



# Green Roads for Water Training in Sudan

Wad Madani, 15-20 January 2023

## Green Roads for Water – Global experience

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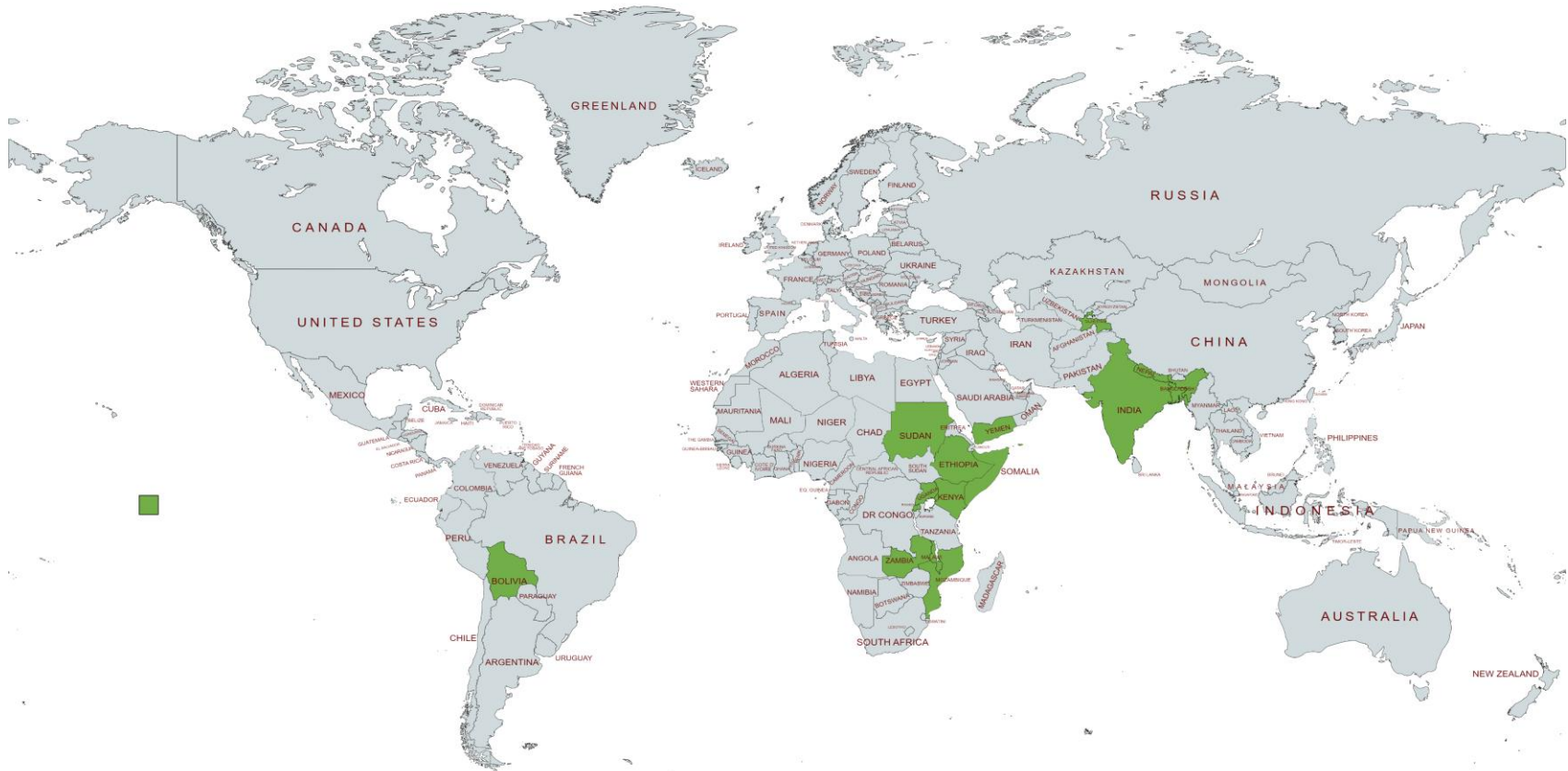
# Green Roads for Water – Global Experience



- Initiated by MetaMeta in **2015**
- First research and work in **Ethiopia**
- Various types of projects: **research, capacity building, implementation, policy formulation** (depending on countries needs, priorities and agendas)
- Active in more **than 15 countries**



# Green Roads for Water – Global Experience



# Green Roads for Water – Global Experience

- **Country Level activities** – in collaboration with local road, water, agriculture, environment authorities and other key stakeholders
- **Global level activities** - in collaboration with organizations such as The World Bank, the Asian Development Bank, the International Road Federation, etc.



