

PD-ABS-333  
105405



# INTERNATIONAL RESCUE COMMITTEE

122 East 42nd Street • New York, NY 10168-1289  
Tel: (212) 551-3000 Fax: (212) 551-3180 E-mail:irc@intrescom.org

## BOARD OF DIRECTORS

- \*JOHN C. WHITEHEAD  
*Chairman*
- \*LEO CHERNE  
*Chairman Emeritus*
- \*WINSTON LORD  
*Vice Chairman*
- LIV ULLMANN  
*Vice Chairman, International*
- \*JAMES C. STRICKLER, M.D.  
*Chairman, Executive Committee*
- \*REYNOLD LEVY  
*President and Chief Executive Officer*
- ROBERT P. DE VECCHI  
*President Emeritus*
- \*PETER W. WEISS  
*Treasurer*
- \*GEORGE F. HRITZ  
*Counsel*
- \*CHARLES STERNBERG  
*Secretary*
- \*NANCY STARR  
*Assistant Secretary*
- \*MORTON ABRAMOWITZ  
ERNESTO ALVAREZ  
F. WILLIAM BARNETT  
\*ALAN BATKIN  
GEORGETTE BENNETT-TANENBAUM  
\*GEORGE BIDDLE  
\*VERA BLINKEN  
W. MICHAEL BLUMENTHAL  
\*BEVERLEE BRUCE  
NESTOR CARBONELL  
ROBERT M. COTTEN  
JODIE EASTMAN  
KATHERINE G. FARLEY  
SANDRA FELDMAN  
THEODORE J. FORSTMANN  
\*TOM GERETY  
HENRY GRUNWALD  
MORTON I. HAMBURG  
RICHARD HOLBROOKE  
\*MARVIN JOSEPHSON  
ALTON KASTNER  
IRENA KIRKLAND  
HENRY A. KISSINGER  
THOMAS G. LABRECQUE  
TOM LANTOS  
THEODORE LI, M.D.  
ROBERT E. MARKS  
\*LUCRETIA MARTIN  
ROMAN MARTINEZ IV  
KATI MARTON  
JAY MAZUR  
W. ALLEN MOORE  
DANIEL PATRICK MOYNIHAN  
ROBERT B. OAKLEY  
SARAH O'HAGAN  
\*LIONEL OLMER  
\*CATHERINE O'NEILL  
CLAIBORNE PELL  
DAVID L. PHILLIPS  
DAVID N. PINCUS  
\*JOHN RICHARDSON  
JAY SCHULBERG  
ISADORE SCOTT  
JACK SHEINKMAN  
\*DOLORES C. SMITHIES  
STEPHEN J. SOLARZ  
H. PETER STERN  
LOUIS W. SULLIVAN, M.D.  
\*LEE COPLEY THAW  
JOHN TRAIN  
\*GEORGIA TRAVERS  
WILLIAM J. vanden HEUVEL  
\*DANIEL WEINER, M.D.  
EDWIN J. WESELY  
JOSH S. WESTON  
ELIE WIESEL  
\*JONATHAN WIESNER  
GUY P. WYSER-PRATTE  
\*Executive Committee
- SENIOR STAFF
- SHEPPIE ABRAMOWITZ  
*Vice President, Government Relations*
- EDWARD P. BLIGH  
*Vice President, Communications*
- KATHLEEN BURCH  
*Vice President, Development*
- ROBERT J. CAREY  
*Vice President, Resettlement*
- RICHARD LA ROCHE  
*Vice President, Chief Financial Officer*
- LOUISE SHEA  
*Vice President, Human Resources*
- BARBARA SMITH  
*Vice President, Overseas Programs*
- SUSSAN KHOZOURI  
*Director, International Development*

June 20, 2000

Mr. Timothy McRae  
USAID/BHR/Office of Foreign Disaster Assistance  
Ronald Reagan Building  
1300 Pennsylvania Ave., N.W. - Rm 8.06  
Washington D.C. 20523-6001

**Subject: Final Report for Award No. AOT-G-00-99-00162-00**

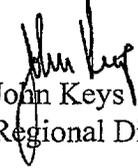
Dear Mr. McRae:

Please find enclosed the final program report for IRC's South Kivu Essential Needs Project: Award No. AOT-G-00-99-00162-00. The report details the program's progress on each of its two major objectives during the period July 1, 1999 to February 29, 2000.

Please do not hesitate to contact me should you have any questions or require additional information.

On behalf of the IRC DR Congo program, thank you for OFDA's continued support.

Sincerely,

  
John Keys  
Regional Director

cc: Ms. Barbara Hicks, OFDA, Program Support Division  
Mr. Greg Gottlieb, OFDA-Nairobi  
Ms. Kate Farnsworth, OFDA- E. DROC  
Mission Director, USAID/DROC-Kinshasa  
Kinshasa, State Department, Washington, DC  
Mr. Michael Despines, IRC, DR Congo  
USAID/PPC/COI&DI

Afghanistan Albania Austria Azerbaijan Bosnia-Herzegovina Burundi Congo-Brazzaville Cote d'Ivoire Croatia  
Democratic Republic of Congo Federal Republic of Yugoslavia Georgia Guinea Guinea-Bissau Hungary Italy Kenya  
Liberia Pakistan Rwanda Sierra Leone Somalia Spain Sudan Switzerland Tanzania Thailand Uganda United Kingdom  
Atlanta Boston Charlottesville Dallas Los Angeles Miami New York City Phoenix Salt Lake City San Diego  
San Francisco San Jose Seattle Washington, D.C. West New York, N.J.

