



Southern African Development Community

REGIONAL WATER STRATEGY

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ABBREVIATIONS AND ACRONYMS

AMCOW	African Ministerial Conference on Water
CBO	Community Based Organisation
CMP	Comprehensive Mitigation Plans
DMC	Drought Monitoring Centre
EIA	Environment Impact Assessment
ELMS	Environment and Land Management Sector (of SADC)
EMINWA	Environmentally Sound Management of Inland Waters Programme
EU	European Union
FAO	Food and Agriculture Organisation (of the United Nations)
FRIEND	Flow Regimes from International Experimental and Network Data
GDP	Gross Domestic Product
GEMS	Global Environment Management System
GNP	Gross National Product
GWP	Global Water Partnership
GWP-SA	Global water Partnership-Southern Africa
HYCOS	Hydrological Cycle Observing System
ICM	Integrated Committee of Ministers of SADC
IUCN	The World Conservation Union
IWRM	Integrated Water Resources Management
MDGs	Millennium Development Goals
NAWISA	The Network for Advocacy of Water Issues in Southern Africa
NEPAD	New Partnership for Africa's Development
NGO	Non governmental Organisation
PPP	Public-Private Sector Partnerships
PRSP	Poverty Reduction Strategy Paper
PSP	Private Sector Participation
RBO	River Basin Organisation
RISDP	Regional Indicative Strategic Development Plan
RSA	Republic of South Africa
RSAP	Regional Strategic Action Plan
RTC	Round Table Conference
RWP	Regional Water Policy
RWS	Regional Water Strategy
SADC	Southern African Development Community
SADC-WD	Water Division under the Directorate of Infrastructure and Services of SADC Secretariat
SARDC	Southern African Research and Documentation Centre
SEA	Strategic Environmental Assessment
SIDA	Swedish International Development Cooperation Agency
SWC	Shared Watercourse
SWCI	Shared Watercourse Institution
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change (UNFCCC)
WHO	World Health Organisation

WMO	World Meteorological Organisation
WSCU	Water Sector Co-ordinating Unit (of SADC)
WSS	Water Supply and Sanitation
ZACPLAN	Zambezi Action Plan
ZACPRO	Zambezi Action Project
WRTC	Water Resources Technical Committee
WSSD	World Summit on Sustainable Development

SYNOPSIS / EXECUTIVE SUMMARY

The SADC organization was formed with the primary objective of integration and cooperation among member states. Water is a critical factor to the integrated and cooperative socio-economic development of the region. As such, the coordinated, sustainable and integrated development and management of the region's water resources will contribute to the SADC goal for an integrated regional economy built on the basis of balance, equity and mutual benefit for all Member States. Water management particularly supports the SADC objectives of poverty reduction, food security, energy security and industrial development, as well as being an instrument to promote peace and cooperation amongst Member States. Flowing from the RISDP the SADC Regional Water Policy (RWP) highlights various opportunities for water management to achieve the SADC goal and objectives, as well as other recognised international and regional targets such as the Millennium Development Goals, the goals of the African Union on water through AMCOW and NEPAD, and the Southern African Vision for Water Life and the Environment. This document is the Regional Water Strategy, which gives effect to the Regional Water Policy. The RWP deals with the "What" on regional water issues pertaining to best practices. This strategy document adds the "How" element. Detailed Strategic five-year Plans will flow out of the RWS adding the "Who" and "When" of the process. The SADC Secretariat has primary responsibility for promoting, coordinating and monitoring the implementation of the RWS, primarily through coordination and facilitation of resources for the RSAP2 (and successor versions) projects.

Member States also have a responsibility to implement the RWS through relevant RSAP2 (and successor versions) projects with which they are associated, as well as to roll out the broad strategic principles of the RWP and strategy in national policy and strategy.

The Regional Water Strategy is divided into three parts. The front end (Chapters 1 and 2) give the background and context of the document. The body of the document contains Strategy statements. The back end of the document outlines the anticipated implementation, Monitoring and Evaluation and evaluation processes.

PART ONE: Chapter One is the Introduction highlighting the broad contextual issues around water management and defines the strategic challenges for water in the SADC region. The chapter also outlines the structure of the document.

Chapter Two describes the context for the Regional Water Strategy by discussing the Regional Water Policy, the linkages between the Strategy and other initiatives, the process followed in the formulation of the Strategy.

In terms of the structure, the Strategy (i.e. Part Two) consists of nine chapters, each of which describes the strategies within a key focus area from the Regional Water Policy (strategic sub-areas).

- **Chapter 3** - Regional Cooperation in Water Resources Management
- **Chapter 4** - Water for Development and Poverty Alleviation
- **Chapter 5** - Water for Environmental Sustainability
- **Chapter 6** - Security from Water-related Disasters
- **Chapter 7** - Water Resources Information and Management
- **Chapter 8** - Water Resources Development and Management

- **Chapter 9** - Regional Water Resources Institutional Framework
- **Chapter 10** - Stakeholder Participation and Capacity Building
- **Chapter 11** - Financing

Each chapter is divided into a number of sub-chapters within which one or more strategic objectives are defined, again related to the policy areas. The Strategic Objectives give rise to the detailed strategies, with a brief explanation and where appropriate potential action areas are suggested. Each chapter is summarised at the beginning of the chapter for ease of reference. The summary is contained within a shaded box.

PART TWO: Chapter Three describes the strategies for achieving regional cooperation in the management of water resources, promotion of inter-sectoral cooperation and linkages, peace as well as the harmonisation of national legislations, policies and strategies. The following are some strategies enshrined in this chapter:-

- *Promote joint / integrated development and management of shared watercourses in accordance with internationally recognised principles of IWRM, in the interests of promoting economic integration.*
- *Strengthen regional water governance through the establishment and/or enhancement of shared watercourse institutions to enable effective, appropriate and collaborative management of water resources within shared watercourses.*
- *Identify water infrastructure projects that have regional significance and hence develop and implement a regional strategic water infrastructure programme to change the lives of the regions' people and meet the MDGs.*
- *Promote the implementation of the SADC Protocol on Shared Watercourses as the primary legal instrument for regional cooperation around water.*
- *Develop a common water resources information base and agreed analytical methods to further strengthen and consolidate trust and support cooperation among Member States.*
- *Promote linkages between water sector and other sectors institutions, at a regional, shared watercourse and national level.*
- *Promote the planning and management of shared watercourses that aligns with other sector strategies.*
- *Create awareness in other sectors' decision makers of the importance of water to these sectors' contributions to economic and social integration and development.*
- *Promote and support the harmonisation of national water legislation, policies and strategies within SADC.*
- *Provide guidance on approaches to resolving disputes between Member States around water resources management.*
- *Strengthen the capacity of relevant regional and national institutions in dispute resolution.*
- *Promote sharing of experiences and alignment between SADC processes and Continental and Global initiatives.*

Chapter Four describes the strategies for achieving development and poverty reduction within SADC, through integrated planning, development and management of water. The following strategies are articulated in this chapter:-

- *Promote and facilitate acceptance of and accounting for water as a valuable input in socio-economic development programmes*

