

**INTERNATIONAL RESCUE COMMITTEE  
WATER SUPPLY AND HYGIENE EDUCATION FOR THE CITY OF KANANGA**

**FINAL REPORT FOR USAID  
(October 2000 through December 2001)**

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## **I. Executive Summary**

**PROJECT TITLE:** WATER SUPPLY AND HYGIENE EDUCATION FOR THE CITY OF KANANGA

**IMPLEMENTING AGENCY:** INTERNATIONAL RESCUE COMMITTEE (IRC)

**AREA OF ACTIVITY:** KANANGA, KASAI OCCIDENTAL, DR CONGO

**BRIEF DESCRIPTION:** The city of Kananga has a critical problem of water quality and availability for its estimated population of 800,000. Combined with poor hygiene practices, this has resulted in high morbidity and mortality for the population, especially for children under five. The project addressed this problem by improving water quality and accessibility and by promoting improved health and hygiene practices.

Before the scheduled termination of the project in March 2001, a modification in the budget was requested to complete originally proposed activities and to construct 15 supplementary water points. The modification also provided an opportunity to address additional critical needs in Kananga and its environs by improving sanitary conditions in the Kananga central market and by providing water to a nearby village.

**OBJECTIVES:**

1. To reduce the incidence of morbidity and mortality due to water borne diseases by promoting better health and hygiene practices.
2. To reduce the incidence of morbidity and mortality due to water borne diseases by increasing the quantity and improving the quality of household water available to the population of Kananga.
3. To increase the sustainability of water supply facilities.
4. To improve the sanitary conditions of the Kananga central market by rebuilding certain infrastructures including toilet facilities.
5. To provide water to the Catholic mission and village of Muamba Mbuyi 30 kilometers from Kananga.

**BENEFICIAIRES:**

- The implementation of project activities has provided potable water to an estimated 30,405 persons per day, or almost 4% of the population.
- Almost 40% of households were exposed to messages regarding improved health and hygiene practices.
- The improvement of sanitary conditions at the central market will impact that portion of the population of Kananga and people from surrounding villages that use the market.
- The provision of water to Muamba Mbuyi will improve access to potable water for the 3,500 inhabitants of that village plus orphans and health and education clients serviced by the Catholic mission.

**Objective #1:** To reduce the incidence of morbidity and mortality due to water borne diseases by promoting better health and hygiene practices.

**Indicators and Current Measure:**

Over 140 health and hygiene education sessions were conducted with over 5,000 participants. These were supported by 77 radio and eight television broadcasts and the distribution of over 1,000 picture books. The promotion campaign was conducted by members of IRC's ten NGO partner organizations who were trained in Information, Education, and Communication (IEC) strategies and techniques.

Fifteen percent of households interviewed post-intervention reported having participated in at least one hygiene education session. Almost 40% reported hearing about water hygiene on the radio, 25% said that they listened to at least two radio programs about hygiene and sanitation.

**Objective #2:** To reduce the incidence of morbidity and mortality due to water borne diseases by increasing the quantity and improving the quality of household water available to the population of Kananga.

**Indicators and Current Measure:**

A total of 76 springs were protected throughout the city with gravel filters and caps. Four cisterns were constructed, three with the capacity to hold 150 cubic meters of water and one with the capacity to hold 120 cubic meters of water. It is estimated that combined these water points serve 30,412 persons a day. As REGIDESO was providing water to less than 32,000 persons before the intervention, project activities almost doubled the number of people accessing potable water in Kananga.

**Objective #3:** To increase the sustainability of water supply facilities.

**Indicators and Current Measure:**

A total of 12 local NGOs, including two women's NGOs, received formal training and informal mentoring in the construction and management of improved water sources. These NGOs went on to train 76 water committees in the proper financial management and maintenance of the sources. Local construction firms were provided with critical business opportunities, which improved their capacity to operate.

**Objective #4:** To improve the sanitary conditions of the Kananga central market by rebuilding certain infrastructures including toilet facilities.

**Indicators and Current Measure:**

The four central hangars of the market were repaired and fitted with a new galvanized steel roof. The septic systems for eight toilets were cleaned out and the toilets repaired and connected to a six meter cubed cistern, which will ensure the availability of water for flushing and hand washing.

