GOVERNMENT OF

Malawi

Integrated Water Resources Management and Water Efficiency (IWRM/WE) PLAN

2008-2012

Abridged version

Global Water Partnership Southern Africa
Malawi Water Partnership

CIDA

PRESIDENTIAL STATEMENT

This Integrated Water Resources Management and Water Efficiency (IWRM/WE) Plan has been developed with the goal of ensuring the coordinated development and management of water, land and related resources by maximising economic and social welfare without compromising the sustainability of environmental systems.

The Plan has been developed in response to one of the actions agreed upon by the 2002 Johannesburg World Summit on Sustainable Development (WSSD). The Plan is also in support of the Malawi Growth and Development Strategy (MGDS), which spells out six key priority areas of the country's development agenda. Through proper development, management and utilisation of water resources, the country will be able to increase agricultural production and food security, expand irrigation services, increase the number of people accessing potable water, increase and improve water transport services, expand hydropower generation and supply and enhance rural development. Water is also important in the prevention and management of nutritional disorders and HIV and AIDS.

It is imperative for all Malawians and other residents to manage water resources sustainably. This is because most people have lived to believe that the country has abundant water that cannot run out. However, research has shown that this is not true. As population grows and human activities increase, water pollution and water demand for domestic, industry, and other uses increase. This leads to water shortages. Malawi is documented as a water-stressed country, and may be water scarce by 2025 if nothing is done to mitigate the looming crisis. In addition, climate change is making Malawi increasingly vulnerable to problems such as frequent dry spells, droughts or erratic rainfall leading to low production of crops, livestock and hydropower energy. Excessive rains also cause floods and loss of life and property. The IWRM/WE Plan outlines strategies for a holistic development and management of water resources. The Plan further emphasises inter-sectoral coordination and planning, efficient development, management and utilisation of water. The implication of this is a paradigm shift from haphazard water development and utilisation programmes to that which allows for common resolve and consensus among various players.

In order to realise the goal of this Plan, Government is committed to implementing the IWRM/WE Plan through all key sectors and institutions both public and private and involving water users at all levels. By pooling local institutional resources and additional resources mobilised through our Cooperating Partners, Malawi will be able to effectively implement the IWRM/WE Plan and avoid the looming risk of water scarcity. Government further realises the need for an enabling policy and legislative environment for effective implementation of the Plan, and commits itself to ensuring that this is done promptly.

The Plan will, among other interventions, focus on five priority areas affecting water resources development, management and utilisation as follows:

- Harmonisation of natural resources policies and legal frameworks;
- Integrated catchment management;
- Sustainable water resources utilisation;
- Institutional capacity building for IWRM/WE;
- Strengthening coordination mechanisms for IWRM/WE implementation.

Government will champion the implementation of the IWRM/WE Plan. While Government will ensure the creation of an enabling environment for the implementation of this Plan, it is the duty and responsibility of every Malawian and other residents to take keen interest to conserve water and participate in water resources development and management activities.

May God bless our country, Malawi.

Dr. Bingu wa Mutharika

STATE PRESIDENT OF THE REPUBLIC OF MALAWI

FOREWORD

The Ministry of Irrigation and Water Development recognises that the Water and Sanitation sector faces a number of challenges which include degradation of water resources, inadequate service coverage, inadequate financing, and increasing water demand as a result of increasing population and economic activities. These are compounded by a high prevalence of HIV and AIDS, insufficient human resource capacity, lack of an integrated approach to water resources development and management, climate change, lack of mitigation measures for water-related disasters, and inadequate promotion of hygiene and sanitation.

The Ministry also appreciates that the sector has opportunities such as strong political will towards water resources development and management, donor support, willingness of private and public sectors to participate in water issues, existence of regional and international initiatives such as the Johannesburg Declaration of the WSSD (2002) and SADC Protocol on Shared Watercourses.

In this regard the Ministry, in close collaboration with the Malawi Water Partnership (MWP), has developed this Integrated Water Resources Management and Water Efficiency (IWRM/WE) Plan. Key stakeholders comprised of individuals, institutions and organisations from relevant sectors participated at various stages of the process or were consulted for information or opinions. The process and content of the IWRM/WE Plan make it stand out as a major milestone for the achievement of the water-related Millennium Development Goals, and a key strategy for resolving water-related challenges outlined above.

This Plan has attempted to integrate the natural as well as human systems in order to attain sustainable water resources development and management. In the natural system, attempts have been made to integrate the management of water and other land-based resources, surface water and ground water resources, river basin and its adjacent coastal and marine environment, and upstream and downstream interests. In the human system, the Plan tries to ensure that government policies, financial allocations and planning take into account the implications for water resources development, water-related risks and water use. The Plan also ensures that decisions for technological production and consumption choices are based on real value of water and the need to sustain the natural resource assets over time. The Plan further provides for a mechanism that ensures that all stakeholders can participate in water resources development and allocation decisions, conflict resolution and trade-off choices.

The IWRM/WE Plan, therefore, seeks to improve people's livelihoods through sustainable development, management, and use of water resources. Through the proposed institutional framework, it is hoped that an enabling environment for implementing the IWRM/WE Plan will be established and decentralised to the lowest levels, as well as clearly define the roles and responsibilities in order to promote participation of all stakeholders.

The Ministry would like to thank the Malawi Water Partnership for ably facilitating the development of the IWRM/WE Plan. The Ministry also thanks the Canadian Government for providing financial support for the development of the Plan. The Ministry further thanks the Global Water Partnership of Southern Africa (GWP-SA) for providing technical support and guidance throughout the process of developing this plan. Many thanks also go to all stakeholders that were consulted and participated in the development of the Plan.

Hon. Sidik Mia, MP
MINISTER OF IRRIGATION AND WATER DEVELOPMENT

ABBREVIATIONS AND ACRONYMS

BWB	Blantyre Water Board
CIDA	Canadian International Development Agency
CURE	Coordination Unit for the Rehabilitation of the Environment
DA	District Assemblies
DRA	Direct Responsive Approach
GWPSA	Global Water Partnership Southern Africa
IMS	Information Management System
IWRM	Integrated Water Resources Management
MDG	Millennium Development Goal
MGDS	Malawi Growth and Development Strategy
MOIWD	Ministry of Irrigation and Water Development
MWP	Malawi Water Partnership
NGO	Non Governmental Organisation
NSA	Non State Actors
NSO	National Statistics Office
NWDPII	National Water Development Programme II
NWRA	National Water Resources Authority
PHAST	Participatory Hygiene & Sanitation Transformation
PRSP	Poverty Reduction Strategy Paper
RBO	River Basin Organisation
SADC	Southern African Development Community
WESM	Wildlife and Environmental Society of Malawi
PAWD	Partnership for Africa's Water Development
WRAs	Water Resources Areas
WSSD	World Summit for Sustainable Development
WVI	World Vision International

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EXECUTIVE SUMMARY

Malawi is a water stressed country with total renewable water resources per person of less than 1,400m3/year. With such low per capita water availability, Malawi is worse off than Botswana and Namibia, countries which have large areas of desert. Within the SADC, Malawi has the second lowest total renewable water resources per person, after South Africa.

Total renewable water resources available will decline further over time due to a rapidly growing population (presently at 2.8% per year), climate change/climate vulnerability and water quality degradation (due to poor agricultural practices, poor waste management, deforestation and forest degradation). In spite of the limited availability of water resources, adoption of water demand management (WDM) strategies has remained low, especially in the agriculture sector where most of the water is used.

The Lake Malawi-Shire River water system, which is a strategic water resource for hydro power generation, irrigation, navigation and fisheries, is a vulnerable resource because about 53 percent of the water comes from the catchment in Tanzania. Any major water development activities within the catchment would have serious consequences for the economy of Malawi.

Efforts to manage implementation of IWRM more effectively and efficiently have been hampered by inadequate capacity, un-harmonised policies and laws, inappropriate catchment management practices and poor coordination among stakeholders.

The water-stressed status of Malawi is a serious threat to the development of the country and has the potential to reverse the development gains already achieved by the nation. Water shortages will seriously affect efforts of the Malawi Government to achieve growth and development goals set out in the Malawi Growth and Development Strategy (MGDS). This is largely because the MGDS is about using more water for farming, tourism, industries, navigation, electric power generation to promote economic development.

The declining water-availability situation will now become the major limiting factor for development of the country. Water allocation among competing potential users will become critical and trade offs will have to be made in order to ensure that the scarce water resources are used in activities that will result in maximising benefits for the nation.

The trans-boundary nature of the water resource also means that Malawi will need to develop very close dialogue and consultations with the neighbouring countries in order to ensure that water development in the respective countries does not negatively affect the development agenda of Malawi. While a joint commission of cooperation exists with Mozambique, Malawi needs similar consultation mechanisms with Tanzania and Zambia. Issues of common interest will be both the water resources management plans in neighbouring countries; as well as to start dialogue on the cross-border water transfer potential from neighbouring countries to Malawi.

IWRM/WE offers an approach that can enable Malawi to effectively address national and international water resource challenges by promoting integrated management of natural resources and promoting consultations of various stakeholders in water and water-related fields.

A participatory process was used to develop the IWRM/WE Plan (hereafter the Plan). Through consultation with stakeholders at various levels and in all key sectors, the process solicited and incorporated their ideas to form the Plan.

The strategic components of the Plan are:

1.	Policy Direction	10.	Parks and Wildlife
2.	Water Resources Management and Development	11.	Forestry Services
3.	Urban, Peri-Urban and Market Centres Water Services	12.	Environment and Biodiversity
4.	Rural Water Services	13.	Hydro-Power Generation
5.	Water Quality and Pollution Control	14.	Eco-Tourism and Recreation,
6.	Agriculture Services	15.	Disaster Management
7.	Fisheries Services	16.	Land Management
8.	Irrigation Services	17.	Plan Monitoring and Evaluation
9.	Navigation Services		

The Strategic Framework component provides a means of linking related initiatives that are being undertaken by government institutions and further recognises international roles in water resources management and development. It should be recognised that the Plan will be implemented in phases and this will be undertaken through the National Action Plans under the umbrella of the Regional Strategic Action Plan of SADC. Provision will be made for co-ordination at national level to ensure that the various activities support and complement each other, and that the process is monitored and reviewed regularly. This calls for incorporation of monitoring and evaluation of strategies in the Plan.

The Framework includes the five priority areas which are critical in the success of IWRM/WE in Malawi. The priority areas were identified through a consultative and collaborative process. These are:

- Policy, legal and institutional environment (the “enabling” environment)
- Co-ordination and Managing Implementation
- Integrated Catchment Management
- IWRM Institutional Capacity Building; and
- Sustainable Water Resources Utilisation.

The national consultative process that was conducted in the three regions of the country, confirmed the priority areas to be addressed by the Plan in the five year period 2008 to 2012. The consultations further identified the root causes of each of the five priority challenges outlined above. For each priority area, Action Plans have been developed with specific time-bound interventions to tackle the five priority areas. The Action Plans describes the goals, objectives and interventions for each strategic area.

The strategic framework further isolates possible IWRM projects in each priority area that shall be implemented in the life-span of the IWRM plan. Some of the indentified projects are already being implemented with funding already confirmed, while others still need financial resources to be mobilised. Projects Concepts Notes have been developed for those projects that still require resource mobilisation.

1. INTRODUCTION

Globally, the landmark development in water resources reform processes can be linked to the Earth Summit of 1992, which took place in Rio de Janeiro, Brazil. A set of agreements were adopted by world leaders and a programme of action for sustainable development, commonly known as Agenda 21 established a set of basic principles based on the need to manage the economy, the environment and social issues in a coherent and coordinated manner. It was designed to prepare the world to address challenges of poverty, hunger, disease, illiteracy and environmental degradation as a set of interrelated issues.

Ten years after the Earth Summit, during the WSSD held in Johannesburg, South Africa in 2002 it was realised that the implementation of Agenda 21 had not progressed far enough and there was a need for new impetus. The international community took an important step towards more sustainable approaches in water management by including in the WSSD Plan of Implementation, a call for all countries to develop IWRM/WE plans by 2005 with support from developed countries. An equally important landmark in water resources management reform processes was achieved through the adoption of the Dublin Principles. The Dublin Principles express a holistic, comprehensive, multi-disciplinary approach to water resources management based on four principles which cover environmental, socio-economic and political issues. These principles include the recognition of the importance of stakeholder participation in water resource management; the central role of women in water use and governance issues, and that water is a finite resource, as well as being both a social and economic good.

The National Water Policy of 2005 advocates IWRM as the basis for sustainable water development. The Policy's vision for the water and sanitation sector in Malawi is "Water and Sanitation for All, Always". This vision is based on the country's central policy of poverty reduction and economic growth. It endeavours to ensure that every Malawian has equitable access to water and sanitation services for sustainable socio-economic development and enhancement of the country's natural ecosystems. This is reflected in the MGDS, which has singled out, among other areas, food security, water resources development and eco-tourism as government priority areas of action. The Policy compliments Section 13(d) of the Constitution of Malawi which calls upon the state to manage the environment responsibly in order to prevent the degradation of the environment, provide a healthy living and working environment for the people of Malawi, accord full recognition to the rights of future generation by means of environmental protection and the sustainable development of natural resources and enhance the biodiversity of Malawi.