Contributions to the International Rescue Committee, Inc. are tax deductible.



A

**Final Report**  
**July 1 1999 – February 29 2000**

❖ **Executive Summary**

**Organization:** International Rescue Committee  
**Date:** May 31, 2000

**Mailing Address:**

IRC-DR Congo  
 C/O IRC-Kigali  
 B.P. 2961  
 Kigali, Rwanda

**Contact Person:** Michael Despines  
**Sat/Tel:** 871 761 274 690  
**Sat/fax:** 871 761 274 691  
**Internet:** ircbukavu@compuserve.com

<b>Program Title:</b>	South Kivu Essential Needs Project
<b>Grant No.:</b>	AOT-00-99-00162-00
<b>Country/Region:</b>	Democratic Republic of Congo (South Kivu province)
<b>Disaster/Hazard:</b>	Inadequate Provision of Potable Water to Vulnerable Populations
<b>Time Period of Report:</b>	July 1 1999 – February 29 2000

**Objective 1:**

- a) To increase the potable water supply to 10 liters per person per day to 12,000 displaced Vyura community and 13,000 local residents in Bwegera (5,000) and Luberizi (8,000).
- b) To increase access to more durable excreta disposal facilities to the 2,000 families living in Bwegera and Luberizi resettlement sites.
- c) *To rehabilitate Kakenge bridge (added September 1999)*

**Indicator and Current Measure:**

- ❖ 40,000 liters of water available per day at Luberizi pumping station, which serves 1,300 IDPs and 2,000 local people from the Luberizi area.
- ❖ 162 latrines completed and in use, 33 superstructures under construction, 366 holes dug awaiting superstructure construction, 51 holes being dug.
- ❖ Bridge rehabilitated and the Bukavu-Uvira road is fully functioning.

**Objective 2:** To improve water and sanitation facilities and conduct minimum structural rehabilitation at 20 health centers, depending on need, in Katana and Kabare health zones designated as top priority by the Ministry of Health of South Kivu province.

**Indicator and Current Measure:**

- ❖ One water adduction completed and water sources rehabilitated.
- ❖ Three new buildings for health centers constructed.
- ❖ Three health center buildings rehabilitated.
- ❖ Seventeen brick-lined pit latrines completed (for health centers).
- ❖ Six rainwater catchment systems installed at health centers; one system assembled, but will be installed at building yet to be constructed by the community.
- ❖ One placenta pit constructed.
- ❖ One septic tank rehabilitated

**Program Overview:**

**Goal/Purpose:** To improve access to water and sanitation facilities to priority populations in South Kivu.

- Objective 1:**
- a) To increase the potable water supply to 10 liters per person per day to 12,000 displaced Vyura community and 13,000 local residents in Bwegera (5,000) and Luberizi (8,000).
  - b) To increase access to more durable excreta disposal facilities to the 2,000 families living in Bwegera and Luberizi resettlement sites.
  - c) *To rehabilitate Kakenge bridge (added September 1999)*

**Objective 2:** To improve water and sanitation facilities and conduct minimum structural rehabilitation at 20 health centers, depending on need, in Katana and Kabare health zones designated as top priority by the Ministry of Health of South Kivu province.

**Targeted Population:**

The first objective provides increased access to water and sanitation facilities to local and displaced populations in Luberizi and Bwegera, two villages on the Ruzizi Plain just north of Uvira. Approximately 12,000 villagers from Vyura (near Kalemie) have been displaced from their homes and are being permanently resettled in Luberizi and Bwegera, 50-60 km north of Uvira. The Banyavyura are now in competition with the local host population for scarce potable water, and both communities were drawing water from the nearby river, (which is grossly contaminated) at the beginning of this project.

*The number of IDPs that actually arrived and resettled at the project sites are estimated to be 400 families (or 2,000 individuals), bringing the total inhabitants of Luberizi and Bwegera collectivities (residents and displaced) to 15,000.*

This combined program benefits the following populations:

200,000	inhabitants of Katana and Kabare Health Zones
23,000	inhabitants of Luberizi and Bwegera collectivities (residents and displaced)
<hr/>	
223,000	inhabitants of South Kivu province

It is difficult to estimate the size of the population served by the rehabilitation of the Kakenge Bridge but this road provides a vital link for commercial and humanitarian traffic serving all points south of Bukavu.

**Geographic Location:**

This project took place in two distinct geographic locations. The first objective provided increased access to water and sanitation facilities to local and displaced populations in Luberizi and Bwegera, two villages on the Ruzizi Plain just north of Uvira. The second objective provided or improved water and sanitation facilities and essential physical structure rehabilitation to health centers in Katana and Kabare health zones north of Bukavu.

**Program Performance:**

- Objective 1:**
- a) To increase the potable water supply to 10 liters per person per day to 12,000 displaced Vyura community and 13,000 local residents in Bwegera (5,000) and Luberizi (8,000).
  - b) To increase access to more durable excreta disposal facilities to the 2,000 families living in Bwegera and Luberizi resettlement sites.
  - c) *To rehabilitate Kakenge bridge (added September 1999)*
- o To set up two water pumping stations at Luberizi river for up to six month, if needed.
- 1.2 To set up and treat water in 2 water bladders of 20m<sup>3</sup> each at Luberizi camp for both displaced and villagers at Luberizi village.

Progress to Date:

IRC is maintaining a water pumping station near the village of Muterule 1 in the region of Luberizi. The main beneficiaries of this pumping station are the residents of Muterule 1 (mainly IDPs) and Muterule 2 (some IDPs but largely local residents). Some people come from the nearby village of Nyamugari, and the staff of the local feeding center (run by UGEAFI, a national NGO) collect 320 liters per day.

