

## GAMBELLA DRINKING WATER TREATMENT PLANT Upgrade & Rehabilitation

The town of Gambella is the capital of Gambella Regional State, a part of the Federal Democratic Republic of Ethiopia. This region is located at the western tip of Ethiopia bordering South Sudan.

Source of drinking water supply is the river Baro which is passing the town. As Gambella is located in the low land area the river maintains its quiescent and surface flow, the velocity of the river loses its scouring force (about 1km/h) and dislodges its solid loads on the surface particularly during the rainy months.

In order to meet the increasing supply demand for the current population, the Gambella Water Resources Development Bureau awarded an upgrade project package to MENA-Water Company, Sharjah, UAE, operating with regional office in Addis Ababa.

This upgrade of the existing drinking Water Treatment Plant was based on rehabilitating the existing river intake facility & replacements of key electromechanical equipment as needed and upgrade of the existing clarifiers and sand filters. Finally the capacity of the plant was to upgrade from current 5040 m<sup>3</sup>/day to approximately 10,000 m<sup>3</sup>/day.

To achieve this, the existing River Water Intake was equipped with new pumps with higher capacity. The existing clarifiers were enhanced by installation of sludge scraper and lamella tube settlers to increase the settling area. The sand filters were enhanced with more efficient nozzles and change of fresh filter media for respective sand filter beds. The treated Water from the existing clear water storage tank is transferred to a high reservoir above the hill nearby for further distribution, using two new horizontal centrifugal pumps, which are located in an existing upgraded pumping station hall.



**UPGRADE OF  
PLANT CAPACITY  
from 5040 to  
10000 m<sup>3</sup>/day**

### PROJECT STAGES

- Upgrade of river water intake pumping station (using existing structures).
- Upgrade of rectangular clarification units (using existing structures).
- Upgrade of existing sand filtration units.
- Upgrade centralized chemical solution preparation facility.
- Upgrading plant in electrical & automation works (as needed for above upgrade).

