MINISTRY OF WATER, SANITATION AND IRRIGATION

STATE DEPARTMENT FOR WATER, SANITATION AND IRRIGATION

GUIDELINES

FOR

PROMOTION, DEVELOPMENT AND MANAGEMENT OF IRRIGATION IN KENYA

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DEFINITION OF TERMINOLOGIES USED IN THE GUIDELINES

Agriculture - means cultivation of land and the use of land (whether or not covered by water) for any purpose of husbandry, aquaculture and food production and includes (a) cultivation of crops and horticultural practice; (b) breeding of aquatic animals and plants in the Kenya fishery waters and sea ranching and fish farming in the sea; (c) use of land, meadow land, market gardens or nursery grounds; (d) fish harvesting; (e) the use of land for agroforestry, when that use is ancillary to the use of land for agricultural purposes; (f) transgenic and microbial formulations for use in agricultural systems (Agriculture, Fisheries and Food Authority Act, No 13 of 2013).

National Irrigation Authority (NIA) – is a State Agency established under section 7 of the Irrigation Act, 2019 to: develop and improve irrigation infrastructure for national or public schemes; provide irrigation support services to private medium and smallholder schemes, in consultation and cooperation with county governments and other stakeholders; provide technical advisory services to irrigation schemes in design, construction supervision, administration, operation and maintenance under appropriate modalities, including agency contracts.

County Irrigation Development Unit (CIDU) – is a State entity established by a county government to carry out irrigation matters under section 14 of the Irrigation Act 2019.

Drainage - Removal of excess water from agricultural lands for control and management of the water table for crop production.

Irrigation - means any process, other than by natural precipitation, which supplies water to crops or any other cultivated plants, livestock, aquaculture and desired forest trees.

Irrigation Agency - An irrigation agency refers to an entity contracted to provide technical advisory services to irrigation schemes in design, construction supervision, administration, operation and maintenance under appropriate modalities, including agency contracts.

Irrigation Development and Management Guidelines - This is a document that will guide and offer direction to stakeholders in the sustainable development and management of irrigation and drainage.

Irrigation Scheme - means a systematic and orderly irrigation system covering a defined area of land regardless of the type or system of irrigation employed.

Irrigation service fee - means the rates to be charged to water users for receiving irrigation services;

Irrigation service plan - means the annual plan for water acquisition and distribution, scheme maintenance and repairs, other management tasks, staff and group labour mobilization, budget and irrigation service fee.

Irrigation Stakeholders - An Irrigation stakeholder is any organization, group or individual that is involved in irrigation and drainage development in Kenya. These range from donor organizations, government organizations, NGOs to farmers. The involvement could be through the provision of technical, financial or any other related support.

Irrigation water user - means a member of a water users' association who uses water from an irrigation scheme for an approved purpose such as for crops, livestock, and fish farming.

Irrigation water users' association (IWUA) - means any association established by residents of a catchment area who are crop farmers, livestock producers, fish pond users, or small rural industry entrepreneurs or otherwise uses water for irrigation purposes from a common water source/irrigation facility. The members are responsible for installing, operating, maintaining and managing the irrigation system. At catchment level the IWUA should operate as a member of a Water Resource Users Association (WRUA).

IWUA Framework - This is a document that provides guidelines for formation and administration of IWUAs towards sustainable irrigation development and management. Its objective is to guide policy makers, planners, implementers, beneficiaries and other stakeholders in the organization and development of IWUAs.

Large scale irrigation scheme - means a scheme which acreage size covers over three thousand acres (1,200 Ha).

Medium scale irrigation scheme - means a scheme which in acreage size covers over one hundred acres to three thousand acres (40 – 1,200 Ha).

Monitoring and evaluation - means a system of measuring, reporting and interpreting the quantity and quality of inputs provided, actions implemented, immediate outcomes achieved and ultimate impacts realized;

National or Public irrigation scheme - means an area of land designated or established by National/County Government for settlement or national strategic purposes.

Participatory Approach - is defined as a process through which stakeholders influence and share control over development initiatives' decisions and resources that affect them. In Irrigation, farmers shall be involved in various functions which include, planning, design, construction, operation and maintenance, rehabilitation, resource mobilization and dispute resolution.

Private irrigation Schemes - means schemes developed, owned and managed by private entities (firms or individuals).

Small scale irrigation scheme - means a scheme which in size covers less than one hundred acres (40 Ha).

Community based Smallholder Irrigation Schemes - means irrigation and drainage schemes that are initiated, owned and managed by farmers through irrigation water users associations (IWUAs).

Smallholder irrigation and drainage scheme - means an irrigation scheme that is developed, owned and managed by communities as irrigation water user groups or individual farmers.

Use of water - in relation to a water resource includes, without any limitation to (a) abstraction (obstruction, impoundment or diversion of water forming part of a water resource); and (b) the discharge of materials or substances into a water resource (Water Act 2016).

Water resource - means any lake, pond, swamp, marsh, stream, watercourse, estuary, aquifer, artesian basin or other body of flowing or standing water, whether above or below the -ground, and includes sea water and trans-boundary waters within the territorial jurisdiction of Kenya;

Water right - means the right to have access to water through a water permit**:**

Water Resource Users Association (WRUA) – This is a community based association of water resource users at the sub-basin level established for collaborative management of water resources and resolution of conflicts concerning the use of water resources in accordance with WRA Regulations.

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ACRONYMS

AEZs	Agro-Ecological Zones
AfDB	Africa Development Bank
ASALs	Arid and Semi-Arid Lands
BWRC	Basin Water Resource Committee
CBOs	Community Based Organizations
CIDU	County Irrigation Development Unit
COBSIS	Community Based Smallholder Irrigation Scheme
ESIA	Environmental and Social Impact Assessment
FAO	Food and Agriculture Organization
FOs	Farmers Organizations
GDP	Gross Domestic Product
GoK	Government of Kenya
Ha	Hectare
HCDA	Horticultural Crops Development Authority
IFAD	International Fund for Agricultural Development
IWUAs	Irrigation Water Users Associations
JICA	Japan International Cooperation Agency
KALRO	Kenya Agricultural and Livestock Research Organisation
KEWI	Kenya Water Institute
KFW	Kreditanstalt fir Wlederanfban
M&E	Monitoring and Evaluation
MALF	Ministry of Agriculture, Livestock and Fisheries
MEF	Ministry of Environment and Forestry
MFIs	Micro-Finance Institutions

MOU	Memorandum of Understanding
NEMA	National Environmental Management Authority
NGOs	Non-Governmental Organizations
NIA	National Irrigation Authority
O&M	Operation and Maintenance
PRA	Participatory Rapid Appraisal
RDAs	Regional Development Authorities
SACCOs	Savings and Credit Cooperative
SIPMK	Smallholder Irrigation Project in Mt. Kenya region
US$	US Dollars
VMGs	Vulnerable and marginalized groups
WAB	Water Apportionment Board
WRUA	Water Resource Users association
WSPs	Water Services Providers

CHAPTER 1

1.0 INTRODUCTION

1.1 Background

Kenya has a total land area of 582,646 sq. Km, of which, about 99,050 sq Km (17%) is classified as medium to high agricultural potential - experiencing at least 700mm of rainfall per annum. The rest, 83%, is classified as arid or semi-arid lands (ASAL). The latter area needs some irrigation for meaningful farming to take place. Even within the agricultural areas that receive adequate rainfall, some of it has seasonal drainage/flooding problems that require occasional water management interventions to enhance agricultural production and productivity.

Kenya's Vision 2030 identified agriculture as one of the six key sectors expected to drive the economy to a projected 10% growth annually. Since 2014, Kenya is ranked by the World Bank as a lower middle income country based on its per capita gross domestic product (GDP). Agriculture remains the backbone of the Kenyan economy, contributing one-third of GDP, providing 75 % of industrial raw materials and 60% of export earnings. About 75% of Kenya's population work in the agricultural sector, including livestock and pastoral activities. The major policy goals on agriculture are: achievement of self-sufficiency in food production, employment creation, income generation and the earning of foreign exchange.

However, in spite of the importance of the agricultural sector, over 95% of agricultural output is from rain-fed farming or livestock production systems. In addition, institutional support and infrastructure have been inadequate. Other challenges affecting the agriculture sector include: low investment in irrigated agriculture; inadequate rural infrastructure; high dependence on rain-fed production; inadequate coordination of major players; inadequate financial support services; negative impacts of climate change; low household incomes in ASALs; and low literacy levels in rural areas.

Agriculture sector transformation and growth is needed to support the rapidly increasing population, and ensure economic growth in the dwindling land holdings of high to medium potential areas, through use of irrigation and innovative technologies and other value chain interventions. These interventions should give impetus to intensification of production in the high to medium potential areas. In addition, they will allow opening of new lands in the ASALs for agricultural production.

Nevertheless, there are many constraints and challenges facing the irrigation sub- sector, which include:

- under-exploited irrigation potential due to low investment levels by public and private sector actors;
- low infrastructure development for irrigation, drainage, and water storage;
- inappropriate utilization of waste water and storm water;

- inefficient use of water resources in existing schemes;
- inadequate irrigation support services (financial, input supplies and output markets, irrigation equipment and machinery);
- inadequate private sector participation;
- poorly developed channels for participation by irrigators and weak governance of irrigation water users'/farmer associations;
- inadequate information sharing mechanisms in irrigation research, science and technology.

1.2 Role of irrigation and drainage in agricultural development

Irrigation and drainage development is part of the rural development process.
Irrigation accounts for 1.7% of total land area under agriculture, but contributes 3% to the GDP and provides 18% of the value of all agricultural produce. This demonstrates the potential of irrigation increasing agricultural production and productivity. With irrigation, agricultural production can be increased by up to 400%, and jobs created at the rate of up to 15 persons per hectare directly and indirectly. A robust irrigation sub sector will guarantee food and nutrition security, raw materials for agro industries, create employment opportunities especially for youth and women, improve security and stem the tide of rural urban migration in search for employment opportunities.

