

# Ecosystems for water, food and economic development in the Central Rift Valley, Ethiopia

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## Introduction

The Central Rift Valley is a land-locked river basin where poverty and natural resource degradation are firmly intertwined. Recent investments in irrigated horticulture stimulate economic growth and development but claim their share of the limited resource base. The increasing pressure on land and water resources intensifies conflicts between various stakeholders. Severe environmental degradation has already become manifest in the decline of Lake Abyata, deforestation, soil nutrient depletion, and the loss of biodiversity. Policy makers and development organizations, however, seem to have serious difficulties in coping with the negative impacts of the ongoing land and water developments on the livelihood of communities and on the ecosystem.

Since 2006, Wageningen UR in collaboration with local partners headed by the Horn of Africa Regional Environment Centre has been involved in research and development activities aimed at the strengthening of local authorities, development organisations and the private sector in the field of sustainable water use, proper agricultural practices and sound environmental planning and management.



## Objectives

- Disentangle and understand the on-going interrelated developments and their consequences.
- Identify options for improved resource use.
- Contribute to the policy dialogue and research agenda.
- Capacity building through training and involvement of local researchers.

## Impacts of on-going water use

Large and small scale irrigated agriculture spurrs economic development in the Central Rift Valley. However, there is increasing consensus that especially the open field (furrow) irrigation methods have contributed to lower water availability, while impacts of the horticulture on water quality are still uncertain. The on-going damming of the only fresh water lake (Lake Ziway) to reduce the 'unproductive' outflow of water will further affect downstream living people and ecosystems and increase the risk that Lake Ziway becomes saline.

## Options for improved resource use

Irrigation contributes to increased incomes of smallholders, but expansion possibilities are limited given the already over-exploited water resources. Options need to be developed to improve simultaneously water use efficiency and the currently low economic returns in smallholder agriculture. For rain fed farmers income diversification options are explored and effects of better soil and water conservation. Another option builds upon the natural and cultural beauty of the area through the development of eco-tourism providing new off-farm employment opportunities.

## Need for collaboration and dialogue

Gained insights and identified options are developed in collaboration with local partners from Government, NGOs and research organizations to maximise user involvement. Various stakeholder workshops have been agenda-setting and have provided podiums for further dissemination and communication of results. Local policy development and integrated land and water management is imperative to ensure the sustainable development of the Central Rift Valley.

## Capacity building and training

The program provides currently three Ethiopian PhD students an opportunity for doing integrated research and to graduate at Wageningen University. In addition, many local and international MSc and BSc students contribute to the program. In the near future, further capacity building is planned in the field of water quality monitoring and smallholder horticulture.