## Country Level activities

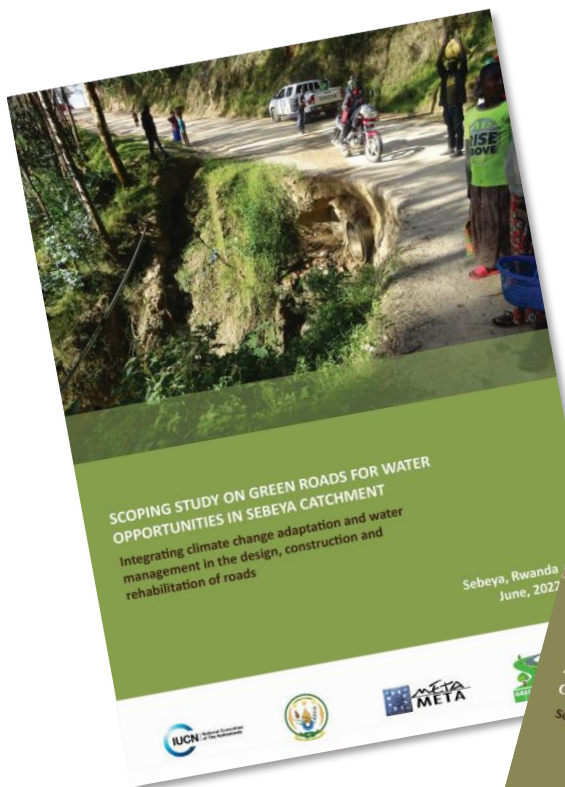
- **Scoping studies** to explore the local GR4W experiences and assess the issues and opportunities for GR4W (exploring both technical and governance aspects)
- **Trainings** (raising awareness on the GR4W topic, bring all relevant sectors together and develop synergies, building capacity on what can be done and who should do what)
- **Supporting implementation** (drafting guidelines tailored to specific countries, providing technical assistant to implementers, facilitating the incorporation of GR4W approach into national/regional plans and programs)





# Scoping studies

- Ethiopia
- Kenya
- Zambia
- Mozambique
- Rwanda
- Somaliland
- Tajikistan
- Yemen
- Nepal
- Bangladesh
- Bolivia



# Good GR4W examples from around the world

## Kenya Experience

**Roadside  
Gully  
rehabilitation,  
prevention  
and  
reclamation  
using locally  
led  
adaptation  
methods.**





# Good GR4W examples from around the world

## Kenya Experience

**Farming using  
harvested  
roadside rain  
water  
(cut-off drains)**





# Good GR4W examples from around the world

## Kenya Experience

### Non-vented drift/road crossing

Act as both road crossings and sand harvesting structures for water storage during the dry seasons  
{Built across seasonal rivers}



# Good GR4W examples from around the world

## Kenya Experience

### Roadside Farm Ponds

Road runoff harvested  
rainwater stored into  
farm ponds for farming  
and tree planting-  
See the silt-trap used to  
prevent sedimentation  
to the pond





# Good GR4W examples from around the world

## Kenya Experience

**Road run-off  
harvesting from a cross  
culvert for farming and  
domestic use.**





# Good GR4W examples from around the world

## Kenya Experience

**Roadside tree  
planting using  
road runoff for  
dust control,  
water retention  
and roadside land  
protection**



# Good GR4W examples from around the world

## Mozambique Experience

### Converting borrow pit

Upgraded borrow pit  
with geomembrane for  
lining and fencing used  
for domestic water for  
population on radius of  
4m



# Good GR4W examples from around the world

## Mozambique Experience

**Connecting  
roadside  
drains to  
farm land**





# Good GR4W examples from around the world

## Mozambique Experience

**Road crossing  
act as sand dam**



# Good GR4W examples from around the world

## Zambia Experience

**Use of  
ponds to  
store water  
from mitre  
drains**  
Used for  
drinking  
water for  
livestock  
and wildlife



# Good GR4W examples from around the world

## Zambia Experience

**Use of borrow pits  
to store water from  
culverts**

Used for livestock  
drinking water,  
small scale  
irrigation and  
groundwater  
recharge





# Good GR4W examples from around the world

## Zambia Experience

**Directing water  
from roadsides to  
tree plantations  
along the road**



# Good GR4W examples from around the world

## Zambia Experience

**Single woman farmer uses four roadsides, hand dug wells to irrigate her vegetable plot with a bucket**



# Good GR4W examples from around the world

## Malawi Experience

**Road runoff  
distribution  
trenches**





# Good GR4W examples from around the world

## Malawi Experience

**Percolation  
ponds with  
water  
diverted  
from roads**



# Good GR4W examples from around the world

## Yemen Experience

**Using the  
Culverts  
provided with  
control gates  
to facilitate  
distribute  
floods in sub-  
canals**



# Good GR4W examples from around the world

## Yemen Experience

**Water from  
roadside  
drains used  
for irrigation**





# Good GR4W examples from around the world

## Yemen Experience

**Direct water  
storage at  
culvert outlet**



# Good GR4W examples from around the world

## Bangladesh Experience

**Roads as  
temporary  
flood  
shelters and  
evacuation  
routes**



# Good GR4W examples from around the world

## Bangladesh Experience

**Roads and  
embankments  
as flood  
defense**





# Good GR4W examples from around the world

## Nepal Experience

**Protecting and  
preserving spring  
water as part of road  
development practice  
in mountainous  
areas**





# Thank you!

For more information visit [www.roadsforwater.org](http://www.roadsforwater.org)  
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