1.3 Irrigation Potential and Development

Irrigation is an enabler for agricultural transformation for Kenya's economic growth, creating jobs for rural communities including food and nutrition security. The country's irrigation potential is estimated at 3.355 million acres (1.342 million Ha), which is based on surface and underground water resources including water harvesting and storage. By the end of the year 2018, developed irrigation schemes covered approximately 555,600 acres (222,240 Ha). This is about 16% of the potential leaving more than 80% of Kenya's irrigation potential untapped. Irrigation development in Kenya is broadly categorized as public or national, community based smallholder and private/individual schemes.

The country has a number of public/national irrigation schemes with a total area of 60,600 acres (24,240 ha). The size of the schemes ranges from 1,000 to over 30,000 acres (400 Ha to > 12,000 Ha) and accounts for 18% of irrigated land area. These schemes are developed on public land, managed by NIA, Regional Development Authorities (RDAs), Agricultural Development Corporation, National Youth Service, the Prisons, Universities, Colleges and other State entities.

In national irrigation schemes under the NIA such as Mwea, Bura, Hola, Perkerra, Ahero and West Kano, settled tenants carry out production activities, and water management done jointly through IWUAs. The Authority provides advisory and irrigation services of operation and maintenance under agency contract. The RDAs invest in estate-type irrigation schemes with nucleus and out grower farmers' arrangement.

The community based smallholder irrigation schemes are owned by individual farmers sharing an irrigation scheme managed through IWUAs, cooperatives or self-help groups. There are over 3,600 smallholder irrigation schemes covering over 275,000 acres (110,000 ha). They produce the bulk of horticultural produce

consumed in Kenya, appreciable amounts of export crops, grain staples and tubers. These schemes have been developed with the participation of farmers, supported by the Government, development partners and Non-Governmental Organizations (NGOs).

Among the benefits for supporting community based smallholder irrigation schemes include: provides opportunities for capacity empowerment transforming rural communities that have limited development opportunities; lower overhead construction and management costs with high chances of sustainability compared to others. The formation of IWUAs in smallholder irrigation projects creates entry points for collaboration with other stakeholders in community development, thus accelerating rural development.

Private or individual irrigation schemes cover over 220,000 acres (88,000 Ha) accounting for 40% of irrigated land. Most of them utilize high technology and produce high-value crops for the local and export market, especially flowers, fruits and vegetables. Examples of large private owned schemes include those owned by Del Monte, Kakuzi, Finlay and Oserian among others.

1.4 Policy and legal basis for preparation of irrigation guidelines

The Irrigation Act 2019 requires that the Cabinet Secretary responsible for irrigation to among other things to: provide policy guidelines to promote, coordinate and management of irrigation schemes; license irrigation schemes; prepare strategy on irrigation services; and standards for irrigation development.

The Act also provides for State Agencies and County governments to: provide irrigation water as a resource, including harvesting and storage; determining the return on investment for use public funds in irrigation schemes; involvement of the private sector; availability of and access to land including production and way-leaves; identify areas for capacity building for irrigation actors, irrigation services; formation of IWUAs; dispute resolution; monitoring and evaluation of irrigation development.

In addition, there are miscellaneous and offences provisions which give guidance on the following: willful damage of irrigation infrastructure; use of harmful chemicals in irrigation schemes; and unauthorized abstraction of irrigation water.

1.5 Justification of Guidelines to Promote the Irrigation Development

The development of irrigation schemes is part of the agriculture and rural development process that involves various players. The purpose of the Guidelines is to help stakeholders understand the process of developing irrigation schemes, in terms of; anchoring a participatory approach; delineation of roles and linkage mechanisms for both National and County Government levels, development partners and beneficiaries. In addition they highlight on related critical issues such as financing and the approaches that should be employed to develop irrigation schemes.

History of Irrigation Development Guidelines

The first Guidelines were released in 1986 to enable identification and documentation of

irrigation and drainage schemes in Kenya. However, they did no cover mechanisms for resource mobilization for implementation. The 1986 Guidelines were revised in 1993, where a condition for full cost recovery on horticultural based irrigation schemes was introduced. The 1993 Guidelines were revised in 2003.

The 2003 Guidelines analyzed stakeholders, provided outline to smallholder irrigation projects cycle. This was a significant improvement since it set the stage for proper coordination and harmonization of smallholder irrigation activities countrywide. Mechanisms for cost sharing based on the socio-economic status of the community were introduced.

The 2003 Guidelines were developed alongside two support documents i.e. the Training Master Plan and a Framework for Formation and Management of IWUAs towards Sustainable Community Based Smallholder Irrigation Development. These documents were piloted through two JICA supported projects namely: Sustainable Smallholder Irrigation Development and Management (SIDEMAN) between 2005 and 2010; and SIDEMAN-SAL project, from 2012 to 2016.

The lessons and experiences gained from these projects and other projects nationwide have partly informed this revision. Other considerations include: the Constitution of Kenya 2010 which introduced a devolved system of governance in the country; the Water Act 2016; the National Irrigation Policy 2017; and the Irrigation Act 2019.

1.6 Methodology of Revision

Revision work was conducted in accordance with the following procedures:

- Review of concepts and approaches in the Guidelines of 2003
- Scooping through stakeholder consultations
- Desk study, data collection and analysis on actual experiences and lessons learnt
- Comparison of the concepts and methodologies with actual experiences (SIDEMAN, SIDEMAN-SAL, Smallholder Irrigation Project in Mt. Kenya region (SIPMK) and other irrigation projects)
- Drawing recommendations and suggestions through stakeholder workshops
- Revision based on the recommendations and suggestions
- National validation workshop

Concepts and Principles of Irrigation Development

The essential concepts and principles include:

- Participatory approach
- Stakeholder coordination
- Private sector participation
- Mainstreaming gender, women, youth, vulnerable and marginalized groups.
- Environmental management
- Capacity building for key stakeholders.

CHAPTER 2

2.0 IRRIGATION STAKEHOLDERS

2.1. The Need for Irrigation Stakeholders

Irrigation development requires an integrated, multi-disciplinary and a multi-sectoral approach because there are many components and actors involved. Therefore the efforts of various stakeholders need to be synchronized to ensure effective, efficient and sustainable irrigation development. This is in line with the policy direction as envisaged in the Kenya Vision 2030 and Agricultural Sector Development Strategy (ASDS 2010-2020); National Irrigation Policy 2017; Agricultural Sector Transformation and Growth Strategy (ASTGS 2019-2029); and Irrigation Act 2019, which emphasizes the need to have a collaborative and a participatory approach for development.

2.2. Categories of Irrigation Stakeholders

The stakeholders involved in irrigation development are broadly classified as follows:

- Government agencies at both National and County levels
- Development partners
- Private Sector actors
- Farmers and Farmer Organizations
- Financial Institutions
- Marketing Organizations
- Input suppliers
- Non-Governmental Organizations
- Other value chain actors

2.3. Roles of Irrigation Stakeholders

Irrigation development has key stakeholders with various roles as summarised in Table 2.1.

Table 2.1: Roles of Irrigation stakeholders

Category of Irrigation Stakeholder	Roles
A. Government agencies at both National and County levels	
Ministry of Water, Sanitation and Irrigation (State Department for Water, Sanitation and Irrigation)	- Formulate and review policies, guidelines, standards, strategies regulations to promote and coordinate irrigation development; - consult and seek the co-operation of stakeholders to support irrigation development and management. - Capacity building and technical support to County staff and IWUAs; - oversee management of existing and new national or public schemes

Category of Irrigation Stakeholder	Roles
	and storage dams; - Promote the use of efficient irrigation systems across the country - provide resources and direction for capacity building and technical services; - Develop the standards of good on-farm water management; - regulation of tariffs payable for water use on national, public and other irrigation schemes; - Determine requirements, procedures and forms for licensing of irrigation schemes; - establishment, operations and governance of IWUAs, scheme management committees and dispute resolution committees; - prescribe fees payable by irrigation water users based on costs of operation and maintenance of the scheme; - Carry out monitoring, evaluation and audits of irrigation schemes; - Ensure adherence to environmental and public health matters; - establish national, public or strategic irrigation schemes; - ensure availability and adequacy of water for irrigation; - receive applications, determine and issue irrigation licenses for irrigation projects and schemes; - monitor and enforce license conditions for irrigation projects; - gather information and maintain data bases on irrigation areas, water supplies, human resources and management of schemes; - conduct periodic technical and management audits of irrigation schemes infrastructure, governance, management and financing; - maintain irrigation water storage investments for their proper use;
National Irrigation Authority	- Develop national, public, strategic and smallholder schemes; - Provide irrigation support services to private and smallholder schemes, in collaboration with CIDU and other stakeholders; - Provide technical advisory services in scheme development and management including agency contracts; - Coordinate and plan settlement on national or public irrigation schemes as well as trans-county irrigation schemes; - facilitate formation and strengthening of IWUAs at scheme level; - provide land in national irrigation schemes for public purposes; - Collaborate with counties and other stakeholders on marketing and value addition of produce on national and other irrigation schemes; - Collaborate with counties and other stakeholders for researches on fair prices of produce on national and other irrigation schemes; - -provide capacity building and technical advisory services to IWUAs and farmer associations on management of smallholder schemes; - issue or revoke licenses or permits or leases for land of national irrigation scheme to such persons or settlers;
Water Resources Authority	- formulate and enforce standards, procedures and Regulations for the management and use of water resources and flood mitigation; - regulate the management and use of water resources; - receive water permit applications, determine, issue, vary and enforce permit conditions for water abstraction, water use and recharge; - collect water permit fees and water use charges; - determine and set permit and water use fees; - provide information for formulation of policy on national water resource

