

NOTE: FOR TRAINING PURPOSES ONLY

EXERCISE: ENVIRONMENTAL IMPACT ASSESSMENT— IDENTIFYING IMPACTS OF CONCERN OR SIGNIFICANCE

PROJECT BRIEFING: SMALLHOLDER IRRIGATION SYSTEMS

The Government of Tanzania is interested in USAID support for the construction of surface water-based irrigation schemes in Kilombero District.

The construction of these irrigation schemes will involve the development of new weir diversions, distribution canals, secondary control structures, drainage, flood control embankments, and on-farm access roads. The schemes will be gravity-fed, eliminating the need for pumping infrastructure. The irrigation schemes will be designed to supply water during the dry season and prevent water logging during the rainy season.

The proposed irrigation schemes will allow beneficiary farmers to grow crops during the dry season; previously, under the rain-fed agriculture regime, farmers grew crops only during the wet season. The system will be managed and maintained by user associations, which will be established and trained by the Ministry of Agriculture Extension Office.

The beneficiaries of the irrigation schemes are smallholder farmers.

Development Objectives

FTF Tanzania's development goals are to:

- Increase yields of target crops by at least 50%.
- Increase area under irrigation in Tanzania by 15% through the development of smallholder irrigation schemes in Morogoro Region and Zanzibar.
- Increase market access by rehabilitating at least 3,000 kilometers of rural roads, thus reducing post-harvest losses for maize and rice from 20% to 10%.
- Increase trade in the target value chain by at least 25% through improved rural infrastructure and improved value chain efficiency.

Rice was selected as the primary value chain for investment based on a regional analysis that shows that Tanzania has a comparative advantage in rice production, although there are opportunities to enhance competitiveness. Rice is the second most important food in terms of consumption in Tanzanian diets, and has been increasing as a proportion of the diet, and also has the potential to provide regional market demand. Since nearly one in five farmers is involved in rice production, advances in this value chain are expected to support broad-based growth.

Environmental Compliance

USAID's Environmental Procedures, 22 CFR 216 (also known as Reg. 216), govern the environmental review process for all projects, programs, or activities supported by USAID. In accordance with 22 CFR 216.2(d), the following are among the Classes of Actions Normally Having a Significant Effect on the Environment, and which require an Environmental Assessment (EA):

- Programs of river basin development;
- Irrigation or water management projects, including dams and impoundments;
- Agricultural land leveling; and
- Drainage projects.

The proposed irrigation schemes fall under these four categories. In accordance with Reg. 216, scoping, the first phase of the EA process, begins with the identification of potentially significant issues related to the proposed action and the determination of the scope of the issues to be addressed in the follow-on EA.

NOTES ON THE BASELINE.

Agriculture

- Low productivity continues to hamper the growth of Tanzania's agricultural sector.
- Low levels of productivity in cereals are mainly due to a dependency on rain-fed agriculture and low usage of fertilizer, improved seeds, and pesticides.

Kisegese

- The proposed site of the headworks for the scheme is located at the foothills of the Udzungwa Mountains, in the forest reserve managed by the Udzungwa Mountains National Park (UMNP).
- The scheme abuts the Kilombero Nature Reserve, which extends into the UMNP.

Social

- The Valley used to harbor hundreds of pastoralists and thousands of head of livestock that had encroached into KGCA and surrounding village lands. They have been evicted by Government to safeguard the ecological integrity of the Valley and reduce farmer-pastoralist conflicts.

Economy

- Many villagers in the Kilombero Valley have low incomes as they produce very little for subsistence and commercial purposes. The income obtained does not sustain family needs.
- The Kilombero Valley offers local communities with land to farm (paddy and maize are predominant crops in the Rufiji Basin); fisheries; and wild animals to hunt.

Environment

- The Kilombero Valley has suffered due to from agricultural and livestock activities, as well as from excessive tree cutting for fuel wood and other domestic uses.
- Increased agricultural encroachment into the Valley has put increasing pressure on the only two remaining wildlife corridors, the Magombera Corridor and Ruipa Corridor

Climate

- The climate in the Kilombero Sub-basin is highly variable between the highlands and the lowlands, and the valley is hot and humid. Mean annual rainfall varies from 1,100 mm to 2,100 mm.
- The largest amount of annual rainfall (80-90%) occurs during the rainy season between December and April, while the period from June through September is relatively dry with typical monthly amounts below 10 mm, except in the Udzungwa Mountains.

WORKSHEET

Kilombero Smallholder Irrigation Systems

*Section Instructions: Identify several discrete subactivities that you think would need to be undertaken in order to implement the above project and associated activities to meet the development objective. For each activity listed, determine possible resulting environmental impacts by resource. *STAR* those impacts that you believe may be significant and must be addressed by the EA.*

| ACTIVITIES | IMPACTS BY RESOURCE |
|------------------------------|---|
| New weir diversions | Air: |
| Distribution canals | Surface water: |
| Secondary control structures | Ground water: |
| Drainage | Soil: |
| Flood control embankments | Biodiversity and ecosystem integrity: |
| On-farm access roads | Public access to environmental resources (e.g. agricultural land, water, forage): |
| | Community Health: |
| | Social Equity: |
| | Other: |