The National IWRM/WE Plan is a road map to guide this country in addressing its key water related development challenges such as water for people, water for food, water for energy and water for the environment. The Plan will also guide institutions from all sectors involved in the development and management of water resources to operate in a co-ordinated and integrated manner for economic efficiency, environmental sustainability, and social equity. The Plan therefore is an essential step for the country to improve people's livelihoods and thus realise the water related MDGs and MGDS goals.

2. WATER RESOURCES OF MALAWI

Malawi is endowed with both surface and groundwater resources which play a critical role in the socio-economic development of the country.

2.1. Surface Water Resources

Malawi has a distinct climate with high plateau, rugged relief and one fifth of the country is composed of Lake Malawi. The country experiences good rainfall from November to April. The mean annual rainfall is 1,037mm.

Lake Malawi stores the bulk of the renewable surface water resources, with an average of 90 km3 of live storage. This lake, which is the third largest in Africa, has a surface area of 28,760 km2 and an estimated total volume of water of 7,725 x 109m3 with a mean level of 474 meters above sea level. The annual surface water resources yield on land is about 13 Km3 and predominately drains into Lake Malawi and the Shire River. However, more than 90 percent of this runoff occurs in rainy season, particularly from December to April, every year.

Other important surface water resources include Lake Chilwa with a surface area of 683 km2, Lake Malombe with an area of 303 km2, and Lake Chiuta with a surface area of 60 km2 while small lakes, lagoons and marshes include Lake Kazuni, Chia Lagoon, Chiwondo lagoon, Elephant Marsh, Ndindi Marsh and Vwaza Marsh.

The country has an extensive network of river systems. The drainage system has been divided into 17 Water Resources Areas (Figure 1) and each WRA represents one basin. The WRAs are sub-divided into 78 Water Resources Units.

Major rivers are the Shire, Bua, Linthipe, Songwe, North Rukuru, South Rukuru, Dwangwa and Ruo. Shire is the largest river and the only outlet of Lake Malawi while all other major rivers drain into Lake Malawi or Shire River. The mean annual runoff over the land area of the whole country is 196mm (i.e. an equivalent of 588 m3/s) and this constitutes 19 percent of the mean annual rainfall. The mean annual outflow in the Shire River at the Lake outlet upstream Mangochi is 395m3/s.

The major rivers are perennial, but due to the seasonal rainfall most of the smaller rivers have ephemeral flow.

2.2. Groundwater Resources

There are basically two main aquifer types in Malawi. The first type is the extensive, but relatively low-yielding, weathered basement aquifer. The second type of aquifer is the high – yielding alluvial aquifer which occurs along the lakeshore plains and the Shire valley (Figure 2).

Ground water exploitable resources are limited. The existing aquifers are disjointed with characteristic relatively low yields and in most cases these aquifers are highly localised. Aquifer yields range from 4 litres per second to 0.15 litres per second.

Groundwater resources have been primarily exploited for drinking water supply for both rural and urban areas.

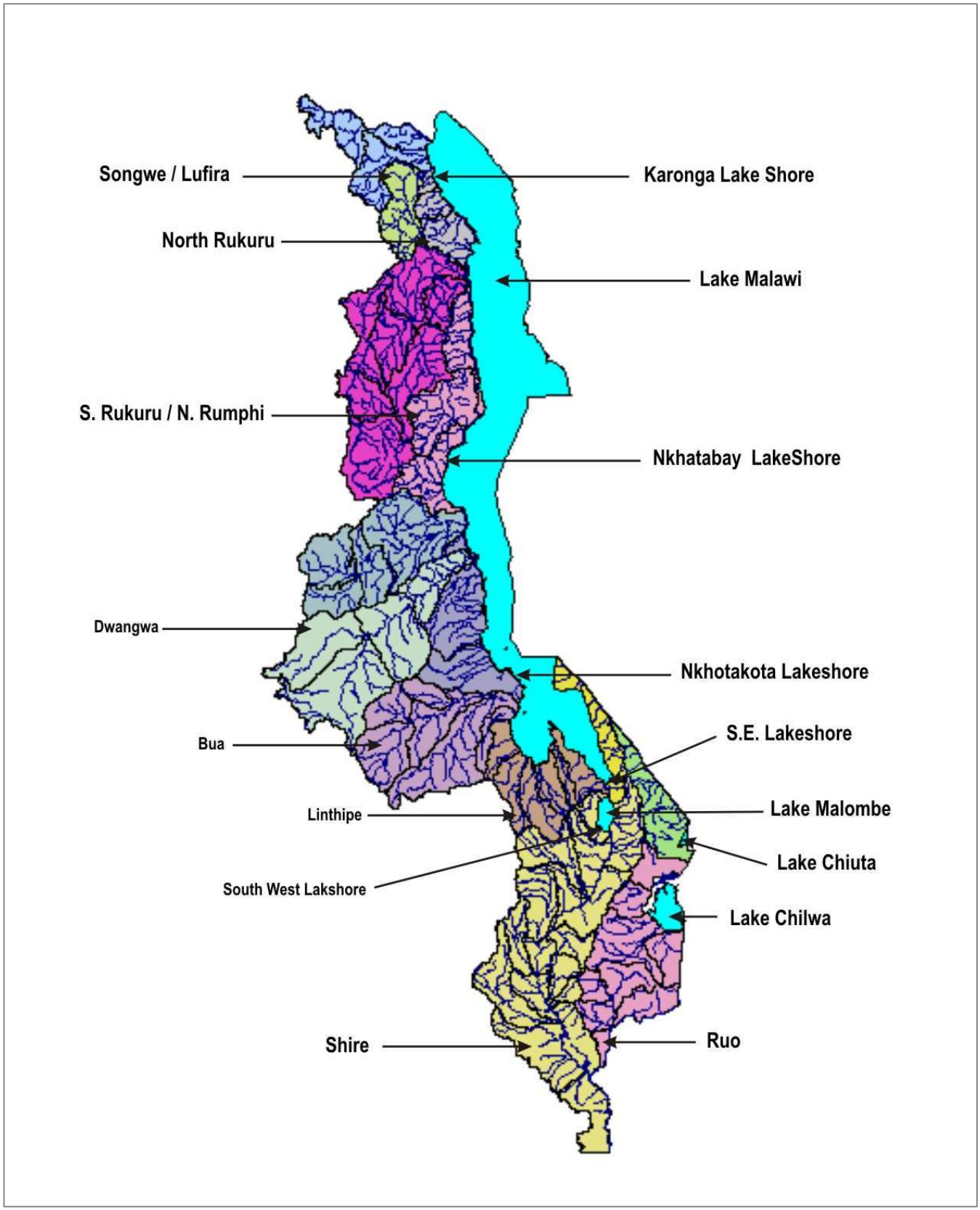


Figure 1: Malawi Water Resources Catchments

Source: Ministry of Water Development

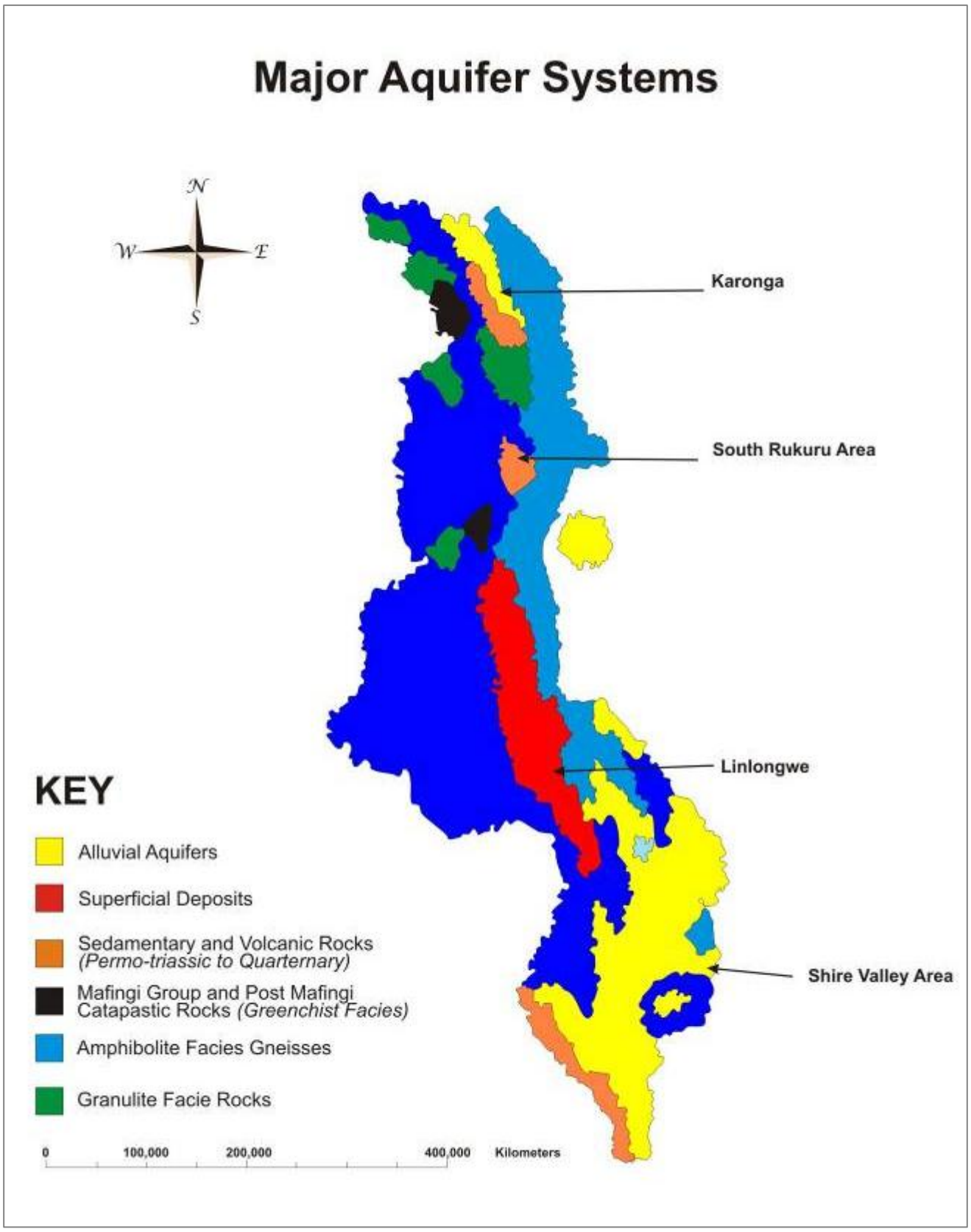


Figure 2: Groundwater Resources of Malawi

Source: Malawi Government – UNDP. 1986.

3. IWRM/WE PLANNING PROCESS

The process of developing an IWRM/WE Plan for Malawi started in 2004; undertaken through the Partnership for Africa's Water Development (PAWD) project, which was facilitated by the Malawi Water Partnership (MWP). Financial support was provided by the Canadian International Development Agency (CIDA) with technical support from the Global Water Partnership. Throughout the process of developing the IWRM/WE Plan, both print and electronic media played a critical role in informing the nation about the process that was taking place. Capacity building workshops were organised to provide the media with knowledge and skills that were needed for them to effectively inform the public about IWRM. In addition, this process of developing the IWRM/WE Plan was led by a multi-disciplinary and multi-sectoral technical team comprising government, NGOs, private sector, civil society, academia and research institutions under the leadership of the Ministry of Irrigation and Water Development. The following steps were undertaken:

3.1. Identification of Overall Goals

The national overall goals for water management have been stipulated in the Malawi Constitution and also in the Malawi National Water Policy of 2005. Through a series of consultative meetings bringing together stakeholders from government, non-governmental organisations, civil society, private sector, research and education, communities; priority issues affecting water resource management in the country were identified in a participatory manner.

3.2. Building Commitment to the Reform Process

Political will is a prerequisite for consolidating multi-stakeholder dialogue. The process of building political will was undertaken through a series of consultative meetings and workshops targeting various levels of influence in the country. Some of the key political figures targeted included Cabinet Ministers through a Cabinet Paper on IWRM, Members of Parliament through the Parliamentary Committee on Agriculture and Natural Resources, the Office of the President and Cabinet, traditional leaders, Chief Executives from the private sector and Heads of Government institutions.

3.3. Analysing Gaps

Given the existence of the National Water Policy, existing institutional arrangements and capabilities of various stakeholders, the process of identifying the reforms required to implement IWRM were identified through multi-stakeholder meetings and by comparing the requirements for effective IWRM implementation with existing working environment. The key gaps identified related to resource management functions such as enabling policies and legislation, water services and infrastructure management functions that include frameworks for water services and financial functions and mechanisms including such items as local capital markets and financing mechanisms such as grants. Identification of potential constraints provided the basis for multi-stakeholder dialogue with the purpose of isolating priority issues affecting effective water resource management.