Category of Irrigation Stakeholder	Roles
	management, water storage and flood control strategies; - coordinate with other regional, national and international bodies for the better regulation of the management and use of water resources; - collect, analyze and disseminate information on water resources; - monitor compliance by water users with the conditions of permits; - issue permits for inter-basin water transfer; and - delegate regulatory functions to Basin Water Resource Committees; - conservation of ground water for the protection of public water or water supplies used for industry, agriculture or other private purposes; - the conservation of the water resources of the aquifer of the ground water resources; or for ecological reasons.
Basin Water Resource Committee (BWRC)	- advise WRA and county governments, at the respective regional office, concerning: o conservation, use and apportionment of water resources; o the grant, adjustment, cancellation or variation of any permit o protection of water resources and increasing water availability; o annual reporting to the users of its services and the public on water issues and their performance within the basin area; o collection of data, analyzing and managing the information system on water resources; o facilitation of the establishment and operations of water resource user associations; o flood mitigation activities o information sharing between the basin area and the Authority; o the equitable water sharing within the basin area through water allocation plans;
National Water Harvesting and Storage Authority	- development of national public water works for water resources storage and flood control; - maintain and manage national public water works infrastructure for water resources storage; - collect and provide information for the formulation of national water resources storage and flood control strategies; - develop a water harvesting policy and enforce water harvesting strategies; - undertake on behalf of the national government strategic water emergency interventions during drought; - advise the Cabinet Secretary on any matter concerning national public water works for water storage and flood control. - may appoint agents for the operation, management, maintenance and safety of any storage infrastructure that it has developed.
Water tribunal	-Arbitration on decisions and directives made by WRA, and a Water Basin Resources Committee, or other authorities on water use within fourteen days from the date such decision was made.
Water Resources Regulatory Board	- determine and prescribe national standards for the provision of water services and asset development for water services providers (WSPs); - evaluate and recommend water and sewerage tariffs to the county WSPs and approve such tariffs in line with consumer protection standards; - set , monitor, regulate and enforce license conditions and accredit WSPs;

Category of Irrigation Stakeholder	Roles
	- develop model memorandum and articles of association for water companies applying to be licensed by Regulatory Board as WSPs; - monitor compliance with standards on the design, construction, operation and maintenance of facilities for the provision of water services by water works development bodies and WSPs; - advise on the nature, extent and conditions of financial support accorded to WSPs for providing water services; - monitor implementation of the Water Strategy; - establish a mechanism for handling complaints from consumers regarding the quality or nature of water services; - develop guidelines on the establishment of consumer groups and facilitate their establishment; - inspect water works and water services to ensure that such works and services meet the prescribed standards; - report, publish and Gazette annually on issues of water supply and sewerage services and the performance of relevant sectors. - make Regulations on water services and asset development which include business, investment and financing plans to ensure efficient and effective water services and progressive realization of the right to water services; - make recommendations on provision of basic water services to marginalized areas.
Water Resources Users Associations	-Collective management of water resources -Resolution of conflicts concerning the use of water resources
Ministry of Agriculture, Livestock and Fisheries	- Provide technical support to county extension services -Regulate and support agricultural value chains
Agriculture and Food Authority	- Regulation
Kenya Plant Health Inspectorate Services	-Ensure quality of agricultural inputs and produce
Pest Control Products Board	-Regulate and monitor pest control products
The National Treasury	- Formulate financial policies and ensure fiscal discipline - Resource mobilization for irrigation development - Sign bilateral/multilateral agreements - Guarantee loans and grants for Irrigation development - National planning and budgeting
Ministry of lands	- Development of land use policy and guidelines - Ensure compliance with the land usage rules - Facilitate acquisition of land for irrigation development
National Lands Commission	- Management of public land - Land policy - Advice on a comprehensive programme on registration of land titles - Compensation for land for irrigation development
Ministry of Environment and Forestry	- Policy guidance on environmental issues - Delineation and management of catchment areas

Category of Irrigation Stakeholder	Roles
Kenya Water Towers Agency	- Coordinate and oversee the protection, rehabilitation, conservation and sustainable management of all the critical water towers
National Environment Management Authority	- Implementation of Environmental Management and Coordination Act - Regulate and approve environmental and social impact assessments - Regulate and approve environmental audits - Ensure compliance to water quality standards
Department of Social Services	- Promote Group development (capacity building) - Registration of farmer organizations - Support conflict resolution within groups
Department of Public Works	- Development of rural access roads - Regulate issuance of irrigation conveyance way-leave across roads.
Ministry of Devolution and ASALs	- Inter-governmental relations and coordination - Coordinate development of ASALs
Regional Development Authorities	- Coordinate Regional Macro-economic planning - Project formulation and development - Resource mobilization - Development and management of Irrigation projects
Research Organizations, Universities and Colleges	- Develop appropriate irrigation technologies and innovations - Manpower development - Development of appropriate processing technologies
Office of the Attorney General and department of justice	- Provide legal advice - Registration of farmer organizations - Review bilateral agreements and other legal instruments
Ministry of Health	- Provision of health services for diseases exacerbated by irrigated agriculture.
Ministry of Interior and coordination of National Government	- Provision of security services, peace and national cohesion - coordinate implementation of national projects - Facilitate community mobilization and dispute resolution - Negotiation for way leaves
County governments	- Establish county irrigation development units (CIDU). - Formulate and implement county irrigation strategy in line with national policies and strategies - Ensure adoption of national standards for irrigation; - Establishment of county irrigation development coordination committees - Develop and maintain irrigation databases and integrate systematic monitoring and evaluation; - identify community-based smallholder schemes for implementation in line with national guidelines; - mainstream irrigation related statutory obligations for environment, water and health; - provide capacity building for farmers and support establishment of viable farmer organizations, and IWUAs; - set up measures to implement adaptation and mitigation to climate change, and enhance sustainable environmental management

Category of Irrigation Stakeholder	Roles
The Parliament and County Assemblies	- Formulate legislation for irrigation development - Approve budget allocation for irrigation development and services
B. **Development Partners and Private Sector**	
International development agencies (World Bank, AfDB, etc.)	- Technical and development cooperation - Resource mobilization - Development studies - Capacity building
NGO's, FBOs, CBOs	- Provide technical and financial support - Irrigation infrastructure development - Community empowerment - Humanitarian assistance
Private Sector actors	- Supply of production inputs - Provision of technical and financial services - Investment in irrigation infrastructure - Provide market information - Assist in marketing and storage of produce - Train farmer organizations in marketing - Train farmers on quality control - Promote establishment of cottage Industries - Provision of irrigation support services
Farmers	- Participate in all stages of scheme development - Participate in M&E - Irrigation system management (O & M roles) - Resource mobilization - Form farmer organizations – IWUAs, Cooperatives etc. - Actual agricultural production - Marketing and value addition - Compliance with statutory obligations
Financial Institutions	- Provide financial services for irrigation development , production and other value chain activities; - Provide training on financial management - Support linkage and networking of farmers to markets

2.4 Coordination Mechanisms

The success of irrigation development depends on the effective and efficient coordination of the efforts of all stakeholders operating at different levels. The lead agency being the Ministry responsible for Irrigation, which formulates policies, provides sector regulation, coordination and guidance, and monitoring and evaluation. The Ministry also oversees state agencies and other entities on irrigation development and management. The coordination of irrigation development shall employ the following structures.

2.4.1 National Level

a) Intergovernmental Coordinating Committee (ICC)

This committee shall be responsible for coordination of inter-sectoral institutions and other stakeholders at both national and county government levels that deal with irrigation matters. It is composed of the Presidency, Council of County Governors,

Intergovernmental Technical Coordinating Committee, Natural resources and Agriculture sector Cabinet Secretaries and technical committees.

b) Joint Irrigation Intergovernmental Stakeholder Committee (JIISCO)

This is a consultative forum which seeks the cooperation of stakeholders so as to encourage broad support for irrigation development and management. This is formed at the national level by the cabinet secretary in consultation with other ministries and agencies of the National Government; the Council of County Governors; county governments; and non-government entities. It will comprise of ministries e.g. Ministry of Agriculture, Livestock and Fisheries, Environment & Forestry, Energy, Cooperatives, Trade and Industry, The National Treasury and Planning; County Ministry responsible for Irrigation; Development Partners; Private Sector & Civil society organizations.

Their main functions will be:

- to coordinate irrigation development issues across the country;
- communicate any changes in policy, strategic national plans and guidelines;
- ensure adherence to the national strategic plans;
- coordinate sector regulation and conflict management;
- undertake joint monitoring of irrigation programmes and projects;
- establish a reporting mechanism on the needs and state of irrigation; development and management in the country.

The Joint Irrigation Intergovernmental Stakeholder Committee (JIISC) shall be supported by a Secretariat with Technical thematic working groups. The Cabinet Secretary responsible for irrigation will constitute this committee in consultation with County governments and other key stakeholders considering: representation from the national agencies, the county government, private sector, development partners, civil society organizations, farmer organizations amongst others as deemed necessary.

c) Joint Irrigation Technical Coordination Committee (JITCC)

This committee shall be spearheaded by the Principal Secretary responsible for Irrigation and will comprise representatives from the County Ministry responsible for Irrigation, CIDU, national and county institutions responsible for water and irrigation, development partners, financial institutions, private sector and civil Society irrigation related stakeholders, water and irrigation sector regulatory and judicial institutions, technology research and training institutions.

The JITCC will perform the following functions:

- Facilitate formulation and review of national irrigation policy and services strategy;
- Collaborate and liaise with other agencies involved in irrigation development at local, regional and international levels;
- support formulation of sub-sector regulations, standards and guidelines;
- coordinate technology and research development;
- coordinate formulation of national irrigation master plan, investment plan and related strategic programmes and projects;
- Resource mobilization and financing of the sub-sector;
- Facilitate the establishment and operation of a national irrigation and drainage management information system (IDMIS);
- Review monitoring and evaluation of irrigation sub-sector performance.

2.4.2 County Level

a) County Irrigation Development Coordination Committee (CIDCC)

This committee shall be established at the county level in order to coordinate various irrigation stakeholders to ensure and encourage irrigation development effectively, and in a sustainable manner.

The CIDCC functions will be as follows:

- Receive reports on the needs and state of irrigation development and management in the county
- Monitoring and evaluation of the county irrigation strategy
- Resource mobilization for irrigation development
- Recommend for approval of prioritized planned irrigation schemes and projects for implementation.

