



# Assessing and upscaling water harvesting potentials: A case study in the Central Rift Valley, Ethiopia

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## Introduction

- Agriculture is the mainstay of the Ethiopian economy.
- The agricultural sector in Ethiopia heavily depends on rain-fed agriculture.
- The amount of rainfall and the duration of the rainy season are very variable.
- Crops yields and incomes are low, food shortages and famines occur frequently.
- The potential for (perennial) irrigated agriculture is often limited.
- Global climate change may aggravate the situation.

⇒ Adaptive strategies should focus on increasing the resilience of rain-fed farming systems

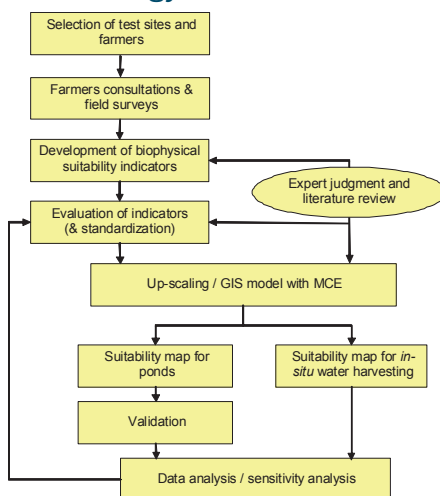
↓  
Better management of the rainwater needed

↓  
Assess seasonal water harvesting potentials

## Regional planning of water harvesting

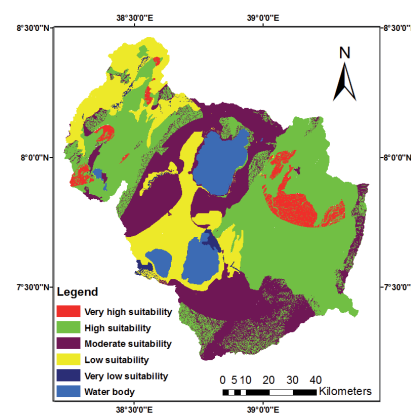
- Integrate biophysical suitability indicators and indigenous knowledge.
- Use GIS functionalities (a.o. upscaling to large spatial units).
- Conduct multi-objective multi-criteria evaluations of suitability indicators.

## Methodology

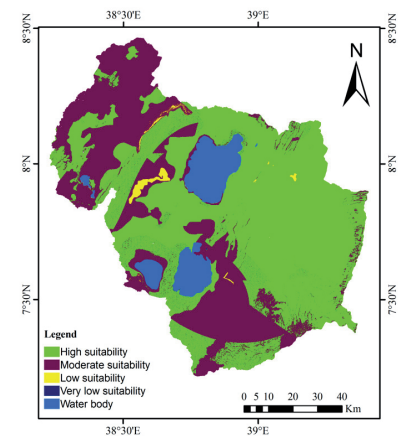


## Example

Assess the potential of macro- (ex-situ) and micro- (in-situ) catchment water harvesting techniques in the Central Rift Valley.



*Suitability map macro-catchment water harvesting.*



*Suitability map of micro-catchment (in-situ) water harvesting.*

## Conclusions

- > 50% of the CRV is suitable for micro-catchment (in-situ) water harvesting (from a biophysical perspective).
- ± 50% is suitable for macro-catchment (ex-situ) water harvesting.
- The potential for water harvesting in the CRV is still largely unexploited.
- The methodology can assist planners and policy makers in regional land and water management (quick-scans).