- *Promote equitable and sustainable allocation of water resources between competing and conflicting demands*
- *Promote availability and accessibility of water for socio-economic development*
- *Facilitate an agreement on the definition and adoption of a basic service level for water supply and sanitation*
- *Develop a regional water supply and sanitation programme to support Member States' efforts in meeting agreed targets e.g. MDGs*
- *Facilitate and support the development and implementation of appropriate cost recovery mechanisms that take cognisance of the socio-economic situation of the poor and vulnerable*
- *Promote awareness of and the understanding of regional and international targets in water supply and sanitation e.g. MDGs*
- *Promote and facilitate increased awareness of the inter-linkages of water supply, sanitation and hygiene*
- *Influence the international, regional and national investment financing decisions for the provision of basic water services*
- *Promote agricultural research and its application in the context of water use efficiency, climatic change trends and temporal climatic variations as the basis for improved agricultural productivity.*
- *Promote sharing of benefits rather than the actual water, through promotion of comparative advantage taking due cognisance of economic disparities among Member States*
- *Promote the participation of communities and private sector in the development, improvement and management of irrigated and rain-fed agriculture in small- and medium-scale enterprises, as well as aquaculture practices*
- *Promote the expansion and allocation of sufficient water for sustainable stock farming based income generating interventions*
- *Promote construction of multi-purpose storage facilities that will benefit irrigation and ground water recharge to enhance food security.*
- *Facilitate sharing of information with regard to identification and prioritisation of potential hydropower generation sites in the region and cooperation in their development*
- *Improve and promote power grid interconnectivity between Member States to balance the distribution of electrical energy in the region*
- *Identify alternative power options and improve access to affordable electricity services, especially to rural communities*
- *Promote water-use efficiency in the cooling of thermal power stations and secondary use of the water*
- *Promote water use efficiency as a predominant factor for all water allocations*
- *Promote efficient use of water for industrial purposes including wastewater treatment and recycling*
- *Develop regional guidelines for water sport and recreational uses of water to promote tourism*
- *Develop and promote ecotourism, water transport, water sporting and recreation in the region thus encouraging a shift from single purpose to multi-purpose reservoirs*

Chapter Five describes the role of water in the environment, and outlines the strategies for achieving environmental sustainability, through the integrated management of water including control of water pollution and alien invasive species. Specific strategies mentioned in chapter are:-

- *Create an enabling environment to ensure that the environment is recognised as the resource base and as a legitimate water user in all watercourses (perennial and ephemeral) in the region*
- *Facilitate the development and implementation of reasonable measures, minimum requirements and guidelines for determining and meeting environmental water requirements in all watercourses*
- *Promote synthesis and dissemination of information regarding impacts of climate change and variability on water resources and on the risk of water disasters and facilitate regional strategic planning for adaptation to the impending changes*
- *Encourage Member States to enter into and ratify international, regional and other multi-lateral conventions / protocols / agreements that will embody environmental impact assessments (EIAs) as a pre-requisite for Water Resource Development in regional watercourses and enforce the EIA requirements*
- *Facilitate the development, harmonisation and implementation of guidelines and/or minimum standards for water quality in the region.*
- *Develop and establish mechanisms to co-ordinate efforts in identifying and controlling economical alien species and eradicating non-economical invasive alien species.*

Chapter Six describes the strategies to ensure security from water-related disasters, such as droughts, floods, and water-borne and water-related diseases. The following strategies are covered in this chapter:-

- *Facilitate the development, ratification and implementation of agreements that commit to joint efforts to minimise water related disasters*
- *Promote and coordinate optimal allocation and utilisation of resources for prevention, control and mitigation of water related disasters and water-borne diseases.*
- *Coordinate the development and/or strengthening of strategic water infrastructure for prevention, control and mitigation of water related disasters and diseases*
- *Strengthen and encourage collaboration of existing international and regional (e.g. DMC, Early Warning Unit, Famine Early Warning system and HYCOS) national early warning institutions to enable them to stay prepared for disasters and co-ordinate efforts when disasters occur.*
- *Facilitate formalisation and commitments to share information that is relevant to management of water related disasters and diseases in any of the watercourses in the region.*

Chapter Seven describes the management of water resource information and the systems required for the collection and management of water resources information. The following are strategic interventions mentioned in this chapter:-

- *Promote and support the establishment of an appropriate hydro-meteorological data and information archival and dissemination system in the SADC region.*

- *Extend, rehabilitate and upgrade hydro-meteorological networks to meet data and information requirements for planning, management and monitoring of water resources.*
- *Support the strengthening of national hydro-meteorological institutions including development and retention of human resources capacities at professional and technical levels.*
- *Develop awareness programmes for the importance of hydro-meteorological data and information systems*
- *Establish protocols for processing and exchanging hydro-meteorological data and information*
- *Harmonise national water resources databases including storage, data processing, retrieval, quality control and dissemination.*
- *Improve dissemination of and access to hydro-meteorological data and information.*
- *Develop and promote guidelines for water resources assessment in the SADC region.*
- *Prioritise, promote and support water resources research and data/ information analysis at national and regional levels through national hydrological institutions, universities, and regional level institutions and bodies.*

Chapter Eight describes the development and the management of the region's water resources including issues of social equity and environmental sustainability. The specific strategies to achieve this are:-

- *Facilitate the adoption of river basin approaches to planning, development and management of water resources based on IWRM principles.*
- *Develop appropriate allocation and regulatory guidelines for the utilisation of water resources in the basin.*
- *Strategy: Promote development of IWRM plans at regional, basin and national levels.*
- *Develop and promote the adoption and use of comprehensive WDM guidelines at regional, shared watercourse and national levels*
- *Promote awareness about WDM at regional and national levels*
- *Improve and disseminate information regarding the most appropriate alternative sources of water in the region and facilitate their development*
- *Strategy: Increase support and focus on research, development and dissemination of new appropriate technologies with a view to promote adoption of such technologies in order to exploit alternative sources of water in a sustainable manner*
- *Adopt and promote more integrated planning, socio-economic and environmental analysis of dam development management and performance monitoring.*
- *Promote stakeholder empowerment and participation in dam planning, development and management*
- *Develop and promote guidelines for relocation, rehabilitation, compensation and benefit sharing by genuinely affected communities.*

Chapter Nine describes the strategies for establishing and strengthening institutional frameworks for water resources management in the region. The following strategies are described in this chapter:-

- *Strengthen the Water Division in the SADC Secretariat and build adequate institutional capacity to fulfil its functions*
- *Promote governance arrangements that facilitate close cooperation between the SADC Secretariat (Water Division) and Member States' Water Ministers and Departments.*
- *Develop a comprehensive programme (with appropriate management arrangements) for implementation of the RWS, linked to priorities and resources.*
- *Promote and support the accelerated establishment and institutional strengthening of shared watercourse institutions for basin management.*
- *Promote effective stakeholder participation in decision-making by shared watercourse institutions and institutionalise cooperation with civil society.*
- *Facilitate and support the creation of an enabling environment for integrated planning and management of shared water resources in SADC*
- *Promote and institutionalise effective stakeholder participation in decision making by national and catchment level water institutions, focusing on the role of civil society in representing community perspectives.*
- *Develop and implement a Monitoring and Evaluation System of the regional water sector programme*

Chapter Ten describes the strategies to engender stakeholder participation in integrated water resources planning, development and management, and to promote the development of capacity to enable such participation to support the management of the water resources. The following are specific strategies enshrined in this chapter:-

- *Develop and promote mechanisms to encourage stakeholder participation*
- *Identify and promote best practices for effective participation in the region and support/facilitate the dissemination of this information (guidelines) to the appropriate institutions in an appropriate manner*
- *Promote mechanisms for the development of appropriate levels and channels of information and the wide dissemination of that information*
- *Develop and promote mechanisms to effectively involve the youth, women and the poor in IWRM decision-making, and to empower them to participate in IWRM dialogue and debate*
- *Evaluate and monitor stakeholder participation in IWRM*
- *Promote and facilitate the involvement of women in decision-making in water resource development and management*
- *Monitor and evaluate gender participation in WRM Monitor and evaluate gender participation in WRM*
- *Promote education opportunities and training programmes to develop and foster knowledge and skills*
- *Promote the retention of skills within the region, and/ or attract skills to the region*
- *Promote or create mechanisms to enable effective networking, collaboration and cooperation, to enable the capture of partnership potential*
- *Ensure research and technology development is focussed at an appropriate level*

- *Ensure that research, knowledge and information is transferred and disseminated widely within the region*

Chapter Eleven describes the strategies for financing the development and management of water resources in the region. The following are strategies enshrined in this chapter:-

- *Commit realistic and reasonable amounts from local financial resources to the water sector from Member State governments and water users*
- *Solicit and ensure coordination and guidance of initiatives financed by co-operating partners .*
- *Put in place effective measures to ensure that financial resources are managed in an efficient and accountable manner in an environment of strict and world standard fiscal discipline.*
- *Establish sustainable partnerships among stakeholders in the water sector, including private sector, and ensure equity and fairness in cost and benefit sharing.*

PART THREE: Chapter Twelve outlines the envisaged implementation plan for the Strategy. The Chapter describes the RISDP targets and their relevance to the implementation of the Regional Water Strategy. The chapter identifies the RSAP as the relevant water sector implementation programme which unrolls the Regional Water Strategy (RWS) and tabulates the linkages between the revised RSAP (RSAP 2), and the Chapters and Strategic areas in the Regional Water Policy and Regional Water Strategy. The Chapter identifies SADC as having the primary implementation responsibility in terms of the Strategy, with Member States having an implementation responsibility to the RSAP projects with which they are associated.

