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Training on

Roads for Water and Resilience

ENVIRONMENTAL ISSUES ON ROAD WATER HARVESTING

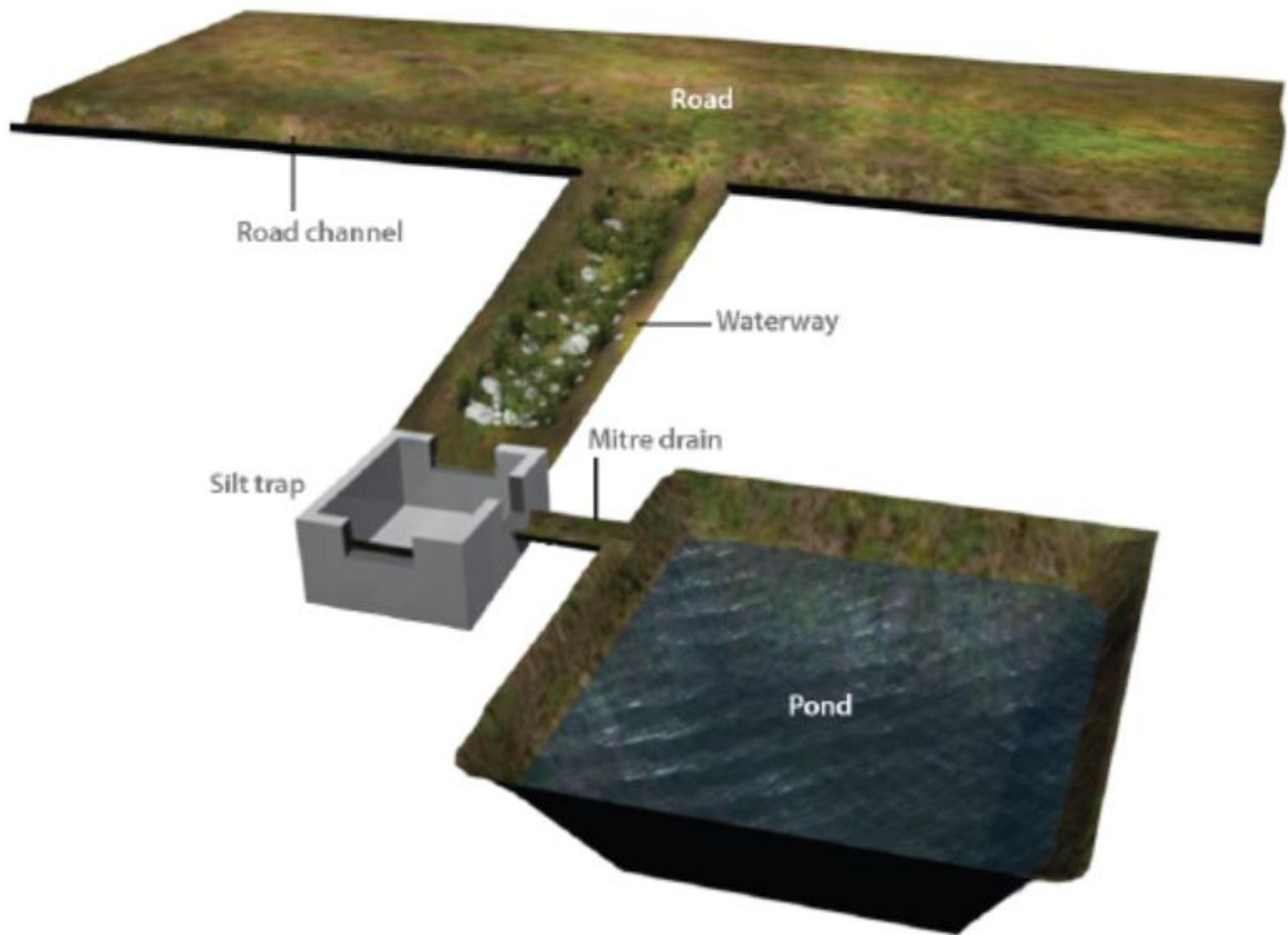
Potential impacts of road water harvesting

1. Decrease quality of surface and ground water
2. Provide habitat for mosquito breeding (malaria)
3. Safety concerns: people and livestock falling in ponds

Mitigation measures (1)

Surface and groundwater pollution

- Avoid collection of first flush water when possible, otherwise use silt traps
- Removal of pollutants from road run-off by soil infiltration in groundwater recharge areas
- Collection of water from road catchments, not directly from road surface in the case of asphalt roads
- Water collection primarily from rural areas not in urban centres
- Planting grasses along ditches to trap sediments and pollutants
- Silt trap at the pond inlet



Mitigation measures (2)

Mosquito breeding

- Plant mosquito-repellent plants around ponds such as *Ocimum americanum*, *Lantana camara* and *Tagetes minuta*
- Daily disturbance of ponds
- Shading of ponds (some mosquitos prefer breeding sites that are partly or fully exposed to sunlight)
- Removing water plants
- Steepening shorelines to reduce the availability of shallow places suitable for breeding of mosquitoes
- Covering ponds
- Growing tilapia in road side ponds

Mitigation measures (3)



Safety of ponds

- Improve accessibility into the pond, grade a section of the pond to make an easy sloped entrance and exit in case of falling
- Fence the pond when possible

Conclusions



- Avoid road water harvesting in urban areas and directly from asphalt road surface
- Always fence ponds if possible
- In malaria-prone areas, special measures need to be implemented