The Green Roads for Water Initiative aims to transform the way roads are built and maintained all over the world by incorporating water management and regreening in the design and construction of roads. The aim is to improve livelihoods and resilience of communities living around roads and doing away with negative impact such as erosion, flooding, sedimentation and dust, whereas at the same time improve the climate resilience of road infrastructure itself and reduce water related road damage.
For more information visit: www.roadsforwater.org

GREEN ROADS FOR WATER

ROAD INFRASTRUCTURE IN SUPPORT OF WATER MANAGEMENT AND CLIMATE RESILIENCE

PMI, WRIE Learning event – Green Roads for Water: Supporting and Financing Green Development of Smallholder Farmers and Producers

Problems caused by roads on the hydrology, the landscape and the livelihoods of roadside communities can be

Turned around

to opportunities for improved water management and climate resilience of roadside communities and roads

PROMOTING RESILIENCE: THREE LEVELS

Under a Protective resilience approach, road infrastructure specifications are adjusted to accommodate temperature rise, deal with deterioriating permafrost condition, more extreme freeze and thaw and to be better able to withstand expected larger flood peaks.

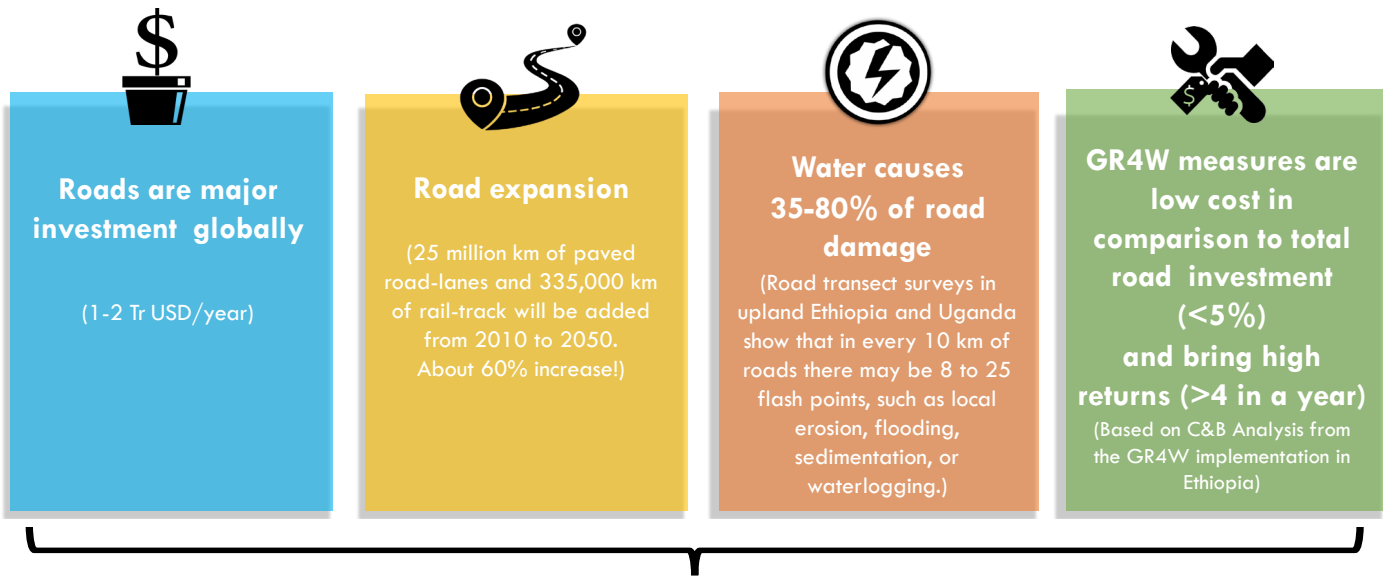
Under this protective Basic Resilience approach the road itself may be sheltered from the impact of higher flood peaks with better cross drainage. However, the landscape around the roads will suffer even more from the effects of climate change, because all extreme weather events are immediately passed on to the area surrounding the road, causing larger floods, more inundation, and heavier erosion.

The second downside is that no use is made of the road's potential to contribute to water management and greater resilience in the area of which it is a part.