Chapter Thirteen describes monitoring and evaluation of the action plans flowing from the strategy, highlighting the need for monitoring and evaluation (M&E), the elements and principles of M&E and the particular M&E components of the Strategy. The chapter highlights the fact that the RSAP M&E processes are going to serve the same purpose for RWS as the former is the cutting edge for the latter.

PART ONE
BACKGROUND TO THE STRATEGY

CHAPTER 1

INTRODUCTION

1.1 Water for Regional Growth, Integration, Poverty Reduction and Peace

Water is recognised as an important contributor to socio-economic development within the SADC region. As a result, the coordinated, sustainable and integrated development and management of the region's water resources will contribute to the SADC goal for "*the attainment of an integrated regional economy on the basis of balance, equity and mutual benefit for all Member States*". Water management particularly supports the SADC objectives of poverty reduction, food security, energy security and industrial development, as well as being an instrument to promote peace and cooperation amongst Member States. It is at the centre of the core SADC goals of integration and cooperation

The SADC RWP highlights various opportunities for water management to achieve these objectives, as well as the Millennium Development Goals, the goals of the African Union on water through AMCOW and NEPAD and the Southern African Vision for Water Life and the Environment. Flowing from the RISDP, the SADC RWP outlines the region's clear intent for:

- cooperative management of the shared watercourses
- utilisation of water for development and poverty reduction
- sustainable management of the aquatic and terrestrial environment to some extent
- security from natural water related disasters and diseases
- management of water related information
- integrated management and development of the region's water resources
- strengthening of appropriate regional and national water institutions
- participation of stakeholders and capacity building
- financing of water resources management and development

1.2 Strategic Challenges for Water in SADC

While there has been significant progress and there remain further opportunities for fostering and implementing integrated water resources management in SADC. The following strategic challenges need to be addressed.

- Rainfall in the SADC region is **highly variable**, with the resulting impact on reliability and disaster associated with droughts and floods and waterborne diseases.
- Water resources are **unevenly distributed** across the region; water availability and demand are not matched, resulting in spatial and temporary scarcities and excesses.
- Most of the region's water resources are found in **shared watercourses**, which cut across countries with varying social, economic, legal and political situations.
- There is **widespread poverty** in the region, with many people not having access to adequate water for basic human needs especially domestic and household purposes as well water for productive use.

- **Low levels of access to safe drinking water and adequate sanitation** adversely impacts the livelihoods, health and productivity of the poorest and most vulnerable members of society.
- **HIV/AIDS** is the single greatest developmental and public health concern in the region, with the associated impacts on water requirements and capacity.
- **Water infrastructure is generally inadequate** and often not effectively operated and maintained, so it is unable to meet the growing demands for development and services.
- Water resources **infrastructure has been unevenly developed** between countries, resulting in historically uneven water allocation and accrued benefits.
- Inadequate and inconsistent water resources **information management**, with the associated problems for cooperation and planning in shared watercourses.
- Poorly enforced and weak legal, policy and **regulatory framework** and linkages at regional and national levels, posing challenges for consistent implementation of regional initiatives.
- **Inadequate institutional capacity** and sometimes unclear mandates of national water authorities, shared watercourse institutions and regional water institutions.
- **Weak inter-Sectoral linkages** and coordination, which hampers comprehensive and integrated development.
- Low levels of **awareness, education and training** in regional integrated water resources management as it relates to economic, social, environmental and political issues.
- Limited or lack of effective **stakeholder participation** and involvement in water resources decision making at a local, national and regional levels, particularly women, the youth, the disabled and the poor.
- Inadequate resources, capacity and institutions for research as well as arrangements for coordination, collaboration and exchange between research systems

Engaging and resolving these challenges is at the heart of the RWP and are a central focus of this RWS.

1.3 Purpose and Target for the Regional Water Strategy

The RWP provides the context and intent for water resources management at a SADC regional level, representing the aspirations and interests of Member States. The Protocol on Shared Watercourses is the legal instrument for its implementation, under which bilateral and multilateral agreements between Watercourse States may be developed. Finally, the RWS provides the framework for implementation of the RWP and the SADC Protocol on Shared Watercourses.

This document presents the RWS to promote and prioritise sustainable, integrated and coordinated development, utilisation, protection and control of national and transboundary water resources in the SADC region. Specifically, it:

- provides strategic direction to the SADC Secretariat (particularly the Water Division or its successors) in coordinating the development of the water sector in SADC.
- provides strategic direction to shared watercourse institutions and Member States in the development and management of shared watercourses.
- indicates regional priorities of harmonising national water policies and integrated management of water resources in Member States.
- Indicates regional priorities for implementing water resources activities by all stakeholders (private sector, NGOs and civil society) and cooperating partners
- Highlights limitations in effectiveness of communication as a result of different languages at regional and national levels

The RWS is by design pitched high and/or brief on the definition of responsibilities and time frames. This is on the understanding that such details will be provided by the strategic action plans (RSAPs) that roll-out the RWS. Currently the second RSAP (RSAP2) implements prioritised elements of this strategy until 2010 as reflected in chapter 12 and also indicated by cross-referenced tables after each of the thematic chapters (chapters 3 to 11). It is anticipated that future reviews of the RSAPs will now be influenced by the RWS document.

1.4 Structure of the Document

The structure of this document intentionally follows that of the RWP. There was considerable debate about developing the Strategy around strategic themes rather than policy areas. However consistency with the Policy structure was considered of greater importance. Accordingly, the strategies contained herein have been developed according to the policy sub-areas within the nine thematic areas of the Policy. These strategies are presented in Chapters 3 to 11 of Part Two of this document:

Chapter 3 - Regional Cooperation in Water Resources Management: strategies for water for regional integration and socio-economic development, cooperation in water resources management of shared watercourses, inter-sector and international cooperation and the harmonisation of national policies and legislation.

Chapter 4 - Water for Development and Poverty Alleviation: strategies for water for basic human needs and for industrial requirements, water for food and energy security and comparative advantage in water use.

Chapter 5 - Water for Environmental Sustainability: strategies for water and the environment, water quality management, control of alien invasive species in watercourses and adaptation and mitigation of impacts of climate change.

Chapter 6 - Security from Water-related Disasters: strategies for people's protection from water related disasters and diseases and disaster prediction, management and mitigation.

Chapter 7 - Water Resources Information and Management: strategies for data and information acquisition and management and information sharing/dissemination.

Chapter 8 - Water Resources Development and Management: strategies for river basin approach, integrated planning of shared watercourses, dams and dam management, water conservation and water demand management and alternative sources of water

Chapter 9 - Regional Water Resources Institutional Framework: strategies for institutional arrangements at regional and national levels and for shared watercourse institutions.

Chapter 10 - Stakeholder Participation and Capacity Building: strategies for participation and awareness creation, capacity building and training, gender mainstreaming and research, technology development and transfer.

Chapter 11 - Financing: strategies for accessing funding and resources to support the strategy implementation and integrated water resources management in the region.

Within each of the above strategic sub-areas, the strategic challenges are highlighted, the strategic objective is indicated (derived from the policy intent) and relevant strategies are formulated, with a brief explanation and suggesting potential action areas where appropriate.

