

L I K A N O

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Climate Security & Sustainable Development



NYAGATARE SAFE WATER PROJECT

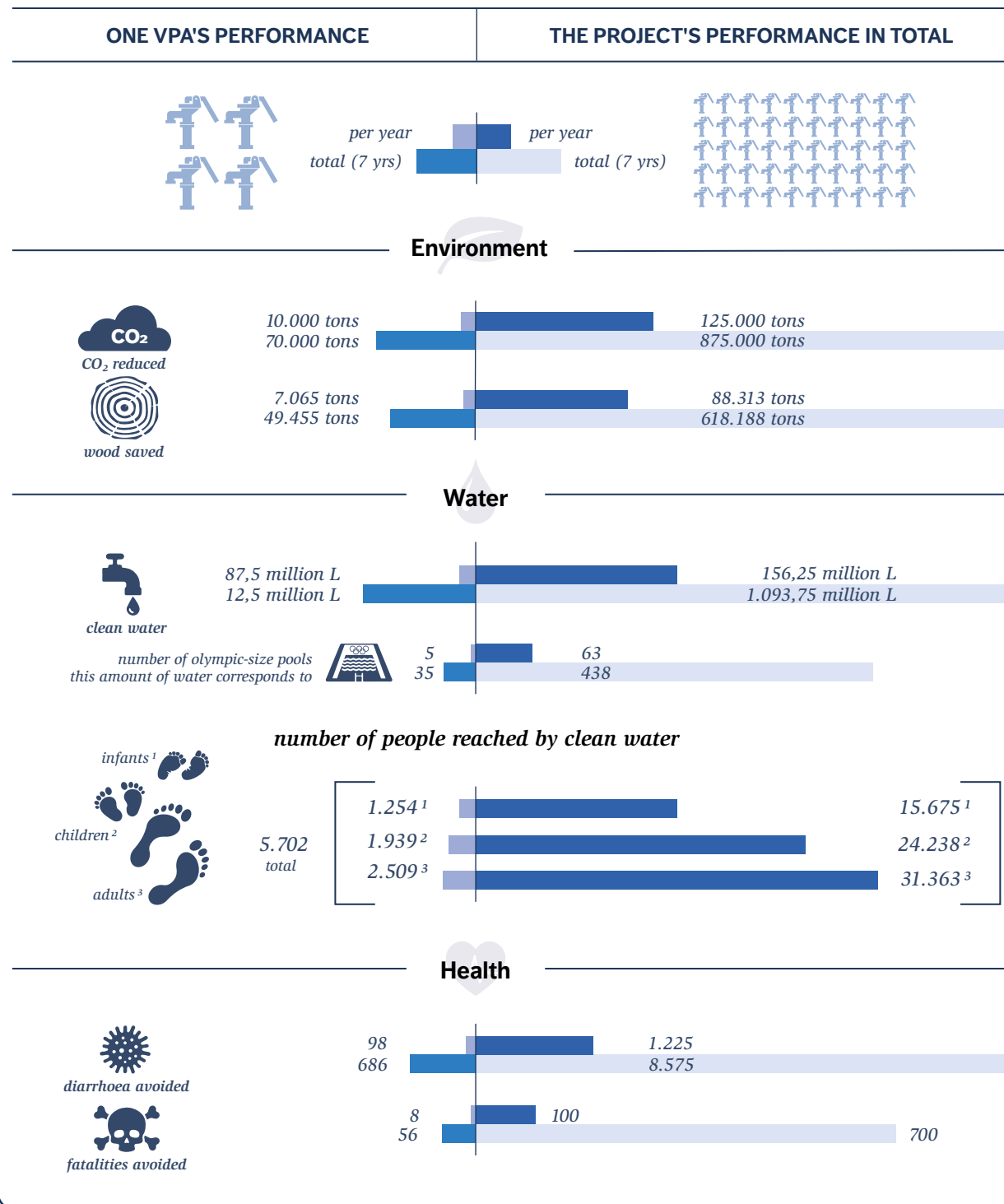
REHABILITATION
OF WATER WELLS
IN RWANDA



THE NYAGATARE SAFE WATER PROJECT

IMPROVING HEALTH CONDITION & REDUCING CO₂ EMISSIONS WITH CLEAN WATER

Under the project, 50 boreholes are being rehabilitated.
One VPA comprises on average 4 boreholes, saving 10.000 tons of CO₂ per year.
50 rehabilitated boreholes correspond to 12 VPAs, saving 120.000 tons of CO₂ in one year.
The following chart illustrates the performance of a VPA per year and over 7 years (left column),
and the performance of the project per year and over 7 years (right column).



SUMMARY

The **Nyagatare Safe Water Project** dedicates its core to the **rehabilitation of broken water wells in rural Rwanda**. As simple as this undertaking may seem, it demands a committed team and continuous control of the boreholes present to this day in the region.