During the last 7 months the pumping station has provided treated water to between 1,300 to 2,000 people daily. The fluctuation depends upon the number of IDPs in the region at that point in time, as well as people's water demands for a given day. Enough water is stored to serve 4,000 people with 10 liters each per day. Interviews with people at the pumping station indicate that people are collecting 4.8 liters/person/day. Local water consumption patterns indicate that people collect drinking and cooking water at the pumping station, while other water requirements are catered to from a nearby stream. It also appears that many families only have very small water containers and this may play a part in limiting the amount of water they are collecting.

- 1.3 To establish and train 10 water committees (6 at Luberizi, 4 at Bwegera)
- 1.4 To train 30 village-based technicians on the care and maintenance of bore holes and hand pumps.
- 1.5 To construct 10 Vonder drilled bore holes (6 in Luberizi and 4 in Bwegera) and install 10 hand pumps, as well as to rehabilitate one ICRC hand pump in Luberizi.

The initial plan involved water committees for each of the 10 water sources. So far IRC has organized two umbrella committees (one each for Bwegera and Luberizi). These committees are made up of representatives from both the IDP communities and their local host communities. The local committees are working together on the construction sites, which enables skill sharing and provides job opportunities to a wider range of people. Communication between IRC and the communities proved to be more effective with the two umbrella groups than with 10 small committees. When each well is operational, a local committee of users will be formed for maintenance purposes.

To date no technicians have been trained as no hand pumps have been installed. Selected community members will be trained when pumps are functioning.

IRC has attempted to drill 8 boreholes with the manual Vonder Rig drilling machine. To date none of the drilling attempts were successful in reaching potable water.

The original project period was for five months from July to November 31, 1999. A three month no-cost extension was approved extending the project until February 29, 2000. The activities of this objective were seriously delayed by several factors. First, the drilling rigs did not arrive until late September 1999 and the specialized casing for the rigs did not arrive until mid-December, two weeks after the end of the

original project period. The drilling began in January just as security near the project sites deteriorated significantly. During the months of January and February the workday was often shortened to 4 hours to minimize risk to the field staff. During several weeks the work stopped completely as the sites were inaccessible due to military clashes nearby. Second, drilling with the Vonder rigs proved to be very difficult. The drilling teams were thwarted on each attempt either by bedrock, or by wet sand that proved too difficult to drill through. IRC engineers continue to study, when security permits, the sites in search of a viable solution.

As a result of the difficulty in drilling the boreholes IRC engineers attempted to build 10 hand-dug wells with varying degrees of success. Eight wells are producing water and 2 have been abandoned, as they are dry. IRC will test the water quality and capacity at each well site to determine which wells are viable and IRC will install protective aprons on these wells. The 8 wells are producing water; however, they are only providing shallow water, which is only a slight improvement over the communities' own hand-made water pits. It doesn't appear that the amount of water produced at these wells is sufficient to warrant a hand pump.

As a result of the difficulty of finding water with the Vonder rigs, no hand pumps have yet been installed. IRC has the hand pumps in storage and will attempt to install them once suitable sites can be located.

The ICRC hand pump was not rehabilitated as permission to do so was not granted by ICRC until the after the end of the project period.

#### 1.6 To rehabilitate the Bwegera I source and protect Bwegera II source within six months.

During the time period between the submission of the proposal for this grant to OFDA and the receipt of funding, CARITAS carried out the rehabilitation of these two water sources.

#### 1.7 To provide digging tools and to construct a total of 2000 sanitation platforms for family latrines in Bwegera and Luberizi resettlements sites.

As previously mentioned only 417 families have currently resettled at the proposed sites. IRC distributed tools to 366 families and all of these families have completed digging the pit for their latrine. IRC fabricated 417 platforms, of which 366 have been delivered to families with dug holes. The remaining platforms are being stored in the IRC warehouse. IRC will continue to distribute platforms to families as they complete digging the holes for the latrines.

<b>STAGE OF COMPLETION:</b>	Luberizi	Bwegera	Total	% complete
<b><i>Sanitation Platforms</i></b>				
Concrete platforms cast	210	207	417	100%
Platforms distributed (holes dug)	193	173	366	88%
<b><i>Latrine Superstructure Construction</i></b>				
Holes not yet dug (platforms not distributed)	17	34	51	12%
Platform distributed, but superstructure construction not yet started	86	85	171	41%
Superstructures under construction	15	18	33	8%
Superstructures completed, latrines in use	92	70	162	39%

IRC has distributed slabs only to families who have dug the latrine in the manner demonstrated by the IRC community mobilizer and engineers. People are continuing to construct the superstructures at their

own pace. Those who have dug their pits and received their platforms but have not yet constructed superstructures say that they use the pit latrines at night.

Progress on this activity has been very slow. Community mobilization is a lengthy process, particularly with this population, and five months (original project length) and even eight months (project length with 3 month no-cost extension) is not really long enough to organize and mobilize a community and see many tangible results. This population contains many elderly and women headed households who have great difficulty in digging the pits. Many families also find it difficult to find, or afford, the materials needed to build the superstructures. The community wanted IRC to dig the pits for them, or hire someone to do it, and to provide materials for the superstructures. IRC did not do this, as we felt the community must take the initiative and contribute to the project—we did not want the project to be a series of handouts. Finally, the community mobilizer was unable to work with the communities on many days due to insecurity in the area, further slowing progress on these activities.

IRC will attempt to continue to work with these families to encourage them to finish the latrines and use them properly.