3.4. Preparation of the Strategy and Action Plan

On the basis of the gap analysis, a root cause analysis was undertaken to identify the key issues to focus on, in order to improve water resource management in the country. Out of a long list of water resource management issues, a total of five were identified, namely, poor coordination among stakeholders, inadequate capacity to plan and implement IWRM among stakeholders, existence of conflicting policies due to lack of harmonisation, poor catchment management and inadequate sustainable water resources utilisation. Further root cause analysis of the five key issues was carried out to tease out the real strategic root causes of water challenges from the

symptomatic manifestations of underlying root causes. Root cause analysis enabled the separation of symptoms of water challenges from root causes. The process resulted in identification of issues that need to be addressed in order to improve water resources management in the country. To address the priority issues, projects and specific interventions were identified consultatively and agreed upon. Effort was taken to build on ongoing initiatives, create synergies, avoid overlaps and identify new initiatives not being undertaken. The five priority issues have been elaborated below:

3.4.1. Integrated Catchment Management

Root causes of poor catchment management

- Lack of moral ownership of natural resources;
- Poor coordination across sectors;
- Lack of or inadequate knowledge of catchment management;
- Lack of effective laws and inefficient enforcement;
- Poor agricultural practices and expansion of land under agriculture;
- Corruption; and
- Lack of alternative sources of energy leading to deforestation.

3.4.2. IWRM Institutional Capacity Building

Root causes of inadequate capacity building for IWRM

- Inadequate awareness of IWRM and lack of motivation;
- Lack of specialised training in water institutions;
- Lack of human resources and irresponsibility of officials; and
- Lack of IWRM models in the country.

3.4.3. Policy, legal and Institutional Environment ("Enabling Environment")

Root causes of un-harmonised policies and laws

- Inadequate stakeholder coordination. If coordination would be addressed, many problems would be equally addressed and initiatives would complement each other. There would be fair distribution of initiatives and concentration in one sector would be avoided;
- Apparent lack of a Policy Coordination Unit and even if it does exist, it is not considered as effective as it could otherwise be;
- While policies and laws on natural resources management exist, there is a lack of monitoring of there implementation as well as there enforcement;
- Lack of coordination among water-related sectors. These ought to consult and coordinate their activities.

3.4.4. Coordination and Managing the Implementation

Root causes of inadequate stakeholder coordination

- Lack of multi-disciplinary approaches in the planning and implementation of programmes and projects;
- Lack of a mechanism for stakeholder coordination.

3.4.5. Sustainable Water Resources Utilisation

Root causes of inadequate sustainable water resources utilisation:

- Lack of planning and development of water resources for multiple uses. There is a need to plan water resources development projects taking into account all stakeholders that may have a stake in the use of the water resource.
- Inadequate strategic allocation of water resources at the macro-level to various competing needs. There is need to prioritise and balance allocation of water resources to strategic sectors of the economy considering optimum benefit to the country.

3.5. Building Commitment to Actions

Dialogue on and acceptance by stakeholders of the IWRM process is crucial. The process of building acceptance was initiated by promoting participation of various stakeholders so that everyone is part and parcel of the planning process. Through this participation, the process of owning the final product was therefore initiated. Continuous consultation at every level ensured that all key stakeholders reached consensus at every step of the planning process.

Project Concept Notes (PCNs) were prepared and, where relevant, these will be discussed with cooperating partners and private sector to identify possible sources of external financing for the activities. Apart from sourcing finances from cooperating partners and private sector, various stakeholders were requested to mainstream IWRM in their respective institutions by preparing specific actions and budget to implement them as part of their day-to-day activities.

3.6. Implementation Frameworks

In order to facilitate the implementation of IWRM principles, the process of integrating IWRM into the Malawi Growth and Development Strategy (MGDS) was undertaken through the Ministry of Irrigation and Water Development and various stakeholders who actively participated in the consultative processes for developing the MGDS. The MDGS is a medium- term national planning framework and forms the basis for funding for both government and cooperating partners. Integrating IWRM into the MGDS was a milestone in the process of mainstreaming IWRM in the national development agenda.

The government has set up an infrastructure development strategy charged with the responsibility of rehabilitating old water supply systems and construction of new ones throughout the country. The government has further prioritised the water and sanitation sector whose main thrust is the construction of small multi-purpose community dams for improved rural livelihoods through irrigation. It has also initiated a process of infrastructure development and maintenance through the National Water Development Programme (NWDP II). The institutional framework will culminate in establishment of the National Water Resources Authority and Catchment Management Agencies.

3.7. Monitoring and Evaluation of IWRM Implementation Progress

In order to assess progress achieved through implementation of IWRM initiatives, indicators have been identified which will be used to assess the direction and pace of progress. Examples of indicators for implementation are:

- Impact indicators on water resource availability and trends;
- Process indicators on where the country is with reference to IWRM implementation and MDGs; and

- Performance indicators on how IWRM frameworks are working and what impact they are having on peoples' livelihoods.

The monitoring process will build on the existing implementation structures already in place through the Ministry of Economic Planning and Development and the National Statistical Office (NSO). The latter, conducts the national census and undertakes surveys every 5 years. These surveys do, among other things, monitor access to water and sanitation facilities by the people of Malawi.

This Plan will be reviewed periodically, every 5 years, to adequately respond to socio-economic development needs of the country. The review process will be preceded by a mid term review to monitor progress towards goals and targets.

4. IWRM/WE PLAN

The water sector reform process so far has primarily involved the ministry responsible for water affairs with some participation of stakeholders. An IWRM/WE planning has the potential to promote the coordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of the vital ecosystems. The need for integration arises because of the inter-dependent nature of various sectors in water and water- related fields. The IWRM/WE planning process requires a neutral multi-stakeholder platform for consultation. It also brings about an opportunity for greater and sustained engagement of stakeholders and opens doors for IWRM mainstreaming in various sectors related to water.

Integrating water issues into the national development agenda is feasible considering that most government departments, NGOs and the private sector rely on water resources and their mandates involve water use and management. There are a number of key players in the sector besides the lead Ministry of Irrigation and Water Development. Some of the key players are Agriculture, Forestry, Fisheries, Lands, Environment, Gender, Mining, Energy, Wildlife and Tourism. These government departments, NGOs and the private sector have policies, strategies and action plans, stating their core mandates. While they are addressing their respective mandates, each can strategically address relevant IWRM related challenges that are applicable to them. The challenge is not to turn every sector into a water sector, but for each sector to adopt better water resources management practices as they implement their respective mandates and consider the implications of their actions on the water resources. IWRM calls for participation of various stakeholders beyond the lead institutions.

There are integration structures in place whose terms of reference could be modified to facilitate IWRM. At the Local Assembly level, decentralisation policy provides for integrated management through various existing committees that are multi-sectoral. Inputs from NGOs and the private sector can be integrated at that level. At national level, the Ministry of Economic Planning and Development has a role of integrating development programmes and projects. NGOs such as the Coordination Unit for the Rehabilitation of the Environment (CURE), Wildlife and Environmental Society of Malawi (WESM), World Vision International (WVI) and others, have the capacity to facilitate IWRM nationally due to their national coverage of operations. The capacity for implementing IWRM practices of the parties is a necessary prerequisite if the goals of IWRM are to become a reality at all levels.

4.1. IWRM/WE Vision, Goal, and Objectives

4.1.1. Vision

The Vision of the Water and Sanitation Sector is ‘Water and Sanitation for All, Always’. This vision is based on the country’s central policy of poverty reduction and economic prosperity and the fact that water is potentially the engine for social and economic development in Malawi. This vision endeavours to ensure that every Malawian has equitable access to water and sanitation services for sustainable socio-economic development and enhancement of the country’s natural ecosystems.

4.1.2. Overall Goal

The overall IWRM/WE goal is to improve the livelihoods of the people through sustainable development, use and management of the water resources of the country. This calls for the establishment of a good enabling environment, proper institutional arrangements with clear roles that are well decentralised and supported in order to promote local participation and proper management instruments. However, IWRM itself is the integration of sectoral interests and views in the development and implementation of water related initiatives. It is a process that promotes development and management of water, land and related resources, in order to maximise the resultant

economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. In the natural setup this integration may involve integration of land and water management, surface and ground water management, the riverine or marine environment considering upstream and downstream interests. However, in the human system, this may imply that policies and priorities take water resources implications into account, that the effects of economic development on water resources are properly assessed and are accounted for, that there is cross sectoral integration in policy development, that water-related decisions made at river basin organisations are harmonised with national development initiatives.

IWRM/WE aims to achieve sustainable and integrated water resources development and management that makes water readily available and equitably accessible to all Malawians in pursuit of their human development and socio-economic advancement, and enhancement of the country's natural ecosystems. This objective will be achieved through:

- Promotion of equitable allocation and apportionment of water to all sectors of socio-economic production and services;
- Promotion of good catchment management to protect and sustain the eco-system bio-diversity and wetlands; and
- Promotion of water harvesting and conservation to make water readily available throughout the country for sustenance of socio-economic development and the natural environment;
- Advocating effective and efficient utilisation, and management of water resources;
- Promoting and initiating strategic and contingency water resources development and management schemes at national and river catchment levels;
- Recognising, supporting and implementing international conventions, basin and regional agreements without compromising the country's integrity, security and sovereignty;
- Empowering of communities to effectively and efficiently manage water resources;
- Promotion of investments in water resources management in all water related programmes (whether publicly or privately funded);
- Ensuring compliance by all stakeholders with water sector policies, laws, standards and guidelines.

4.1.3. Strategic Objectives and Targets

Malawi, as with other countries globally, has set targets in achieving socio-economic development and these are well articulated in the WSSD Declaration of 2002 and, nationally, in the MGDS (2006). Furthermore, the National Water Policy has set targets in its strategies which are important to consider in the implementation of the IWRM/WE plan. The IWRM/WE identified seventeen (17) strategic components which form the strategic framework for IWRM implementation. Strategic objectives have been elaborated for each strategic component.

In addition to the 17 strategic components, five (5) priority focal areas were identified that require immediate intervention. The strategic components and the priority focal areas are described in the strategic framework for IWRM/WE.

4.1.4. The IWRM/WE Strategic Framework

A participatory process was used to develop the IWRM/WE Plan. Through consultation with stakeholders at various levels and in all key sectors, seventeen strategic components for IWRM/WE were identified. These form the basis of the IWRM /WE Plan and are shown in figure 1. The strategic components are also linked to the Malawi National Water Policy.

The strategic components are:

1	Policy Direction	10	Parks and Wildlife
2	Water Resources Management and Development	11	Forestry Services
3	Urban, Peri-Urban and Market Centres Water Services	12	Environment and Biodiversity
4	Rural Water Services	13	Hydro-Power Generation
5	Water Quality and Pollution Control	14	Eco-Tourism and Recreation,
6	Agriculture Services	15	Disaster Management
7	Fisheries Services	16	Land Management
8	Irrigation Services	17	Plan Monitoring and Evaluation.
9	Navigation Services		

4.1.5. Priority focal Areas

Following stakeholders consultations in all the three regions of Malawi, North South and Centre, it was agreed that in addition to the strategic components, the IWRM/WE needs to address five critical priority areas for the water sector. The five priority problem areas for water resources management ere:

- Un-harmonised policies and laws (Enabling environment)
- Lack of capacity for IWRM ;
- Inadequate stakeholder co-ordination and managing Implementation
- Poor catchment management; and
- Inadequate water supply and sanitation

