

PROJECT OF WATER SUPPLY SYSTEM IN SECONDARY CITIES

1. Construction of Muhanga Water Network to supply 98,000 residents

The project is aiming at construction, rehabilitation, upgrading and extension of Muhanga and Peri-urban Water Supply System, to respond to the shortage of water supply in coverage area, in order to improve the network efficient as well as being able to accommodate the anticipated increase of water production. To respond to the shortage of water supply in the coverage area, the scope of the subproject are: Upgrading and extension of water network in urban and peri-urban areas; Construction of Storage reservoir in urban and peri-urban areas; Construction of one pumping station in urban area (1 pump station); Realization of pro-poor water connections in urban area; and Construction of water kiosks and public taps.

Approximately 98,352 people will be served in Muhanga town, Cyeza, Nyamabuye, Musambira, Mukingo, Bweramana, Byimana and Mbuye areas and will have access to water. The project will be implemented over a period of 15 Months.

SUMMARY

#	Expected outputs	Quantity
1	Construction of pipeline	195.047 KM
2	Reservoir Storages	23
3	pumping station	2
4	Water kiosks	15
6	Chlorination system	2
7	Pro-poor connection	1400
8	Public taps constructed and rehabilitated	37

Muhanga



Picture 1: [above] Rebate fixing at a bottom slab of **Mpanga 500m³** Reservoir and
Picture 2 shows a casted and cured bottom slab of **Mubuga 200m³** reservoir.



Picture 1 [above] shows steel works at **Gihuma WTP 200m³** reservoir and picture 2
shows the steel works on the bottom slab of **Nkomero 1000m³** reservoir



Picture 1 [above] shows excavation on a site to be constructed a water kiosk in **Ruhango** and picture2 is about fixing formworks on **Rutarabana (Gitwe) 20m³** reservoir.



Picture 1[above] shows steel works on the structure of **Muhanga Industrial park 400m³** reservoir and picture 2 shows the steel works on the structure of **Bweramana 50m³** reservoir

2. Construction of Rusizi Water Network to serve water for 100,000 people

The project is aiming at construction, rehabilitation, upgrading and extension of water supply system in Rusizi city, also construction of Mwoya Water Treatment Plant (6,000 m³/d) and its forwarding infrastructure which will serve the rural parts of the district in south, as well as rehabilitation of existing water supply system in per urban areas. The network in urban areas of Rusizi will mainly be for upgrading the main transmission pipelines and network extension to the industrial park, the scope of the subproject are: Upgrading and extension of the water network in urban and peri-urban area with associated infrastructures (approx. 235km); Construction of Storage reservoir/tanks in urban and peri-urban areas (Nr. 5); Construction of water kiosks and public taps; and Construction of water treatment plant for peri-urban scheme (6000m³/day).

The project will be implemented for a period of 18 Months to serve approximately 105,125 people in Rusizi town, Bweyeye, Bugarama, Butare, Nyakabuye, Gikundamvura, Nzahaha and Rwimbogo areas.

Summary

#	Expected outputs	Quantity
1	Construction of pipeline	165.069 KM
2	Reservoir	27
3	Pumping station	1
4	Water kiosks	22
5	Water resources rehabilitated	4
6	Chlorination system	3
7	Pro-poor connection	740
8	Public taps constructed and rehabilitated	44
9	Mwoya treatment plant constructed	9

Rusizi



Photos: Sampling the soil for testing their bearing capacity.



Sampling Mwogo sand against Mugonero sand to be taken to laboratory for testing in order to decide which sand to use in construction.



Photo: Site camp installation

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3. Construction of Musanze Water Network

Main pipes and distribution network which were laid at the time of construction of Mutobo water treatment plant in 1,987 need urgent replacement and upgrading. In addition, the expansion of the city calls for network extensions to distribute water in new areas of habitations and newly developed tourism activities.

The intervention will include replacement and construction of approx. 122 km of water network, construction new reservoirs (including small tanks for peri-urban schemes) to increase the capacity of the network while ensuring continuous water supply service.

The project is aiming at construction and rehabilitation of forwarding infrastructure in Musanze city, also the rehabilitation and extension of water supply system in peri-urban areas (in Gakenke, Burera and Nyabihu). There will be construction of two new main transmission pipelines from the Water Treatment plant to the city, one will be connecting the projected industrial park. The project will be implemented for a period of 18 Months.