Part Three addresses implementation of the strategy:

Chapter 12 – Strategic Implementation Plan: considerations for the implementation of the RWS, highlighting linkages with the Regional Strategic Action Plan (RSAP) as the comprehensive regional water programme to give effect to the RWP and RWS.

Chapter 13 – Monitoring and Evaluation System: considerations for the development of a regional M&E system to support the implementation of the RWP and RWS, but linked to the system required by SADC for the implementation of the RISDP and RSAP.

CHAPTER 2

CONTEXT FOR AND FORMULATION PROCESS OF THE REGIONAL WATER STRATEGY

2.1 The Regional Water Policy (RWP) and its Implementation

The RWP document outlines broad political statements of intent. It deals primarily with the “What” questions of water resources development and management in the region. The policy framework for the RWP is anchored by the following pronouncements which SADC Member States have endorsed:

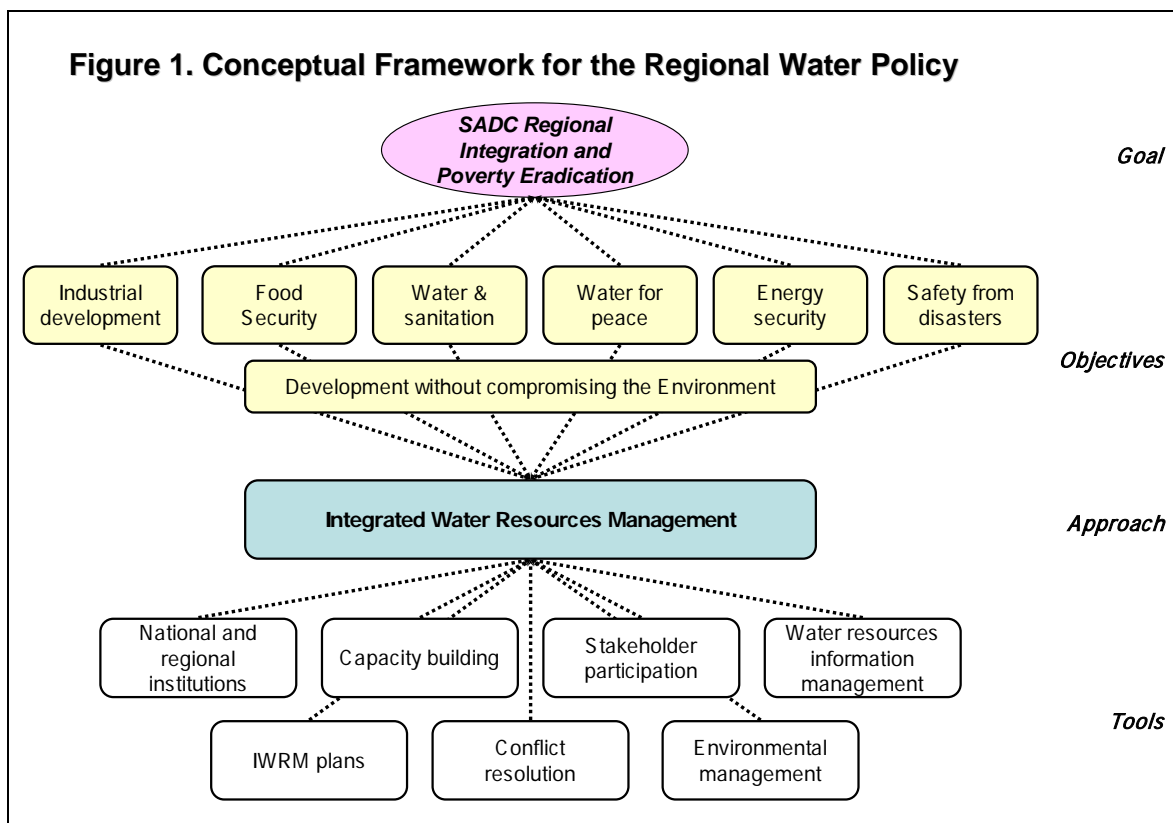
- SADC Declaration “*Towards the Southern African Development Community*” – a vision of a shared future, a future within a regional community.
- The Southern African Water Vision: *equitable and sustainable utilisation of water for social and environmental justice, regional integration and economic benefit for present and future generations.*
- The Protocol on Shared Watercourses in the SADC Region, *foster closer cooperation for judicious, sustainable and coordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty reduction.*
- The Dublin Principles of integrated water resources management (IWRM).

These, together with principles and objectives from the Millennium Development Goals, World Summit on Sustainable Development, NEPAD (goals of AMCOW on water) and multi-lateral agreements between Watercourse States, were synthesised into the following policy principles to underpin the RWP:

- Water is an instrument for peace, cooperation and regional integration
- Effective public consultation and involvement of users
- Focus on integrated and people-centred planning including fair compensation for affected parties
- Further development of SADC water resources through the joint planning and construction of storage, in order to rectify historical imbalances and promote water supply for irrigation and poor communities
- Efficient use of water through demand management, conservation and re-use/recycling, and the efficient use of water in agriculture
- Recognition of the environment as a resource base and a legitimate user of water
- The protection of the environment through appropriate user charges and the enforcement of “the polluter pays” and “waster pays” principles, taking into account equity and social justice
- Integration of water supply, sanitation and hygiene education programmes
- Capacity building to ensure that managers of water, waste and sanitation have the requisite knowledge and tools

- Ensuring that waste is safely managed at or as close as possible to the point of generation
- Preventing the import (and export) of harmful waste across the national and regional boundaries
- Gender mainstreaming and addressing HIV/AIDS in water resources management

The conceptual framework presented in Figure 1 was adopted for the policy formulation to illustrate the linkage to the SADC goals of integration and poverty reduction. It reflects the key water related objectives of industrial development (including agrobusiness), food security, access to water and sanitation, water for peace, energy security and safety from disasters. Underlying these is the objective of sustainable development, or development that does not compromise the environment. Integrated water resources management (IWRM) is the fundamental approach that has been adopted by SADC water sector, which is enabled through the development of tools related to institutional development, capacity building, stakeholder participation, information management, integrated planning, conflict resolution and environmental management. Each of these objectives and tools is addressed in the policy, with integrated water resources management being the common thread that links them all together.



Within this context, the role of the RWP and RWS is to promote regional integration and poverty reduction within SADC, which particularly requires:

- ❑ Cooperative management of shared watercourses within the region, primarily through the Protocol on Shared Watercourses.