IRC has made monthly checks of the epidemiological data at the health centers near the project site. No significant changes in morbidity or mortality patterns were observed. This is not surprising considering that:

- ❖ The health centers have poor/weak data collection practices.
- ❖ The quantity of clean water provided to the population has not increased significantly yet.
- ❖ Only a small portion of the population is using the latrines by the end of the project period.

Please refer to Table 1 for a summary of all Objective 1 activities and accomplishments to date.

#### BRIDGE REHABILITATION:

In September 1999, a sub-objective was added to Objective 1 that provided partial funding to IRC to rebuild the Kakenge Bridge before it collapsed. Kakenge Bridge is located on the only road between Bukavu and Uvira and is crucial to commercial and humanitarian traffic. The bridge was completed in December 1999 (please see Table 1 for details). The bridge rehabilitation was co-funded by OFDA, UNDP and the Office of the Governor of South Kivu.

**Objective 2:** To improve water and sanitation facilities and conduct minimum structural rehabilitation at 20 health centers, depending on need, in Katana and Kabare health zones designated as top priority by the Ministry of Health of South Kivu province.

2.1. To provide water to 7 health centers, either through hooking up facility to a main line or by installing rainwater catchment system, or both, depending on the needs of the individual facility.

IRC has significantly improved the amount of water to which health center staff have access at seven health centers. Interviews with staff indicate that water consumption at these health centers has increased as a result of the rainwater catchment systems installed and the gravity-fed water system constructed. (Please see Table 2.1 for details on work completed for this activity.)

2.2. To improve existing sanitation facilities (latrines, washing stations) at 20 health centers.

Seventeen brick-lined pit latrines were constructed at the following health centers:

	Health Centre	Sanitation Construction
1	Bushumba	Twin pit
2	Bwirembwe	Twin pit
3	Cifuma	Single pit
4	Ciranga	Twin pit
5	Citungano	Single pit
6	Ibinja	Single pit
7	Ishungu	Single pit
8	Kabushwa	Single pit
9	Kinjuba	Single pit
10	Lugendo	Single pit
11	Luhihi	Single pit
12	Lushebere	Single pit
13	Mbiza	Single pit
14	Mulengeza	Twin pit
15	Mushunghuri	Single pit
16	Mushweshwe	Single pit, Placenta pit
17	Nshanga	Single pit

- To construct placenta pits at 2 health centers.
- To rehabilitate the building structures by replacing or repairing broken doors and windows, roofing, floors and walls, as needed.
- To repair electrical systems in two health centers located in areas served by electricity.

Based on consultations with the health officials it was agreed that IRC would build one placenta pit at Mushweshwe health center in Kabare health zone. IRC also built a septic tank for Cirunga health center in Kabare health zone.

Three new health center buildings have been constructed at:

- Mbiza
- Cifuma
- Citungano

The head physicians for Katana and Kabare health zones requested IRC to build new buildings rather than rehabilitate the buildings that already existed for one or more of the following reasons:

- The current building is too small to serve the current catchment populations
- The current building is located on rented property
- The building is in such poor condition that rehabilitation would require nearly complete reconstruction

These buildings have been completed within the original amount budgeted to rehabilitate these structures.

Other health center structural work completed includes:

- Lugendo Health Centre: floor has been paved, roof repaired, windows and doors installed, as well as a drainage canal outside to direct rainfall away.
- Lushebere Health Centre: floor has been paved, roof replaced and walls repaired.
- Kabushwa Health Centre: floor has been paved.

Based on the revised prioritization by the local health officials, no electrical work was conducted.

Please see Table 2.2 for details on activities for Objective 2

Table 3 includes a summary of all project sites with their geo-referencing data.

**TABLE 1:  
SUMMARY TABLE OF ACTIVITIES FOR OBJECTIVE ONE  
FINAL REPORT: JULY 1999 – FEBRUARY 2000**

**Objective 1**

Project Site	Health Zone	Proposed Activities	Activities Completed To date	Activities Remaining To Be Completed	Estimate Time to Completion	Constraints
Luberizi Resettlement Camp	Uvira	<ul style="list-style-type: none"> <li>To set up two water pumping stations, set up and treat water in two water bladders of 20m<sup>3</sup> each.</li> <li>To establish and train 6 water committees.</li> <li>To train 18 village based technicians on the care and maintenance of bore holes and hand pumps.</li> <li>To construct 6 Vonder-drilled bore holes, install handpumps and rehabilitate one ICRC hand pump.</li> <li>To provide tools and construct 200 sanitation platforms.</li> </ul>	<ul style="list-style-type: none"> <li>Pumping station set up and providing water continuously for beneficiary populations (except during time of extreme insecurity)</li> <li>One umbrella committee functioning</li> <li>3 water technicians were identified by each community committee</li> <li>Four boreholes were started but each had to be abandoned</li> <li>6 hand dug wells dug</li> <li>92 pit latrines completed</li> <li>210 slabs produced.</li> </ul>	<ul style="list-style-type: none"> <li><b>COMPLETED</b></li> <li>Train 6 water committees when wells are completed.</li> <li>To complete training of 18 village based technicians.</li> <li>Identify viable solution for providing potable water</li> <li>Test the water quality; measure water capacity; and provide protective apron for the most viable wells;</li> <li>Rehabilitate the ICRC hand pump</li> <li>17 holes to be dug.</li> <li>17 slabs to be distributed.</li> <li>Supervise completion of the remaining 118 pit latrines.</li> </ul>	<p><b>COMPLETED</b></p> <p>Indefinite</p> <p>Indefinite</p> <p>Indefinite</p> <p>2 weeks</p> <p>1 week</p> <p>Indefinite</p>	<p>Work to date April 2000</p> <p>Work delayed due to insecurity<sup>3</sup></p> <p>Delay in receiving response from ICRC.</p> <p>CARITAS had already constructed by time</p>
Bwegera Resettlement	Uvira	<ul style="list-style-type: none"> <li>To rehabilitate 2 water sources.</li> </ul>	<ul style="list-style-type: none"> <li>Completed by Caritas</li> </ul>	<ul style="list-style-type: none"> <li>Not Applicable</li> </ul>	<p>Not Applicable</p>	<p>CARITAS had already constructed by time</p>