**Objective #5:** To provide water to the Catholic mission and village of Muamba Mbuyi 30 kilometers from Kananga.

**Indicators and Current Measure:**

The existing source was capped and equipped with a sand and gravel filter. A 12 cubic meter storage tank was built next to the source and the infrastructure necessary for the installation of an electric pump in place. A water tower with an eight cubic meter capacity and three tap stands, one at the orphanage, one in the village, and one at the mission, were built. The Catholic mission has purchased the pump but as of the writing of this report it was not yet in place.

## **II. Program Overview**

Kananga, a city with roughly 800,000 inhabitants, is the capital of the province of Kasai Occidental. While there are many springs flowing through all of the city's neighboring zones, a lack of the infrastructure required to properly manage the water means that the population does not have access to a sufficient quantity of potable water. Furthermore, the use of water that is not potable and poor household and community hygiene practices have led to elevated rates of diarrheal diseases.

Therefore, the water supply project for the city of Kananga had three main objectives:

- to promote better hygiene and health practices,
- to increase quantity and quality of drinking water,
- to maintain the sustainability of the water supply system.

While project activities were originally scheduled to terminate at the end of March 2001, IRC requested additional funds to finance operations in order to complete the construction of two of four originally proposed cisterns. Under this modification (Phase II of the project) IRC also requested the funds necessary to construct an additional 15 sources in the city and, in consultation with the USAID mission in Kinshasa, to add two new objectives to the project. These were:

- to improve the sanitary conditions of the Kananga central market by rebuilding certain infrastructures including toilet facilities,
- to provide water to the Catholic mission/orphanage and village of Muamba Mbuyi 30 kilometers from Kananga.

In order to achieve its objectives, IRC partnered with a variety of local organizations, developing their technical and management capacities through formal workshops, informal mentoring, and the provision of valuable business opportunities. IRC worked with 12 different local NGOs, a construction firm, the Catholic Church, the office of the governor of the province, and the REGIDESO of the city. These local organizations were responsible for the implementation of all program activities with oversight from IRC.

### **III. Program Performance by Objective**

**Objective #1:** To reduce the incidence of morbidity and mortality due to water borne diseases by promoting better health and hygiene practices.

During the first phase of the project a Knowledge, Attitudes, and Practices (KAP) survey was conducted by the School of Public Health (SPH) of Kinshasa and used to develop IEC strategies and messages based on existing attitudes and behaviors. The ensuing campaign was implemented by community educators from IRC's ten local NGO partners, who were trained in IEC strategies and techniques. It focused on the themes of the link between water, hygiene, and diarrhea, the importance of using water from improved sources as opposed to surface water, and of protecting and maintaining sources as a community. Also covered were proper personal and household hygiene practices such as hand washing and sanitary water transportation and storage.

#### Indicators Phase I:

1. 180 health and hygiene training sessions conducted for over 7,000 participants.

Over 140 health and hygiene sessions were conducted with a total of over 5,000 participants during the first eight months of the project period. Initially, information was provided at community and religious gatherings but this format was changed to the delivery of messages to small group assemblies conducted in health centers in conjunction with the health zone personnel.

The initial tactic of providing information at community and religious gatherings would have allowed educators to conduct the number of sessions, attended by the number of participants, necessary to obtain the project target. It was noted however, that the forums were not conducive to quality message transmission and subsequent comprehension. It was therefore decided to work with smaller groups at health service delivery points, in order to ensure that messages were understood. This meant that the targeted numbers were not obtained.

2. A minimum of 120 radio and 24 television emissions broadcast on improved hygiene practices.

Community education efforts were supported by a total of 77 radio and eight television broadcasts and the distribution of over 1,000 picture books. This was the maximum mass media coverage allowed by the budget.

3. 2,000 women/head of households educated through 60 training sessions on the use of oral rehydration solution for children suffering from acute diarrhea.

While initially the use of oral rehydration solution (ORS) was promoted by community education agents this was terminated when UNICEF discontinued its ORS distribution program and the solution was no longer available in Kananga.

4. 10 community-based organizations' abilities improved to promote better health and hygiene practices.

Two community educators from each of the ten local NGOs that partnered with IRC were trained in IEC strategies and techniques over the course of five days. The training was developed and facilitated in collaboration with the provincial medical inspector, water and sanitation agents from each of Kananga's four health zones, the WHO, and the provincial committee for social mobilization and the environment. In addition to representatives of each of IRC's ten partner NGOs, health zone agents, representatives from a local women's organization, and a representative from the community also attended the training. Subjects covered included IEC and social mobilization strategies and techniques and the basic physiological theory behind the link between hygiene and diarrheal diseases.

