Theory of Change

Impact: Paradigm shift

IF drought-vulnerable communities in the arid and semi-arid lowlands of Ethiopia are provided with climate-resilient water infrastructure, integrated watershed rehabilitation, and inclusive climate-smart agriculture solutions, **THEN** their adaptive capacity and resilience to climate-induced drought risks will be significantly enhanced, **BECAUSE** integrated access to potable water, irrigation, and sustainable land management directly reduces vulnerability, supports ecosystem restoration, and improves livelihoods, particularly for women and other marginalized groups.

Outcomes

Outcome 1 Improved capacity to manage recurrent drought and flood risks through improved adaptation planning and sustainable management of agro-ecological landscapes

Outcome 2 Reduced vulnerability of communities to climate change-induced drought through enhanced and secured access to solar-powered potable water supply and solar-powered small-scale irrigation, complemented by integrated watershed management.

Outcome 3 Increased resilience of agro-ecological landscapes and farming systems through nature-based watershed restoration, land stewardship, and climate-smart agriculture

Outcome 4 Improved income of target communities through the creation of alternative sources of income

Co-benefits

Co-benefit 1- Environmental-Increased Biodiversity and Ecosystem Health

Co-benefit 2 Social and Gender Inclusion- Improved Participation and Access to Information for Vulnerable Groups

Outputs

Output 1.1. Knowledge management

Output 1.2. Updated Climate-smart agriculture and land–water–forest integration plans

Output 2.1. Potable water supply services strengthened in target areas

Output 2.2. Improved water access for irrigation and livestock use

Output 3.1: Climate-smart agriculture implemented at the farm level

Output 3.2. Degraded Watersheds Restored and protected through Integrated watershed management approach

Output 4.1: Income-generating activities for vulnerable groups supported and scaled

Project Activities

Activity 1.1.1 Training in environmental and social standards, gender integration, citizen engagement, and the inclusion of physically disabled and socially vulnerable groups.
Activity 1.1.2 Monitoring compliance with environmental and social standards.
Activity 1.1.3 Establishment of grievance redress mechanisms (GRMs)
Activity 1.1.4 communication and outreach to beneficiaries and stakeholders.

Activity 1.2.1 Collate information on agricultural production, management systems, practices, and the specific needs of women and men in the project areas;
Activity 1.2.2 Develop locally appropriate and gender-sensitive tools and methodologies;
Activity 1.2.3 Undertake a scoping assessment on the potential influence of climate change on future water demand and develop a comprehensive groundwater management plan
Activity 1.2.4 Provide an indicative water balance (supply-demand) in each Kebele with consideration of current and future risks
Activity 1.2.5 Revising an integrated water - agriculture-land-ecosystem and livelihood diversification plans with the communities

Activity 2.1.1 Specifications, Conditions of Contract and all other required documentation prepared)
Activity 2.1.2 Rehabilitating springs and retrofitting existing wells via solar power to increase access to potable water
Activity 2.1.3: Optimization and safety improvements for existing associated water supply facilities, including service reservoirs, water points, cattle troughs, guard houses, pump houses and related facilities
Activity 2.1.4 Distribution HDP pipeline (main, sub-branch);
Activity 2.1.5 Procurement of spare parts
Activity 2.1.6 Provide training to women and men from the association on the operation and maintenance of Solar PVs and hand pumps at the community and Woreda level

Activity 2.2.1 Preparing detailed design and tender documents
Activity 2.2.2 Installation and rehabilitation of irrigation conveyance and distribution works, including diversion structures and irrigation canals
Activity 2.2.3 Rehabilitation and improvement of water harvesting structures for irrigation and livestock use
Activity 2.2.4 Provision and operationalization of solar systems for established irrigation systems
Activity 2.2.5 Maintenance and operation including spare part

Activity 3.1.1 On-farm physical soil and water conservation activities
Activity 3.1.2 Biological measures on soil and water conservation structures
Activity 3.1.3 Fodder development at the farm level
Activity 3.1.4 Agroforestry development on-farm
Activity 3.1.5 Establish windbreaks/shelter belts and farm boundaries
Activity 3.1.6: Gully treatment at Farm level

Activity 3.2.1 Pastureland management
Activity 3.2.2 Area closures and physical structures
Activity 3.2.3: Undertaking area closures for enhanced natural regeneration
Activity 3.2.4 Undertake upper gully treatment
Activity 3.2.5 Nursery site management and operation
Activity 3.2.6 Afforestation and reforestation
Activity 3.2.7 Live fences on area closures
Activity 3.2.8 Pasture and browse seed distribution

Activity 4.1.1 Conduct market and value chain analysis
Activity 4.1.2 Facilitating improved access to market information
Activity 4.1.3 Purchasing and adopting lowland/highland fruit trees and promoting vegetable production in vulnerable households
Activity 4.1.4 Facilitating and supplying improved forage seed
Activity 4.1.5 Promoting poultry production and promoting apiculture through support and delivery of modern beehives for cooperatives or established youth groups
Activity 4.1.6 Access to local breeds of resilient small ruminants
Activity 4.1.7 Equipping kebele livestock health posts for the medication of delivered shoats and poultry
Activity 4.1.8 Building awareness of livelihood options among target households
Activity 4.1.9 Updating the analysis of local livelihood opportunities for target households

Barriers, risks

- Weak local institutional capacity and limited technical know-how
- Limited access to climate information and early warning at the local level
- Inadequate technical capacity at the local level for the design, installation, and maintenance of water infrastructure
- overuse of water sources due to lack of groundwater monitoring and water balance planning
- Degraded ecosystems due to historical unsustainable land use practices
- Limited access to finance and technology for climate-resilient agriculture
- Risk of limited long-term maintenance of water infrastructure
- Climate variability may outpace designed system capacity
- Risk of exclusion of vulnerable groups, including women, from benefits

Assumptions

- There is continuous peace and security in the country; / Strong political leadership and institutional support; / No delay in finance disbursement, utilization, settlement, and auditing / Strong multi-sectoral coordination in planning, implementation, monitoring and supervision; Moderate level of labour and material costs due to inflation and market volatility /Community objectively perceive projects benefits and are providing labour in constructing the diversion and irrigation canals, loading and offloading project equipment's
- Active involvement of the poor, women, and marginalized groups in the community / Active participation of beneficiary households / Woredas supportive of adaptation planning processes / Harmonized planning approaches are applied among implementing institutions / Communities positively perceive benefits and are willing to actively participate and make the necessary in kind contributions§ Information available and appropriate to local conditions
- Active participation of beneficiary households in the O&M training