

**ECONOMIC AND SOCIAL RESEARCH FOUNDATION
(E S R F)**

**A Framework for a National
Irrigation Policy and the Economic
and Social Implications for Future
Irrigation Development Programmes
in Tanzania**

Policy Dialogue Series No. 006

**A Framework for a National Irrigation Policy and
the Economic and Social Implications for Future
Irrigation Development Programmes in Tanzania**

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ABBREVIATIONS

DOE	Department of Economics, University of Dar es Salaam
ERB	Economic Research Bureau
ESRF	Economic and Social Research Foundation
NAFCO	National Agricultural and Food Corporation
NGOs	Non-Governmental Organisation
NIDP	National Irrigation Development Programme
SUDECO	Sugar Development Corporation
TAC	Tanganyika Agricultural Corporation
TPC	Tanganyika Planting Company

PREFACE

This report is a synopsis of a Workshop organised by the Economic and Social Research Foundation (ESRF). The Workshop was organised within the framework of the research programme on the challenges of rural development in Tanzania. In line with the ESRF's approach of networking and capacity building a consultant who is an irrigation sociologist, the late Mr. Mwanitu Kagubila was contracted to undertake a study on Irrigation Policy. The Workshop was held specifically to disseminate the findings of the research to a group of professionals, academics, politicians and other actors in the field of irrigation in the country. It was also intended to enlist further views on how best to improve the national policy on irrigation.

This report is dedicated to the late Mr. Mwanitu Kagubila who unfortunately passed away three days before the Workshop was held.

The guest of honour was Mr. Raphael Mollel, the Principal Secretary of the Ministry of Agriculture and Cooperatives. The main discussants were Prof. R.B. Mabele (ERB) and Dr. Limbu (DOE).

**A FRAMEWORK FOR A NATIONAL IRRIGATION
POLICY AND THE ECONOMIC AND SOCIAL
IMPLICATIONS FOR FUTURE IRRIGATION
DEVELOPMENT PROGRAMMES IN TANZANIA**

1.0 Introduction

The history of irrigated agriculture goes back to the Iron Age. Evidence shows that between 1700 and 1890 the culture of irrigation flourished in a number of regions: Arusha, Iringa, Tanga, Mwanza, Shinyanga, Kilimanjaro, Mbeya, Morogoro and Ruvuma. These indigenous irrigation schemes were owned and managed by the communities concerned. Normally, these schemes were small scale in nature. In subsequent years, large scale irrigation schemes, under government ownership and management, were established by parastatal organisations such as the Tanganyika Agricultural Corporation (TAC), the National Agricultural and Food Corporation (NAFCO) and the Sugar Development Corporation (SUDECO). It is estimated that, by the year 1994, there were between 600-800 irrigation schemes in the country. About 90 percent of these schemes are owned, controlled and managed by small holder farmers. The remaining 10 percent are therefore, owned, controlled and managed by the public sector.

Generally, about 300,000 ha of land are under irrigation countrywide. This coverage is still too small compared to the potential that could be put under irrigation. It needs to be appreciated, in this context, that the country has about 9 river basins and drainage systems which, if adequately exploited, would contribute significantly to promoting food security and eradication of absolute poverty.

The reasons why this potential has not been tapped are varied. However, they can be categorized into four broad groups: policy, institutional, land ownership rights and administrative and technical constraints. Evidently, a number of interventions have been attempted at the government level to address these constraints. These are manifested by the following: The National Agricultural Policy Task Force (1982); The National Village Irrigation Development Programme (1979/80); The establishment of the six (6) Zonal Irrigation Units and Centres and the launching of The National Agriculture Policy (1983). However, none of these interventions can qualify to be described as a coherent "National Irrigation Policy". A more recent effort in promoting such a policy was in 1994 when a 20 year National Irrigation Development Plan (NIDP) was launched.

The objectives of the Plan are to:

- satisfy subsistence requirements in many parts of the country;
- generate local surpluses of main staple foods, particularly rice, in order to facilitate food security at regional and national levels;
- ensure adequate production of much needed dietary supplements.
- produce food grains and industrial crops for export;
- improve capacity utilization in the industrial sector through improved supply of raw materials.

The purpose of this policy dialogue paper is to outline the current position of the irrigation sub-sector, address the challenges which the irrigation sub-sector faces and to propose policies and strategies which can promote a more effective irrigated agriculture in Tanzania and thereby boost food security, exports, employment and reduce poverty.

2.0 Current Status

As earlier noted, about 90% of the irrigated area is owned, controlled and managed by peasant farmers. The size of the irrigated area varies from 10 ha to 3,500 ha. The average size is about 150 ha. The distances between the residential and irrigation areas, after the villagization programme of the 1970s, are between 3-20 kms.