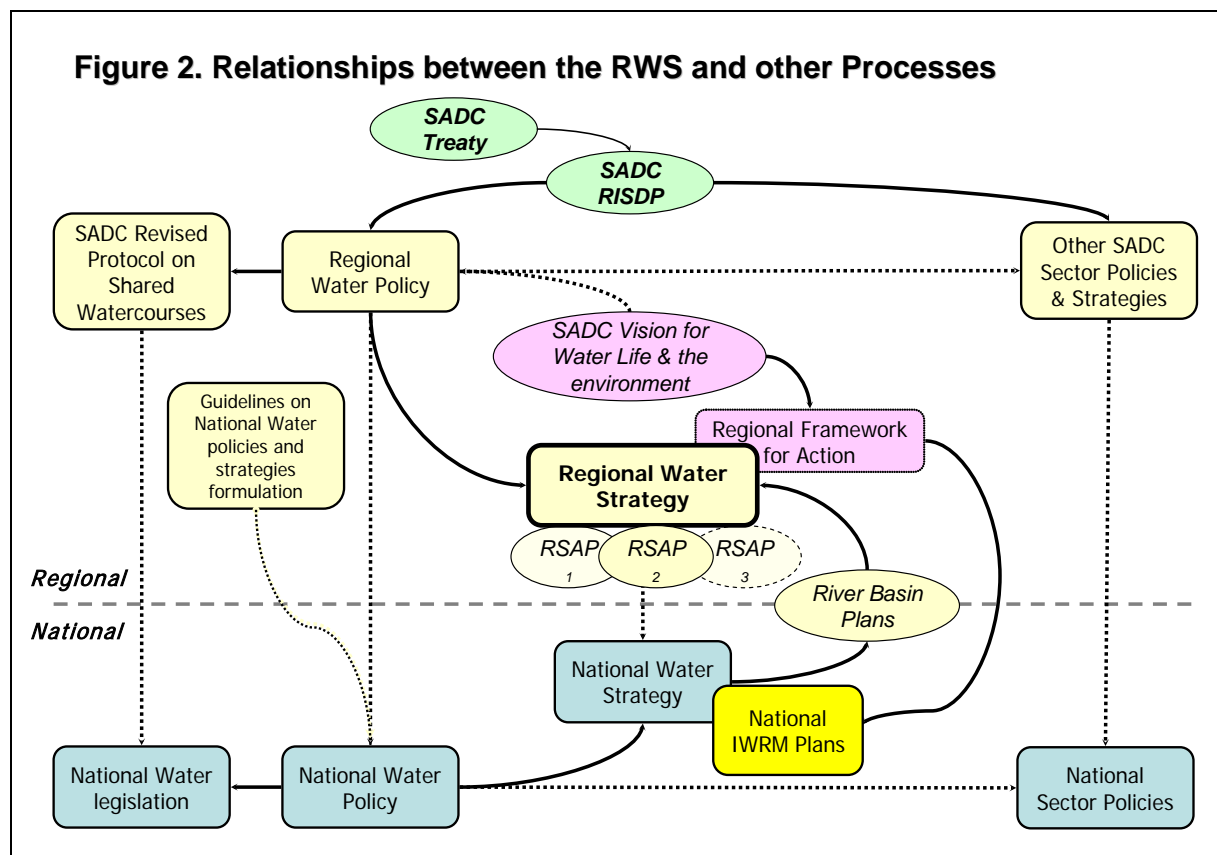
- Harmonisation of national water sector management between Member States to facilitate integration and the achievement of endorsed targets.

This has important implications for the Strategy, in that it must highlight areas of best practice that may be adopted at a national and local level, in the interests of regional alignment, but does not dictate to the Member States. On the other hand, the statements on the management of shared watercourses are more binding, as they are given effect through the Protocol and relate more strongly to the mandate SADC Secretariat has been given by the Member States.

2.2 Relationships between the Regional Water Strategy with Other Initiatives

2.2.1 Relationship between Regional Initiatives

The relationships between the RWS, the RWP and the Protocol, and other regional and national policy and strategy processes are highlighted in Figure 2, and are expanded upon below.



The RWS primarily gives effect to the RWP, which also provides context for the Protocol. The SADC Vision for Water, Life and the Environment was an important input to the RWP and led to the Regional Framework for Action (RFFA). This was developed in the absence of a RWS and provided a context for the development of the National Frameworks for Action the National IWRM Plans. The national IWRM planning processes are integral part of national strategies. However, the RFFA is subsumed by the

RWS, as the latter becomes the main strategic point of reference within the SADC context.

2.2.2 Relationship between Regional, River Basin and National Water Strategies

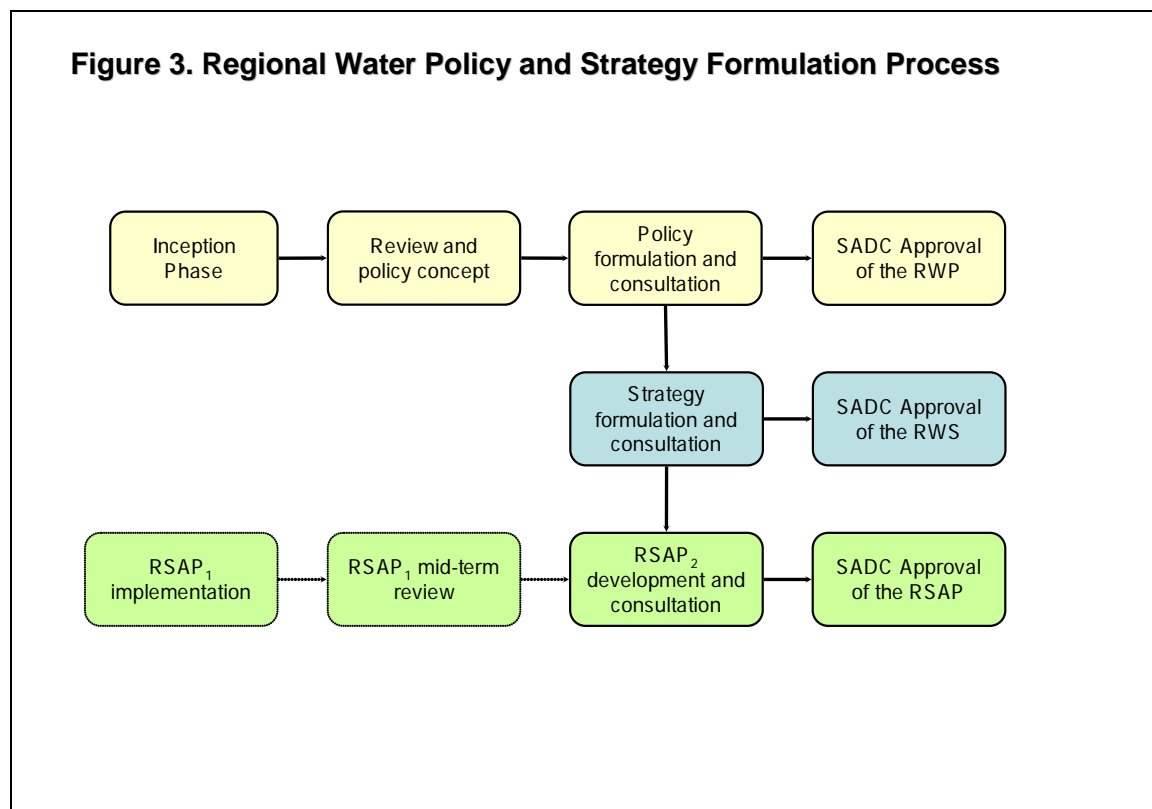
The RWS should primarily be implemented regionally through the Regional Strategic Action Plan (RSAP), and nationally through National Water Strategies. However, no explicit linkages exist between the national water strategies of the Member States and the RWS. As there is an important alignment requirement between the River Basin Plans (which must be consistent with the RWS) and the national water strategies, the linkage between the RWS and the national water strategies is achieved through the national water policies of the Member States, which should be aligned with the RWP.

2.2.3 Relationship with Continental and Global Initiatives

Finally, the RWS must be aligned to global strategic processes, such as the NEPAD, AMCOW goals, UN Convention on Non-navigational use of water, MDGs and the WSSD requirements. These have been incorporated into the RWP and are a key area of focus in the strategic objectives and strategies of this RWS.

2.3 Strategy Formulation Process

SADC Water Division engaged in a consultative and participatory process for the formulation of the RWS. The Policy and Strategy formulation process is indicated in Figure 3, highlighting the linkage to the RWP and the RSAP₂ development process.



A strategic decision was taken to fast-track the drafting of the Policy and to elaborate the Strategy after the formal approval of the draft Policy. The Strategy formulation process was thus better informed by a more comprehensive Policy that benefited from extensive consultation. Key elements of each phase of the Strategy formulation process are:

1. *Strategy formulation and consultation*: an iterative strategy formulation process was conducted, beginning with small regional specialist/expert sessions to support a drafting team, followed by input from broader multi-stakeholder consultative workshops which included members of the SADC Water Resources Technical Committee (WRTC) .
2. *SADC Approval of the Strategy*: endorsement and approval by SADC WRTC and the Integrated Committee of Ministers (ICM).

There was considerable iteration within the Strategy formulation process to refine the outputs and align the Strategy with the RWP and emerging implementation through the RSAP₂.

PART TWO
REGIONAL WATER STRATEGY

CHAPTER 3

REGIONAL COOPERATION IN WATER RESOURCES MANAGEMENT

Chapter Three describes the strategies for achieving regional cooperation in the management of water resources, including the approaches to integrated management of water, particularly shared water resources, for economic integration in SADC. Strategies for the promotion of intersectoral cooperation and linkages, and for the promotion of peace are described, as are the strategies for the harmonisation of national policies, through the alignment of such policies with international law. Strategies for conflict resolution and international cooperation in water resources management are developed.