5. An estimated 50% of households in Kananga exposed to improved health and hygiene practices and the relationship between water, hygiene and personal health.

The SPH conducted a post intervention rapid survey in November 2001 to evaluate the impact of project activities. This exercise included focus group discussions, a mini survey, and key informant interviews. The mini survey was conducted in ten randomly selected districts out of 40 districts in the urban portions of the city of Kananga. Thirty households were randomly selected from within these ten districts for a total of 300 households surveyed. Fifteen percent of those households interviewed reported having participated in a hygiene education activity, the majority having attended a session at a

health center or at church. Almost 40% of those surveyed reported hearing about water hygiene on the radio, 25% said that they listened to at least two radio programs about sanitation.

Phase II Indicators:

1. 180 health and hygiene training sessions conducted for over 7,000 participants.

While initially foreseen, IRC-financed IEC activities were not conducted during phase two of the project, a delay in the signing of the Modification of Assistance request required that this activity be cut in order to recover operating costs. (As indicated in letters dated August 23, 2001 and October 8, 2001 from Werner Vansant, IRC to Baudouin Kutuka, USAID and discussed with Francis Kavulu, USAID on November 16, 2001.) NGO partners however, continue community education efforts regarding the use, management, and protection of those sources that they built.

**Objective #2:** To reduce the incidence of morbidity and mortality due to water borne diseases by increasing the quantity and improving the quality of household water available to the population of Kananga.

During the first phase of the project 47 members of IRC's ten partner NGOs and other organizations were trained in the technical and social aspects of working with local communities to protect existing springs. The training was conducted by *Action pour le Developpement des Infrastructures et Rehabilitation* (ADIR), a Mbuji Mayi based NGO that has worked for UNICEF and the European Union on water and hygiene programs in Kananga, and included the identification of water related problems and solutions in collaboration with the community, the organization and implementation of spring improvements, and spring maintenance and management.

These NGOs were then provided with the cement, tools, and specialized labor salaries required for the construction of gravel filters and caps for a total of 75 water sources throughout the city. The communities surrounding the sources provided the sand, gravel, and unspecialized labor. At one source the community also provided the cement and the NGO provided the specialized labor so that while only 75 sources were financed by IRC, 76 sources were actually protected.

The Archdiocese of the Catholic Church of Kananga and the Victoria Engineering Business (VEB), both of whom have extensive construction experience in the city of Kananga, were contracted to construct four cisterns in the city for the centralized distribution of REGIDESO water.

Phase I Indicators:

1. Improvement (by spring capping) of 60 water sources capable of providing over 1 million liters of potable water per day to approximately 120,000 people.

A total of 60 springs all over the city of Kananga were improved by IRC's ten NGO partners by the end of the first phase of the project. The selection of those sources to be improved was based on a variety of factors including the population density around the source, the availability of water points in the vicinity, and the yield, accessibility, risks for pollution, and topographical position of the sources.

The SPH's post intervention evaluation included the recording of the use of three improved sources over the month of September 2001, which indicates an average of 373 persons per day served by each source. Multiplied by 60 provides an estimate of 22,380 persons accessing potable water per day. This figure is somewhat lower than the estimated number of persons that would be served by the sources and indeed the number of people that the sources are capable of serving. This may stem from the fact while access has been greatly improved, distance and the fees that are required to pay for the water continue to act as barriers.

Sixteen additional sources were constructed by four of the original ten local NGO partners as part of the extension of the project. With the addition of 16 sources protected an additional 5,968 persons acquired access to potable water. This increased the total number of persons accessing protected sources per day to 28,348.

2. Construction of 4 water reservoirs capable of providing 300 cubic meters of potable water per day to approximately 30,000 people.

Three cisterns, with the capacity of holding 150 cubic meters of water and one cistern with the capacity of holding 120 cubic meters were constructed during the project period. These cisterns are filled by REGIDESO and together serve an average of 12,000 liters of water each to a total of 2,064 persons per day. This number is also somewhat lower than IRC's target and than the capacity of the cisterns. Based on feedback provided to the SPH in focus group discussions, this too may be due to fees required as well as the management of the cisterns.

3. Access to improved water quality, at shorter distances and on a more regular basis, for an estimated 150,000 people in Kananga.