Instead, we argue that by integrating water management in road development and design, a "plus" strategy to road resilience can be taken. The environment around the road is managed, and the road is made part of the landscape, even as a beneficial instrument for water management. In most cases, this roads-for-water approach will equally reduce road damage and bring down maintenance and sometimes even construction costs.

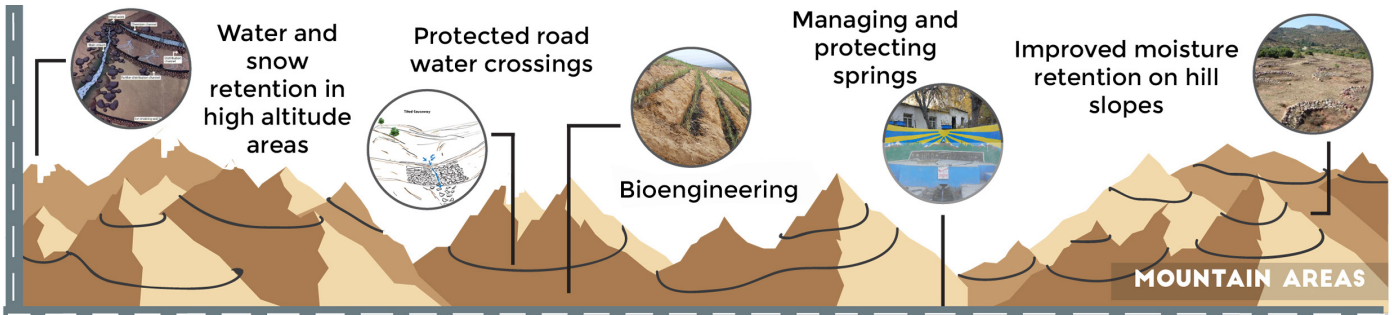
	Regular Roads	Green Roads	
Level of Road Resilience	**Basic Resilience: Protective**	**Resilience Plus 1: Adaptive**	**Resilience Plus 2: Proactive**
Key words	**Protecting road infrastructure**	**Making best use of and adapting to changed hydrology**	**Redesigning road infrastructure to optimize the area's water management/climate resilience**

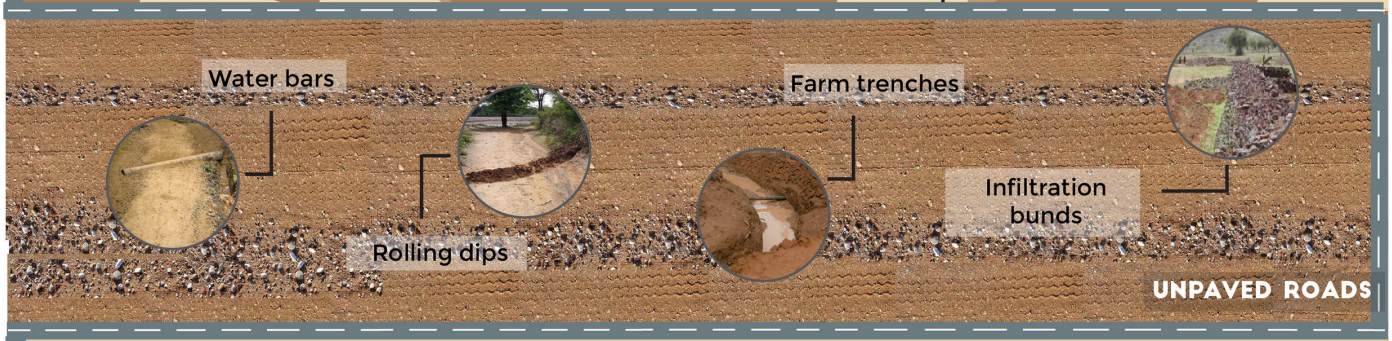
WHY GREEN ROADS FOR WATER? BIG SCALE AND BIG IMPACT

