

# Why Invest In Roads for Water To Achieve Climate Resilience?



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Roads are a major global investment. There is an estimated annual investment of 1-2 Trillion USD in roads – with the bulk of this amount in low and middle income countries. With the rapid expansion of feeder roads these investments are moreover present everywhere.

Roads have a major impact on climate resilience because they determine the way water moves across the terrain: roads impede the flow of water, concentrate it in a few places or roads may convey water and act as a drain.

The way roads are now built often cause considerable damage and undermine climate resilience. Roads cause erosion,

sedimentation, flooding and drainage congestions – hence worsening the effect of rainstorms and the impact of droughts. Investigation shows that typically there are 13 - 25 problem spots along a 10 kilometres stretch of road.

This does not need to be, as Global Resilience Partnership supported work has shown roads can be turned around into instruments of climate resilience. Roads can be used to systematically harvest water and to ward off and mitigate floods. This can be done with modest additional investments as is already done at scale in some countries. In Ethiopia more than 1 Million people benefitted from the road water harvesting programs. Managing



*Unpaved roads often become drains*



*But roadside drainage can be diverted to groundwater percolation ponds (Ethiopia)*

water with roads can bring income increases of more than 30 %, increase the resilience of local communities to droughts, and minimize road damages.

We argue that climate funds should be used to retool roads to promote climate resilience. The investment case is:

1. Management of water with road infrastructure presents a triple win: reduced road maintenance costs; reduced degradation of the landscapes; productive and consumptive use of water harvested with the roads.
2. Minimal costs compared to the overall outlays for road investment or road

repair/maintenance. The additional costs related to design modifications for including road water management from the start is estimated at a maximum of 5 % of original investments planned for the road. This may be funded from climate funding topping up to road infrastructure programs.

3. Best option for climate resilient infrastructure. The costs associated with building roads that harvest water and manage floods provide a cheaper alternative to building road bodies with heavy new design specification to deal with the expected impact of rain storms and other effects of climate funds.



*Road crossing retaining water in river bed in Kenya*



*Polder road in Bangladesh separating low and high water areas*

We are promoting the use of climate funds to turn roads into instruments for climate resilience.

We invite you to be part of this. Please visit the Road for Water knowledge hub ([www.roadforwater.org](http://www.roadforwater.org)) and contact Marta Agujetas Perez ([marta@metameta.nl](mailto:marta@metameta.nl))

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