



# Rafah Wastewater Treatment Plant

Rafah (Gaza)



ICRC

In Brief



For several years, the Rafah wastewater treatment plant has been insufficient for treating the sewage of the city because it was too small, too old and needed repairing. The sewage network covered only part of the city and the effluent discharged to the sea was almost untreated and without the possibility of reuse.

This situation has adversely affected the environment of the city of Rafah and has threatened the health of the population as the sewage often overflowed from the wastewater system.

To address this problem, the International Committee of the Red Cross (ICRC) jointly with the Coastal Municipality's Water Utility (CMWU) and the Municipality of Rafah have been working on a project to construct a wastewater treatment plant.

Today, the treatment plant provides a solution for the management of wastewater and the project serves a population of 180,000 inhabitants from Rafah and the surrounding areas.

In 2008, the ICRC and the CMWU started to work on the construction of a new wastewater treatment plant that has been implemented in several phases.

### Phase 1

Construction of two new lagoons for treatment and grit removal. Plant treatment capacity: 10'000 m<sup>3</sup>/day.

When the project was designed, restrictions were imposed on imports into the Gaza Strip. The ICRC and the CMWU engineers came up with a creative idea to overcome the shortage of construction materials: fragments of the demolished wall separating Gaza and Egypt were recycled and used for the building of the new lagoons and the sludge drying beds.

### Phase 2

Extension of the plant with construction of two bio towers, effluent pump station, new pressure pipeline and one administrative building. Plant treatment capacity: extendable up to 20'000 m<sup>3</sup>/day.

This new level of water treatment improves the removal of biological load and suspended solids.



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### Phase 3

Operation, maintenance and pilot phase on re-use of wastewater.

The ICRC will continue to support the CMWU, who is in charge of the operation and the maintenance of the wastewater treatment plant.

When reaching further improvement of the system, the treated wastewater could be used for agricultural purposes such as irrigation of specific kinds of crops, fodder and trees. It could also be used for recharging the aquifer. Organic solids (post treatment sediments) could also be used as compost and for soil improvement.

The ICRC remains committed to provide needy people in the Gaza Strip with essential services such as water and sanitation infrastructures. Projects are implemented in close collaboration with the Coastal Municipalities Water Utility (CMWU) and relevant local authorities.

The International Committee of the Red Cross (ICRC) is an impartial, neutral and independent organization whose exclusively humanitarian mission is to protect the lives and dignity of victims of armed conflict and other situations of violence and to provide them with assistance. The ICRC also endeavours to prevent suffering by promoting and strengthening humanitarian law and universal humanitarian principles. Established in 1863, the ICRC is at the origin of the Geneva Conventions and the International Red Cross and Red Crescent Movement. It directs and coordinates the international relief activities conducted by the Movement in armed conflicts and other situations of violence.



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