be developed, only to find that after 5-10 years the systems had failed as a result of a lack of consultation with and participation by community members.

In South Africa, this situation has been further complicated by a culture of dependency created by government stating that all basic services, including water, will be provided free of charge to every citizen. While this is both noble and necessary, it has resulted in communal complacency and stresses an already overstretched system. As a result, many rural communities continue to take water from unprotected/unsafe sources in the hopes that government will provide better infrastructure in the near future. The impact of this waiting game has recently played out in many informal settlements around South Africa, where service delivery riots have left many local governments reeling. Finally, despite the passage of the Water Services Act and the resulting government decentralization, achieving equity in water service accessibility has become even more difficult as the requisite resources, technical skills and capacity are severely lacking at local municipalities throughout South Africa.

### Self-Supply Water

In contrast to the dependency syndrome in South Africa, community management through self-supply water systems has become the predominant paradigm internationally for public, rural water supply over the past two decades (7). Self-supply systems are defined as improvements to household or community water supply systems achieved through user investment in water treatment, supply construction and up-grading, and rainwater harvesting (6). It is entirely based upon community management (Box 1) and step-by-step, incremental improvements that are easily replicable and affordable at a household or communal level. In this way, households and communities are encouraged to move up the Water Ladder at their own pace (Figure 1). To date, self-supply schemes have successfully addressed the gaps in water service delivery in places such as Zimbabwe, Ethiopia, Ghana, Mali, Zambia, Uganda and Mozambique (6).

Box 1: Four key elements of community management (8)

- **Participation:** a large cross-section of the community participates in decision-making;
- **Control:** the community has direct control over strategic decisions;
- **Ownership:** the community has a sense of ownership of the infrastructure, or partial or full legal ownership;
- **Cost sharing:** community members contribute to the operation and maintenance costs.

As with any ladder, one must always begin at a lower level to achieve a higher level. A lack of understanding of this notion is one of the main problems of supply driven programs. By moving from low-technology sources to high technology sources (like boreholes or small town systems – utilizing pumps, tanks and taps), communities skip steps on the ladder and are therefore less likely to be able to operate and maintain these facilities on their own. When the system breaks down, they are then forced to return to their starting point on the ladder and wait for external support to move them back up. However, when self-supply schemes are utilized, communities move up each rung of the ladder at their own pace (with or without external support) and with technologies easily understood and managed at a local level, learning important lessons about construction, operation and maintenance along the way. In this way, if they do happen to backslide, they have a greater capacity to adjust and troubleshoot independently of external support.

Identifying the correct technology for a given context means performing a complicated balancing act between a number of different factors, including people's need for water, their ability to pay, their ability to maintain a system, and the existence of supporting institutions outside the community. The role of supporting agencies now shifts to that of technical advisor, providing advice and technical support about the appropriateness of different technologies. A self-supply technology is appropriate if it can do its job in an effective, efficient, equitable and sustainable manner (9), but the most important aspect is reparability and not reliability. In this way communities can continue to manage and maintain their water source(s) without the need for expensive parts and technical expertise.

The entire goal of self-supply is to allow communities to constantly strive for improvements, as they would with their household. In this way, water provision is no longer a project, but a process that can be planned for and implemented when time, resources and appropriate technologies are present. This allows communities to integrate their water