While the number of households served each day is not as high at that which had been foreseen, it is clear that project activities have had a positive impact on the population's access to potable water. The School of Public Health's post intervention mini survey indicates that 60% of those households interviewed report that they now obtain water from a protected spring or well, as opposed to 33.8% in the pre intervention survey. Post intervention, only 33.2% of those surveyed reported using water from an unprotected spring, well, or surface water source. Additionally, 41.2% of those households interviewed indicated that their average water consumption has increased over the project period, a critical condition for the reduction of diarrheal diseases.

The School of Public Health also conducted ten focus group discussions with housewives, youths, heads of households, NGOs, and health officials. The majority of those that participated in focus group discussions agreed that quality water is more available and easier to access since the intervention of IRC. This is particularly true of housewives and young girls who say that they spend less time obtaining water now than they did before the intervention.

Those that do not feel that access has been improved, including heads of households and some housewives, cite the facts that fees are requested for water and that newly protected sources do not serve the entire city. The majority of focus group participants, including 100% of health officials, claim that there has been a reduction in the incidence of diarrhea among children under five years old since the implementation of project activities. Heads of households did not agree, again citing the fact that fees for water reduce access to potable water.

4. Double the daily quantity of potable water available to the population of Kananga by the end of the project.

Before the project intervention REGIDESO estimated that it was able to provide potable water to less than 4% of the population of Kananga (less than 32,000 persons). IRC's interventions allow an additional 30,412 people to access to potable water, almost doubling the number of persons served.

Phase II Indicators:

See Phase I Indicators.

<b>Objective # 3:</b> To improve the sustainability of water supply facilities.
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Every aspect of the project was implemented by local organizations, which significantly increased the local capacity for the construction and maintenance of water supply facilities. Throughout the project IRC's ten NGO partners received training in collaborating with local communities to assess water needs and construct spring caps, designing and implementing IEC campaigns to promote proper community and household hygiene practices, and the management of cost recovery water delivery systems. The NGOs then trained and mentored individual source management committees in cost recovery and financial management techniques.

Two local women's groups, the NGOs *Ba Mamu Tabulukayi* and *Département Femme et Famille* (DFF) of the Christian church of the Congo also received management training and the opportunities that accompany the administration of water sales at the cisterns. Furthermore, local institutions such as the Archdiocese and VEB, who were contracted to construct the cisterns, were provided with valuable business opportunities, which allowed them to increase their profit margins and subsequently their capacity to operate.

### Phase I and II Indicators:

1. Local NGOs responsible for improving and managing sources generate enough money from the sale of water to sustain an ability to improve and manage additional sources and continue education activities.

By the end of the project all of the 76 sources capped had fee collection systems in place and were generating income for their management committees. The fees collected are however, held by individual source management committees for use in financing the administration and upkeep of each source and are not accessible to IRC's NGO partners. The NGOs that constructed the sources follow up with these committees to ensure proper management.

2. Local NGOs maintain the technical capacity to improve and manage additional sources.

IRC's partner NGOs were trained in the capping of springs, practically applied the techniques that they learned by constructing caps, and were provided with feedback from IRC's engineer and an independent consultant engaged to evaluate their work in April 2001. All of these NGOs have demonstrated the technical capacity required to independently cap water sources. Those four that demonstrated a higher technical capacity than others were selected to cap an additional 16 springs during the project extension and will be engaged by IRC to cap springs as part of health facility structural improvement activities that it intends to carry out in the region.

These same NGOs also received training in community-based development processes and training and follow up mentoring from the *Institut national pour le développement économique et social* (INADES) in small enterprise development. This training included the elaboration of a business plan and the development of management procedures, systems, structures, and tools. They currently work with the communities around the 76 improved springs to manage the water facilities.

3. Long term management plans for all sources are developed with the participation of the NGOs, the community and REGEDISO.

Plans for the management of all of the 76 water sources protected have been elaborated by management committees, made up of members of the communities surrounding each source, with input from the NGO that protected the source. Plans for the management of the cisterns and accompanying water points have been elaborated by REGEDISO and *Ba Mamu Tabulukayi* and DFF, the two organizations responsible for managing the cisterns. Plans include the administration of cost recovery systems and the establishment of fees, the maintenance of facilities, and the management of revenue.

4. Micro enterprises are developed for the daily management and maintenance of water sources thus providing a source of income for a number of people throughout the city.

The committees that manage the water sources are operated as small micro-enterprises, generating income and paying salaries for the oversight of activities.

**Objective #4 (Phase II):** To rebuild key structures in the Kananga central market, including the central hangars and the sanitation facilities.