**TABLE 1:  
SUMMARY TABLE OF ACTIVITIES FOR OBJECTIVE ONE  
FINAL REPORT: JULY 1999 – FEBRUARY 2000**

**Objective 1**

Project Site	Health Zone	Proposed Activities	Activities Completed To date	Activities Remaining To Be Completed	Estimate Time to Completion	Constraints
ent Camp		<ul style="list-style-type: none"> <li>To establish and train 4 water committees</li> <li>To train 12 village based water technicians on the care and maintenance of hand pumps.</li> <li>To drill and construct 4 Vonder-drilled boreholes and fit hand pumps.</li> <li>To provide digging tools and construct 200 sanitation platforms for family latrines.</li> </ul>	<ul style="list-style-type: none"> <li>5 water sub-committees were formed, under one umbrella committee</li> <li>Water Committee technicians were identified by community</li> <li>4 boreholes were started but each had to be abandoned</li> <li>4 hand-dug wells dug (2 abandoned as they were dry)</li> <li>70 pit latrines completed.</li> <li>207 slabs produced.</li> </ul>	<ul style="list-style-type: none"> <li>Finalize training of committee members</li> <li>To complete training of 12 village based water technicians.</li> <li>Continue to search for a viable water solution</li> <li>Test the water quality; measure water capacity; and provide protective apron for the most viable wells;</li> <li>34 holes remain to be dug.</li> <li>34 slabs to be distributed</li> <li>Supervise completion of all 137 pit latrines.</li> </ul>	<p>Indefinite</p> <p>Indefinite</p> <p>Indefinite</p> <p>1 week</p> <p>Indefinite</p>	<p>IRC received funding</p> <p>Community spent mo time on latrine sensibilization and pi digging. Work to date April 2000 Work stopped due to insecurity</p>
Kakenge Bridge	Uvira	<ul style="list-style-type: none"> <li>Assessment of porosity and compaction capacity of top and sub soils.</li> </ul>	<i>ALL COMPLETED</i>	<i>ALL COMPLETED</i>	<i>ALL COMPLETED</i>	

**TABLE 1:  
SUMMARY TABLE OF ACTIVITIES FOR OBJECTIVE ONE  
FINAL REPORT: JULY 1999 – FEBRUARY 2000**

**Objective 1**

Project Site	Health Zone	Proposed Activities	Activities Completed To date	Activities Remaining To Be Completed	Estimate Time to Completion	Constraints
		<ul style="list-style-type: none"> <li>• Deviation of the principal road to secondary by pass road.</li> <li>• Construction of dry masonry under the bridge basement.</li> <li>• Mechanical and manual terracing of the work area.</li> <li>• Construction of reinforced concrete blocks under the bridge.</li> <li>• Construction of gabions (rocks in wire mesh).</li> <li>• Construction of retaining side walls.</li> <li>• Compaction of soils</li> <li>• Construction of retaining walls on the river beds</li> <li>• Cleaning the site and handovers to Government.</li> </ul>				

**TABLE 2:  
SUMMARY TABLE OF ACTIVITIES FOR OBJECTIVE TWO  
FINAL REPORT: JULY 1999 – FEBRUARY 2000**

**Objective 2:**

	Health Center	Health Zone	Proposed Activities	Activities Completed To date	Activities Remaining To Be Completed	Estimated Date Completion
1	Bugobe	Kabare	<ul style="list-style-type: none"> <li>• One water source and a rain water catchment system</li> <li>• To replace 25 locks, 10 window panes and pave 59sq. meters of floor in the kitchen.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• Latrines and showers were not constructed because the MCZ<sup>1</sup> of Kabare proposed that money should be used to reconstruct Mbiza, Cifuma, and Citungano Health Centers.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> </ul>
2	Bwirembwe	Kabare	<ul style="list-style-type: none"> <li>• To construct one brick-lined pit latrine of two holes in brick walls and cemented floors.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> </ul>
3	Cirunga	Kabare	<ul style="list-style-type: none"> <li>• To complete a septic tank</li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> </ul>
4	Citungano	Kabare	<ul style="list-style-type: none"> <li>• To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> <li>• To build a new building for health center on community property.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• <i>COMPLETED</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• <i>COMPLETED</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• <i>COMPLETED</i></li> </ul>
5	Kinjuba	Kabare	<ul style="list-style-type: none"> <li>• To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> <li>• To construct two water sources and one rain water catchment system.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• <i>COMPLETED</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• <i>COMPLETED</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• <i>COMPLETED</i></li> </ul>
6	Mbiza	Kabare	<ul style="list-style-type: none"> <li>• To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> <li>• To build a new building for health center on community property.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• <i>COMPLETED.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• <i>COMPLETED</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• <i>COMPLETED</i></li> </ul>
7	Mulengeza	Kabare	<ul style="list-style-type: none"> <li>• To construct one brick-lined pit latrine of two holes in brick walls and cemented floors.</li> <li>• To pave 112 sq. meters of floor, replace 9 locks and install 7 new windows.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• Work was changed according to MCZ<sup>1</sup> of Kabare in favor of Mbiza, Cifuma, and Citungano Health centers.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> <li>• Not Applicable</li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> </ul>
8	Mushweshwe	Kabare	<ul style="list-style-type: none"> <li>• To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>COMPLETED</i></li> </ul>