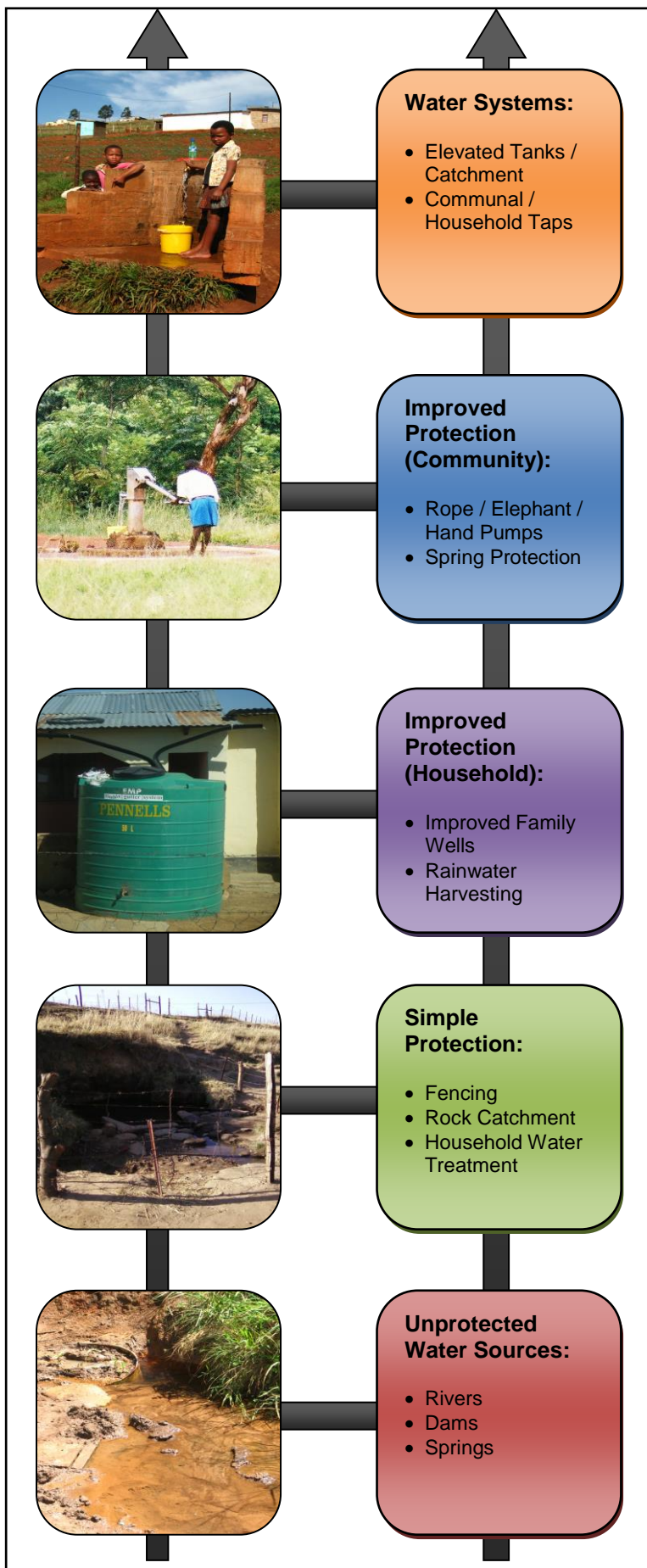


Figure 1: Water Ladder

improvement initiatives into their entire 'developmental plan', instead of viewing it as separate from other aspects of community development that should to be tackled independently of thoughts regarding food security or income generation. The skills and knowledge acquired in building capacity to develop and manage water systems can become a stimulus for further community-led development. In Indonesia and Honduras, self-supply led to the self-help construction of sanitary latrines, while successful water development in Guatemala was followed by income generation from coffee production, which provided further support for the upkeep and extension of the water system (5).

**SOFTWARE + HARDWARE = SUCCESSFUL SELF-SUPPLY**

The development of people is a parallel goal with the development of water because community management through self-supply water schemes is people-centered, focusing as much on 'software' as it does on hardware. Its success depends on the user community acquiring new knowledge and skills and the confidence to effectively apply and share them with others (5). In particular, it focuses on the development of management skills for maintenance of the supply and of standards of hygiene practice around it, and the building up of local artisan skills and entrepreneurship to provide long-term back-up to households and the

ability to replicate good quality affordable supplies whenever there

is demand (10). It is for this reason that self-supply water schemes are most successful when married with an appropriate community mobilization and Water, Sanitation and Hygiene (WASH) promotion program. One such approach that has had years of success in encouraging and supporting rural self-supply water schemes throughout Africa is the Community Health Club (CHC) Approach.