This committee shall be constituted by the County Executive Committee Member responsible for irrigation development in consultation with other stakeholders, preferably with representation from the national and county governments, NIA, CIDU, private sector, development partners, civil society groups, farmer organizations amongst others as deemed necessary.

The CIDCC shall be supported by a Secretariat with Technical thematic working groups.

b) Irrigation Farmers and IWUAs Federation

The irrigation farmers and IWUAs federation shall be constituted from the county and national entities. It shall be registered under the Societies Act and have its own management. Membership will be drawn from Irrigation farmers and IWUAs. It may co-opt representatives of county department responsible for irrigation, CIDU, NIA, KALRO, representative of county department responsible for water and other water and irrigation sector players e.g. WRA, BWRC, WRUAs, NEMA.

Its functions will be as follows:

- maintain register of irrigation schemes and IWUAs in liaison with CIDU and NIA for the purpose of capacity building and other irrigation services;
- Promote controlled and legal use of irrigation water in their area
- Promote good governance and management of irrigation schemes for efficient use of water including mainstreaming of gender, youth, vulnerable and marginalized groups (VMGs).
- In collaboration with WRA, BWRC and WRUAs in their area, promote water conservation practices to ensure sufficient water reserves for the environment, wildlife, livestock and communities who rely on the water resource;
- provide management or agency contracting for irrigation services to enhance sustainability of irrigation schemes;
- Work towards reducing conflict in use of the water resource and participate in solving those that arise;
- Promote catchment conservation and other measures to improve water quantities and quality;
- Promotion of agri-business along the irrigated produce value chain

The irrigation sector coordination mechanisms shall be given effect through irrigation regulations.

CHAPTER 3

3.0 IRRIGATION SCHEME DEVELOPMENT

3.1. The Process of Irrigation Scheme Development

The irrigation development process entails conceptualization and planning, implementation, scheme management, as well as capacity building and support services for sustainable productivity. In order to ensure scheme sustainability, a participatory approach to implementation of irrigation schemes should be adopted. This approach aims at building and enhancing organizational capability and skills that would lead to efficient and effective management of schemes. In the case of community based schemes, the establishment of IWUAs enhances sustainability of the schemes.

Capacity building for IWUAs in the aspects of organization, physical implementation, management and other relevant aspects forms one of the key pillars for sustainable irrigation development process. This ensures the transfer of capabilities through active involvement in making decisions and in pursuing actions in the course of development. There is need to conduct capacity needs assessment (CNA) for relevance. Training manuals should be developed for training to address gaps identified in the needs assessments.

General Guidelines

The following are general guidelines for the irrigation schemes development process.

1. Adoption of low key and open-ended approach i.e. the developed project where possible should allow for an expansion phase at minimal cost. The development of an irrigation scheme should adopt the learning process approach, as in most cases irrigation means the introduction of a new technology.

   The following steps therefore should be adopted:

   - A phased development approach- meaning that the initial scheme development should be modest in size. This will allow all actors/players to assess how the development fits into the normal activities of the beneficiaries.
   - Other subsequent phases should incorporate lessons learnt from the first phase.

2. Beneficiaries' participation should be assured throughout the project development process. This can be achieved through:

   - Selecting schemes that are demand driven by beneficiaries for implementation; this includes schemes that have been formally requested for;
   - Community sensitization and mobilization to align community development needs to national development objectives;
   - Making use of the local knowledge and skills at all stages of scheme development.
   - Ensuring that IWUAs are formed for community based irrigation schemes at design stage before implementation;
   - Ensuring that the scheme development process is integrated into other activities of the benefiting communities;
   - Ensuring that beneficiaries are sensitized on legal and statutory requirements of irrigation scheme development;

3. Ensure cost effectiveness in all implemented irrigation schemes so as to:

- Minimize capital cost by implementing properly designed schemes;
- Examine alternative designs in consideration of the site, social conditions and economic viability;
- Minimize costs of O&M by using where possible, self-regulating structures with minimal movable parts;
- Involving beneficiaries in the development process as a strategy to learn the management aspects of their scheme.

4. Training and Development for implementing staff.

Irrigation development requires various specialized fields of knowledge and skills which cover beneficiaries' mobilization and organization, scheme investigation, planning and design, tendering, construction and O&M.

The key implementing agencies such as NIA, CIDU and other entities should hire and equip their staff with appropriate competencies to manage irrigation development. Any training should be based on a Training needs assessment (TNA).

The following guidelines cover the Steps, requirements and estimated time frames in irrigation development, from scheme initiation to M&E.

3.2. Initiation of irrigation schemes

The plan for any irrigation development should be based on the felt needs of the beneficiaries. New schemes should have clearly defined objectives and as much as possible be integrated into the existing projects in the community. A comprehensive appraisal of both the natural and socio-economic resources should be carried out systematically during project formulation. Participatory approaches should be employed during the formulation stage so as to develop schemes that are acceptable and beneficial to the beneficiaries. This approach should be maintained throughout the project cycle.

Beneficiaries of irrigation schemes should play a leading role during scheme initiation stage. They should be made aware that they have to bear certain costs and obligations towards the construction and O & M of the irrigation schemes. To realize this, the government or the supporting entity should use appropriate consultative methods and techniques towards effective sensitization and building ownership.

Steps

1. Submit to a state or non-governmental entity a formal request for support. For community based schemes at least 70 % of the target beneficiaries must commit to the request.

2. The supporting entity in accordance with prevailing irrigation regulations shall undertake initial consultation with requesting beneficiaries to validate their willingness and commitment to the scheme. This shall be accompanied by initial investigation of potential for scheme development such as water resources, topography, other feasibilities, and estimated benefits. Beneficiaries should participate in the pre-feasibility studies in order to own the scheme from the initiation stage.

3. The supporting entity shall conduct technical and socio-economic feasibility studies. Beneficiaries shall assist in preliminary data collection on: water resources (water availability and sustainability), socioeconomic issues, soil suitability, gender issues, environmental issues, land issues, and technological aspects that are available or may be required.

4. Either NIA or CIDU, as appropriate, shall recommend the request to supporting entities for funding and other relevant support.

5. Once support is assured, NIA or CIDU and the supporting entity shall consult the beneficiaries to discuss conditions and arrangements for scheme implementation, including delineation of roles.

6. Supporting entities shall assist the beneficiaries in IWUA formation in accordance with Guidelines for Irrigation Development and IWUA Formation Framework.

7. For community based schemes, this stage shall be completed upon attaining satisfactory IWUA Performance Assessment and submission of Memorandum of Intention to Cooperate, outlining amongst others, the following: IWUA contribution, Supporting Entity's commitment and deposit of security fund for loan, where applicable.

8. This stage should be completed within a period of six months upon which a Pre-Feasibility report shall be prepared and submitted. This should include:
    - Preliminary scheme Plan
    - Preliminary scheme Design

Beneficiaries' Participation (*Type, Nature and Extent, details will be formulated in the next stage*):
- Indication of beneficiaries' organizational capability to stand on their own (or IWUA Organizational Performance Evaluation Report)
- Estimate on the requirement for support
- Project Duration
- Preliminary cost estimates on technical works and beneficiaries'/IWUA Contribution

IWUA Responsibilities in scheme management may be determined in the next stage.

3.3. Planning and Design Stage

3.3.1. General Considerations

Scheme facilitators (supporting institutions) shall ensure the prospects for scheme sustainability by ascertaining: adequacy and reliability of water resources in connection with other parameters; attainment of substantial benefits through appropriate agricultural and agro-technical measures; appropriate 0 & M measures and strategies; and measures for effective and efficient participation in implementation and management.

From this stage up to scheme commissioning, the supporting institution holds major responsibility for scheme implementation while the Authority and CIDU hold responsibility for overall monitoring of compliance with guidelines.

Steps
Implementing entities should gather and analyze data and information on technical, socio-economic and general requirements and generate the following reports:

1. Technical, Socio-economic and Implementation Aspects
   - Hydrological Assessment (water quality, adequacy and reliability)
   - Environmental and Social Impact Assessment (ESIA)
   - Engineering Survey (Topographic, Profile, Traverse surveys amongst others)
   - Soil survey
   - Capacity Needs Assessment (CNA)
   - O&M Plan
   - Enterprise selection and development plan – Cropping plan and markets
   - Financial plan
   - Project economic viability (Cost Benefit Analysis, Internal Rate of Return amongst others)
   - Design and tender documents
   - Determination of beneficiaries' Capability to participate
   - Comprehensive Stakeholder collaboration plan
   - Other statutory requirements
   - General aspects:
     - Memorandum of cooperation;
     - Application of water permit, irrigation license, NEMA license and other statutory permits;
     - Implementation Plan (Schedule of activities, time frame, resources);
     - Final membership list, stating all IWUA members, plot numbers;
     - Specifications of land use rights (owners, tenants, etc.) and plot size.

2. Implementing Institution shall prepare project design based on the evaluation of the data/information outlined in step one.

3. Once approved, the implementing institution and the CIDU shall conduct final consultations with beneficiaries resulting in the final agreement on project implementation, particularly agreement on details of participation and construction.
4. Feasibility study and design reports shall be submitted to the relevant government entities at national or county level for review, approval and licensing.

5. The government entities shall return the feasibility study or design reports with corresponding recommendation for action.

This stage should take 6-12 months.

