

## MARS storage dams for agricultural & rural water supply

MARS storage dams are a low cost, high benefit solution for reliable provision of good quality water to people living in arid rural regions

Provision of sufficient storage capacity under growing water demand and increasing climate variability is one the main concerns for water managers in the coming decades. Controlled recharge and subsurface storage of water in aquifers, and recovery of this water in times when water is scarce, forms an alternative to surface water storage to maintain sufficient water supply in the future

MARS dams infiltrate floodwater and overland flow during rainfall events in order to recharge local aquifers, thus impeding quick runoff. Water stored underground is not subjected to evaporation losses and bacteriological deterioration, and can serve household or production water supply during times when other water sources are not available. This is particularly important for people living in rural (semi-) arid regions characterized by erratic rainfall and prolonged periods of drought. In addition, MARS dams might reduce or mitigate soil erosion and the severe damage and loss of life caused by flash floods in some desert regions

A participative approach in dam construction enhances technical efficiency, social acceptance and economic dam life-span. General community benefits include significant improvements in crop production and local income, as well as improvements in nutrition and hygiene conditions through a more secured supply of better quality water

Practical examples of this approach are recently developed in Kenya with inputs from the Dutch Groundwater sector.



### QUICK FACTS

- improvement of water quality and quantity
- sustainable use of water resources
- participatory bottom-up approach
- durable and low cost technology
- drought resistance
- socio-economic benefits