3.1 Water for Economic Integration

Most countries within SADC depend, for social and economic development, upon water that flows from and/or out of their political boundaries. The integrated development and management of water resources at a national and regional level therefore provides an opportunity to contribute to the achievement of the SADC strategic priorities of regional integration and poverty reduction. This must consider the issues of balance, equity, sustainability and mutual benefit between Member States, taking its lead from the SADC Treaty, the RISDP and The Southern African Vision for Water, Life and the Environment in the 21st Century.

SADC has made significant progress in promoting its core objective of regional integration through the adoption and implementation of various protocols and policies in areas such as trade, transport, energy and health. The water sector is contributing to regional economic integration through the integrated management of shared watercourses, with the associated building of confidence and trust between Member States. Recognition of the imperative for joint water resources multi-purpose development projects has contributed to the realisation that economic integration depends upon shared management of resources. Uneven economic development and widespread poverty between Member States presents a challenge to adopt regional approaches to economic integration, development and the creation of economies of scale, through the integrated management of water resources and sharing of capacity.

Integrated management of shared watercourses may be hindered in promoting or accomplishing economic integration at a regional level, unless the following institutional and structural challenges within and between Member States are addressed and overcome:

- Sometimes historic considerations of **sovereignty** by Member States tend to limit integration both for the development and management of water resources and more broadly for economic integration. However, it is recognised that

good progress has been and is still being made by Member States to cooperate in order to achieve this over-arching objective.

- **Poor governance and inconsistent policy and legal** (enabling) environments of the water and related sectors within and between Member States are potential barriers to integration. It is however recognised that significant progress has already been made in this area.
- **Inadequate institutional capacity** at the regional, shared watercourse and national level restricts the ability to promote and support integration.

These challenges are relevant to all the sub-sections within this Chapter.

Strategic Objective

- ❖ To promote regional economic integration through integrated water resources management (IWRM).

Strategies

3.1(a) Strategy: Promote joint / integrated development and management of shared watercourses in accordance with internationally recognised principles of IWRM, in the interests of promoting economic integration.

More detail on these strategies is provided in Chapter 8 of this Strategy addressing *Water Resources Development and Management*.

Joint planning should be performed at shared watercourse level to optimise the development and management of these water resources to support regional economic integration. This should involve the development of River Basin Management Plans, considering benefit sharing, comparative advantage and equitable use, based on economic, environmental and social analysis with due cognisance of balancing the level of economic development among Member States. It should also involve joint infrastructure development considering broad economic and social development spin-offs (beneficiation and secondary effects).

Strategic infrastructure planning should also be performed at the SADC regional level to optimise the opportunities for regional development and integration, as well as to leverage resources to support regional economic integration.

Strategic Objective

To develop a SADC regional strategy for the development of water resources infrastructure that will contribute to the regional endeavour of meeting MDGs.

Strategies

3.1(b) Strategy: Strengthen regional water governance through the establishment and/or enhancement of shared watercourse institutions to enable effective, appropriate and collaborative management of water resources within shared watercourses.

More detail on these strategies is provided in Chapter 9 of this Strategy addressing *Regional Water Resources Institutional Framework*.

In the interest of supporting regional integration, these institutions should be tailored to the needs of the specific shared watercourses and should have achievable and clear mandates, as specified by the negotiated agreements on the development, utilisation and management of shared watercourses and transboundary aquifers in terms of the SADC Protocol on Shared Watercourses.

3.1. (c) Strategy: Identify water infrastructure projects that have regional significance and hence develop and implement a regional strategic water infrastructure programme to change the lives of the region's people and meet the MDGs.

An intervention at regional level is very essential in supporting and promoting water infrastructure development at various levels in order to change the lives of the poor people of the region. (Refer to Chapter for further details).

In addition to these strategies, the strategies associated with all the other strategic objectives within this Chapter support regional economic integration.

3.2 Water for Peace

Regional cooperation in water resources development and management enhances peaceful co-existence between Member States, and strengthens regional security as watercourse states are more likely to safeguard common or shared investments which yield mutual benefits to the participating parties. The Protocol on Shared Watercourses formalises the objectives and mechanisms for this cooperation, which is being adapted into bi-lateral and multi-lateral agreements between Watercourse States.

Technical and professional cooperation is taking place between Member States and is being further strengthened by the ongoing establishment and strengthening of shared watercourse institutions. This cooperation has promoted an environment of collaboration and trust between countries, which is contributing towards peace in the region.

The **scarcity of water** in parts of the region and **competing developmental requirements** between Member States may result in disputes and tension over water. The legacy of **unilateral decisions, overlooked risk of environmental impacts** and **uneven** access to and guarded sharing of **information** by Member States has historically contributed to limited trust between Watercourse States. Conversely effective management of shared watercourses, sharing of information and peaceful resolution of disputes contributes to a regional culture of trust and peaceful cooperation.

Strategic Objective

- ❖ To manage water resources within SADC in a manner that builds trust, understanding and cooperation between Member States based on mutual benefit and equitable use.

Strategies

3.2(a) Strategy: Promote the implementation of the SADC Protocol on Shared Watercourses as the primary legal instrument for regional cooperation around water.

The Protocol is the primary legal instrument to enable cooperative management of water resources within SADC. Its implementation should be supported by:

- i. Strengthening of the component responsible for water sector within the SADC Secretariat (“Water Division”) as a vehicle for promoting, coordinating and monitoring the implementation of the Protocol (see Section 9.1 below).
- ii. Negotiation of bi-lateral and multi-lateral agreements between Watercourse States on the mutually beneficial and equitable utilisation of the water resources, within the framework provided by the SADC Protocol, including mechanisms for peaceful resolution of disputes.
- iii. Institutional strengthening of shared watercourse institutions to promote good governance and cooperation between Watercourse States (see Section 9.2 below).
- iv. Strengthening of the capacity of Member States to implement the Protocol, through policy and legislative harmonisation, national institutional development and the training and exchange of personnel.

3.2(b) Strategy: Develop a common water resources information base and agreed analytical methods to further strengthen and consolidate trust and support cooperation among Member States.

More detail on these strategies is provided in Chapter 7 of this Strategy addressing *Water Resources Information Management*.

A common understanding of shared watercourses and particularly the availability and variability of water resources is a critical initial step in the process of building cooperation and trust between Member States, particularly leading to decisions about the development, allocation and utilisation of the shared watercourse.

3.3 Water and Inter-Sectoral Cooperation

The RWP recognises the role of water as a source of life and its use for a variety of purposes including agriculture, hydro-electric power generation, domestic and industrial requirements, maintenance of public health, tourism and recreation, as well as the maintenance of ecosystems. As such, strategies for the development and management of water resources at a regional and national level must at least align with other sector strategies targeted at industrialisation, developing agriculture, the promotion of economic and social infrastructure, and poverty reduction. Likewise the water resources management strategies should interact with and guide other water-use sectors, seeking to improve efficiency and sustainability of water use within those sectors.

While the SADC Secretariat has moved towards alignment between sectors through restructuring and the RISDP, there is still room for improvement in the area of an integrating framework for inter-sectoral cooperation at regional level. Similarly, the

experience of cooperation between sectors at the national level has varied among Member States. The existing gaps need to be closed.

The practical **challenges** of implementing coordinated multi-sector planning and cooperating need to be overcome, particularly given the following:

- **Limited awareness** and understanding by decision makers in other sectors of the role of water resources in supporting development. The water sector also needs to develop a better understanding of other sectors and increase its influence therein
- **Limited or lack of appreciation of the finite nature and economic value of water by other sectors**
- The inertia against joint planning and collaboration in favour of traditional **sector planning** and disciplinary differences in focus.

Strategic Objective

- ❖ To promote multi-sectoral planning, alignment and collaboration at a regional and national level, acknowledging the important role of the water sector in supporting social and economic development.