The office of the governor of Kasai Occidental implemented the activities related to this objective with technical and material support from, and oversight by, IRC. The activities were designed to improve hygiene conditions at the Kananga central market, an intervention that was considered critical to overall project efforts to lower the incidence of diarrhea in the city. Because of the short timeframe of Phase II of the project however, it was considered impractical to attempt to evaluate the impact of the intervention and indicators were limited to those that measure output.

Indicators:

1. A rebuilt and operational butcher shop.

There was a delay in the signing of the Modification of Assistance request and therefore this activity was cut in order to recover operating costs. (As indicated in letters dated August 23, 2001 and October 8, 2001 from Werner Vansant, IRC to Baudouin Kutuka, USAID and discussed with Francis Kavulu, USAID on November 16, 2001.)

2. Four reconstructed hangars.

The pillars of the market were repaired and a new galvanized steel roof mounted on the four central hangars.

3. The existence of eight functioning latrines.

The entire septic systems were cleaned for two blocks of four toilets each and all facilities repaired. The Turkish flush toilets are now connected to a cistern (see below) to ensure the availability of water so that they can be flushed. The system is maintained by the market committee, which collects fees and has a source of income to pay for any maintenance costs.

4. The installation one six cubic meters cistern.

By the end of the project period the bulk of the construction of a six meters cubed cistern, placed next to the toilets, was completed. The cistern is constructed so as to collect rainwater from the market roof. It is equipped with a faucet and provides water to flush

the toilet and wash hands. The office of the governor oversaw the completion of the construction after the termination of IRC support.

**Objective #5 (Phase II):** To provide water to the Catholic mission and village of Muamba Mbuyi, 30 kilometers from Kananga.

IRC supported the Catholic mission in the development of a system to provide potable water to the village of Muamba Mbuyi, population 3,500, and to the mission compound. The mission's clients, who utilize its primary and secondary schools, center for maternal health, old persons home, orphanage, boarding school for girls learning vocational skills, and convent, all have access to the water.

Indicators:

1. Improvement of existing source.

The existing water source has been recapped and equipped with a sand and gravel filter.

2. Storage capacity of approximately 37 cubic meters.

A storage tank has been constructed at the source with the capacity to store 12 cubic meters of water and this will be connected by pump to a water tower with the capacity to store eight cubic meters for a total storage capacity of 20 cubic meters. This is less than the targeted 37 cubic meters because while originally the repair of an existing cistern on top of the water tower was foreseen, this proved unfeasible and a new one was constructed; budget constraints dictated the size, which was smaller than anticipated.

3. Installation of pump and water distribution system.

The pump house has been constructed and the electrical cable and fittings furnished. The Catholic mission is responsible for procuring the pump, which at the writing of this report had been purchased but not yet delivered to Muamba Mbuyi from Kinshasa airport.

The water distribution system is in place with a storage tank to stock water that has come from the source and passed through the filter. From the tank the water will be pumped to a water tower and then flow to three water points, one in the village market, one at the orphanage, and one at the mission. The mission will manage and maintain the system.

4. Running water at the Catholic mission service centers and two tap stands in the village.

While IRC left the infrastructure required to ensure the presence of running water in the village and at the mission, the fact that the mission has yet to install a pump is a significantly limiting factor in the attainment of this target.

## **IV. Lessons Learned**

### *Issues of Fees for Water and Control over Sources*

In addition to those constraints indicated above, one of the most challenging aspects of the project has been the development of systems to manage, regulate, and recover costs from the sale of water. The recovery of operating costs is necessary to ensure the sustainability of water deliver services but the notion that water should be paid for has been resisted by members of the community who cite fees as a barrier to access. This resistance was addressed by the IEC campaign, which stressed the importance of consuming treated or protected source water and the financial and health costs of drinking that which is contaminated.

Furthermore, charging fees for water and thereby rendering it a commodity has increased the challenge of management as it has led to struggles over the control of the water and its pricing. Local leaders for example, tried hard to assume control over the protected sources and blocked the establishment of community committees. IRC and its local NGO partners solicited assistance from authorities at the city and provincial levels, who intervened and applied pressure so that local leaders would acknowledge the legitimacy of the water committees.

Likewise, the regional REGIDESO office tried to assume control over the sale of water from the cisterns so that the intervention of the provincial government and senior REGIDESO management was required. A contract between IRC and REGIDESO was signed giving control of the distribution infrastructure and sale of water to two local women's NGOs. REGIDESO then overcharged these NGOs for the water it provided to the cisterns, forcing them to overcharge at the tap and decreasing the accessibility of the water. This too was addressed however and by the end of the project REGIDESO and the two NGOs that manage the sale of water from the cisterns had negotiated reasonable fixed rates for water.

