Smallholder Irrigation Programme Mt. Kenya IV

Increasing agricultural productivity through the provision of irrigation infrastructure and related services

At a Glance

The Smallholder Irrigation Programme Mount Kenya includes investments in the construction of small irrigation systems and in capacity building for cooperatives to sustainably increase the agricultural productivity of the smallholder farming population in the project region, thereby contributing to regional poverty reduction and food security. This contributes to the sustainable improvement of income and employment opportunities along agricultural value chains, especially for young people and women.

Project name	**Smallholder Irrigation Programme Mt. Kenya (SIPMK), Phase IV**
Commissioned by	**German Federal Ministry for Economic Cooperation and Development (BMZ)**
Implemented by	**KfW Development Bank**
Country/Region	**Kenya**
Lead executing agencies	**Ministry of Water, Sanitation and Irrigation**
Implementation period	**2015–2026**
Financial Cooperation	**EUR 8 million loan**

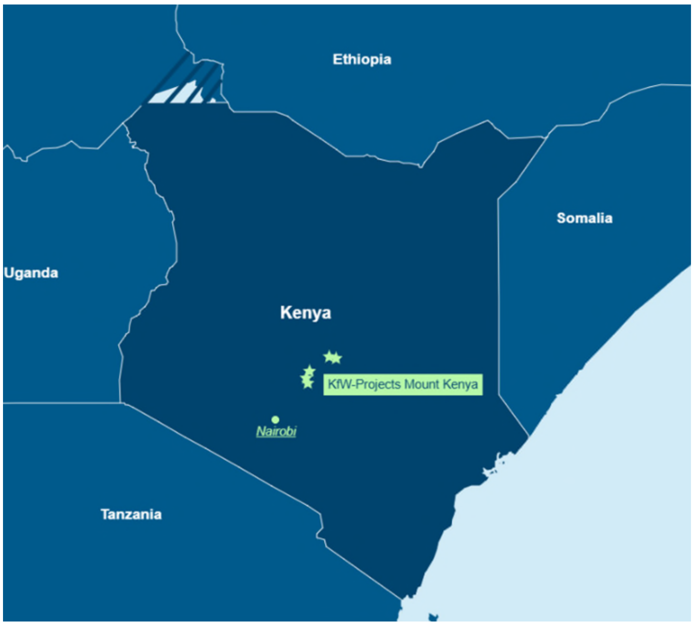
Challenges and Opportunities

Agriculture plays a critical role in Kenya's economy, although large parts of the country (80%) are characterised by arid or semi-arid conditions where the production potential is limited. The Mount Kenya region has a high agricultural potential with untapped water resources, and the target group in the project region is characterised by a poverty rate that is below the national average. Still, they are faced with frequent droughts recurring in ever decreasing intervals – likely as a consequence of climate change.

Income and resources are very unevenly distributed regionally and socially in Kenya. Poverty is particularly prevalent in the West of the country. More than five million people are at an acute risk of hunger across Kenya. The country is also suffering greatly from various external crises, including economic stagnation due to climate change-induced extreme weather conditions such as droughts or torrential rains, and dramatic increases in food and fertiliser prices.

The agricultural sector is the economic basis of the project region. The subsistence-oriented rain-fed agriculture that mainly takes place here, and therefore forms the basis of local income, is largely determined by the amount and distribution of rainfall. The observed strong seasonal and long-term rainfall fluctuations reduce the yield and income potential and, therefore, pose a considerable risk to the livelihoods of broad sections of the population. A point in case, were the absence of five consecutive rainy seasons (October 2020 to December 2022) has led to substantial losses in crop and milk production.

In principle, Kenya is well placed to make greater use of its agricultural potential and thereby improve the nutritional situation of its population. However, the predominantly small farms do not have sufficient means of production, and their dependence on rainfall reduces the yield potential. Farmers lack high-quality seeds and fertilisers, as well as capital and technology.



Map of Kenya – project sites highlighted. Source: KfW

The fourth phase of the Smallholder Irrigation Programme Mount Kenya (SIPMK) follows on from three previously completed phases, which were successively implemented from 2005 to 2014. In phases I to III, a total of 5,500 households were targeted and the irrigation areas in the Mount Kenya region were expanded by a total of 2,184 hectares, using 19 irrigation systems. So far within Phase IV, five smallholder irrigation schemes were constructed with 1,297 acres of land under irrigation, benefitting 1,539 smallholder farmers.

Project Design and Approach

The Project aims to sustainably increase the agricultural productivity of the target group, by making greater use of irrigation potential. Therein, the promoted transition from rainfed to irrigated agriculture reduces production risk and increases drought and climate change resilience.

Irrigation works in Magatianthi district. Source: AHT Group GmbH, Bhundia Associates; AHT Group

Expected Outputs:

- Food security and drought resilience in West and North Kenya improve
- Agricultural productivity rises
- Irrigation schemes are constructed and effectively operated
- Irrigation and Marketing Cooperatives are established and successfully managed
- Irrigation water is used efficiently by farmers

Implementation and Outlook

It is planned to achieve the project objective by investing in three funding components: (1) Planning and construction of small irrigation systems, (2) Participatory irrigation management and (3) Project management and quality assurance. These components contain, for example, the examination and selection of perimeters, capacity building in the established irrigation and marketing cooperatives, and financial management.

Inlet structure in Kiramanti. Source: KfW, 2025 Dirk Wenzel

The project concept and implementation modalities have proven themselves effective in the three previous phases and are to be adopted as far as possible in the current Phase IV. The project is designed as an open programme, in which individual irrigation perimeters operated by cooperatives are identified, planned, built and handed over to the cooperatives based on available funds and agreed processes. The financing approach is innovative, as the cooperation with commercial banks and the 50% participation of smallholders in the investment costs leads to a high degree of ownership by the organised farmer groups and thus to higher chances of successful implementation.

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