### Community Health Club Approach

First developed by ZimbabweAHEAD (Applied Health Education and Development) in 1995 to address the needs of rural communities, the CHC Approach is a structured program that utilizes WASH promotion as an entry point to holistic development. By combining time-tested Participatory Health and Hygiene Education (PHHE) activities and a specially designed toolkit of picture cards (necessary for illiterate populations) with the structure of weekly health promotion sessions with a dedicated group of 'learners' (Community Health Clubs), this approach stimulates sustainable behavior change through social pressure to conform that alters communal WASH norms and values. This 'Common-Unity' helps to establish a 'Culture of Health' that evidence has shown is sustained over time and is leveraged beyond the immediate goals of WASH programs (11, 12, & 13). In this way, the CHC Approach utilizes WASH promotion as an entry point to a process of development known as the AHEAD Methodology that involves a series of stages, whereby the CHC provides the structure, or acts as a vehicle, for a sequence of development initiatives, each stage building upon the successes and lessons learned from the previous (Figure 2).



Figure 2: The AHEAD Methodology to Development

The strength of the AHEAD Methodology is the staged approach outlined above, which from the outset of any project plans for water and sanitation provision. During the six months of WASH promotion, CHC members are encouraged to discuss a range of WASH issues, including a series of sessions specifically about water (the water ladder, water transportation, storage, treatment and maintenance, and water hygiene practices). This process enables members to gain a deeper understanding of water related issues and how these issues are contextualized within their community while encouraging them to work together to find solutions relevant to their lives and needs. This intensive WASH promotion approach results in the creation of a community-wide demand for improved water and sanitation resources based upon enhanced knowledge and practices, and not on a blind expectation of service delivery. The WASH promotion program culminates in a graduation ceremony for those members who attend every weekly health promotion, setting the stage for future development projects. Typically, graduates apply their newfound knowledge about water, sanitation and hygiene by improving their existing water

and sanitation infrastructure (Stage 2). Throughout the Manicaland Province in Zimbabwe for example, support for self-supply water schemes has been a constant as thousands of graduated Health Club members have been assisted with the technical knowledge necessary to construct Improved Household Wells, the most common form of self-supply water found in Zimbabwe.

To ensure appropriate operation and maintenance of these resources once improved, all community members are encouraged to join and complete the WASH training so that, over time, everyone will have benefited from improved knowledge and practices. In this way, CHCs are the perfect vehicle for laying a sustainable foundation of self-supply water because at their core, CHCs stimulate a process of social change that empowers communities to choose their own developmental direction and pace.

### **COMMUNITY HEALTH CLUBS AND SELF-SUPPLY WATER IN UMZIMKHULU**

In response to the need for access to and management of improved water resources, DWAE, with support from the Royal Danish Government (Danida), piloted an Integrated Water Resource Management project in three Water Management Areas (WMA) of South Africa. In September 2008, AfricaAHEAD (ZimAHEAD's sister NGO in South Africa), was invited to pilot a CHC project in the Umzimkhulu Local Municipality (the Mzimkhulu-Mvoti WMA). Historically a part of the Eastern Cape Province, Umzimkhulu was recently 'relocated' to KZN, under the management of the Sisonke District Municipality. Due to the mountainous terrain, poor road infrastructure and history of neglect under the Eastern Cape Province, water and sanitation service delivery in Umzimkhulu has been severely limited. Of the 6 local municipalities within Sisonke District, Umzimkhulu accounts for approximately 57% of the total water infrastructure backlog (3). In addition, DWAE estimates that approximately 66% of Umzimkhulu's population does not have access to any water infrastructure, while 99% fall below the government's RDP standards (3). One of the goals of this project, therefore, was to show how Health Clubs could be utilized throughout South Africa to address the historical backlog of water and sanitation service delivery in this rural municipality and to stimulate community-oriented and managed development initiatives.

While ten community facilitators were trained in January 2009 to each start one CHC in ten communities spread throughout Umzimkhulu, only nine CHCs remained active through the entire nine months of the project. With an average of 111 members registered per club, the total registered membership by September 2009, the end of the project, was 995 people. According to the baseline data collected from all registered members ( $n = 469$ ), 82% collected their water from an unprotected source, such as a river or spring, and did nothing to treat their water at a household level. Of these 995 members, approximately 538 (54%) were active throughout the entire 6 months of WASH promotion and 508 (52%) completed all 24 health promotion topics and were invited to graduate.

