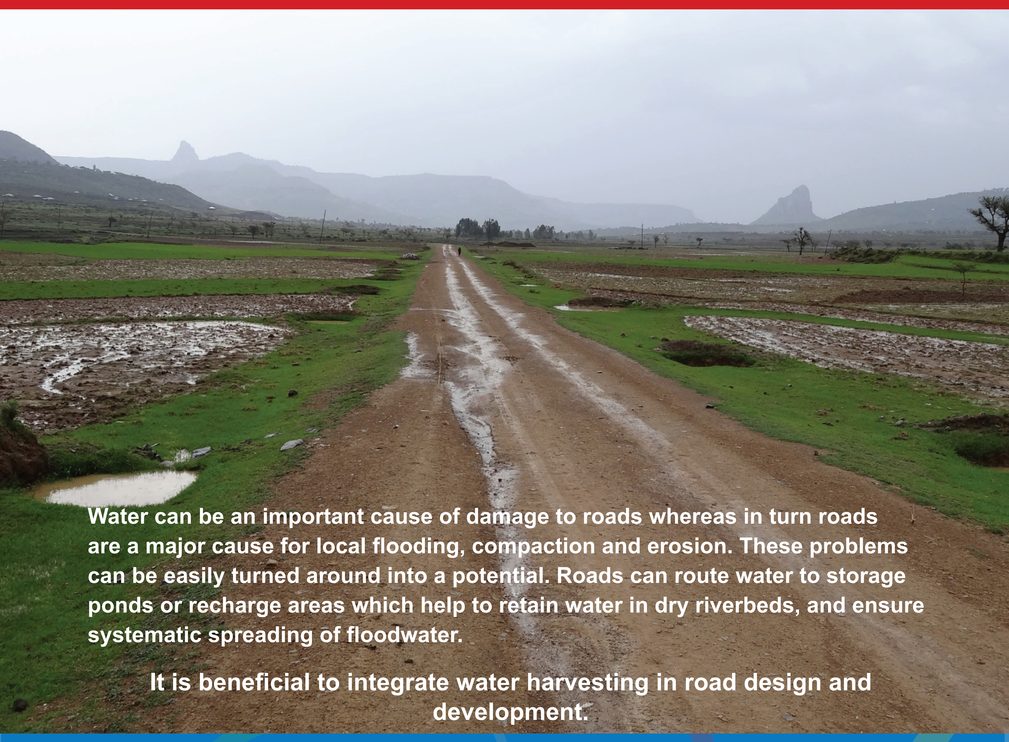
Roads for Water
the unused potential



Water can be an important cause of damage to roads whereas in turn roads are a major cause for local flooding, compaction and erosion. These problems can be easily turned around into a potential. Roads can route water to storage ponds or recharge areas which help to retain water in dry riverbeds, and ensure systematic spreading of floodwater.

It is beneficial to integrate water harvesting in road design and development.

As part of a 15-month research program In Tigray, Ethiopia, several solutions have been implemented to overcome gully erosion, flooding of farmlands and waterlogging caused by road runoff. The program also brought together road and water practitioners, local governments and roadside communities. After implementing several technologies by different stakeholders (regional bureaus and communities) results are visible:

- Moisture levels in soils along the road have increased
- Shallow groundwater levels have increased
- Gully expansion has been halted
- Reduction of road maintenance costs
- Reduction in flooding of dwelling houses and farmlands

Road side run-off diverted into ponds

Farmers diverting water from a culvert into a percolation pond

Upstream deep trenches combined with water from a culvert channelled into a borrow pit

Road side run-off channelled into farmlands

Deep trenches at downstream side of roads used to recharge groundwater

Water from a culvert directed and spread into farmlands

www.roadsforwater.org

Institute of Development Studies
META Research
Unlocking the Potential of Groundwater for the Poor
Tigray Construction, Road and Transport Bureau
Tigray Water Resources Mines and Engery Bureau