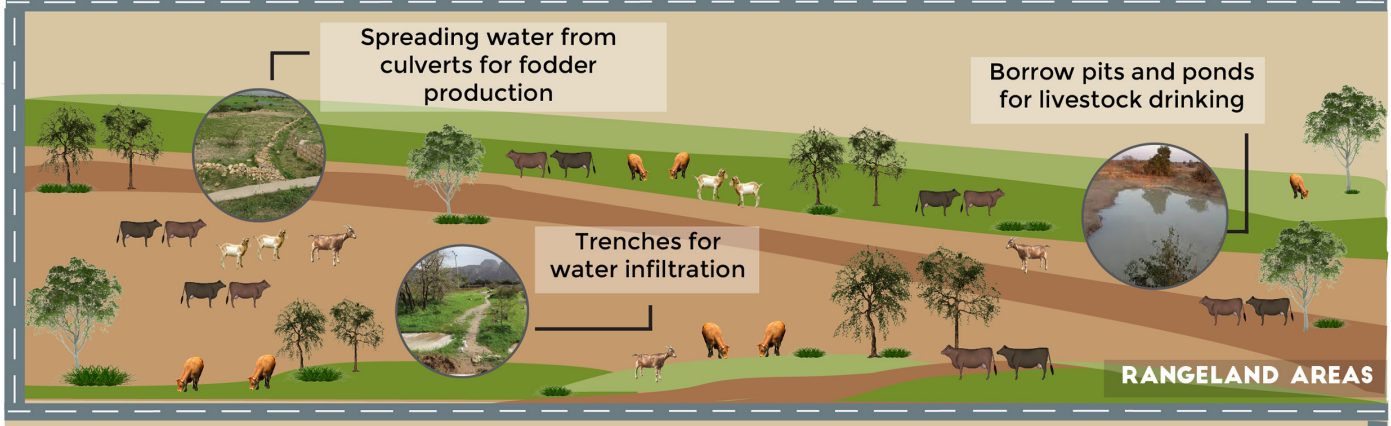


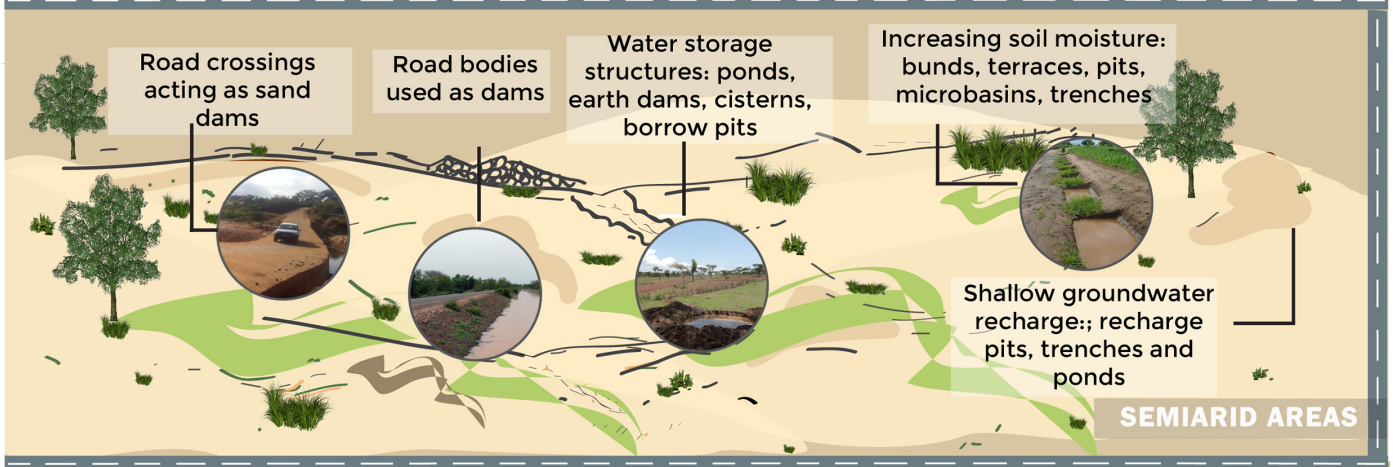
Widespread adoption of GR4W can **leverage investment at a transformative scale,** making road development and maintenance vital tools for climate resilience, water management and productive use of natural resources.