Strategies

3.3(a) Strategy: Promote linkages between water sector and other sectors institutions, at a regional, shared watercourse and national level.

Institutional mechanisms are critical to promoting coordinated planning and management. The formal and informal establishment of the linkages, structures, systems and processes must support any initiatives for multi-sectoral alignment and collaboration, including:

- i. Creation of a framework for inter-sectoral cooperation within SADC Secretariat, by ensuring that the organisational structures, systems, policies and strategies enable water sector alignment with other sectors.
- ii. Promotion of an inter-sectoral cooperation at a national level, particularly in the context of shared watercourses.

3.3(b) Strategy: Promote the planning and management of shared watercourses that aligns with other sector strategies.

This is the other side of joint planning to promote economic integration (see Section 3.1 above). In many situations, integrated development planning is being promoted and this provides the opportunity for water sector planning to influence the direction taken by other sectors (taking account of water resources) and to ensure that the water sector is cognisant and consistent with the developmental priorities of other sectors.

3.3(c) Strategy: Create awareness in other sectors' decision makers of the importance of water to these sectors' contributions to economic and social integration and development.

More detail on these strategies is provided in Chapter 10 of this Strategy addressing *Stakeholder Participation and Capacity Building*.

Without awareness of the opportunities and constraints on development related to water resources availability and development, other sectors will not consider the importance of the water sector in the multi-sector / integrated planning process. An understanding and appreciation of the scarcity and/or uneven availability of water in the region needs to be developed in the other sectors that use water.

3.4 Harmonisation of National Policy and Legislation

There is a generally recognised need to promote harmonisation between the national water policies, legislation and management strategies of SADC Member States, in the interests of managing shared watercourses and achieving regional integration and poverty reduction. It is likely that the need for and value of harmonisation will increase over time as the development and utilisation of shared watercourses increases.

Member States must ensure that national legislation provides the means for the implementation of international law that is binding on that country. Harmonisation of national law with relevant international laws (such as the Protocol) is the most effective tool for this. On a regional level this process contributes to the alignment of national policies and legislation.

While most Member States recognise and have endorsed the concept of harmonisation, this may not be prioritised in terms of **human / financial resources** made available at a national level, due to **limited political awareness** and support. This is exacerbated by:

- The highly **uneven development** of policy, legislative and strategy between Member States.
- **Inadequate institutional capacity** and governance arrangements, particularly for implementation of policy, legislation and strategies.

Strategic Objective

- ❖ To promote the harmonisation of Member States' national water policy, legislation and strategy with those of other Member States, the Regional Policy and Strategy and relevant international conventions and protocols.

Strategies

3.4(a) Strategy: Promote and support the harmonisation of national water legislation, policies and strategies within SADC.

The harmonisation of water legislation, policies and strategies should be focused on two areas, namely:

- i. Regionally promoting the implementation of RWP and Protocol on Shared Watercourses.
- ii. Providing support to Member States in the harmonisation of their national legislation, policies and strategies.

3.5 Conflict Management in Water Resources Management

The possibility of dispute over water resources management in shared watercourses exists. It is thus important that these disputes are prevented and/or resolved in a fair and amicable manner to avoid conflict and foster peaceful co-existence among watercourse states. The SADC Protocol on Shared Watercourses and other Watercourse agreements provide an opportunity to clearly outline effective dispute resolution processes negotiated by watercourse states before the conflict arises. Where attempts to prevent disputes have failed, the need for effective dispute resolution is recognised. This may involve coordinated planning and joint management, followed to alternative dispute mechanisms (such as negotiation, conciliation and mediation) where there are disputes, escalating to arbitration, and only involving the SADC Tribunal (or other recognised international adjudication bodies) if other approaches are not institutionalised or do not work.

The challenges to managing disputes and conflicts largely relate to the challenges outlined above for regional integration and cooperation in promoting trust and peaceful collaboration.

Strategic Objective

- ❖ To manage dispute over water resources management in shared watercourses through fair and effective dispute resolution.

Strategies

3.5(a) Strategy: Provide guidance on approaches to resolving disputes between Member States around water resources management.

Mechanisms and approaches to dispute resolution on shared watercourse need to be developed for the specific conditions in SADC, based on regional, continental and international best practice. Specific areas of focus may be:

- i. Developing guidelines on dispute resolution in shared watercourses, based on review of experience.
- ii. Increasing awareness of and confidence in the existing SADC structures such as the SADC Tribunal
- iii. Dissemination and sharing of available information and best practice, possibly through documentation and workshops on negotiation.
- iv. Promoting a common water resources information base to reduce conflict (Chapter 7 on *Water Resources Information Management*)

3.5(b) Strategy: Strengthen the capacity of relevant regional and national institutions in dispute resolution.

More detail on these capacity building strategies is provided in Chapter 10 of this Strategy addressing *Stakeholder Participation and Capacity Building* (Section 10.3).

In particular, this institutional strengthening in dispute resolution should focus on the SADC Secretariat in support of regional cooperation, on shared watercourse institutions with primary responsibility for dispute resolution and on Member States Departments of Water. Additionally, the functionalisation and authority of the SADC Tribunal should be promoted and its capacity built for water related dispute resolution. The facilitation of exchange between countries further builds understanding and trust, which is a key area of capacity for dispute resolution.

3.6 Water for International Cooperation

SADC Water Sector is part of a Continental and Global water community, in which there are similar challenges and for which relevant solutions have either been found or are being sought. Cooperation and interaction with processes external to SADC creates a platform for regional interests to be promoted on the global agenda, as well as providing opportunities for development cooperation. SADC experience and knowledge in the water sector has a significant value to offer to the international water community, from both the regional and national levels.

The key challenge is the **human and financial resources** required to meaningfully interact with these process.

Strategic Objective

- ❖ To enable SADC and Member States to participate meaningfully in Continental and Global water sector initiatives.

Strategies

3.6(a) Strategy: Promote sharing of experiences and alignment between SADC processes and Continental and Global initiatives.

The linkages with other African structures, platforms and initiatives should be promoted through the SADC Water Sector (both the SADC Secretariat and Member States), particularly those related to the African Union, NEPAD and AMCOW. It is also critical for the SADC Water Sector to forge strong relationships with global water sector initiatives and international bodies. The following potential actions are suggested

- i. SADC Secretariat (with Member States) to participate in Continental and International initiatives.
- ii. International best practice sharing with Shared Watercourse Institutions.
- iii. Working with neighbouring regional groupings (in Central and East Africa) to share best practice in the development of protocols and agreements on shared watercourses.