It should be noted that future projects that develop water systems that recover costs so as to facilitate sustainability must be accompanied by extensive IEC activities and must have the buy-in of community members and authorities at all levels. The water supply for the city of Kananga project had strong support from the office of the provincial governor from the start and it was the intervention of this influential office that enabled community water committees to resist pressure from local authorities and retain control over the management of and fee collection at the 76 sources and four cisterns.

### *Evaluating Impact of IEC Activities*

IRC's partnership with the School of Public Health (SPH), which interviewed the targeted population to identify IEC needs and then followed up with a post-intervention evaluation to measure the impact of project activities, was a positive one. It allowed IRC to develop IEC messages that were relevant for the population and would address specific, existing issues and it allowed IRC to better define concerns such as the

resistance to fees for water. In the future however more thought might be given to the actual use of pre and post intervention data collected and in turn to the manner in which it is collected.

At the outset of the project the SPH conducted a full scale KAP survey of the population of Kananga interviewing 2,500 households. The data collected was quantitative including percentages of households engaged in different types of hygienic behavior (or not) and children with reported incidences of diarrhea. This data was useful in the development of IEC strategies and designs, but less expensive and time consuming rapid assessment techniques could also have been used for this purpose.

At the end of the intervention SPH was indeed forced, because of a lack of funds, to use these less expensive rapid assessment techniques. The result is that the figures representing the percentages of the population engaged in proper hygienic behaviors or experiencing diarrhea obtained pre intervention cannot really be compared to percentages post intervention because of the use of the two different methods to collect data. In any case IRC conceded at the outset of the project that the timeframe was too short to realize any measurable changes in behavior or incidence of diarrhea. Of those behaviors that could have been expected to change, such as more frequent, less time consuming access to potable water, only the frequency of the use of various types of water sources was measured.

Perhaps a more effective use of the SPH's expertise would have been to contract the school to use rapid assessment techniques, including mini surveys and focus group discussions, at the beginning of the project in order to develop pertinent IEC messages and uncover potential issues surrounding the proposed sale of water. Then the same exercise could have been conducted at the end of the project. The impact on hygiene behavior was not expected to be great after the limited time period provided for IEC activities and rapid assessment techniques (including measuring use at water points) would have provided sufficient data to gauge the change in level of access to water.

IRC as an organization has recognized the need for improvement in the area of the monitoring and evaluation of results and impact of programs and has developed a headquarters-based unit to coordinate efforts to improve design, monitoring, and evaluation (DME) efforts globally. In Kinshasa this has resulted in the fairly recent engagement of a DME Coordinator to ensure that projects are designed in a way that facilitates the monitoring of progress and the evaluation of impact and that indicators are properly and regularly measured. In the future it will be the responsibility of the DME Coordinator to work with partners like the SPH to maximize the suitability and usefulness of evaluation tools.

## **V. Impacts of the Project on the Environment**

The community-based nature of project activities resulted in an impact on the social, political, and economic environments of the city of Kananga. In terms of social impact, activities have bestowed certain individuals and communities with ownership over their

own water resources. The capping of the sources was done in collaboration with local communities, which contributed labor, gravel, and sand. Individuals that participated in post intervention focus group discussions cited contributions of labor, bricks, the protection of the sources against misuse and contamination, and payment for water in order to ensure funds for maintenance. Water committees, made up of members of the community, were established and trained to manage sources, keeping the control of local resources local.

While impossible to measure currently, there may be political ramifications resulting from the fact that the control of the water sources remains in the hands of the members of the community and not necessarily in those of traditional administrative and religious authorities. The committees provide an example of the kind of community-based organizations that are increasingly providing services in the DRC's urban areas in response to the lack of any centralized, government-supported efforts.

The impact of the program on the economic environment was also increased due to the community-based nature of activities. IRC contracted a local engineering firm to train its NGO partners in the technical aspects of spring improvement and contracted a local capacity-building NGO to train them in the areas of management and finance. Additionally, IRC hired two local organizations, the Catholic Archdiocese and VEB, to construct the four cisterns. All of these local organizations benefited from the short-term income generated by the implementation of activities and will continue to benefit from the experience and expertise gained. Finally, community water committees and two local women's organizations will continue to generate income from the sale of water.