Besides providing clean water through a functioning water well, there are considerable positive side effects. Currently, the population is fetching water from open ponds and streams. This means longer walks for collecting water as well as exposition to bacteria. This is why the water from open pounds has to be cooked before being used. Cooking takes place on open three stone fires, which burn the wood collected in an inefficient way, leading to high CO₂ emissions. Additionally, the smoke from three stone fires leads to irritation of lungs and eyes.

The Nyagatare Safe Water Project provides clean water to the people, which results furthermore in a positive impact on health and environment altogether.

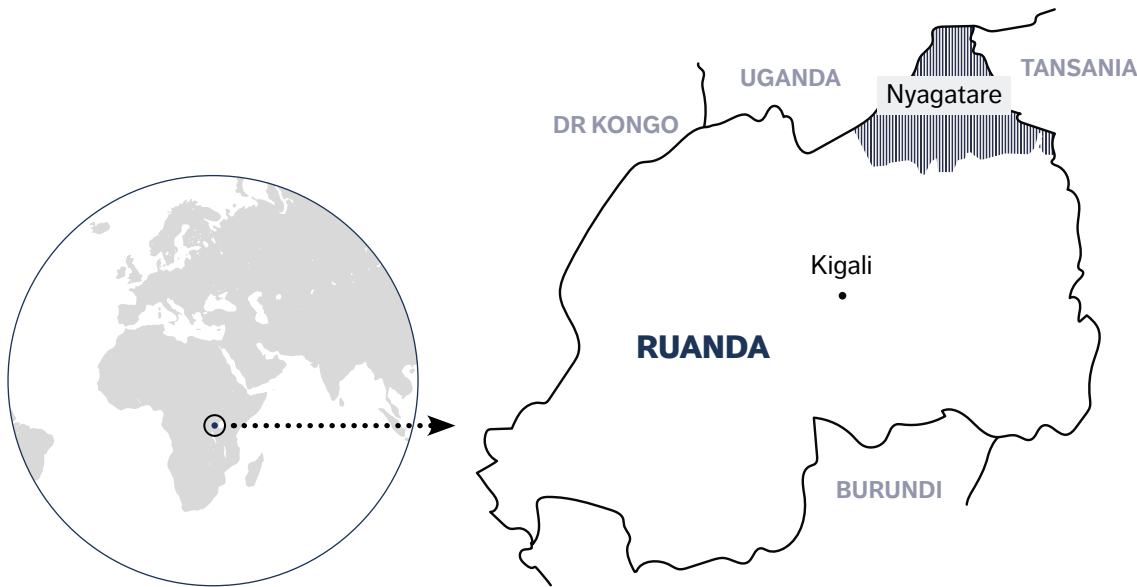


THE REGION

Nyagatare lays in the northeastern region of Rwanda. Its topography is characterized by a vast number of hills. Here, the soil erosion results in an important loss of water. Nyagatare is also the largest and second most populous district in the country.