3.3.2. Issues Considered During Planning and Design Stage

The success of irrigation schemes depends not only on the soundness of the developed infrastructure but also on the following natural resources and socio-economic issues: environmental issues; gender issues; soil; topography; water issues (adequacy, reliability and suitability); land issues; marketing issues; financial resources; human resource availability; rural infrastructure; social and economic issues (ownership, culture, conflicts, benefits amongst others).

a) Environmental issues

The main focus for these concerns in irrigation and drainage schemes are; health, natural resources and social economic factors. These factors are highlighted in the guidelines found in the Environmental Management and Coordination Act (EMCA, 2015), which sets out aspects to be considered during an Environmental and Social Impact Assessment (ESIA) exercise. In this assessment, issues relevant to irrigation development are as follows:

Environment Health and Safety

- The occurrence of water borne diseases
- Pollution caused by waste disposal and farm inputs.
- Noise and Dust
- Workman Safety
- Flooding and drainage hazards

b) Natural and socio-economic issues

- Encroachment into forests, swamps and wetlands
- Loss of dry-season grazing lands and over-grazing
- Land-use conflicts including restrictions on the movement of wildlife and livestock
- Soil erosion due to bush clearing and land preparation
- Flooding and drainage hazards
- Disruptive effects on migrating fish
- Destruction of crops by livestock and wildlife
- Crop damage by pests such as swarming birds
- Insufficient supply *of* wood-fuel.

All irrigation and drainage schemes should be implemented only after having addressed the above environmental issues as stipulated in the Environmental and Social Impact Assessment (ESIA) Regulations 2016. Study results of these factors should be included in the design report as a part of the feasibility study.

c) Gender issues

Gender concerns are important for the sustainability of the scheme. The issues to be addressed should include:

- Profile of the group in order to determine the gender composition (males and females) and also the dominant gender grouping for effective planning. Attempts should be made to include the disadvantaged and active groups in the decision-making process especially women and youth
- Cultural norms.
- Irrigation technologies - Those adopted should be gender friendly and in addition address needs of the physically challenged persons

Women and youth play a dominant role in agricultural production. Therefore, a project might fail if women and youth are not willing or capable of carrying out the additional tasks an irrigation scheme entails. If they are excluded from their share of the benefits, women and youth might well lack the motivation to contribute the extra effort or care.

Thus, women and youth should be encouraged to take an active role in all the participatory mechanisms; in all the decisive farmers meetings-such as the submission of a request, the drawing up of a memorandum of intention to cooperate, and all implementation preparation meetings. They should make up at least 30% of those present and be well represented at all levels of the farmers' organization (IWUA).

d) Soils

Soil investigations to determine its properties are necessary in order to make informed decisions. Observation of the crops grown or the natural vegetation may give indications on any limitations in the area. A soil analysis and mapping will provide the information on the soil fertility and suitability for irrigation, type of irrigation system/technology, crop suitability and the kind of soil management techniques needed to ensure sustainable schemes.

The services of professionals and advice of KALRO (Kenya Soil Survey) or other recognized institutions should be sought.

e) Topography

Knowledge about the terrain is indispensable in irrigation technology selection. A limited topographic survey of the scheme area will be necessary. This will establish the average slopes in the scheme area, the alignment of the conveyance route and a suitable intake site. The intake site should be located at a point that will provide the head needed to convey water from the source to the highest point of the scheme. The conveyance route selected should avoid probable obstructions that would increase project costs.

f) Water Issues

Scheme water requirement - The irrigation scheme water requirement should be determined appropriately. The scheme water requirement will be used by beneficiaries/IWUAs to apply for a water permit from WRA, without which an irrigation scheme should not be implemented.

Hydrological study - The sustainability of schemes depends on the reliability, quality and adequacy of irrigation water. There is need to establish water adequacy and reliability prior to pursuing any irrigation development. Adequacy means the availability of the required water volume, while reliability means the timing of the availability. Quality refers to the suitability of the water for irrigation. These factors help in determining the following:

- The extent of the area that could be efficiently and effectively served by an irrigation system.
- The appropriate irrigation technology, cropping system and operating procedures.

The process should follow WRA requirements which stipulate that hydrological studies should be carried out by registered hydrologists. Water quality standards for irrigation should be adhered to as stipulated by NEMA.

g) Land issues

Land use - A general description should be provided on how the proposed scheme area is used at present (agriculture, grazing or forestry) in order to avoid conflict in land use. It will also be important to give indications that land needed for all irrigation and drainage infrastructure may not be compensated. Negotiations for way leave should be done. Compensation might be necessary if project affected persons (PAPs) have to be moved to pave way for irrigation structures. Appropriate measures should be taken to minimize human-wildlife conflicts.

Land tenure - It is important to identify the land tenure system to describe who the land owners are and whether there are any present users who might suffer as a consequence of developing the scheme. It should be noted that if some of the farmers are tenants, the organization and participation of the IWUA could be challenging. In schemes that have tenants as active farmers, the roles of all groups should be clearly defined. Land tenure rights should be clearly specified.

h) Marketing issues

Availability of marketing channels for irrigated produce determines the eventual sustainability of irrigation and drainage schemes. Beneficiaries/IWUAs should be encouraged to form marketing groups and enter into binding contracts with buyers to maximize on their returns. A market survey and crop prioritization should be done by the beneficiaries/IWUAs. Viable value chains should be identified during this process.

i) Availability of Funds

To ensure success during scheme development stages, sufficient funds should be made available for the following key activities:

i. Pre-feasibility studies.
ii. Community mobilization where applicable
iii. Feasibility studies
iv. Statutory requirements e.g. WRA, NEMA and irrigation licenses
v. Detailed investigation and design production
vi. Tendering process (Production of tender documents, advertising etc.)
vii. Supervision of construction
viii. 0&M at testing stage

j) Human resource availability

To ensure sound design and implementation of sustainable irrigation schemes, the supporting entities must put in place a multidisciplinary team. The following personnel are key: Irrigation Engineer; Agronomist; Engineering surveyor; Sociologist; Socio-economist; Environmental Specialist and Hydrologist.

In addition the capability of the beneficiaries to provide the required labor other skills should be assessed.

k) Rural Infrastructure

For sustainable irrigation development, the schemes should be accessible by ensuring rural roads are in good condition. Good roads and other rural infrastructure such as markets, electricity, water, produce stores, cold stores and cottage industries are also key enabling factors for marketing of the farm produce and for development of various rural

enterprises. Collaborative mechanisms should be adopted to develop and improve such infrastructure.

l) Social and Economic Issues

To ensure sustainable irrigation development, ownership of the irrigation schemes needs to be assured. This should be promoted by ensuring a participatory approach in the planning, design, construction and O & M of the scheme. To achieve this, the following principles amongst others should be considered:

- The irrigation development should address a felt need within the community
- Participatory selection and design of the irrigation system.
- Selection of appropriate technology as much as possible based on the existing knowledge and capacity of the beneficiaries
- Phasing of the scheme development to encourage a learning process of the beneficiaries.
- Adopt cost sharing in the development of the scheme
- Use of local labor, skills and materials where possible.
- Beneficiaries should be responsible for O & M of the irrigation scheme.

In addition progressive cultural norms should, as much as possible, be incorporated in the formulation of the project to promote acceptance.

3.4. Scheme Implementation

This stage involves construction of irrigation facilities such as intake works, conveyance system, distribution and in-field structures. Generally, beneficiaries/IWUAs should play a major role during this stage by providing the necessary support as agreed up on. Both beneficiaries/IWUAs and supporting institution should collaborate in the planning, problem solving and in the decision-making processes throughout the implementation stage, which should include supervision of construction work and expenditures.

Steps

1. **Preparation and signing of Memorandum of Understanding (MOU)**
   This involves a series of dialogues between and among the Government agencies at national or county level, supporting Institutions and the beneficiaries/IWUAs concerned before implementation. The MOU (Annex I) addresses among others the following issues: roles and responsibilities of all major stakeholders, rules and regulations during implementation, resources available and their sources. The implementing institutions shall ensure that the process of preparing an MOU is in accordance with these Guidelines.

2. **Preparation of tender documents, advertising and awarding of Contracts:**
   The relevant procurement guidelines on these aspects shall be adopted in irrigation development.

3. **Construction, Supervision and M & E:**
   The overall responsibility of supervision during construction is vested on the Implementing Institution. At least two representatives of the beneficiaries/IWUA shall be part of the supervision team. The Implementing Institution and the contractor shall likewise convene regular assessment sessions (site meetings) to evaluate progress of work.

4. **Training and Development for Beneficiaries/IWUAs:**
   The Construction stage shall serve as a platform for training beneficiaries/IWUAs in scheme development and management. This shall be complemented with constant reflection and re-planning sessions with beneficiaries/IWUAs on specific tasks assigned. The implementing entity shall organize trainings which could include the following among others:

   - **Organizational Management -** IWUA formation, Leadership, organization of 0&M, bylaws, etc.
   - **Operation and maintenance -** Assessment, Evaluation and planning of 0 & M activities should include cropping calendars, basic water distribution plan, conflict management plan, personnel duties and responsibilities plan and farm level facilities development plan.
   - **Irrigation water Management -** Irrigation scheduling, Application depths, etc.
   - **Irrigation agronomy -** Choice of crops, cropping pattern and intensity and good agronomical practices.
   - **Financial Management -** Budgeting, Book keeping, Purchasing, etc.
   - **Value chain development -** Marketing**,** value addition etc.

5. **Testing of Implementation Works:**
   The Implementing Institution, the IWUA, and the representative of the Authority/CIDU shall test performance of the scheme within the defects liability period. A certificate of project completion shall be issued up on the satisfaction of all parties, and shall serve as supporting document for the commissioning.

6. **Inventory of Completed Structures and Facilities:**
   Based on actual inventory, which should be done during testing of works, the three parties shall prepare a list of completed facilities and structures, as compared to what was planned.

7. **Supplemental works**
   In cases where works have not been completed by the Contractor, or where some negligence on their part requires additional works, during the defects liability period, the beneficiary/IWUA may file a complaint with the Authority or CIDU furnishing copy to Implementing Institution and the contractor.

8. **Planning for O & M**
   The Implementing Institution shall assist beneficiaries/IWUAs in preparing plans for O & M. A series of meetings in the last few months prior to completion shall consider directions for O & M and measures for sustainability.

9. Evaluation of Beneficiaries/IWUAs

The Authority or CIDU shall conduct with the Implementing Institution an evaluation of beneficiaries/IWUAs on the competences for scheme management in accordance with the suitable Evaluation Criteria as stipulated in national government guidelines prior to commissioning.