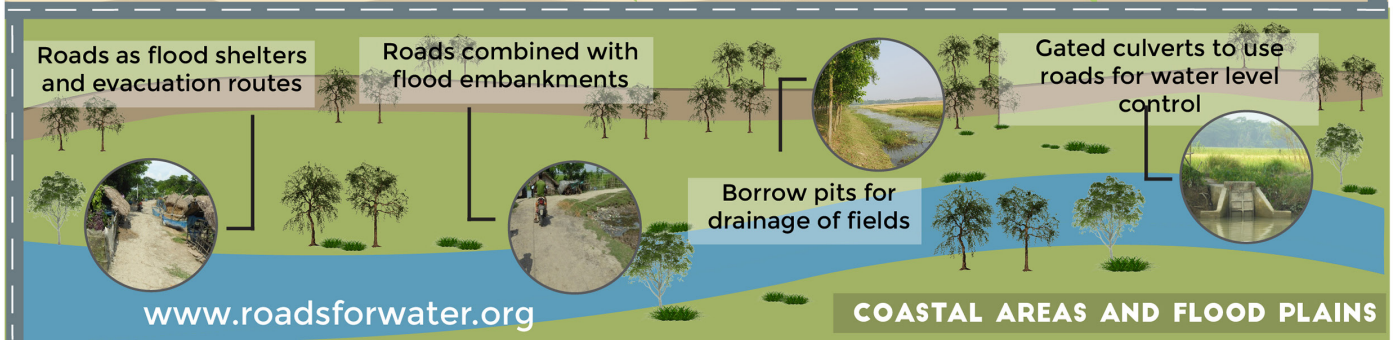
GREEN ROADS FOR WATER APPROACHES AND TECHNOLOGIES IN DIFFERENT GEOGRAPHIES











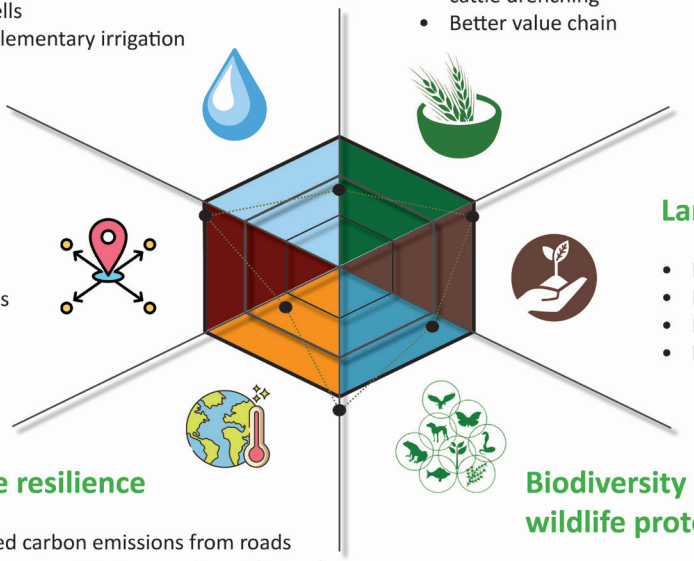
GREEN ROADS FOR WATER: CO-BENEFITS

Water security

- Improved soil moisture and subsurface water storage
- Controlled water table
- Springs and wells
- Extended supplementary irrigation

Food and Nutrition Security

- Increased agricultural production, cattle drenching
- Better value chain



Connectivity

- Economic integration
- Access to vital services
- Communication

Land protection

- Reduced erosion
- Land accretion
- Reduced sedimentation
- Regreening borrow pits

Climate resilience

- Reduced carbon emissions from roads
- Better prepared to the negative effects of climate change
- Climate resilient communties and roads

Biodiversity preservation and wildlife protection

- Maintene hydrological connectivity across the road
- Wildlife crossings and coridors
- Minimize Habitat Fragmentation

GREEN ROADS FOR WATER PROGRAM

- Initiated by MetaMeta in 2014
- Aim: To have roads systematically used for water management, regreening and climate resilience and introduce as standard in at least 50% of countries in the Africa and Asia by 2025
- Active in more than 15 countries
- Identifying best options alomg roads, working with engineers and implementers to design better practice, developing guidelines, training and coaching towards a change in culture and governance for Green Roads for Water
- Supported by: The World Bank, Asian Development Bank, GRP, NWO, NERC.

IFAD
Investing in rural people

GREEN ROADS FOR WATER

META META