The public owned irrigation schemes are capital intensive and large scale. For example, the irrigation potential for some of them are as follows: Ruvu (712 ha); Dakawa (2000 ha); Mbarali (3200 ha); Kahe (1340 ha); Mtibwa (4,700 ha); Kilombero (6400 ha); TPC (5670 ha). It is important to note that none of these schemes has been able to operate at their potential levels.

The irrigation sub-sector is currently characterised by the following:

- Lack of clear understanding of the socio-cultural factors which ingrain rural communities;
- Substantial reliance on short-run natural rainfall;
- Lack of farmer participation at planning and design stages of irrigation schemes;
- Weak water management and control systems;

- Unfavourable land and water rights, land tenure patterns and power relations at rural levels;
- Too much emphasis on large scale irrigation schemes which are often too capital intensive and thus overly expensive;
- Indifferent, non-committed, less informed and/or biased government interventions;
- Inadequate administrative and technical management capabilities.

These weaknesses in the irrigation sub-sector can partly be explained by:

- The non-existence of a national irrigation policy;
- Inadequate importance being given to the Irrigation Department within the Ministry of Agriculture and Cooperatives;
- Implementation of unsustainable schemes lacking in effective planning and design;
- Meager and highly unreliable financial allocations;
- Failure to coordinate the contributions of Donors and NGOs to irrigation development;

- Lack of adequate trained and qualified national irrigation personnel;
- Lack of financial credit for irrigation farming;
- Disregard of gender issues in the development of irrigation schemes.

3.0 Challenges

In the light of the current situation which confronts the irrigation sub-sector, a wide range of challenges have to be addressed. The following challenges stand out:

- Giving the irrigation sub-sector greater importance and emphasis in the national development plans and programmes;
- Putting in place a clear and coherent national irrigation policy;
- Establishing a reliable data bank on irrigation activities;
- Integrating environmental issues into national irrigation policy and programmes;
- Minimizing irrigation transaction costs;

- Having clearly defined property rights on land and on water.
- Incorporating gender issues into irrigation policy and programming;
- Enhancing the administrative and management capacities of the irrigation personnel;
- Putting in place appropriate irrigation management schemes;
- Establishing appropriate institutional arrangements that ensure a sustainable development of irrigation schemes;
- Building capacity in irrigation research;
- Lessening dependence on donor funding for irrigation schemes;
- Enhancing community and smallholder participation in the planning, management and implementation of irrigation projects;
- Integrating the “irrigation approach” in the framework of private sector development and market-led economy; and
- Synchronising the type of irrigation with type of technology required, agro-ecological zone involved, and the type of crops to be produced.

4.0 Policies and Strategies

Increasing the acreage under irrigation is crucial to a rapid growth in foodgrain output, poverty reduction and exports.

In order to meet the challenges of the irrigation sub-sector, it is essential to adopt the following policies and strategies:

- Sensitize policy makers and stakeholders on the importance of irrigation.
- Establish an autonomous National Irrigation Council.
- Establish a national Irrigation Research Unit which should ultimately become a data bank on irrigation activities.
- Form water users' associations or irrigation cooperative societies to manage irrigation schemes.
- Involve the stakeholders at all stages of irrigation project development and implementation.
- Contract out major irrigation construction works to the private sector.
- Strengthen the irrigation development supervisory capacity through specialised

- training and motivation of irrigation personnel.
- Channel all external donor funds for irrigation projects to a “National Irrigation Fund” rather than to or through the Treasury in order to create a better framework for accountability.
 - Promote individual bore hole pump systems including the domestic manufacture of affordable water pump generating sets for irrigation purposes.
 - Introduce water service charges as a way of mobilising internal financial resources for financing irrigation schemes.
 - Enact laws which will enable individuals to own land in order to enhance the productivity of land and of water utilisation for irrigation.
 - Speed up rural electrification to drive irrigation schemes.
 - Promote self help schemes in ground water development to provide reliable water supplies for irrigation.
 - Improve rural roads in order to ameliorate accessibility of irrigators.
 - Restructure and privatise irrigation systems

presently under public sector ownership and management.

- Empower women to own land and to form their own farmers' organisations in rural areas.
- Define more clearly the role of Donor Agencies and NGOs in the irrigation sub-sector.
- Promote farmers' associations in production, distribution and financial activities in rural areas.

5.0 Areas for Future Research

Three areas have been identified as the focus of future research.

These are:

- The technological aspect of irrigation. What causes technological deficiencies? Is it a case of inappropriateness, or bad workmanship or lack of competent manpower to run the facilities?
- Trends of investment in the irrigation sub-sector, the objective being to gauge their behaviour overtime.
- Given the reality that intensive and extensive irrigation would inevitably boost production,

how should demand be stimulated at the household, national and foreign market levels?
Would low demand adversely affect irrigation activities?

- The relationship between size of farm and adoption of innovation such as irrigation in terms of cost of investment, crop yield and profitability results.