10. Commissioning

The Implementing Institution shall commission the scheme. The beneficiary/IWUA will therefore take responsibility for management of the scheme. The commissioning exercise shall be expressed in a document, which should contain an inventory of structures and facilities (as built drawings), master list of members, O & M Manual and a map/layout showing completed works.

3.5. Scheme Management

3.5.1. Adoption of Scheme O & M Plan.

The beneficiary/IWUA shall adopt the irrigation service Plan comprising the following:

- Operation and maintenance schedule
- Production plans
- Marketing plans
- By-laws
- Environmental and social management plan

Beneficiaries will be expected to undertake the bulk of irrigation services and scheme management while supporting agencies concentrate on monitoring and evaluation during this stage. Some of the key activities undertaken during this stage include:

- Development of O & M schedule
- Collection and utilization of funds for O & M
- Carrying out O & M activities of the scheme
- Allocation of funds for repair of major works.

3.5.2. Impact and benefit monitoring:

The CS, in collaboration with NIA and CIDU and shall undertake periodic monitoring of the impact, benefits and performance of irrigation schemes.

3.5.3. Provision of technical assistance:

The CIDU in collaboration with NIA shall provide technical advice and assistance to beneficiaries/IWUAs as the need arises. This shall likewise involve consultations with stakeholders to ensure performance and sustainability of irrigation schemes.

3.6. Monitoring and evaluation

The monitoring and evaluation of irrigation schemes development is the responsibility of the implementing entities. In order to ensure attainment of the irrigation development objectives, the entities shall carry out thorough M&E of all irrigation development activities, results and impacts. The items listed hereunder represent the major outputs and

proofs of the completion in every development stage and should be used as the basis for formulating the detailed M&E procedures.

3.6.1. Initiation Stage

During this stage the outputs that should be considered include:

- A preliminary report;
- A memorandum of intention to cooperate;
- A request letter for support from the beneficiaries;
- Proof of land ownership (A signed lease, for leased land or an allotment letter for public/community land, title deed).

3.6.2. Planning and design Stage

During this stage the outputs that should be considered include:

- A feasibility report includes technical, financial, Socio-Economic studies and environmental assessment reports;
- A formal application for a water permit;
- Proof of way leave, where applicable;
- Other statutory certifications (NEMA license, WRA permit, irrigation license).

3.6.3. Implementation Stage

During this stage the outputs that should be considered include:

- Irrigation/drainage infrastructure;
- Capacity building of the beneficiaries/IWUA.

Among the supporting documents evaluated are:

- Implementation agreement between beneficiaries and supporting entities.
- Tender documents and awarded contracts
- Minutes of meetings with farmers-project assessment meetings
- Minutes of site meetings
- In case of contracted labour - Certificates of inspection/completion and payments
- Certificate of completion of works
- Evaluation of implementation process report.
- Capacity building reports
- Other statutory certifications (NEMA license, WRA permit, irrigation license)

3.6.4. Scheme Management stage

During this stage the outputs that should be considered include:

- Sustainable operational schemes, owned, managed and operated by beneficiaries/IWUAs.
- Functional, cohesive and viable IWUAs.

Among the supporting documents evaluated are:

- Operation and maintenance plan
- Farm input acquisition plan
- Cropping calendar and Production plans
- Marketing plans
- Capacity building plan

In order to adhere to sustainable management of environmental and social issues; to

inform future ESIAs of similar schemes; post project audit should be conducted annually.

During the annual ESIA audits, the outputs that should be considered include:

- Implementation of ESMP
- ESIA license
- Approved ESIA audit report

3.7. Drainage Schemes

In drainage schemes, the development process is similar in all stages from initiation through to operation and maintenance. Minor differences are only at initiation stage with inclusion of collection of data on drainage feasibility, soil suitability and profile. Otherwise guidelines for irrigation scheme development process are relevant and can be referred to when developing drainage schemes with equivalent success.

CHAPTER 4

4.0 SUPPORT SERVICES FOR IRRIGATION DEVELOPMENT

Sustainability of developed irrigation schemes is determined to a large extent, by the appropriateness of the needed supporting services identified at the scheme initiation and the planning stages. The absence of any of these services will affect the performance of the schemes and the actual outputs and benefits will not be satisfactorily achieved. These supporting services are outlined below.

4.1. Financial Services

The current practice in the development of irrigation varies depending on ownership and management. Farmers are encouraged to source funds for investment and production from existing financial institutions and development partners. In the case of community based smallholder irrigation schemes, implementation is through cost sharing with beneficiaries. For schemes developed through loans, beneficiaries must ensure that funds for infrastructure construction are secured by the end of planning/design stage.

4.2. Farm Inputs and Production Services

Credit, marketing and inputs supply are critical support services for production and sustainability of irrigation schemes. Creating favorable conditions for input dealers will encourage availability of farm inputs within the environs of irrigation schemes through:

- Formation of farmer groups for bulk purchase of inputs to benefit from economies of scale and assured supply chain.
- Collaboration with the relevant government agencies at national and county levels of government to provide information on input supply service to irrigation schemes. At County level, the office responsible for Agriculture should provide information on inputs.

4.3. Value Addition and Marketing

Sustainability of irrigation schemes can only be attained if farmers benefit from their investments. Farmers have to market their produce at a profit to be able to pay back loans, and save towards future project development and undertake O&M. To ensure returns on investment, outlets for the various produce from the schemes should be identified during the planning stage. This should be done in collaboration with national, county governments and other stakeholders.

Market survey and crop prioritization should be done followed by contract farming where appropriate. In addition the following issues should be considered to enhance profitability:

- **Preservation** - Where cooling facilities already exist, farmers are encouraged to utilize them or develop the same.
- **Value addition** - Cottage industries, where possible, are recommended to increase the value of the produce.
- **Formation of marketing groups** - Producers are encouraged to form marketing groups to avoid exploitation by middlemen/brokers.

4.4. Training and Extension Services

Extension services are essential for farmers to access appropriate technologies needed to maximize yields and profits from irrigated enterprises. The Ministry responsible for Agriculture at County level and other stakeholders should work closely with the farmers throughout the scheme development and management cycle to identify gaps for capacity building. Further, the following aspects should be considered:

- Subject Matter specialists (SMS) in irrigation management and engineering should be available at ward and sub-county levels, respectively, to provide backstopping services to extension officers on demand and also to supervise them.
- Extension officers should be retrained on scheme development, management and irrigated agriculture to support production and irrigation management.

4.5. Infrastructure and Communication

The availability and adequacy of infrastructure and communication facilities in rural areas e.g. market sheds, produce cooling facilities, warehouses, schools, health facilities, security, access roads etc. are key to irrigation development. Therefore coordination and collaboration amongst key stakeholders to invest in the above mentioned areas should be considered.

4.6. Research/Appropriate Technology

Adoption of science and technology are essential for efficient and sustainable irrigation development. Therefore, stakeholders in irrigation development are encouraged to collaborate with KALRO, and other Research institutions to ensure irrigated agriculture research and innovation is given due attention.

At the irrigation scheme level, research, innovations and technology testing fields/sites should be designated to ensure adoption of appropriate enterprises and production practices. It is imperative that challenges encountered in irrigation are communicated to research institutions for investigation.

CHAPTER 5
5.0 FINANCIAL ARRANGEMENT FOR IRRIGATION DEVELOPMENT

5.1. General Concepts on Financing

In a bid to promote sustainable irrigation schemes, there is need to have proper financing arrangements that take into consideration the interests of the farmers on one hand, and give a varied range of financiers the confidence to invest more in irrigation, on the other. The funding of smallholder irrigation and drainage schemes shall therefore be through the cost-sharing approach. Indeed, this is in line with the concept of participatory approach to development. Cost sharing is particularly recommended in irrigation development because of the need to enlist participation of the farmers in all stages of the irrigation or drainage project cycle. This enhances effective scheme management by communities which would lead to sustainability.

The use of both grants and loans should be accommodated in a cost sharing arrangement. It is however recommended that where farmers are able to get loans for scheme development they are encouraged to do so, for this will help accelerate irrigation development throughout the country.

a) Farmers' Contribution

Cost sharing in smallholder irrigation scheme development should take the form of beneficiaries offsetting part of the total project cost. This could be through provision of locally available construction materials, cash and/or labor. This will enhance the beneficiaries' participation for project sustainability. It should be borne in mind that the farmers' contribution is a prerequisite to scheme implementation.

b) External Contribution

This is financing of irrigation development by an entity external to the scheme beneficiaries such as the National Government, County government, NGOs, development partners or any other stakeholder.

Financing shall be in the form of grants (funds not paid back by the benefiting group) or loans. Whereas grants are likely to come from GOK, development partners and NGOs, it is likely that Banks and MFIs will give loans to both irrigation communities and individuals.

5.2. Specific Guidelines on Financing

5.2.1 Financing through Grants

In irrigation development through grants, the supporting entities and the beneficiaries shall meet the costs of scheme implementation through cost sharing. The grants should also meet the cost of planning, scheme design and capacity building of beneficiaries.

The following stakeholders may undertake the funding of schemes as indicated below:

a) National and County Governments and Development Partners

Provide funds for:

- Preliminary and detailed feasibility studies.
- Development of irrigation infrastructure
- Farmers capacity building and
- Irrigation extension services where appropriate
- Operation and maintenance of national and public irrigation schemes (where applicable)

- NG and CGs may provide guarantees for financing by development partners and banks

b) Banks and Micro-Financing Institutions

Provide loans for irrigation scheme development and seasonal loans for farm inputs.

c) Beneficiaries

- Meet expenses of statutory fees for licenses and permits (Water permit, NEMA license etc.)
- Contribute towards implementation by providing labour, and locally available materials where possible.
- Provide funds for scheme development and management in accordance with funding conditions.

Not with-standing the above mentioned factors, in smallholder irrigation and drainage schemes, beneficiaries' contributions can be enhanced by:

- By ensuring the cost of Operation and maintenance of a developed scheme is the total responsibility of the farmers.