**TABLE 2:  
SUMMARY TABLE OF ACTIVITIES FOR OBJECTIVE TWO  
FINAL REPORT: JULY 1999 – FEBRUARY 2000**

	Health Center	Health Zone	Proposed Activities	Activities Completed To date	Activities Remaining To Be Completed	Estimated Date Completion
			<ul style="list-style-type: none"> <li>To construct a placenta pit</li> <li>To construct one water source and install a rain water catchment system</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>
9	Nshanga	Kabare	<ul style="list-style-type: none"> <li>To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> </ul>
10	Bushumba	Katana	<ul style="list-style-type: none"> <li>To construct one brick-lined pit latrine of two holes in brick walls and cemented floors.</li> <li>To construct two water sources and a rain water catchment system</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>
11	Cifuma	Katana	<ul style="list-style-type: none"> <li>To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> <li>To pave floors and fix 4 doors.</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>New building was constructed as requested by MCZ</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>
12	Ciranga	Katana	<ul style="list-style-type: none"> <li>To construct one brick-lined pit latrine of two holes in brick walls and cemented floors.</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> </ul>
13	Ibinja	Katana	<ul style="list-style-type: none"> <li>To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED.</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> </ul>
14	Ishungu	Katana	<ul style="list-style-type: none"> <li>To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> </ul>
15	Kabushwa	Katana	<ul style="list-style-type: none"> <li>To construct one brick-lined pit latrine of two holes in brick walls and cemented floors.</li> <li>To pave floors, replace roof and fit rain water unit</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>
16	Lugendo	Katana	<ul style="list-style-type: none"> <li>To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> <li>To pave 58 sq. meters of floor, repair 195 sq. meters</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>COMPLETED</li> <li>COMPLETED</li> </ul>

**TABLE 2:  
SUMMARY TABLE OF ACTIVITIES FOR OBJECTIVE TWO  
FINAL REPORT: JULY 1999 – FEBRUARY 2000**

	Health Center	Health Zone	Proposed Activities	Activities Completed To date	Activities Remaining To Be Completed	Estimated Date Completion
			of wall, repair 177 sq. meters of roof, replace 6 locks and repair 8 windows.			
17	Luhihi	Katana	<ul style="list-style-type: none"> <li>• To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> <li>• To construct a 1.5 kilometer gravity fed water system.</li> </ul>	<ul style="list-style-type: none"> <li>• COMPLETED</li> <li>• COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>• COMPLETED</li> <li>• COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>• COMPLETED</li> <li>• COMPLETED</li> </ul>
18	Lushebere	Katana	<ul style="list-style-type: none"> <li>• To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> <li>• To pave 130 sq. meters in cement, replace the whole roof and replace broken timber and planks of the wall.</li> <li>• To construct one water source and a rain water catchment system</li> </ul>	<ul style="list-style-type: none"> <li>• COMPLETED</li> <li>• COMPLETED</li> <li>• COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>• COMPLETED</li> <li>• COMPLETED</li> <li>• COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>• COMPLETED</li> <li>• COMPLETED</li> <li>• COMPLETED</li> </ul>
19	Mushungurhi	Katana	<ul style="list-style-type: none"> <li>• To construct one brick-lined pit latrine of one hole in brick walls and cemented floors.</li> <li>• To construct one water source and install a rain water catchment system.</li> </ul>	<ul style="list-style-type: none"> <li>• COMPLETED</li> <li>• COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>• COMPLETED</li> <li>• COMPLETED</li> </ul>	<ul style="list-style-type: none"> <li>• COMPLETED</li> <li>• COMPLETED</li> </ul>

Note: <sup>1</sup> IRC spent a great deal of time between October and December soliciting legal advice to deal with the contractor who violated the terms of contract. Legal proceedings are very complicated and time-consuming in DRC. By the end of December, the contractor agreed in principle that he would reconstruct all poorly-constructed pit latrines within the project period and with his own materials.

**Table 2.1**  
**Impact of Water Activities at selected Health Centers**

	Health Center services offered at the health center	Health Zone	Popula-tion Served	Patients Per Year	Available Water per person (pre-project)*	Minimum Standards	Available Water per person (post-project)	Observation
1	BUGOBE • Inpatient • Outpatie • Materniy • Nutritional center	KABARE	16,782	6,200	75 L	500 L +	680 L	IRC installed one rainwater catchment system at the health center and protected one water source 500m from the health center.
2	KINJUBA • Outpatient	KABARE	4,548	1,300	25 L	25 L +	140 L	IRC installed one rainwater catchment system at the health center and protected water sources near the health center. The health center uses 140 L daily for health center activities and additional water is used to control dust around the center.
3	LUHIHI • Outpatient	KATANA	13,000	1,560	30 L	30 L	140 L	IRC built a gravity-fed water system to serve the health center and its surrounding population. The health center currently draws from the tap 30 m away from the center as do approximately 2,000 local people
4	MUSHUNGURHI • Outpatient	KATANA	6,362	1,300	20 L	25 L	Not installed, moving	IRC assembled one rainwater catchment system for the health center. As the current health center building is rented, the community is waiting to install the system in the new building yet to be built. IRC also rehabilitated one water source 1km from the health center.
5	MUSHWESHWE • Outpatient	KABARE	9,615	2,340	25L	45 L +	200 L	IRC installed one rainwater catchment system at the health center and protected water source 500m from the health center.
6	LUSHEBERE • Outpatient	KATANA	6,170	2,080	40 L	40 L +	No current info.	IRC installed one rainwater catchment system at the health center and protected water source 500m from the health center.
7	BUSHUMBA • Outpatient	KATANA	11,406	1,560	30 L	30 L	80 L	IRC installed one rainwater catchment system at the health center and protected water sources 500m from the health center.
		<b>Totals</b>	<b>67, 883</b>	<b>16, 340</b>	<b>245 L</b>	<b>695 L</b>	<b>1100 L</b>	