The area has higher temperatures than the other parts of the country and also lower precipitations, which periodically leads to droughts. The monthly distribution of the rains varies annually. The rain falls are both too weak and too unpredictable to cover the agricultural (rice, corn) and livestock (cattle) needs. The very limited hydrographic network offers only few water resources that may be exploited by the population. The weak river network constitutes a serious handicap to respond to the needs of water for both people and animals.

The **Nyagatare Safe Water Project** is a major step forward for the people living in this region. Each borehole supplies fresh and clean water to over 100 families.





Women and children traditionally walk long distances to collect water in ponds. Those unprotected areas are open and thus vulnerable to be sources of infection and contamination. The water has to be boiled, mostly on open three stone fires, for which wood has to be collected



above: A water well before maintenance. right: The functioning water well is an important marker for the quality of life in rural Rwanda.



TRADITIONAL SOURCES OF WATER

In Nyagatare's traditional households, as in the larger region around it, the drinking water is not available via water tap in one's kitchen. The easiest access to clear and clean drinking water is through community boreholes. If the water well is broken, one has to walk long distances to get water from unprotected sources like open wells or rivers.

At large, almost all of the households in rural Nyagatare have no access to clean water. **Local people use three stone fires for cooking and purifying the water collected in open wells.** But this kind of wood combustion is inefficient and emits more greenhouse gases than modern controlled combustion methods. **We help the communities reduce the wood consumption by fostering a technology that does not require wood or fossil fuels and still provides clean water.**

COMMUNITY WATER WELLS

In the last 20 years, government and NGOs have erected boreholes in the communities across the countryside. The water quality gathered from these wells is suitable for human consumption – if the borehole is subject to periodical maintenance. But the maintenance programs have been neglected, poorly managed or proven too expensive. **Without the appropriate maintenance programs any threat like a blockage through sand/ stones or damage of the hardware leads to a broken borehole.** This is how a significant number of wells have been found inoperable.

REHABILITATION OF A WATER WELL

The core of the **Nyagatare Safe Water Project** is a close collaboration with community groups and local NGO partners. We identify broken boreholes and make sure the maintenance work is undertaken rapidly.

When a borehole has been repaired, no purification is needed and the people's life conditions improve rapidly.

The quality of the treated water is assessed to ensure it meets the Rwandan standards for potable water. These parameters are in line with the standards for domestic human consumption as set within the WHO guidelines. A permanent project officer is assigned to the project sites to oversee and coordinate the rehabilitation process and follow-ups.

The project officer is also responsible for coordinating the WASH program, conducting monitoring exercises and identifying maintenance works. WASH trainings are not widely available for the rural population or in remote places where the rehabilitated boreholes can be found.

By repairing the borehole, the technical officers from the association „Rwandans for Water“ help preventing dust and sand from contaminating the water well.



WASH stands for "Water and Sanitation for Health". Installing a sink with clean water is one of the first steps of the WASH training, which includes strategies for waste and water management at large.

FURTHER ACTIVITIES

With our partners we implement a number of Micro-Scale Voluntary Project Activities under the Gold Standard methodology “Technologies and Practices to Displace Decentralized Thermal Energy Consumption”.

Last but not least: The **Nyagatare Safe Water Project** supports eight UN Sustainable Development Goals:

- SDG 1: Reducing firewood also saves money: households can buy cows and sheeps and support their kids with schoolbooks.
- SDG 3: Avoiding the use of the 3-stone-fire for water purification results in less smoke and leads to significantly less red-eye irritation and lounge diseases.
- SDG 6: Access to safe water and awareness programs like WASH. Each borehole supplies around 2,5 million liters of water per year, equal to 1 Olympic swimming pool.
- SDG 9: Establish and maintain a water supply infrastructure.
- SDG 10: Especially kids and women benefit from this project. They are mostly responsible for bringing water to the homes, collecting firewood and purification/cooking. Now they have more time and live healthier.
- SDG 13: Reducing CO2: 10.000 tons per VPA through the optimized water gathering process.
- SDG 15: Protection of biodiversity hot-spots such as the Akagera National Park.
- SDG 17: Cooperation with local NGOs and authorities.