- In the ASALs; where farming is not always a priority, farmers' contribution towards irrigation development can be achieved through the food-for-work strategy. The same should apply in famine prone areas. In such areas the irrigation/drainage structures should be appropriate and adaptable to minimize costs borne by farmers at operation and maintenance phase.

d) Funding Through Loans

There are various financial institutions and other stakeholders willing to fund irrigation development through provision of loans to firms, individual farmers and communities. Considerations for issuing loans to develop irrigation schemes include the following:

- The beneficiaries should have a clearly defined business plan covering the irrigation scheme and related value chain. Any loan taken out for production purposes should preferably be accompanied where possible by an insurance cover.

- Any security needed by the loaning institution should be agreed between the involved parties. Where development funds are available on loan basis to smallholder irrigation schemes, it is recommended that group guarantee be employed as a form of collateral in the case of communities.

- The beneficiaries should study and understand the credit conditions before entering into any form of agreement. Additionally, it is important that the terms of the loan be well within the servicing capacity of the beneficiaries. They should take a leading role in seeking loans, which are commensurate with their irrigation scheme requirement. The loan repayment by the beneficiaries should start after the agreed grace period.

- It is recommended that loans acquired for irrigation schemes by the farmers be for infrastructural development and where possible, farm inputs and production services.

- In case of smallholder irrigation schemes, supporting entities should provide for activities such as preliminary investigations, training and if possible through cost

sharing. Preferably for IWUAs that have achieved legal status.

Financial institutions should consider the following aspects while supporting irrigation development:

- Should give both short term and medium term loans
- The short-term loans should be for farm inputs and production services. The repayment periods should be based on the crop production cycle.
- The medium term loans should be used for irrigation and drainage infrastructure development.
- Loans should be government guaranteed (where appropriate) in order to create bank's confidence in investing in community based smallholder irrigation schemes.
- Loan repayment for the irrigation infrastructure development should have a grace period of at least two cropping seasons.

e) Government/Development Partners

Any partner willing to finance irrigation development through cost recovery should do so through partnership with local financial institutions in accordance with the prevailing regulations under the Irrigation Act, 2019.

f) Funding through Public Private Partnerships

This will be guided by the irrigation regulations in tandem with the National guidelines on public private partnerships.

5.3. Financing of Irrigation Scheme Management

To improve sustainability of community based smallholder irrigation schemes, there is need for the farmers through IWUA to fully handle O&M. This could be done by:

- Mobilizing their own resources for O&M.
- Providing all the necessary labor requirements.
- Seeking short-term loans from a financial institution for use on major repairs.

5.4. Conditions for using public funds for Community Based Smallholder Irrigation Schemes

For a scheme to qualify for funding, the following conditions shall be-considered:

- Farmers should submit a written proposal with request for funding to the Authority, CIDU or other supporting entities.
    - For feasibility studies funding, the proposal should be accompanied by a preliminary report
    - For implementation, the proposal should be accompanied by a scheme design document with the necessary approvals, permits and licenses from the relevant authorities.

- Funds should cover the entire scheme implementation stage. Where applicable, the funds shall be provided as works and in kind. The IWUA should supervise, inspect and confirm delivery.

- The funds shall be released as per the agreed contract documents, agreements and work plan.

- Flow of funds from the implementing entity to the beneficiaries shall be based on a signed memorandum of understanding between the parties before every activity.

CHAPTER 6
IRRIGATION SCHEME MANAGEMENT

6.1. General Concepts of Scheme Management

Scheme management involves social and physical aspects for water acquisition and distribution, scheme maintenance and repairs, staff and group labour mobilization, budgeting and other management tasks ensuring effective, efficient and sustainable irrigation services.

Governance refers to a set of social relations that manage the social, economic and administrative aspects of irrigation. The mode of governance depends on the ownership and type of irrigation scheme. In the case of community based smallholder schemes, this is done by the IWUAs.

Scheme operations involve activities concerned with proper water abstraction from source, conveyance, distribution and on-farm application. In case of drainage schemes, they will involve removal of excess water or its retention as the case may be.

Scheme Maintenance constitutes a set of activities that are carried out to ensure that the irrigation or drainage system functions optimally as per the design and operation requirements. These maintenance tasks need to be properly planned and executed in accordance to provisions of the O&M manual to avoid any malfunction of the systems.

Internal monitoring and evaluation is an important aspect of scheme management. It helps to identify successes and any shortcomings for remedial actions, which are incorporated in subsequent planning cycles.

6.2. Types of Scheme Management

There are three main irrigation scheme management models based on ownership and type of the system. These are:

6.2.1. Management by a central Body/Agency

This is applicable in public or National irrigation schemes where there are shared responsibilities for scheme management. The farmers may be tenants and pay an agency for O&M activities. The farmers carry out production operations at the farm level and meet the costs of O&M.

6.2.2. Management by IWUAs

In community based smallholder irrigation schemes, IWUAs are fully responsible for management of the irrigation or drainage system with some technical advice and occasional assistance from a government agency or any other stakeholder. The advantages of this model include:

- Enhanced self-determination, internal capacity building and sustainability.
- Increased lifespan of the irrigation infrastructure due to better O&M.
- Enhanced group cohesion and functional IWUAs.
- Lower O&M costs.

6.2.3. Management by IWUAs through a Water Undertaker

A water undertaker refers to an agency/entity contracted by the IWUA to operate and maintain major Irrigation/drainage infrastructure on their behalf at a fee. This is recommended for large smallholder irrigation schemes under the following circumstances:

- When farmers are unable to handle the necessary complex specialized requirements for system O&M.
- When beneficiary organizational capability is inadequate to efficiently manage the scheme.
- When the structures are expansive and need specialized management.

The details of these scheme management models shall be expounded in the irrigation regulations.

CHAPTER 7

7.0. IRRIGATION WATER USERS ASSOCIATION (IWUA)

Approximately 50% of irrigation schemes in Kenya are managed under the IWUA model. It is the most favored approach for government supported, community based and National irrigation schemes.

7.1. Definition of IWUA

An Irrigation Water Users Association (IWUA) is defined as any association established by residents of a catchment area who are crop farmers, livestock producers, fish pond users, or small rural industry entrepreneurs or otherwise uses water for irrigation purposes from a common water source/irrigation facility. The members are responsible for installing, operating, maintaining and managing the irrigation system. At catchment level the IWUA is a member of a WRUA.

7.2. Role and Responsibilities of IWUA in Development & Management of Irrigation Schemes

The role of the IWUA includes all activities pertaining to the scheme implementation process in line with prevailing policies, guidelines and procedures. These include:

- Acting as a linkage between the IWUA members and the Authority, CIDU as well as other stakeholders.
- Participating in all stages of scheme development
- Operation, maintenance and management of the irrigation scheme
- Ensuring collective community responsibility of setting and collection of levies (O&M, water use fee etc.) from all the members
- Ensuring equitable distribution and efficient use of water among the members
- Mobilizing internal and external resources for the benefit of the members.
- Formulation and enforcement of by-laws
- Ensure adherence to statutory obligations
- Conflict management

For IWUAs to play their roles effectively and ensure sustainable irrigation development, they should be cohesive, functional and viable.

7.3. IWUA Formation Process

The IWUA formation process follows a systematic participatory approach and is linked to the scheme development stages. The proposed time frame for IWUA formation might vary depending on the farmers experience in communal projects. The process of IWUA formation should involve the following key concepts of participatory approach to irrigation development: Awareness creation; Organization; capacity building; and Networking

The IWUA formation entails the following steps; Core group formation, IWUA formation and legalization, development and operation. It is important to note that IWUAs should be legal entities registered under the relevant legislative provisions.

Detailed information on the IWUA formation process is shown in Table 7.1.

Table 7.1: Irrigation Water Users Association Formation Process

Phases	**objectives**	**Roles in Irrigation Scheme Development activities**	**Time frame**
1. Core group formation	Initial group mobilized for organizing activities (Interim Scheme Officials)	Project initiation stage: - Prepare Community action & participation plan - Participate in feasibility study /design activities for proposed project	First 3 months
2. IWUA formation and legalization	IWUA formed based on scheme design and mobilized for governance and other activities -Constitution and By-law formulated -Officials formally elected -IWUA formal registration	Implementation stage: - Apply for water permit - Appraise project document, MOUs and implement participation plan - Participate in project implementation and M&E - Assign construction committee, labour, manpower, etc. - Participate in project assessment sessions - Conduct project evaluation meetings - Conduct other trainings as may be necessary	First 4 months
3. Training & development	Develop governance and management capability of IWUA	- Formal, informal, guided practice and on-job trainings sessions to enhance knowledge and skills development for irrigation, production, financial, leadership, etc.	First 5 months
4. IWUA operation	IWUA exists as a functional and viable institution	- Total assumption of scheme Management responsibilities - Internal scheme performance evaluation & feedback - Implementation of sustainability measures	First 3 years

7.4 IWUA Organization and Management Structure

An IWUA management structure should ensure that the organization is able to carry out its roles effectively. In this case, the overall decision-making and policy determination is vested in the General Assembly. The scheme management committee through elected leaders has specific functions directed towards scheme operation, enforcing rules and regulations and monitoring/evaluating the implementation of the scheme activities. The block leaders, where applicable are responsible for enforcing agreements, rules and regulations within the irrigation groups. The sub committees act as advisors for the scheme committee.

7.4.1 The IWUA Structure

a) General Assembly

This comprises the general membership of the scheme. It is the supreme authority for all decisions on matters affecting the scheme management and the general membership.

b) Executive committee

These are the elected officials who are responsible for the overall leadership and

management of the scheme. It comprises the Scheme chairman, Vice Chairman, Secretary, Vice Secretary and Treasurer.

c) Scheme Management Committee

This comprises the Executive Committee and other elected leaders, usually representing the interest of the blocks and /or special task committees.

d) Sub- committees/Special Task committees

These are leaders that are elected to the scheme committee but assigned specific IWUA tasks for the purpose of distributing responsibilities and to facilitate participation of more members. Each IWUA should have sub- committees. These include dispute management, O& M, Training, Audit, Safety, Health & Environmental committees and M & E. The number of special task committees will depend on the size and complexity of the scheme.

e) Group/Block Leaders

These are elected individuals that represent the various blocks of an irrigation scheme e.g. farmers served by a sub-main or lateral. The number of group/block committees will depend on the size of scheme and number of irrigation farmers.

f) Irrigation Scheme Members

These are all the farmers within a given area and are served by the same irrigation facility.