**Notes:**

- The health centers in this table were chosen from a list of priority health centers as provided by the head physicians of the two health zones. The health centers on this list were selected based on insufficient quantity of potable water at the health centers.
- Minimum Standards were calculated at 5L per outpatient, 40L per inpatient, and 20L per nutritional center patient, based on Sphere Project criteria.
- All health centers offer outpatient services. Bugobe health center also offers inpatient, maternity and nutrition clinics. The minimum quantity of water at each health center is calculated based on the average daily patients (in/outpatient) plus maternity and nutrition in the case of Bugobe health center.
- Water consumption estimates are based on figures given by health center staff at beginning of project and again at end of project.

**Objective 1****Hand Dug Wells**

No	Health Centre	Village	Well	Lining	GPS Reading		Depth	Diameter	Water level	Current Usage
					Longitude	Latitude				
1	Luberizi	Muterule 1	Mutarule I	Concrete rings	S 2°59'53.2"	E029°05'58.6"	2.5	1.7	1	water scooped with cup
2	Luberizi	Muterule 2	Katikama	Concrete rings	S 2°59'18.3"	E029°05'59.3"	3	1.7	0.5	water scooped with cup
3	Luberizi	Muterule 2	Nakadondi	Concrete rings	S 2°59'00.3"	E029°05'39.9"	3	1.7	0.5	water scooped with cup
4	Luberizi	Muterule 2	Katoto	Bricks	S 2°59'17.9"	E029°05'63.3"	3	1.5	0.5	water scooped with cup
5	Luberizi	Nyamugali I	Nyamugali 1	Concrete rings	S 2°59'09.7"	E029°05'67.8"	3	1.7	2	needs to be cleaned
6	Luberizi	Nyamugali II	Nyamugali 2	Bricks	S 2°59'11.5"	E029°04'73.4"	3	1.5	0.5	water scooped with cup
7	Bwegera	Luduga	Luduga	xx	S 2°54'29.7"	E029°03'14.3"	3	1.7	0	abandoned / dry
8	Bwegera	Dogodogo	Dogodogo	Concrete rings	S 2°54'15.1"	E029°03'36.2"	3	1.7	0.5	water scooped with cup
9	Bwegera	Musebeya	Musebeya	Bricks	S 2°58'89.7"	E029°05'53.1"	2	1.5	0.3	water scooped with cup
10	Bwegera	School	School	xx	S 2°54'09.3"	E029°03'07.7"	3	1.5	0	abandoned / dry

**Vonder Rig Drilled Boreholes**

No	Health Centre	Village	Well	Drilling Duration	GPS Reading		Depth	Problèmes / Observations
					days	Longitude		
1	Luberizi	Muterule 1	Premier Puits	4	S 2°59'43.0"	E029°05'39.6"	9	Rock at 9 meters
2	Luberizi	Muterule 2	Deuxième Puits	3	S 2°59'36.9"	E029°05'45.8"	4.5	Rock at 4.5 meters
3	Luberizi	Muterule 2	Troisième Puits	4	S 2°59'47.8"	E029°05'49.9"	4	Collapsing sand from 2 meters
4	Luberizi	Nyamugali	Quatrième Puits	2	S 2°59'46.2"	E029°05'50.2"	4	Water at 2 meters
5	Bwegera	Luduga	Premier Puits	8	S 2°54'34.9"	E029°03'26.3"	5	Rock at 5 meters
6	Bwegera	Dogodogo	Deuxième Puits	12	S 2°54'37.0"	E029°03'21.6"	16	Rock at 16 meters
7	Bwegera	Musebeya	Troisième Puits	3	S 2°54'43.9"	E029°03'56.6"	5	Rock at 5 meters
8	Bwegera	School	Quatrième puit	6	S 2°54'44.7"	E029°03'54.5"	9	Rock at 9 meters

## Objective 2

## Water Source Protection

## Beneficiaries

No	Health Zone	Water Source	Health Centre	Population served by Health Center	Village Population	Filter	Head Wall	Perimeter Fence	water Consumption of Health Centre	Flow Rate	Water Test Result (Fecal Choliform)	Completion Date	GPS Reading	
												longitude	latitude	
1	Kabare	Nyakashongoza	Bugobe	16,728	500	OK	OK	OK	680	0.56	0	Oct-03-99	02 30 77	28 45 30
2	Kabare	Muhola	Kinjuba	4,548	150	OK	OK	OK	140	1.2	0	Nov-03-99	02 27 74	28 45 64
3	Kabare	Nyarubuye	Kinjuba	4,684	200	OK	OK	OK	140	0.7	0	Nov-03-99	02 28 04	28 45 86
4	Kabare	Mugomero	Mushweshwe	9,904	345	OK	OK	OK	100	0.6	29	Mar-29-00	02 32 19	28 49 26
5	Katana	Lwamidende	Lushebere	6,120	250	OK	OK	OK	20	0.55	0	Oct-23-99	01 57 27	28 55 28
6	Katana	Kalaba	Mushungurhi	7,365	325	OK	OK	OK	80	0.2	0	Nov-05-00	02 20 64	28 48 01
7	Katana	Kashukabarhonyi 1	Bushumba	14,485	240	OK	OK	OK	80	0.3	0	Oct-29-99	02 19 92	28 49 62
8	Katana	Kashukabarhonyi 2	Bushumba	14,485	155	OK	OK	OK	80	0.4	0	Oct-29-99	02 19 94	28 49 60
9	Katana	Rhubibi	Kabushwa	16,500	250	OK	OK	OK	60	0.3	45	Sep-17-99	02 12 83	28 49 01