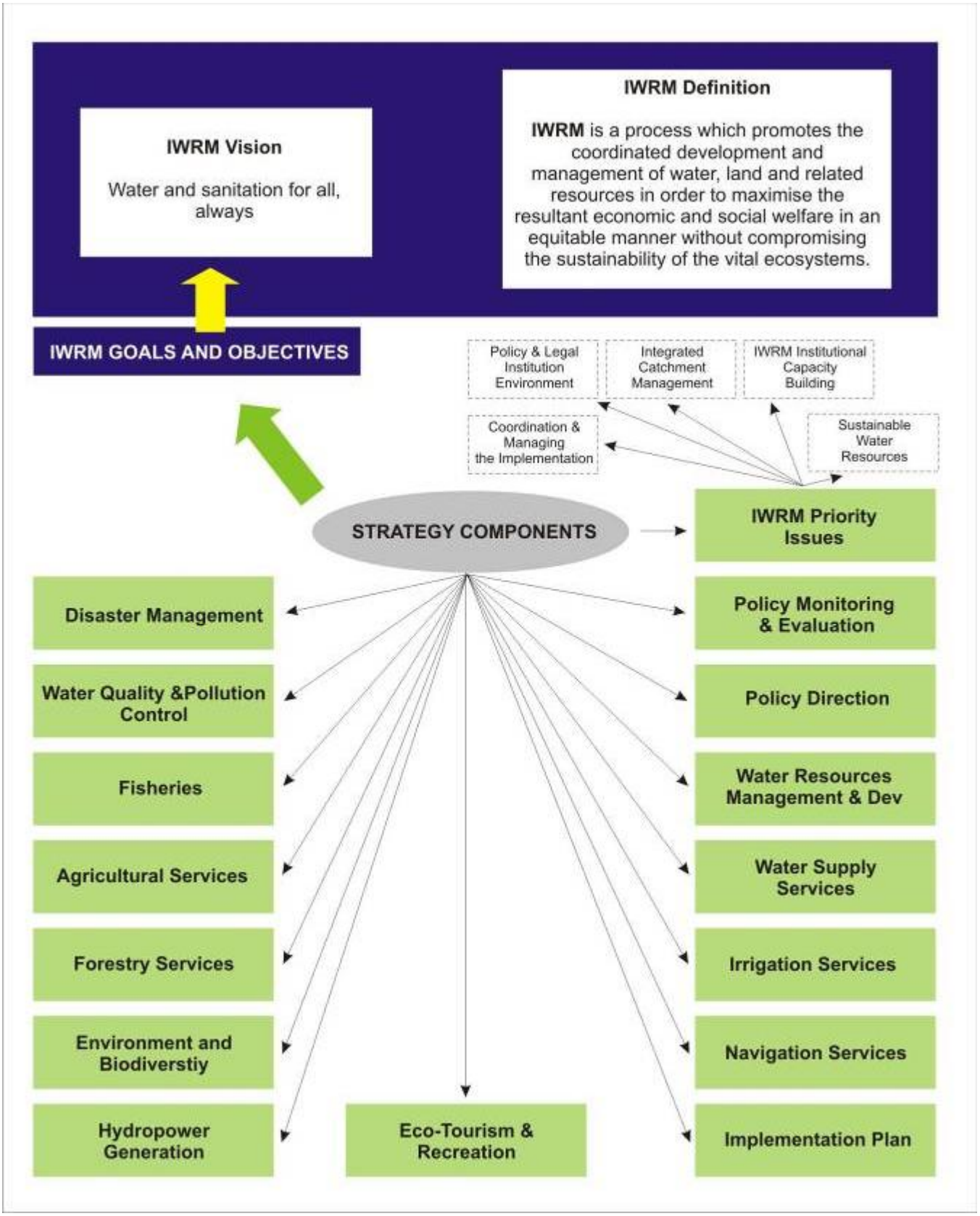


Figure 3: Strategic Framework

5. IMPLEMENTATION PLAN

The IWRM Strategic Framework is a long-term programme to be implemented over long period of time. In order to operationalise the IWRM/WE Strategic framework, Project Concept Notes and Action Plans were defined for both priority and long term interventions. The IWRM/WE Plan will be implemented and structured into phases as Short, Medium and Long-term projects. It is envisaged that the immediate short term phase will be placed at all levels i.e. national and local levels and it will be guided by a Regional Action Plan and the Ministry of Irrigation and Water Development Policy and Strategic Action plans. The following will be the strategies in implementing this plan:

- Establishing the institutional framework for implementation;
- Building partnerships for coordinated implementation;
- Enhancing and building capacity in IWRM;
- Joint prioritising of critical issues;
- Mobilising and pooling of resources;
- Outcome reviewing and refocusing the plan;
- Testing new approaches.

5.1. Project Definition and Implementation

5.1.1. Priority Projects

Priority projects were defined for each of the five priority focal areas. A total of thirteen (13) projects were defined and will be prioritised.

STRATEGIC AREA	PROJECTS
1. ENABLING ENVIRONMENT	• Development of Policy, Guidelines and standards on dam development in • Policy and legislation review, update and implementation monitoring • Drafting of IWRM bye-laws for local authorities
2. INTEGRATED CATCHMENT MANAGEMENT	• Development of Small Community Earth Dams • Integrated Water Resources Management Plans for priority catchments
3. WATER SUPPLY AND SANITATION	• Construction of New Rural Water Supply and Sanitary Facilities • Capacity building for communities to facilitate effective management of water points • Rehabilitation of water points and sanitation facilities • National Hygiene and Sanitation Promotion
4. INSTITUTIONAL CAPACITY BUILDING	• Empowerment of Local Assemblies in IWRM • Strengthening of Water Resources Monitoring System
5. INSTITUTIONAL CO-ORDINATION AND IMPLEMENTATION	• Integrated Water Resources Management and Improved Rural Livelihoods • IWRM Plan implementation

5.1.2. Project Data sheets and Action Plans

Fore each priority project, Project Concept Notes (PCNs) were developed to provide guidance during the implementation of the IWRM/WE Plan. PCNs are illustrated in the comprehensive version of the IWRM/WE Plan. The project data sheets, which are a summary of the PCNs, are illustrated below.

The components of the strategic framework further isolates possible IWRM projects, for each priority area, that shall be implemented in the life span of this IWRM plan The Action Plans that tackle these five priority areas are outlined in Annex 1 while the project data sheets are illustrated below. Action Plans for the strategic components are shown in Annex 2.

PROJECT DATA SHEET: THE ENABLING ENVIRONMENT

Project Title	Development of Policy, Guidelines and standards on dam development in Malawi
Project Number	-
Thematic / Focus Area	Infrastructure Development
Duration	Two (2) Years
Planned Start Date	2008
Justification/Rationale	At present there are over 700 small, medium and large multipurpose dams. Most existing dams are non functional due to degradation of catchments and lack of maintenance and lack of sense of ownership by local communities. Malawi does not have a nationally acceptable policy, guidelines and standards for dam designs. Most dams are not registered with the Water Resources Board (WRB) and does not have water rights and dams development do not pay attention to environmental consideration yet there is need to develop more small, medium, and large multi-purpose to contribute meaningfully towards food security, livestock development, fish farming and domestic use. It is against this background that there need to develop dams policy, guidelines and standards cannot be over emphasised.
Objectives	Having produced the National position on dams and development in Malawi in July, 2004 and taking full cognisance of Governments Policy on development of water resources through multipurpose small, medium and large dams, the main objectives of this project would be to develop a national policy, guidelines and standards that would guide dams and development in Malawi
Activities	• Developing national dams policy • Developing guidelines on dams safety standards • Establish a national committee on dams • Develop national water conservation strategy
Key Outputs	• Dams development policy • Guidelines on Dam safety standards • A National Committee on Dams • National Water Conservation Strategy developed
Implementing agents	Ministry of Irrigation and Water Development

PROJECT DATA SHEET: THE ENABLING ENVIRONMENT

Project Title	Policy and legislation review, update and implementation monitoring
Project Number	
Thematic / Focus Area	Capacity building
Duration	Five (5) Years
Planned Start Date	2008
Justification/Rationale	Stakeholders consultation meetings identified unharmonised polices and laws as one single major factor that is hindering progress of the water and sanitation sector. Unharmonised policies and laws resulting in over raps, duplication and conflicts among various stakeholders. Addressing this single problem will have multiplier effect through integrated provision of water and sanitation service and reduction of unnecessary conflicts.
Objectives	To establish strengthen the capacity of Environmental Affairs and Policy Coordination Unit to review, update and monitor policy and laws related to the water sector
Activities	The activities will consist of the following: • Policy and laws awareness workshops • Undertake periodic review, update and monitoring of policy implementation • Establish a data base for harmonised policies and laws • Disseminate information about policy and laws harmonisation
Key Outputs	• Harmonised policies and laws • Functional institutional structure for policy and laws harmonisation
Implementing agents	Environmental Affairs Department and Policy Harmonisation Unit of OPC

PROJECT DATA SHEET: THE ENABLING ENVIRONMENT

Project Title	Drafting of IWRM bye-laws for local authorities
Project Number	
Thematic / Focus Area	Capacity building
Duration	Three (3) Years
Planned Start Date	2008
Justification/Rationale	Effective implementation of IWRM plans at local level requires the supportive enabling environment. At present, there are no bye-laws that are supportive to IWRM implementation which makes it difficult for local leaders to influence compliance by the local communities. Availability of IWRM friendly bye-laws will facilitate the adoption of IWRM principles at grassroots level.
Objectives	Draft IWRM friendly bye-laws for adoption by various local authorities
Activities	The activities will consist of the following: • Policy and laws awareness workshops • Engage a consultant to facilitate consultative drafting of bye-laws • Conduct workshops for local assemblies on the importance of adopting IWRM friendly bye-laws • Facilitate the adoption of IWRM friendly bye-laws into local authority law
Key Outputs	• Awareness on the importance of IWRM friendly laws • Draft IWRM friendly bye-laws • Local Authority bye-laws containing IWRM friendly bye-laws
Implementing agents	Local Government and MWP

PROJECT DATA SHEET: INTEGRATED CATCHMENT MANAGEMENT

Project Title	Development of Small Community Earth Dams
Project Number	-
Thematic / Focus Area	Infrastructure
Duration	Five (5) Years
Planned Start Date	2008
Justification/Rationale	The Ministry of Water Development will take a leading role in the construction of a number of small community dams of nearly 100 in number which the rural communities can use for water supply, irrigation, recreation, livestock, etc. These are small dams with earth dam wall of less than 4.5 m high. This component of the program will be demand driven. This will be demonstrated by the beneficiary community's contribution in kind or cash in the construction, operation and maintenance of the small community dam. The communities themselves shall request for the construction of such dams. It is expected that active community participation will form an integral part of the planning, designing, supervision, construction, operation and maintenance of small community dams.
Objectives	The project aims at fulfilling the Ministry's goal which is to have a situation where every Malawian individual and entrepreneur has equitable access to water for his/her social and economic welfare and the advancement of the country's sustainable economic growth and prosperity through the promotion of a multi purpose usage of water through small Community Dams development. These small dams will be used for irrigation, Water supply etc among others. The dams will promote conservation of the water which would have otherwise been wasted.
Activities	The activities will consist of the following: • Community Mobilisation • Dam sites selection • Survey of the sites • Designs • Construction It is proposed that about 100 small dams should be constructed through out the country.
Key Outputs	Small community dam development will assist the Ministry achieve its vision which targets an increase water supply coverage to over 80% by the year 2010. It is expected that at the end of the construction, the communities will have enough water which they can use for Water Supply, Irrigation, livestock and other domestic activities. This will promote income generating activities thereby assisting to fulfil the Government Central Policy objectives of poverty eradication in the final analysis, therefore, the communities themselves will be the man beneficiaries.
Implementing agents	Ministry of Irrigation and Water Development

PROJECT DATA SHEET: INTEGRATED CATCHMENT MANAGEMENT

Project Title	Integrated Water Resources Development Plans for priority areas in Malawi
Project Number	-
Thematic / Focus Area	Infrastructure Development
Duration	Five (5) Years
Planned Start Date	2008
Justification/Rationale	It is now over two decades since the 1986 Natural Water Resources Master Plans were developed and a lot have happened. The country's population has greatly increased, and a number of droughts have occurred. More towns have and are to be developed and created. There has been an increased agriculture expansion resulting in increased cultivated land and deforestation within catchments. These have greatly impacted on the available land & other scarce resources, like water. This calls for a more equitable share of the resources amongst these conflicting demands. It is the intention of the government therefore to put more tangible plans to meet these challenges in the next decade. In this line, therefore, it is very important that the water resource of the country be appraised in relation to these current developments and pressures on the water resources. Meanwhile, the Water Resources Act (1969) is under review. The 1995 Water Works Act saw the evolution of the three additional Water Boards namely North, South and Center to make a total of five operating in the country. The Government also developed and adopted the 1994 National Water Resources Management Policy and Strategies. The Policy was formulated in view of the need for development of new pro-active approaches in the provision of water services that would efficiently and effectively cater for the increasing population. The major achievement of this has been the National Water Development project (NWDP) whose overall objective was to facilitate the implementation of the National Water Resources Management Policy and Strategies. The policy, legal and institutional roles arrangements of the ministry was reviewed in 1999. The review aimed at the efficient management of the water resources of the country. It is important therefore that the master plans of 1986 be reviewed to support the current efforts already made. This will ensure and guarantee availability of the water resources in the country.
Objectives	The overall objective of the Project is as stated in the National Water Resources Management Policy and Strategies and this objective is to ensure efficient and effective management and optimal utilisation of the water resources in order to promote its conservation and future availability in sufficient quantity and acceptable quality. The project's goal is to have a situation where every Malawian/Individual or entrepreneur has equitable access to water for his/her social and economic welfare for the advancement of the country's sustainable economic growth and prosperity.
Activities	It is envisaged that the project will concentrate on: • Review of the water resources data and update all the data inventories and maps. • Water resources assessment to establish availability and distribution of water and its multi-sectoral demand for existing and potential developments throughout the

	country. Also studied and mapped out will be the surface water resources availability and potential. • Identification of potential medium to large dam and reservoir sites for multipurpose water resources development. • Identification of potential inter basin water transfer schemes and • Preparation of strategic investment plans for water resources development. • Review the Water Resources Master plans of 1986 and update those plans in the light of the changes that have taken place particularly in the water sector.
Key Outputs	The project will yield the following outputs: • Water Resources data reviewed • Water Resources Assessment done • Medium to large Reservoir / Dam Sites identified • Potential Inter basin Water Transfer schemes identified • Investment Plans in Water Resources Development prepared
Implementing agents	Ministry of Irrigation and Water Development