Expected outputs
Pipeline constructed 114km
Reservoirs 13
Pumping station 1
Water kiosk built 101
Catchment rehabilitated 15
Chlorination system 15
Mutobo and Rubindi water sources protected
Pro-poor connection 1500

MUSANZE



Photo1: Supply of HDPE pipes of DN400, DN315 from factory to Musanze project site ongoing

Photo2: Concrete batching machine installed

Photo2 and 3: Steel works



Photo1: Site clearance

Photo2: Raft foundation at a levelled site

Photo3: Pipe fitting

Photo4: Pipe laying in an excavated trench of urban pipeline network (Musanze city water supply from Mutobo and Rubindi sources to Nyamagumba; Cyuve and Gasanze:



Photo 1&4: Steel works

Photo2: Supplied of HDPE pipes of DN400, DN315 from factory to Musanze project site ongoing

Photo3: Site clearance

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4. More than 110,000 people will be supplied by Nyagatare Water Network

The project is aiming at extending the network to the industrial park and to the new growing business centers and their surroundings. It also aims to reduce NRW and improve quality of services, promote tourism, industries and off-farm jobs and contribute to social and economic development. Expected output activities include but are not limited to construction, Rehabilitation, upgrading and extension of water network for 122.3 km with associated infrastructures; Construction of storage reservoirs with total volume of 1895m³; Construction of two pumping stations, 113,651 people will be served and will have access to water. The project will be implemented for a period of 15 Months.

SUMMARY

#	Expected outputs	Quantity
1	Construction of pipeline	128.943 KM
2	Reservoir	49
3	Water resources rehabilitated	10
4	Chlorination system	6
5	Rehabilitation and upgrading of intakes at Ngoma River	6,000 m ³ /day
6	Pro-poor connection	1100
7	Public taps constructed and rehabilitated	97

NYAGATARE



Photo #1: Levelling of pilot Nyabwishongwezi,

Photo#2: Site setting at Tabagwe,

Photo#3: Tabagwe RC portable water tank, Photo #4: construction of water kiosk at Busana.

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5. Construction of Rubavu Water Network will supply water for 200,000 residents

The project is aiming at construction, rehabilitation, upgrading and extension of Rubavu and peri-urban. The activities will focus on rehabilitation, upgrading and extension of water supply system in Rubavu city to accommodate the anticipated increase of water production from a new treatment plant. Network will be extended in areas which are currently served by Private Operator, but in the area within the coverage of WASAC's license. The project will be implemented for a period of 18 months; areas in Kanzenze, Mudende, Bugeshi, Busasamana, Nyundo and Rubavu will be served and 202,673 people will have access to water.

SUMMARY

#	Expected outputs	Quantity
1	Construction of pipeline	190.076 KM
2	Reservoir	30
3	Pumping station	1
4	Water kiosks	46
5	Water resources rehabilitated	3
6	Chlorination system	3
7	Pro-poor connection	2000
8	Public taps constructed and rehabilitated	78

RUBAVU& GIHIRA



Picture 1: The excavation works for the clarifier and sedimentation are completed.

Picture2: The block works [below] for the administration building completed.



Picture1: 6000m³ reservoir valve room ready for the second casting while the shear walls of 1.8m for the chemical Chlorine building was ready for casting as shown by picture#2



The Omni Filter System (OFSY) filters are already installed in their positions (picture1) and concrete casting works for the left side shear walls of the 6000m³ Reservoir and its valve room (picture 2)



Picture1: Valve room of the 6000m³ Reservoir

Picture 2: The bitumen works for the right side of the Pfunda intake are complete and the top part works starting from the excavation of the intake.



The raft foundation concrete casting for the valve room of 2500m³ RWAZA reservoir are complete and the shear walls re-bars installation are ongoing. Photo 2 is the backfilling and compaction of chlorine and Chemical building.

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6. Construction of Huye Water Network

The project is aiming at construction, rehabilitation, upgrading and extension of Huye and peri-urban. Mainly the industrial park and the surrounding area will be supplied of water. Also they will be rehabilitation of the Water Supply network in peri urban area.

The city developed due to the presence of university and as a junction of major roads to DRC and Burundi. The city has experienced a rapid urbanization, and has led to spill over of urban type activities and functions into the immediate surrounding rural agricultural areas. The current water production capacity is approx. 5,000 m³/d from Kadahokwa Water Treatment Plant in additional to several district owned springs that supply peri-urban areas.

The planned activities of the project are the following:

- 1) Water supply for industrial park and surrounding areas.
- 2) Construction of booster pumping house.
- 3) Rehabilitation and expansion of the water supply networks which entails lying of approx. 160km of pipes. 42 900 people will be served and will have access to water in areas of Simbi, Rusatira, Kinazi, Mbazi, Ruhashya and Rubona. This project will be implemented for a period of 15 Months.

SUMMARY

#	Expected outputs	Quantity
1	Construction of pipeline	128.419 KM
2	Reservoir	21
3	Pumping station	1
4	Water kiosks	9
7	Chlorination system	2
8	Pro-poor connection	500
9	Public taps constructed and rehabilitated	49

HUYE



Picture 1 and 2 show site camp installation, photo3 shows Clearing, Excavation, levelling, setting out, DCP, access road for Kanazi 2000m³ reservoir location while picture number 4 shows hard core laying at 1000m³ Sovu reservoir.



Picture #1 is for Karama (100m³) reservoir, Picture 2 is for Muhororo (50m³) reservoir picture number 3 is for Mugogwe (100m³) reservoir and picture number 4 is for Sazange (50m³) reservoir.

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