Note: These water sources provide water for the health centers, and to the villages close to the health centers.

## Rain Catchment Installation

No	Health Zone	Health Centre	Population of Health Centre	Surface Area	Storage Capacity	Completion Date	GPS Reading	
							longitude	latitude
1	Kabare	Bugobe	16,728	7.5	800	Oct-30-99	02 30 77	28 45 30
2	Kabare	Kinjuba	4,548	7.5	800	Nov-03-99	02 27 95	28 45 68
3	Katana	Lushebere	6,170	7.5	800	Oct-23-99	01 57 27	28 55 28
4	Katana	Mushungurhi	6,362	7.5	800	Nov-05-99	02 20 64	28 48 01
5	Katana	Bushumba	14,485	7.5	800	Oct-29-99	02 20 09	28 49 85

## Gravity fed Water System for Luhhi Health Centre

No	Health Zone	Health Centre	Outlets	Beneficiaries	length of line	Consumption	Health Centre consumption	Water Test Result	Source flow	Completion Date	GPS Reading	
											longitude	latitude
1	Katana	Luhhi	2	575	1,500	4.5	140	0	3.5	Mar-25-99	02 16 66	28 52 48

## HEALTH CENTRE REHABILITATION

No	Health Zone	Health Centre	Super structure						Completion Date	GPS Reading		
		Name	Population	Floor	Walls	Roof	Doors	Windows				
											Longitude	Latitude
1	Kabare	Mbiza	4,797	60	120	60	4	4	Dec-11-99	2 27 5	28 48 60	
2	Katana	Cifuma	6,978	60	120	60	4	4	Nov-04-99	2 23 3	28 49 53	
3	Kabare	Citungano	9,805	112	17	40	9	4	Dec-11-99	2 26 3	28 46 15	
4	Katana	Lugendo	11,128	58	195	177	6	8	Sep-28-99	2 18 1	28 56 43	
5	Katana	Lushebere	6,170	130	20	40	4	4	Sep-03-99	1 57 2	28 55 28	
6	Katana	Kabushwa	11,824	256	n/a	50	n/a	n/a	Oct-30-99	02 12	28 49 01	

## Objective 2 (continued)

## INSTITUTIONAL LATRINE (HEALTH CENTER) SUMMARY TABLE

No	Health Zone	Health Centre	Pit Type	Super Structure		Drain	Completion Date	GPS Reading	
				Walls	Roof			Longitude	Latitude
1	Kabare	Bwirembwe	Twin pit	Brick	Metal	OK	Mar-30-00	02 26 12	28 48 65
2	Kabare	Cirunga	Septic tank	Concrete	Concrete	n/a	Mar-28-00	02 30 42	28 47 50
3	Kabare	Citungano	Single pit	Brick	Metal	OK	Mar-30-00	02 26 33	28 46 15
4	Kabare	Kinjuba	Single pit	Brick	Metal	OK	Mar-29-00	02 27 95	28 45 68
5	Kabare	Mbiza	Single pit	Brick	Metal	OK	Dec-11-99	02 27 57	28 48 60
6	Kabare	Mulengeza	Twin pit	Brick	Metal	OK	Sep-30-99	02 24 82	28 47 70
7	Kabare	Mushweshwe	Single pit	Brick	Metal	OK	Mar-29-00	02 32 20	28 40 27
8	Kabare	Mushweshwe	Placenta pit	Brick	n/a	n/a	Mar-29-00	02 32 20	28 40 27
9	Kabare	Nshanga	Single pit	Brick	Metal	OK	Mar-28-00	02 49 99	28 49 48
10	Katana	Bushumba	Twin pit	Brick	Metal	OK	Mar-28-00	02 20 09	28 49 85
11	Katana	Cifuma	Single pit	Brick	Metal	OK	Mar-30-00	02 23 39	28 49 53
12	Katana	Ciranga	Twin pit	Brick	Metal	OK	Mar-25-00	02 11 32	28 48 48
13	Katana	Ibinja	Single pit	Brick	Metal	OK	Sep-11-99	02 35 32	28 44 32
14	Katana	Ishungu	Single pit	Brick	Metal	OK	Sep-17-99	02 16 39	28 58 09
15	Katana	Kabushwa	Single pit	Brick	Metal	OK	Sep-17-99	02 12 84	28 49 02
16	Katana	Lugendo	Single pit	Brick	Metal	OK	Sep-11-99	02 18 18	28 56 43
17	Katana	Luhihi	Single pit	Brick	Metal	OK	Mar-29-00	02 16 66	28 52 48
18	Katana	Lushebere	Single pit	Brick	Metal	OK	Mar-28-00	01 57 27	28 55 28
19	Katana	Mushunghuri	Single pit	Brick	Metal	OK	Mar-28-00	02 20 64	28 48 01