PROJECT DATA SHEET: WATER SUPPLY AND SANITATION

Project Title	Construction of New Rural Water Supply and Sanitary Facilities
Project Number	-
Thematic / Focus Area	Infrastructure Development
Duration	Two (2) Years
Planned Start Date	2008
Justification/Rationale	According to a study commissioned by the African Development Bank in March 2005, only 51% of the rural population have access to safe water supply from boreholes fitted with hand pumps and gravity fed water supply schemes through some 23,000 boreholes and about 12,000 taps in 81 schemes. Between 4 – 6 % of the rural population has access to an improved pit latrine. According to the same report, 15,000 new communal water points will need to constructed to meet the MDG target by 2015. The task is more daunting for sanitation as 1.2 million improved pit latrines will be required. The low sanitation coverage is a real problem because its ramifications are complex, a threat to human and other animal life as well as a danger to both land and aquatic environments. Market centres and rural towns also require special attention to provide new appropriate infrastructure to exploit the economic growth potential and curb the rural to urban migration of many of these centres. If water supply and sanitation services are fully developed and opened up to economic activity these centres will absorb most of the rural migrants to urban areas. This will in turn reduce demand on the urban infrastructure and services. This project is therefore required to attend to these problems
Objectives	To improve access to potable water supply and improved sanitation in rural areas.
Activities	To Construct and rehabilitate water facilities which will include Dwambadzi Water Supply scheme, Ngozi Water Supply scheme, it will also include market centres such as Chimbiya, Jenda and Namwera turn off and several other rural towns (rural market centres)
Key Outputs	• Dwambadzi Water Supply constructed • Ngodzi Water Supply Scheme constructed • Champhira Water Supply Scheme constructed • Jenda Water Supply Scheme constructed
Implementing agents	Ministry of Irrigation and Water Development

PROJECT DATA SHEET: WATER SUPPLY AND SANITATION

Project Title	Rehabilitation of water points and sanitation facilities
Project Number	
Thematic / Focus Area	Capacity building
Duration	Five Years
Planned Start Date	2008
Justification/Rationale	Water points and sanitation facilities have been established from time immemorial. Over time some of these facilities have become too old or unusable resulting in health hazards to children, women and other disadvantaged groups. In order to improve people's welfare, hence improve their capacity to contribute to the development of the country, it is important to rehabilitate these facilities and establish or enhance institutional structures to sustain the facilities once they are rehabilitated.
Objectives	• To rehabilitate priority water points and sanitation facilities • Conduct training for local institution to sustain the functioning of the facilities
Activities	The activities will consist of the following: • Conduct training workshop on water points and sanitation facilities management • Promote a saving culture to cover operation and maintenance costs • Build capacity for water point committees to undertake their work effectively • Conduct awareness training on IWRM • Rehabilitate water points and sanitation facilities
Key Outputs	• Awareness on the importance of self reliance on water point and sanitation facilities management • Functional water point and sanitation facilities committees • % reduction on the number of non-functional water points and sanitation facilities
Implementing agents	MoIWD and MWP

PROJECT DATA SHEET: WATER SUPPLY AND SANITATION

Project Title	National Hygiene and Sanitation Promotion Programme
Project Number	
Thematic / Focus Area	Water Supply and Sanitation
Duration	24 months
Planned Start Date	1st July, 2008
Justification/Rationale	Facilitate the implementation of a National Sanitation Policy in line with the aspiration of the Malawi Growth and Development Strategy. The project will make significant changes in transforming the hygiene and sanitation practices and more particularly in increasing access to improved sanitation for a large proportion of Malawians. This will have a positive bearing in reducing water and sanitation related disease burden and hence improve the health status of Malawians.
Objectives	To build capacity and provide improved sanitation infrastructure coupled with safe hygiene promotion for the citisens of Malawi. Build capacity for latrine masons, social market low cost sanitation technologies, rehabilitate sewerage systems, promote safe hygiene practices and establish MIS with supporting databases.
Activities	• Train masons in latrine construction and construct improved latrine facilities • Research into low cost sanitation technologies and social market sanitation products • Rehabilitate sewerage systems in cities and towns • Promote safe hygiene practices as integral part of the provision of safe water supply • Develop and regularly update MIS with appropriate databases for hygiene and sanitation
Key Outputs	• Adequate capacity for latrine masons and an increased access to improved sanitation • High adoption rate for safe hygiene practices/reduced incidence of water and sanitation related diseases • MIS with supporting databases on hygiene and sanitation established • Sewerage systems operating at full capacity
Implementing agents	Ministry of Irrigation and Water Supply, Malawi

PROJECT DATA SHEET: IWRM INSTITUTIONAL CAPACITY BUILDING

Project Title	Capacity building for communities to facilitate effective management of water points
Project Number	
Thematic / Focus Area	Capacity building
Duration	Five Years
Planned Start Date	2008
Justification/Rationale	Effective management of water points is a prerequisite for ensuring that water points are sustainable. At present, there are about 30% of the water points that are not functioning well. Ministry of Irrigation and Water Development has identified lack of capacity as the main cause of mismanagement of water points.
Objectives	To build capacity of communities to maintain and operate their own water points and develop ownership spirit and self reliance
Activities	The activities will consist of the following: • Conduct training workshop on water points management • Promote a saving culture to cover operation and maintenance costs • Build capacity for water point committees to undertake their work effectively • Conduct awareness training on IWRM
Key Outputs	• Awareness on the importance of self reliance on water point management • Functional water point committees • % reduction on the number of non-functional water points
Implementing agents	MoIWD and MWP

PROJECT DATA SHEET: IWRM INSTITUTIONAL CAPACITY BUILDING

Project Title	Empowerment of Local Assemblies in IWRM
Project Number	-
Thematic / Focus Area	Capacity Building
Duration	24 Months
Planned Start Date	2008
Justification/Rationale	The Government of Malawi has prioritised water resources and sanitation development among the highly ranked components of its development agenda in the Malawi Growth and Development Strategy (MGDS). Water plays a critical role in all development activities and all sectors and is central for food production in agriculture, navigation, power generation, forestry, fisheries, health and infrastructure development. Until today, water resources development, management and use has been carried out on sectoral basis and little coordination if any has existed between and among sectors for a holistic approach. To compound the problem further, government has recently decentralised its operations to the district assemblies which will be responsible for all development efforts at the district level. However, little consultations occur between sectors and such development could lead to further polarisation of sectoral interests at the expense of Integrated Water Resources Development and Management. Such uncoordinated activities could impact adversely on the human and natural environment and result in continued frequencies and increased magnitudes of droughts and floods, soil erosion, water and land pollution, reduced lifespan of water facilities and other water-related challenges. This Project will therefore instil a culture of multi disciplinary approaches in the planning and implementation of programmes and projects within cities, Municipalities, Towns and District Assemblies
Objectives	The aim of the proposed project is to facilitate institutionalisation of IWRM/WE in all Local Assemblies in the country.
Activities	The main activity of the Project will be to build capacity in IWRM at local assemblies. The Project will specifically : • train district, town, municipal, and city assembly level professionals and technicians in all relevant sectors in IWRM/WE; • facilitate identification and implementation of Assembly-managed IWRM/WE projects in the LA; • assist Local Assemblies identify and facilitate community-managed IWRM/WE projects in the LA; • assist LA in raising funds for LA-managed and community-managed IWRM/WE projects Activities will be structured at different levels as follows: **National Facilitation** At national level, the Malawi Water Partnership or other facilitating institution will:

	• Train DEC or related bodies at the Local Assembly in the concept of IWRM/WE • Develop skills of DEC or related Assembly body in facilitation of IWRM/WE at community level • Assist LA to identify IWRM/WE "hot spots" for piloting IWRM/WE • Assist LA in training communities in the identified "hot spot" area in IWRM/WE • Assist LAs to develop district IWRM/WE projects • Assist LAs in sourcing funds for the implementation of the IWRM/WE projects **District Facilitation** At district level, the District Executive Committee (DEC) or related Local Assembly bodies will: • Identify an IWRM/WE "hot spot" for piloting IWRM/WE; • Train Area Development Committee (ADC) and Area Executive Committee (AEC) in the concept of IWRM/WE; • Develop skills of ADC and AEC planning and implementation of IWRM/WE projects at community, catchment, or sub-catchment level; • Develop plans for scaling up lessons learnt from the pilot project; • Assist communities to source funds for the identified IWRM/WE related interventions; • Implement, monitor, and evaluate IWRM/WE projects in the district. **Community Facilitation** Communities will: • Develop plans for IWRM/WE related interventions; • Source funds for the intended projects; • Implement, monitor and evaluate such projects.
Key Outputs	The following will be the outcomes of the project: • IWRM/WE institutionalised in all Local Assemblies • IWRM/WE related projects developed and implemented • IWRM capacity strengthened at Local Assembly and community levels • Catchment Authorities and related institutional structures formed and functional • Integrated approach to water resources development and management • Guidelines on project planning, design, implementation, maintenance, monitoring and evaluation prepared
Implementing agents	Ministry of Irrigation and Water Development

PROJECT DATA SHEET: IWRM INSTITUTIONAL CAPACITY BUILDING

Project Title	Strengthening of Water Resources Monitoring System
Project Number	-
Thematic / Focus Area	Infrastructure Development
Duration	Four (4) Years
Planned Start Date	2008
Justification/Rationale	At present, the Ministry is lacking a systematic collection, processing and analysis of sediment, groundwater and water quality data. The demand for sediment/silt load, groundwater and water quality data is increasing. Various government and private agencies want to use the data in designing hydraulic structures, water supply and irrigation schemes. While stream-flow, pan evaporation and rainfall stations require major maintenance involving replacement of equipment and rehabilitation of building structures, which would restore and improve their performance. The maintenance scheme should aim at improving the station's adequacy, stability and permanency in collecting data. The hydrometric equipment is in serious shortage and most cases the very essential spare parts are not available. The equipment to be procured under this project is expected to greatly enhance the quality of data to be collected. Since the two projects ended, the hydrometric equipment especially current meters has never been calibrated. Under this project, it is expected that all these current meters which are still operational, will be serviced and re-calibrated. Ministry of Irrigation and Water Development currently operates a network of about 171 riverflow stations, 24 water level stations, 57 pan stations and 38 climatic stations and zero groundwater stations. Some of the data collected have been processed and computerised using Hydata software particularly stream-flow. However in order to facilitate hydrological data processing, it is required that computers be installed in the regions so that all primary data processing is done in the regions. While for the sediment and water quality data analysis computer are required to be purchased for the main water quality laboratory. The data base management system component of this project is therefore urgently required to improve upon the existing system, which fail to meet the various demands. The water Resources Department is currently experiencing great problems in proving professional training to its new staff both professional and technicians. It is therefore envisaged that this project will attempt to provide some scholarships for formal training. With such training, the Department will be capable of efficiently carrying out the various water resources investigations. This project will also revamp the publication of water resources/hydrology year books which would be sold to the public sector as well as private sector. This would facilitate the provision of adequate and wholesome water supplies and water related services which are vital to the economic development of Malawi. Also this project will contribute indirectly to the existing extensive borehole construction and maintenance and other hydrological programmes and the Water Resources Board.
Objectives	The general objective of the project is to ensure optimal use, protection and management of all water resources of the country, while the immediate objectives of this project are: • To provide users with good quality hydrological data on several parameters such

	as stream-flow, groundwater, water quality, sediment load and other related variables. • To provide the Department with improved laboratory facilities in the Northern, Central and southern regions in order to strengthen the Department's monitoring capabilities in these regions. • To improve computer based hydrological data processing, storage, retrieval system for the use by the Department particularly the Hydrology, Hydrogeology and Water Quality and surface water development Sections, Water Resources Board in order to facilitate the provision of improved advisory services. • To strengthen the institutional capacity of Water Development through the project's provision of formal training in hydrology/water resources and database management to its staff.
Activities	• Rehabilitation of entire hydrological network of stations including the six SACD-HYCOS stations which will involve replacement of damaged gauges, sensor cables, antennae and solar panels; construction of recorder houses and weirs; repairs of cableways and other field equipment. • Review and rehabilitate the flood monitoring system for the Lower Shire Valley. • Establishment of Groundwater monitoring system. • Rationalisation and implementation of the size of the network of stations based on the recommendation of the study of the Strengthening of the Water Resources Board. • Establishment of hydrological databases at all the three regional and twelve district water offices and improvement of the main hydrological database at Headquarters, based in Lilongwe. • Provision of training at all levels in operational hydrology, hydrometry and hydrological data processing and analysis. • Review of the organisational structure and arrangements for data collection in the light of decentralisation and devolution of certain functions to District Assemblies. • Procurement of new hydrological monitoring equipment and computer equipment and accessories, including the ones used for flood forecasting. • Public education and awareness on the importance of hydrological equipment and facilities installed in the various parts of the country. • Construction and rehabilitation of the Regional laboratories including central laboratory and purchasing of all the necessary laboratory and sediment sampling equipments.
Key Outputs	• Rationalised hydrological monitoring network. • Acquisition of adequate hydrological and hydrogeological equipment. • Computerised hydrological and hydrogeological databases at all levels including district offices. • Rehabilitated network of stations including SADC-HYCOS and flood forecasting stations. • Training provided. • Public education and awareness provided.