Such a management structure is as suggested in the organogram below:

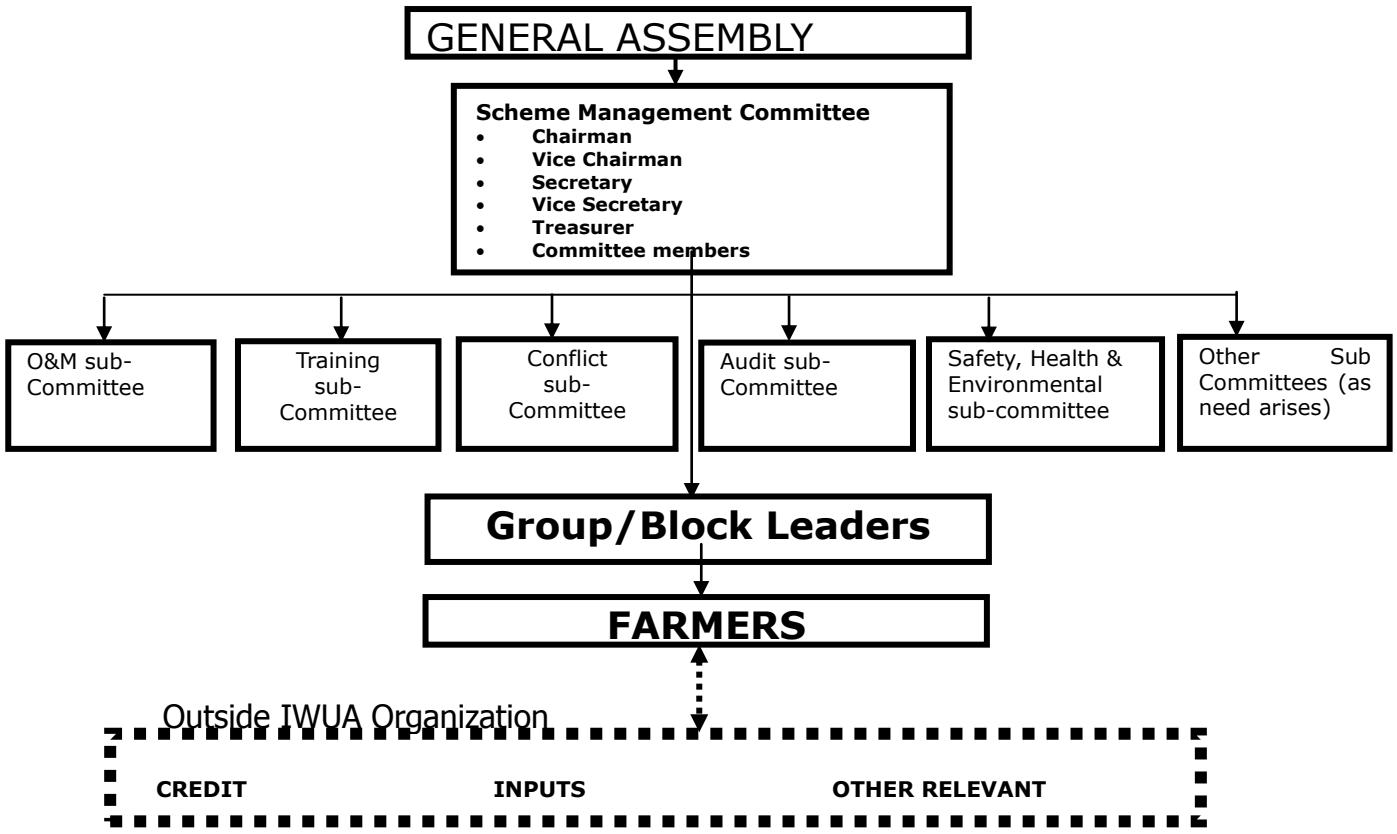

Chart1: IWUA Organograph

7.5 Dispute Management

There are many potential causes of disputes in an irrigation scheme. Disputes related to irrigation and drainage scheme development, management, water allocations and delivery, financing, operation and maintenance and other matters shall be resolved within the irrigation water users association or at irrigation scheme level wherever possible.

Disputes should be resolved by the Dispute resolution sub-committee that should consist of at least three elected members, and other co-opted members as need arise. Where the water users association or at the irrigation scheme level is unable to resolve a dispute, the same shall be referred to the Dispute Resolution Committee at the first instance to consider and determine the matter before the same is referred to Court.

ANNEX I: SAMPLE CONTENTS OF AN IMPLEMENTATION AGREEMENT

In the preparation of the agreement the following should be addressed:

1.0 Role of implementation agreement

The implementation agreement is meant to emphasize and inform all the parties concerned on their areas of responsibility in order to have successful irrigation schemes.

The agreement highlights the importance of participatory approach in the implementation and management of irrigation and drainage schemes if their full benefits are to be realized.

2.0 The parties involved

The agreement should specify in detail all the parties involved in the agreement and their physical addresses. It should indicate the principal parties and the witnesses.

3.0 The purpose of the proposed development

The agreement should clearly indicate the objectives of the development and the type of development (new irrigation/drainage or rehabilitation etc).

4.0 The roles of each party

Of most importance in this agreement are the roles each party is to undertake at each point of scheme development. The roles of each party should be as complementary as possible to avoid delays in the development process.

5.0 The commitments of each party

The commitments, in terms of types and extent of the contributions of each party involved should be clearly stipulated in the agreements. The agreement should also identify how non-compliance with the pledged commitment can be sorted out to avoid delay in development.

A sample MoU is attached hereinafter as ANNEX II

ANNEX II: SAMPLE MEMORANDUM OF UNDERSTANDING - SCHEME CONSTRUCTION AGREEMENT

This agreement is made on the _____ day of _____ 20___, between the *Project Name*_____here in after referred to as the "**project**" of the first part and *Name of IWUA*_____, an irrigation farmers association on the second part.

WHEREAS, the purposes of this agreement are:-

1. to provide for construction of *Name of Irrigation Scheme* which is a small holder community based irrigation scheme for crop production.
2. to provide for the participation of all the parties to the agreement in the design and implementation of the irrigation scheme.
3. to provide for strengthening of the farmers organization for effective operation and maintenance (O&M) of the scheme.
4. to provide for the strengthening of extension, training and support services to the irrigation scheme.

Now it is agreed as follows:-

A) the project agrees, on terms of this agreement to;-

   I. Arrange for surveys, investigations and design of the scheme as agreed with the farmers
   II. Purchase the locally unavailable materials necessary for construction of the main conveyance system
   III. Supervise the construction of the irrigation works to ensure that they adhere to the design specifications and standards
   IV. Prepare an operation and maintenance manual for the irrigation system and train farmers on its use.
   V. Contract out the construction of intake works.

B) the farmers through their scheme/IWUA, agree, on terms of this agreement to;-

   I. Provide all necessary labour, locally available materials and undertake to do all earth works for the main canal conveyance, group feeders and drainage.
   II. Settle disputes over land and allow each other the right of way for water to their plots
   III. Apply, pay for water permit and other water charges
   IV. Provide storage facilities for materials supplied for construction of the scheme and guard them
   V. Provide leeway on land or working space for required works free. Compensation, if necessary, will be agreed upon and paid by the farmers themselves
   VI. Establish and maintain farmers groups and scheme committee rules and regulations (by-laws) specifying the requirements and the discipline to be observed by all members for the success of the irrigation scheme.
   VII. Organize proper water distribution within the irrigation scheme

VIII. Clean, repair and maintain irrigation and drainage systems as required
IX. Raise funds for hiring local mason to assist in construction under supervision of the project staff.
X. Agree to cost sharing for training and tours
XI. Make arrangements for storage of scheme equipment and spares

IN WITNESS WHEREOF, the parties hereto, acting through their representatives there unto duly authorized, have caused this agreement to be signed in the respective names, as of the date first above written.
SIGNED BY:

SUB COUNTY IRRIGATION OFFICER _____

Signature _____

Duly authorized for and on behalf of *Name of Supporting Institute*

IN THE PRESENCE OF Address _____

NAME _____

SIGNATURE _____

SIGNED BY THE CHAIRMAN
NAME _____

SIGNATURE _____

SECRETARY NAME _____

SIGNATURE _____

TREASURER NAME _____

SIGNATURE _____
Duly authorized for and on behalf of the IWUA

ANNEX III: STANDARDIZED WAY LEAVE AGREEMENT

WAYLEAVE FORM

This Agreement dated: _____is made between

1. PARTIES:

1.1 _____ Irrigation Water Users Association,

Registered No._____

AND

1.2 _____the Owner means

[COMPLETE NAME AND ADDRESS details]

being the freehold owner of the Land/Premises , Title No_____

Tel. No. _____

I have no objection for the passage of the Water Pipe/ Furrow through my land for the implementation and operation of _____Irrigation Scheme Under_____ project both now and in the future.

Ward: _____ Sub County _____

County_____

SIGNED by the OWNER OF LAND _____

Dated _____

In the presence of (WITNESS) _____

(Witness Signature)

Name of Witness_____ (BLOCK CAPITALS)

Address_____

SIGNED for Irrigation Water Users Association

Dated _____

In the presence of (WITNESS) _____

(Witness Signature)

Name of Witness_____ (BLOCK CAPITALS)

Address_____

FOR ANY ENQUIRIES CONTACT

The Principal Secretary
State Department for Water, Sanitation and Irrigation
Ministry of Water, Sanitation and Irrigation
P.O. Box 49720-0100
NAIROBI