Over the course of the six months of WASH promotion, CHC members were challenged to begin addressing their self-identified, prioritized needs, of which provision of safe drinking water rated highest amongst all 9 CHCs. Using the knowledge obtained during the water sources and management sessions, members of three CHCs began to take self-initiated

steps to improve the safety of their water supplies (Figures 3 – 8). Figures 3, 5, & 7 show the common water sources from three communities at the start of the project in January 2009, all of which are unprotected springs. After seven months (August 2009), each of these clubs had begun incremental improvements to their water sources (Figures 4, 6 & 9).

In Ward 5 (Figure 4), club members developed a simple rock catchment for their spring using stones and a small amount of cement (purchased by the members themselves) to reduce overall wastage and begin the process of protecting their water. Club members indicated that the next step in their plan was to build a cover for this rock catchment using zinc or cement to better protect the water from contamination. In addition, club members created a channel to divert the excess water from this rock catchment to a nearby garden down the hillside (not pictured). Since the available spring in Ward 7 (Figure 6) is perennial and abundant, but livestock routinely raid the source, club members took the step of fencing the area off. This simple improvement cost the members little more than time as the fencing was taken from an inactive garden of one of the members and moved them one step up the water ladder. Finally, in Ward 2 (Figure 8),

CHC members took the most impressive step forward of all the clubs by setting up an informal piped catchment system directly from the spring, diverting the water into a blue plastic drum. At the bottom of the drum they fitted an additional pipe that fed gardens lower down the hillside through a simple gravity fed system.



Figure 3: Ward 5 Before



Figure 4: Ward 5 After



Figure 5: Ward 7 Before



Figure 6: Ward 7 After



Figure 7: Ward 2 Before



Figure 8: Ward 2 After

While none of these improvements would be considered perfect or truly safe, they are pure examples of the incremental steps associated with self-supply water schemes. All investments were made with club resources, all decisions were made in conjunction with the CHC Executive Committees and all construction was carried out by club members themselves. In addition, two of these water systems were developed with an aim towards providing their community with water beyond household uses, foresight that is typically missing from supply-driven approaches. In the end, each community owned the entire process and is now better positioned to effectively operate and maintain these systems, while continuing to make improvements based upon their current context and needs.

Although only three of the CHCs have undertaken these self-initiated, incremental improvements to their water supply as a group, the majority of registered club members have begun to improve their water quality individually at home through point of use water treatment. In August 2009, 59% of active CHC members reported that they were now drinking safe water, a 41% increase from baseline, meaning that they were now treating their water at home. In the majority of households, this meant that they were boiling their drinking water, but a few reported that they were now using Jik or chlorine tablets. As an integral part of self-supply water schemes, household water treatment is a necessary step to achieving safe water that compliments the incremental infrastructure improvements to actual water supply systems/sources. Overall, CHCs lay an appropriate foundation of enhanced knowledge, community dialogue, integrated problem solving and structure, 'Common-Unity' in short, for self-supply water schemes to succeed.

## **CONCLUSION**

While significant gains have been made towards achieving the MDG water goal, it is clear that the most challenging work lies ahead as we seek ways to close the water gap in rural areas throughout Africa. While every citizen has a right to safe water, provision of this resource should be made in such a way that is both sustainable and beneficial to each community's needs. Therefore, the development of water resources should be considered part and parcel of every community's overall development and not seen as a separate project. Communities should be empowered through participatory processes, such as the Community Health Club approach, to undertake self-supply water schemes that allow for a parallel growth in knowledge and infrastructure that will have lasting effects well beyond that of simple water provision. DWAEs support of this pilot project should serve as an example of how government can create an enabling environment for communities, local government and NGOs to collaborate so as to address the specific water needs of rural communities. Only through projects like this one that emphasize communal self-sufficiency and empowerment will it be possible to break the paralysis of dependency that both rural and urban communities face throughout South Africa, thereby allowing underserved and underdeveloped communities to flourish under a banner of their own design. Only when people take control of their own health will they have the motivation to chart their own developmental course.



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