	• Improved provision of hydrological advisory services to the public. • Integrated Water Resources Development Plan effectively implemented. • Regional laboratories for the North, Centre and South constructed and rehabilitated. • Groundwater monitoring network.
Implementing agents	Ministry of Irrigation and Water Development

PROJECT DATA SHEET: IWRM INSTITUTIONAL CO-ORDINATION

Project Title	IWRM and Improved Rural Livelihoods Projects
Project Number	-
Thematic / Focus Area	Social
Duration	Two (2) Years
Planned Start Date	2008
Justification/Rationale	• The Project will develop capacity in the beneficiaries for the application of Integrated Water Resources Management principles that will be critical to all project activities • The Project is expected to build capacity of the beneficiaries in the areas of management, monitoring and evaluation, basic financial analysis and budgeting planning and marketing • Knowledge in agricultural commodity storage and processing will have to be imparted to the beneficiaries • The community will gain capacity in procedures of associations management and overall leadership strategies It is therefore, a good demonstration project in IWRM principles as it illustrate conservation, coordination and benefits of IWRM.
Objectives	The overall objective of this Project is to further enhance the realisation of Millennium Development Goals (MDGs) through coordinated and sustainable development, management and utilisation of water, land and other related natural resources in the project area which is expected to evolve as a rural economic enclave with improved living standards and well managed natural resources.
Activities	The Implementing Agent is therefore expected to carryout the following activities: • Sensitisation of stakeholders and beneficiaries to assess existing needs through public meetings and workshops • Preliminary project design in collaboration with the beneficiaries and other relevant stakeholders • Formation of farmer associations and identification of marketing channels • Refinement of local committees and their affiliation to the District Assembly Committees • Development of capacity building plans • Development of participatory monitoring and evaluation plans • Development of implementation time schedule and budget for the first year activities • Liaison with local community committees to prepare maps for land demarcation and allocation • Development of IWRM plans with the community for crop production and animal husbandry • Development of water supply facilities for irrigation, domestic water supply, aquaculture and animal watering

	• Design of field layout for irrigated agriculture • Community mobilisation to implement various IWRM initiatives • Management of finances for all IWRM activities with full community participation • Monitoring of IWRM activities against original objectives and goals using local community committees
Key Outputs	The proposed programme is envisaged to achieve the following: • An Inception Report to be produced during the inception phase as a basis for the project detailed design and implementation as well as monitoring and evaluation • Designs of all infrastructure required, costing of all the activities including project materials and equipment • Capacity building plans for local committees and farmers associations as well as water users associations • A design phase report accepted by the beneficiaries and other stakeholders • All project infrastructure in place and functioning • All local institutional framework in place to ensure responsibility and ownership of the project • All monitoring and evaluation plans and reports prepared.
Implementing agents	Ministry of Irrigation and Water Development

PROJECT DATA SHEET: IWRM INSTITUTIONAL CO-ORDINATION

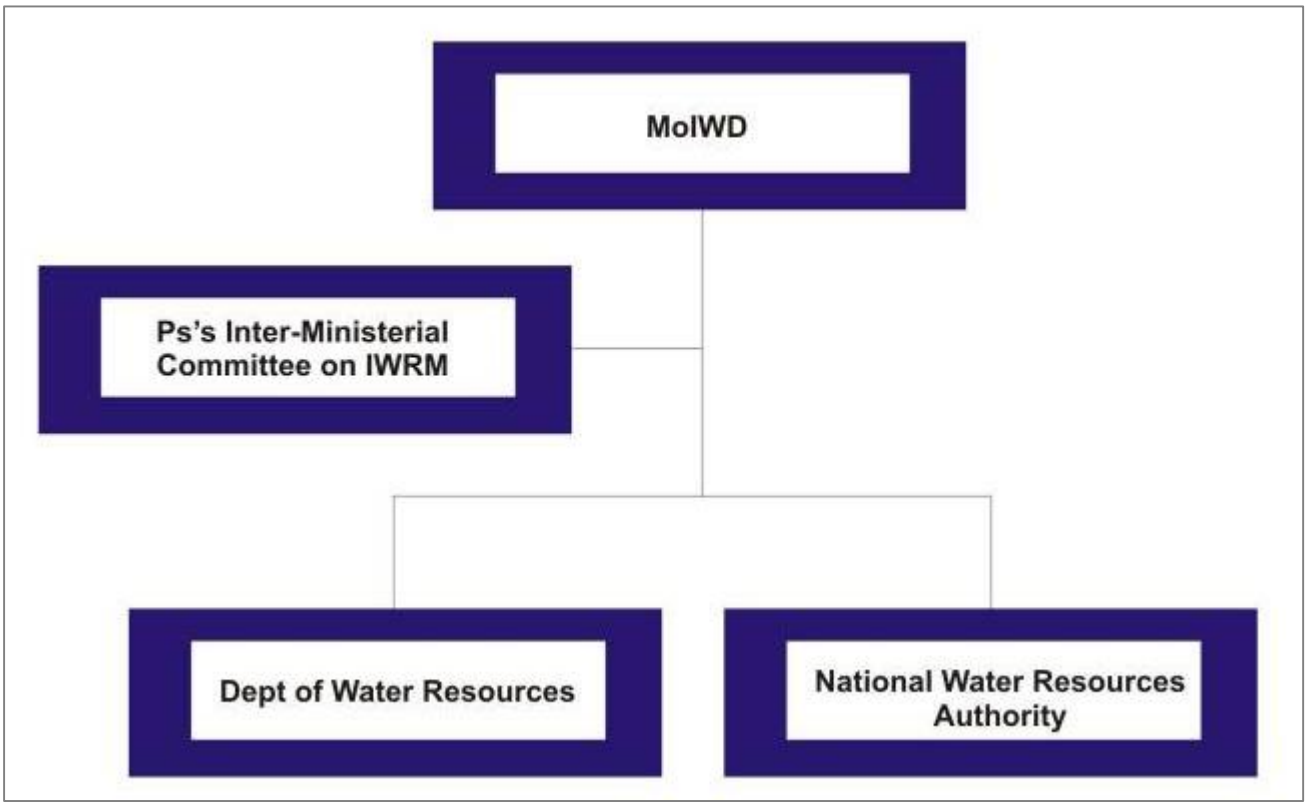
Project Title	IWRM/WE plan implementation
Project Number	
Thematic / Focus Area	Infrastructure
Duration	Five (5) Years
Planned Start Date	2007
Justification/Rationale	Malawi Water Partnership has been facilitating the preparation of the WRM/WE plan over the last 3 years. Besides preparation of the Plan, MWP has also been building the capacity of it's partners and various stakeholders to plan and implement IWRM activities. With the completion of the IWRM plan, there will be need for MWP to facilitate the implementation of the IWRM/WE plan, while at the same time continuing to build capacity for stakeholders to mainstream IWRM in their day to day activities. Institutional capacity of MWP needs to be scaled up to facilitate the implementation of the various projects under the IWRM plan and beyond
Objectives	To facilitate the implementation of IWRM/WE plan and mainstreaming of IWRM principles among stakeholders in water and sanitation sector
Activities	The activities will consist of the following: • IWRM training workshops • Support in coordination of the implementation of various IWRM/WE projects • Recruit Project Management Officers • Procure office equipment and facilities • Establish stakeholder coordination mechanism for stakeholders • Conduct supervision of field implementation of projects • Conduct quarterly IWRM/WE plan reviews
Key Outputs	• Stakeholders coordination mechanism in place and functional • Periodic review reports on the progress of IWRM/WE plan implementation • MWP capacity enhanced
Implementing agents	MWP

5.2. Establishing the institutional Framework for implementation

A key cross-cutting element in implementing Priority Actions would be to develop the institutional capacity of communities in IWRM. This will help to increase awareness and help inform their management decisions. The strategies will include:

- Promoting legal recognition of IWRM plan by government
- Promoting technical exchanges and information sharing, including establishing of a National Working Group;
- Enhancing management effectiveness of IWRM approaches;
- Helping identifying what planning approaches are needed by priority areas, on case by case by case basis;
- Establishing a pilot IWRM project with one community to implement best practice and demonstrate improved livelihood;
- Identifying key policies that constrain IWRM strategy implementation, initiating action to amend these; and
- Exploring legal mechanisms for sustainable financing of IWRM plans

Figure below is envisaged as a streamlined management and implementation of IWRM development projects.

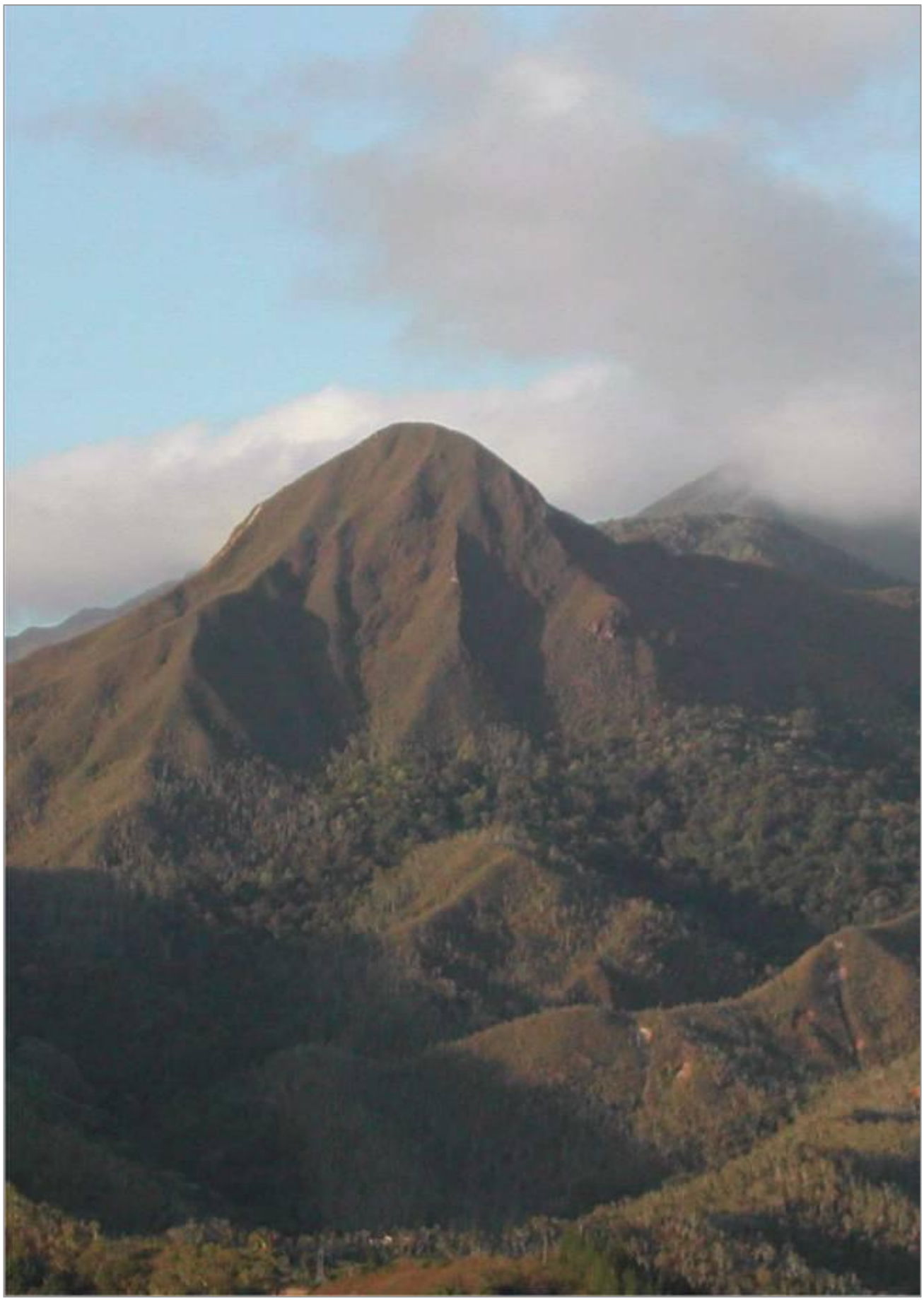


5.3. Indicative Implementation Plan

Realisation of the vision and goals of the IWRM Plan can only be complete once tangible projects are implemented on the ground. Table 5.1 below shows and indicative schedule of activities aligned to be followed once the IWRM plan is approved by the Malawi Government. The plan assumes that adequate funding will have to be sourced and a proper institutional arrangement for implementation and monitoring and evaluation of the various projects should be put in place for proper execution of the programme.

Table 5.1: Schedule of Activities

NO.	ACTIVITIES	TIME FRAME									
		2007		2008		2009		2010		2011	
1	Establishing the institutional framework for implementation										
2	Building Partnership for Coordinated Implementation										
3	Enhancing and Building capacity in IWRM										
4	Joint Prioritisation of critical areas										
5	Mobilising and pooling resources										
6	Outcome reviewing and refocusing the plan										
7	Testing new approaches										



6. MONITORING AND EVALUATION SYSTEM

Monitoring and Evaluation is essentially no more than a tool of monitoring and managing of programmes and projects at both National and Sector levels. Its basic definitions are:

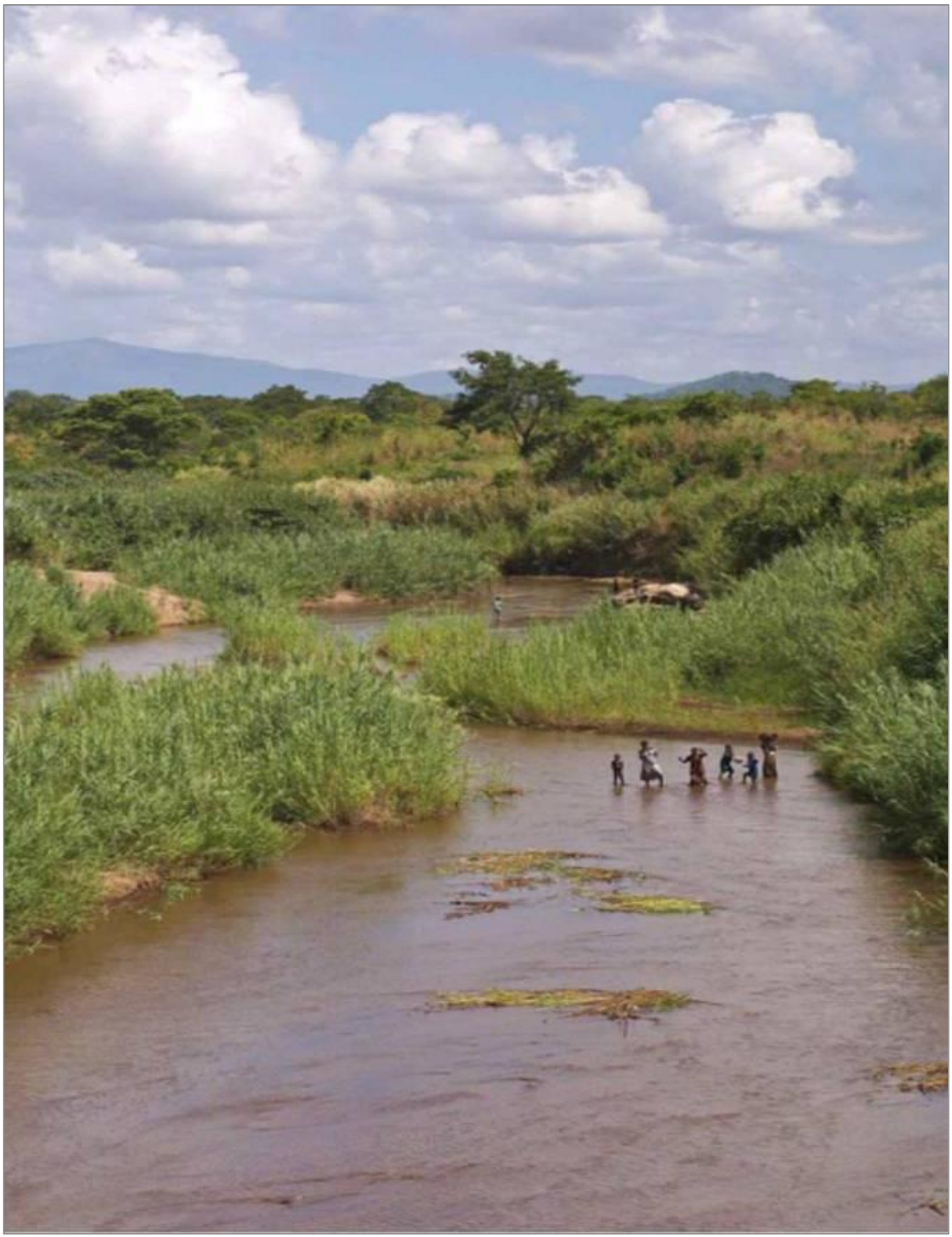
- "Monitoring is a system of observing and recording process toward planned targets and identifying problems hindering the achievement of results." While
- "Evaluation is a method of appraisal that considers the total physical and socio-economic environment and uses comparisons and interpretations based on the recorded data of a monitoring system."

Key points that emerge from these practical definitions are that an effective M&E requires an active and timely flow of monitoring information throughout the life of a project. Evaluation is a periodic process to be followed before, during and after project implementation and depends on objective data from monitoring system. However, the information system is failing and increasing problems are encountered in monitoring and management of programmes and projects at both National and sector levels. This is also the same at District level, as efforts toward decentralisation and devolution are failing due lack of adequate information systems. Attempts at adequate monitoring of individual projects within Public Sector Programme have also proved difficult.

The searching for information is putting an increasing burden of scarce resources and is also at an unsustainable cost level. Therefore, by not giving sufficient priority to M&E government has self-inflicted a severe handicap on its development strategies and programmes and there is need to repair this damage in the implementation of this IWRM Plan by finding a more active coordination to convince policy and budget on the critical importance of M&E within the Ministry and the Sector-line-Ministries in IWRM. Monitoring and evaluation of the IWRM Plan is therefore a critical ingredient in ensuring that the Plan is being implemented as planned. Monitoring would ensure that any changes experienced, or any problems encountered are addressed and corrected. Evaluation would enable Government and its partners assess to what extent Plan implementation is achieving its goals and objectives.

The Ministry responsible for Water Affairs will be the lead institution to undertake the monitoring and evaluation's activities of the implementation plan of this IWRM. The aim is to assess the performance of policy implementation and its impact on the overall socio-economic development of the country while the objectives are to monitor and evaluate the performance of the implementation of the IWRM Plan with the view to assessing whether the objectives and outputs are being realised through:

- Developing procedures for monitoring and evaluation of the plan implementation,
- Undertaking periodic reviews of the specific programmes of the plan implementation,
- Conducting participatory consultative meetings with the relevant stakeholders in order to assess the impact of the IWRM programme.
- Developing information sourcing mechanisms and management information systems within assemblies, sector-line ministries in IWRM and the Ministry of Irrigation and Water Development.



7. ANNEXURE: ACTION PLANS

7.1. Action Plans for Priority Focal Areas

The following table shows the action plans for the five priority focal areas of the IWRM/WE Plan. Each respective priority area covers objectives, strategies, outputs and projects as follows;

Table 7.1: Action Plan for Priority IWRM Issues

STRATEGIC AREA	OBJECTIVES	STRATEGY	OUTPUT	PROJECT
Policy, legal and institutional environment (the "enabling" environment	To provide guidance on policies and Acts, and enforcement of the same for effective implementation of IWRM programmes	Reviewing, updating and harmonising the existing policies and regulations dealing with natural resources management	Reviewed, updated and harmonised IWRM policies and legislation	Harmonisation of natural resources management legislation.
		Developing new policies and regulations where necessary to deal with all aspects of the sustainable utilisation of natural resources.	Coherent national water and sanitation policies, standards and regulations developed and promoted	Development of policy, guidelines and standards on dam development in Malawi
		Facilitating the establishment of IWRM-friendly By–laws in local authorities	IWRM in development and management of water, land and related natural resources adopted taking into account issues like eco-tourism transport, agriculture, energy and industrial development, and pollution control	Empowerment of Local Assemblies in IWRM

STRATEGIC AREA	OBJECTIVES	STRATEGY	OUTPUT	PROJECT
		Establishing credit and grant facilities to local institutions or communities in IWRM programmes/projects	IWRM programmes /projects funded	IWRM and improved rural livelihoods
	To provide legal and institutional framework for water supply and sanitation in urban, peri-urban, market centres and rural areas	Revising the legal and institutional arrangements	Legal and institutional arrangements revised.	Revision of Water Works Act
		Promoting and instituting economic and financial incentives and opportunities to encourage the participation of small–scale water and sanitation service providers.	Economic and financial incentives and opportunities promoted for small scale water and sanitation service providers	Revision of Water Works Act
		Promoting establishment of effective Water Utilities institutional and governance arrangements	Effective institutional and governance arrangements promoted	Revision of Water Works Act
	To ensure smooth transfer of all devolved functions of the Rural Water Supply and Sanitation Services to the District Assemblies	Creating awareness on devolution of water and sanitation services to DAs	Awareness on devolution of water and sanitation services created	Conduct awareness campaigns on devolution messages
		Reducing unaccounted-for-water of existing community water supply schemes (gravity-	Rehabilitated water supply schemes transferred to DAs	Rehabilitation of rural water supply schemes Undertake water demand

STRATEGIC AREA	OBJECTIVES	STRATEGY	OUTPUT	PROJECT
		fed water supply schemes and boreholes).		management/water efficiency approaches
		Facilitating Community Based Management of Rural Water Supply Schemes.	Communities' capacity enhanced	Community Based Management Training
Integrated Catchment Management	To achieve sustainable and integrated water resources management and development at catchment, national and regional levels	Establishing and empowering the National Water Resources Authority to effectively and efficiently manage the country's water resources using IWRM approach.	A National Water Resources Authority established NWRA empowered IWRM approach Institutionalised	Establishment of National Water Resources Authority
		Establishing a sustainable groundwater monitoring network and improving a surface water monitoring network including developing water quality maps.	Groundwater Monitoring network established National Hydrological Services rehabilitated Water Quality Maps developed	Strengthening of Water Resources Monitoring Systems (surface, ground water and water quality)
		Designing and implementing an appropriate water resources assessment methodology including establishment of a computerised networked database.	Technical Regulations in water resources assessment developed A networked database in place and functioning	Development of Management of Information System for IWRM
	To promote water harvesting and conservation to make water readily available throughout the country for sustenance of socio-economic development and the	Undertaking and promoting efforts towards water resources conservation harvesting and protection in an integrated manner including development	Efforts towards conservation of water resources promoted Medium to large multi-purpose dams developed	Water Resources Development and Catchment Protection Plans Development of medium to large

STRATEGIC AREA	OBJECTIVES	STRATEGY	OUTPUT	PROJECT
	natural environment	of small community and medium to large multipurpose dams	Small community dams developed	multi-purpose dams Rehabilitation and construction of small community dams
		Identifying, delineating and protecting water resources conservation areas.	Water catchment control orders gazetted	Water Resources Development and Catchment Protection Plans
	To empower communities and other water users to manage water resources effectively and efficiently	Promoting local resources mobilisation and project financing that supplement and complement public investments in water resources management and development.	Water resources projects fully owned by the communities Water resources projects co-funded by communities and other water users	Water Resources Development and Catchment Protection Plans
	To promote investment in catchment management in all water-related programmes	Conducting comprehensive research and studies to establish surface and ground water resources potential to guide management and development of the resources	Research in water resources potential conducted	Water Resources Development and Catchment Protection Plans
		Implementing water resources development programmes at basin level.	Basin level Water Resources Programmes implemented	Strengthening of Water Resources Board
		Promoting participation of Irrigation services, Agriculture, Aquaculture in Integrated Water Resources Management (IWRM)	Irrigation services in IWRM promoted Agriculture participation in IWRM promoted Aquaculture promoted	Instituting Strengthening Capacity Building for Common Water Resources Management and Development in stakeholders in IWRM

STRATEGIC AREA	OBJECTIVES	STRATEGY	OUTPUT	PROJECT
			Parks and wildlife services in IWRM promoted	
		Encouraging the energy sector to invest in water resources development and participate in the integrated water resources management, monitoring and conservation	Investment in multi-purpose water resources management and development done	Encourage the energy sector to invest and manage water resources
		Promoting water conservation and catchment protection for sustainable development in water supply and sanitation schemes.	Water conservation and catchment protection promoted	Community water Supply and Sanitation (COMwash)
Sustainable Water Resources Utilisation	To advocate for development, management and utilisation of efficient and effective water supply and sanitation systems.	Establishing appropriate water supply and sanitation systems using Demand Responsive and Demand Driven Approaches to enhance socio- economic development activities.	DRAs and DDAs enhanced in all water and sanitation systems	Development of efficient and effective water supply and sanitation systems.
		Establishing a training institution in water and sanitation that is accredited to an institution of higher learning	Well trained water supply and sanitation personnel	Establishment of Water Supply and Sanitation Training Institution.
		Undertaking installation and construction of water supply and sanitation infrastructure	Water supply and sanitation infrastructure installed	Construction of water supply and sanitation infrastructure
	To promote efficient utilisation	Promoting participation of	IWRM in all relevant sectors	Inter-Ministerial Committee on

STRATEGIC AREA	OBJECTIVES	STRATEGY	OUTPUT	PROJECT
	and conservation of water resources for sustainable development (agriculture, irrigation, forestry, fisheries, navigation, industry, eco-tourism and recreation and hydropower) in relation to the relevant policies.	collaborating sectors such as agricultural, irrigation, forestry, fisheries, navigation, eco-tourism and recreation and hydropower in water resources management	institutionalised	IWRM formed Instituting, strengthening and building capacity for common water resources management and development in stakeholders
		Encouraging collaborating sectors to provide their water needs and demands	Water resources master plan developed	Water resources management information system
	To promote a healthy ecological environment including biodiversity and wetlands through sustainable water resources development and management.	Establishing and building capacity of Catchment Management Committees.	Catchment Management Committees established and functioning effectively.	Strengthening of Water Resources Board
		Promoting partnership in eco-systems and biodiversity management.	Eco-systems and biodiversity well managed	Sustainable management of eco-systems and biodiversity
		Raising public awareness on the preservation of fragile ecosystems	Public awareness raised	Sustainable Ecosystem Management
IWRM Institutional Capacity Building	To establishing an effective IWRM regulatory framework	Harmonising and enforcing natural resources legislation to protect water resources from degradation and pollution	A harmonised Water Act enacted	Redrafting of the Water Act

STRATEGIC AREA	OBJECTIVES	STRATEGY	OUTPUT	PROJECT
		Establishing an effective water and sanitation services regulatory framework	National Sanitation Act enacted	Drafting of the National Sanitation Act
		Establishing National Water Resources Authority	NWRA Established	Establish NWRA
		Establishing Catchment Management Authorities	Catchment Management Authorities Established	Establish Catchment management Authorities
	To set-up an effective financial and human resources management systems	Developing an effective financial management system	An effective financial management system established	Undertake Capacity building in financial management
		Developing a performance appraisal systems for Financial Management	Performance appraisal systems for Financial Management established	Operationalising IFMIS within the MOIWD
		Developing an effective and professional service delivery system	New organisation structure for IWRM	Functional review of the Water Sector
		Providing training in relevant skills in IWRM	IWRM training for staff in relevant skills provided	Skills training in IWRM
		Building capacity in curriculum development in tertiary institutions and other training instructions.	Curriculum development in water supply and sanitation done in tertiary education institutions	Assist in developing curriculum
	To institute an effective Information Communication Technology system for IWRM	Establishing of a water sector resource centre.	An effective ICT system for water and sanitation sector established	Development of an ICT system

STRATEGIC AREA	OBJECTIVES	STRATEGY	OUTPUT	PROJECT
			Management Information system established	
	To build and strengthen capacity at district and sub-district levels	Creating awareness among communities in districts and sub-districts of various aspects related to IWRM	Awareness and knowledge created	Development of Management of Information System for IWRM
		Supporting district and sub-district institutional capacity development	Skilled and structures attained and developed District and sub-district empowered	Empowering of Local Assemblies in IWRM
IWRM Institutional Co-ordination and implementation	To establish a mechanism for institutional coordination and linkages for effective implementation of IWRM	Setting up Inter-Ministerial Committee responsible for effective coordination of government activities in IWRM	Inter-ministerial Committee in IWRM set up	Establishing framework for IWRM Institutional linkages
		Establishing national working groups in IWRM	National Working Groups/Task Forces established	Establishing framework for IWRM Institutional linkages
		Establishing national database of information on IWRM to ensure information sharing amongst national, regional, district and local institutions	IWRM information database established IWRM awareness promoted	Establishing WRM Information Systems
		Enforcing IWRM principles.	IWRM principles enforced	Establishing framework for IWRM enforcement
		Enhancing coordination and communication between NSAs and government institutions	IWRM coordination and communication enhanced	Establishing framework for IWRM coordination and communication

STRATEGIC AREA	OBJECTIVES	STRATEGY	OUTPUT	PROJECT
	To strengthen networking mechanism for effective stakeholder participation in the implementation of IWRM	Developing participatory approach to all natural resources management, i.e., consultations with communities/stakeholders	A register of all NGOs, the private sector and individuals involved in water and sanitation activities established and maintained.	Empowering local assemblies in IWRM
		Exploring and integrating indigenous natural resources management practices in IWRM	Indigenous natural resources management practices in IWRM explored and integrated	Demonstration of IWRM and improved rural livelihoods
	To develop preparedness and contingency plans for water-related disasters as an integral part of water resources management	Ensuring that the relevant institutions are provided with adequate information on floods and droughts	Information on floods and droughts provided	Development of water-related disaster plans
		Providing contingency budgets for timely mobilisation	Contingency budgets provided	Development of annual contingency budgets.
		Promoting coordination with other institutions on disaster management	Coordination mechanism developed	Support to water-related disaster programmes
		Developing early warning systems for water-related disasters.	Early warning systems developed	Development of early warning systems
		Improving assessment of impact of water-related disasters and undertake effective response.	Water-related disaster impact assessment framework developed	Development water-related disaster impact assessment framework
	To undertake activities towards	Establishing transboundary	Transboundary management	Establishment of River Basin

STRATEGIC AREA	OBJECTIVES	STRATEGY	OUTPUT	PROJECT
	implementation of SADC Protocol on Shared Watercourses	water resources management institutions.	institutions established	Organisation (RBOs)
		Developing guidelines/mechanisms for effective transboundary stakeholders participation	Stakeholder participation guidelines developed	Establishment of River Basin Organisation (RBOs)
		Developing mechanism for dispute resolution.	Mechanism for dispute resolution developed	Establishment of River Basin Organisation (RBOs)

7.2. Action Plans for the Strategic Components

Action plans for each strategic component have been developed to cover the key areas identified in the strategic framework. A total of 17 key areas were identified. Action Plans for respective key areas are as follows:

Table 7.2: IWRM/WE Strategic Objectives and Targets

SERVICES	OBJECTIVE	TARGETS
Policy and Direction	To develop the institutional capacity of the water and sanitation sector	• An effective water and sanitation services regulatory framework established by 2011 • An effective financial management system for the water and sanitation sector established by 2011 • An effective human resource management system for water and sanitation sector established by 2011 • An effective ICT system for water and sanitation sector established by 2011 • Procedures for monitoring and evaluation of the of the policy implementation developed by 2011. • Periodic reviews of the specific programmes of the policy implementation undertaken by 2011. • Participatory consultative meetings with the relevant stakeholders in order to assess the impact of the programme conducted by 2011.
Water Resources Management and Development	To achieve sustainable and integrated water resources management and development that make water readily available and equitably accessible to and used by all Malawians in pursuit of their human development and socio-	• Support for mitigation of water related disasters enhanced by 2009 • Riparian Obligations signed and met by the Malawi Government as and when need arises • Communities mobilised and are able to manage catchment areas sustainably by 2012 • Hydrological monitoring networks in place by 2010 • Integrated Water Resources Management and Water Efficiency processes and instruments mainstreamed in all water and related sectors by 2012Water harvesting and conservation technologies adopted by all levels of society by 2012

SERVICES	OBJECTIVE	TARGETS
	economic advancement, and enhancement of the country's natural ecosystems.	
Water Quality and Pollution Control	To ensure water of acceptable quality for all the needs in Malawi.	• To determine and improve the quality of 60% of the water resources by 2012
Urban, Peri-Urban and Market Centres Water Services	To achieve sustainable, commercially viable provision of water supply and sanitation services that are equitably accessible to and used by individuals and entrepreneurs in urban, peri-urban and market centres for socio-economic development at affordable cost.	• Increased access to safe piped water to 85% of the urban and peri-urban inhabitants by 2012 • Increased access to safe piped water to 50% of the town and market centre inhabitants by 2012 • Increased access to potable water to 70% of the rural inhabitants by 2012 • Increase access to improved sanitation to 85% of the urban inhabitants by 2012 • Increased access to improved sanitation to 50% of the town and market centre inhabitants by 2012 • Increased access to improved sanitation to 70% of the rural inhabitants by 2012
Rural Water Services	To achieve sustainable provision of community owned and managed water supply and sanitation services that are equitably accessible to and used by individuals and entrepreneurs in rural communities for socio-economic development at affordable cost.	• Adoption of Demand Driven and Demand Responsive Approaches in the provision of water and sanitation services instituted by 2012 • Enhanced participation of women, youths, persons with disabilities and vulnerable persons in water and sanitation by 2012. • Water cooperatives, trusts, water user associations, etc established by 2012. • Catchment areas for Rural Water Schemes rehabilitated and protected. • Improved health through integration of Rural Water Supply and Participatory Hygiene and Sanitation Transformation (PHAST) by 2012 • Professionalism in management of water supplies and sanitation at community level instituted by 2012

SERVICES	OBJECTIVE	TARGETS
		• Public awareness campaigns in water resources management, conservation, and pollution control initiated by 2008 • Standards and guidelines for Rural Water Supply and Sanitation in liaison with Local Government developed and disseminated by 2011 • Diversification of appropriate technologies for the provision of water and sanitation services to the rural communities in line with prevailing standardisation policy promoted by 2011. • Participation of women, youths, persons with disabilities and vulnerable persons in water and sanitation enhanced by 2012. • Rehabilitation and reduction of unaccounted- for- water of existing community water supply schemes (gravity-fed water supply schemes and boreholes) prioritised by 2012. • Capacity to own and manage water supply and sanitation services built at community & district- levels by 2012 • Ability to recover operation and maintenance costs of rural water supply and sanitation services enhanced by 2012. • Private sector participation in the delivery of goods and services for Rural Water Supply and Sanitation promoted by 2012. • Private connections (at a fee) encouraged and instituted by 2012
Agriculture Services	To promote efficient and effective utilisation and conservation of water resources for sustainable agricultural development in relation to the relevant policies.	• 90% of the general public knowledgeable about natural resources management by 2012. • Water related data regularly and readily collected, stored, retrieved, and disseminated by 2012. • Natural resources legislation to protect water resources from degradation and pollution reviewed and enforced by 2012
Irrigation Services	To Promoted Efficient and effective utilisation and conservation of water resources	• 120,0000 hectares under manageable and effective irrigation schemes maintained and managed by 2012

SERVICES	OBJECTIVE	TARGETS
	for sustainable irrigation development.	
Navigation Services	To ensure proper development and management of navigation services that does not adversely affect water resources.	• Procedures for regular inspection and monitoring of waste disposal systems on navigation vessels and plants developed by 2012; • Procedures for monitoring oil spillages and leakages into existing water bodies formulated by 2010 • Institutionalised monitoring and inspection of marine vessels at point of entry to prevent the importation of alien invasive weeds and hazardous materials of any kind by 2011. • Procedures for ensuring appropriate environmental safeguards at ports to prevent pollution of water bodies instituted by 2011. • Procedures for navigation of waterways that do not encourage cross-border transfer of aquatic life instituted and developed by 2011.
Fisheries	To ensure proper management and development of fisheries services that does not adversely affect water resources.	• Fisheries and water resources legislation for protection of water and fisheries resources from pollution and degradation harmonised and enforced by 2011. • Data and information on water resources required for fisheries provided by 2011.
Hydro-Power Generation	To promote effective and efficient utilisation and conservation of water resources for sustainable hydropower generation.	• Investment on multi-purpose water resources development increased by 2011. • Catchment protection and management in areas for power generation instituted by 2011. • Data and information for efficient operation of hydropower generation provided by 2011
Eco-Tourism and Recreation	To control and regulate development of eco-tourism infrastructure adjacent to water bodies and on their recreational	• Regular pollution control inspections and monitoring on waste disposal facilities conducted • Water resources and environmental guidelines and standards in the approval processes for eco-tourism infrastructure development plans institutionalised by 2011.

SERVICES	OBJECTIVE	TARGETS
	use.	
Forestry	To promote effective participation of the Forestry Sector in water resources catchment protection, conservation and management.	• IWRM in development and management of the forestry resources adopted by 2011.
Disaster Management	To establish preparedness and contingency plans for water-related disasters and emergencies as an integral part of water resources management.	• Relevant institutions are provided with adequate information on floods and droughts by 2011. • Water related natural disaster plans developed by 2011. • Mitigation measures to reduce the impact of climate change and climate variability as a means of disaster preparedness and management formulated by 2011. • Coordination with other institutions on disaster management promoted by 2011. • Contingency budgets for timely mobilisation provided by 2011. • Emergency water supply systems including boreholes, hand-dug wells and portable treatment units provided by 2011. • Basic data required to analyse and plan, including: mapping of likely population displacements, logistics capacities, potential partners using Geographic Information Systems compiled by 2011. • Systems for early warnings on floods, droughts and disasters causing pollution developed by 2011. • Disaster prone areas on droughts and floods demarcated and zoned by 2011. • Vulnerability assessment of the country's water resources to climate change and climate variability done by 2011.