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
3. REGIONAL COOPERATION IN WATER RESOURCES MANAGEMENT			
<p>Water for Economic Integration: To promote regional economic integration through the integrated management of water resources</p>	<p>3.1(a) Strategy: <i>Promote the joint / integrated development and management of shared watercourses in accordance with internationally recognised principles of IWRM, in the interests of promoting economic integration.</i></p>	<p>3.1.1. Policy: <i>Water Resources shall be developed and managed in an integrated manner to contribute to national and regional economic integration and development on the basis of balance, equity and mutual benefit for all member states</i></p> <p>3.1.2. Policy: The Southern African Vision for Water, Life and the Environment shall be the reference point for water resources contribution to achieving regional integration, development and poverty eradication</p>	<p>RWR 2: Standards Assessment of Surface Water Resources</p>
	<p>3.1(b) Strategy: <i>Strengthen regional water governance through the establishment and/or enhancement of shared watercourse institutions to enable effective, appropriate and collaborative management of water resources within shared watercourses.</i></p>	<p>9.2.2. Policy: <i>A SWCI shall be established on each shared watercourse to advise and coordinate the sustainable development and equitable utilization of the associated water resources for mutual benefit and integration. [including other policy statements in 9.2]</i></p>	<p>WG 1: Implementation programme for SADC Protocol CB 4: Strengthening River Basin Organisations</p>
	<p>3.1. (c) Strategy: <i>Identify water infrastructure projects that have regional significance and hence develop and implement a regional strategic water infrastructure programme to change the lives of the regionsa people and meet the MDGs.</i></p>	<p>8.5.1. Policy: <i>Integrated planning, development and management of dams will be promoted so as to optimise the use of the water resources, maximise derived benefits (such as hydropower, tourism, flood control, irrigation and water supply) and take both positive and negative externalities into account for both upstream and downstream countries.</i></p>	<p>INF 1: Regional Strategic Water Infrastructure Programme</p>
<p>Water for peace: To manage water resources within SADC in a manner that builds trust, understanding and cooperation between Member States based on mutual benefit and equitable use</p>	<p>3.2(a) Strategy: <i>Promote the implementation of the SADC Protocol on Shared Watercourses as the primary legal instrument for regional cooperation around water</i></p>	<p>3.2.1. Policy: <i>Regional Cooperation in shared watercourses shall be guided by the... SADC Protocol on Shared Watercourses, and member states shall observe and comply with the Protocol and the SADC Treaty</i></p>	<p>WG 1: Implementation programme for SADC Protocol</p>
	<p>3.2(b) Strategy: <i>Develop a common water resources information base and agreed analytical methods to further strengthen and consolidate trust and support cooperation among Member States</i></p>	<p>3.2.2. Policy: Watercourse States shall participate and co-operate in the planning, development, management, utilization and protection water resources in the shared watercourses</p>	<p>RWR 1: Consolidation and Expansion of SADC HYCOS</p>
<p>Water and intersectoral cooperation: To promote multi-sectoral planning alignment and collaboration at a regional and national level, acknowledging the important role of the water sector's role in supporting</p>	<p>3.3(a) Strategy: <i>Promote linkages between water sector and other sectors' institutions, at a regional, shared watercourse and national level</i></p>	<p>3.3.1. Policy: The SADC Secretariat, Member States and Water Course institutions shall ensure the collaboration of all affected sectors in the management of water resources to achieve the goals of regional integration, development, equity, poverty eradication and sustainability</p>	<p>WG 3: Promotion of Implementation of Regional Water Policy and Strategy??</p>

Conflict management in WRM: To manage dispute over water resources management in shared watercourses through fair and effective dispute resolution	<i>3.5(a) Strategy: Provide guidance on approaches to resolving disputes between Member States around water resources management</i>	3.5.1. Policy: Member States shall pursue all avenues of amicable prevention and resolution of conflicts in water resources development and management	WG 1: Implementation programme for SADC Protocol
	<i>3.5(b) Strategy: Strengthen the capacity of relevant regional and national institutions in dispute resolution</i>	3.5.2. Policy: Where amicable resolution cannot be achieved, conciliation, mediation and arbitration mechanisms should be pursued, with use of the SADC Tribunal or other recognised international arbitration structures only as the last resort	CB 3: Capacity Building to the SADC Water Division?? CB 4: Strengthening River Basin Organisations??
Water for International Cooperation: To participate meaningfully in Continental and Global water sector initiatives	<i>3.6(a) Strategy: Promote sharing of experiences and alignment between SADC processes and Continental and Global initiatives</i>	3.6.1. Policy: SADC shall actively participate in and support other African Initiatives, as well as creating relationships with international initiatives on water resources management	WG 1: Implementation programme for SADC Protocol

CHAPTER 4

WATER FOR DEVELOPMENT AND POVERTY REDUCTION

Chapter Four describes the strategies for achieving economic development and poverty reduction within SADC, through the integrated management of water. The chapter describes strategies to address (i) the role of water in socio-economic development, (ii) the provision of basic services and the improvement of water supply, sanitation and hygiene, (iii) the role of water in food security, (iv) water for energy development, (v) water for industrial development and (vi) water for sports and recreation.

Poverty is a complex phenomenon, and is defined differently in different contexts, depending on the setting in which poverty is evaluated. In this context, poverty is a concept that indicates absolute or relative welfare deprivation. Therefore, poverty encompasses both inadequate income and insufficient access to non-income necessities, such as access to basic services, access to natural resources, issues of personal security and empowerment to participate in decision-making. These problems of poverty in the SADC region have mostly affected women, children, the elderly and the disabled.

Water in sufficient quantities is a catalyst for development and a critical resource for the socio-economic development of any nation or region. As access to water resources plays a vital role in poverty reduction and economic development, sustainable use and management of the resources is required to ultimately ensure poverty eradication and prosperity.

4.1 Water for Socio-Economic Development

Water is a finite resource and is a vital catalyst for socio-economic development. Water has an economic and social value in all its competing uses and should be allocated in an equitable manner, adopting pro-poor approaches. Water is a limiting factor for socio-economic development and there is, accordingly, an urgent need to develop and manage the available water resources efficiently to optimise the returns. This requires establishing strategies that take into account comparative advantage in water use and allocative efficiency. It also requires the deployment of vigorous water conservation measures in all water uses, to ensure longevity and sustainability of the resource.

The value of water as a finite socio-economic resource is not fully appreciated at all levels of society. This leads to problems of sustainability of the resource and its associated services. Listed below are some specific challenges that hinder socio-economic development:-

- There is an expectation of the supply of potable tap water, without an appreciation of the costs associated with achieving such services. **Lack of appreciation** of the economic value of water and low level of ownership of the resource have an adverse impact on the effort and commitment to better allocate and manage the resource for optimal benefits (economic and social).
- Striking a balance between economic, social and environmental water resources allocation remains a challenge, due to the **allocative efficiency principle** which for historical reasons tends to favour the allocation of water to commercial economic uses.
- **Climatic variability** results in a skewed availability (in space and time) of water resources in the region, thus depriving potential economic water users access to the resource. The **Climate Change** phenomenon is further exacerbating the problem by increasing the prevalence and magnitudes of droughts, floods and water borne and related diseases. This will also likely change the supply and demand patterns thus posing new and unprecedented challenges.
- **Historically strong sentiments of sovereignty** in Member States have made it difficult to optimise the utilisation of water resources in the region by considering the comparative advantages amongst Member States. It is recognised that progress is being made by Member States in embracing, enhancing and committing to cooperation and regional integration as manifested by commitments to SADC, NEPAD and other fora.
- There is currently no standard formula to estimate the **value of water** in the region, particular amongst Watercourse States. This makes it difficult for such Watercourse States to engage in negotiation on sharing the resource, since consensus on the value of the resources is difficult to achieve.

Strategic Objective

- ❖ To promote equitable and efficient water allocation in a sustainable manner amongst its competing and conflicting uses, in order to optimise economic benefits and social upliftment of the region's people.

Strategies

4.1(a) Strategy: Promote and facilitate acceptance of and accounting for water as a valuable input in socio-economic development programmes

The refocusing on the socio-economic and environmental importance of water can assist in the diversification of economic development from a low base to serve both domestic and international markets. If the goals of integration, diversification, and expansion were realised, this would enable women and youth to play a more significant role in the social and economic development of the region. Such an eventuality would enable the poor and disadvantaged to benefit from social and economic development in their countries. To enable Member States to move in tandem in recognizing water as an economic good, it is imperative to:

- i) Develop regional guidelines and procedures for economic accounting for water
- ii) Develop and promote cost recovery mechanisms and encourage a culture of responsibility and accountability
- iii) Develop and mainstream socio-economic and environmental analyses in water allocation planning (refer to chapter 5 for details)

4.1(b) Strategy: Promote equitable and sustainable allocation of water resources between competing and conflicting demands

Equitable and efficient allocation of water amongst its various uses is vital to ensure sustainability and optimisation of economic development accrued from such uses, taking cognisance of social equity. This requires development of mechanisms to cater for socio-economic needs of the poor and vulnerable, including redress of gender imbalances.

4.1(c) Strategy: Promote availability and accessibility of water for socio-economic development

The mismatch between availability and demand due to the variability in the distribution of water resources needs to be addressed through a holistic approach which includes the following specific actions:

- i) Develop adaptation strategies to minimise the impact associated with the effects of Climate Change on the supply/demand balance of water resources and resulting increase in diseases.
- ii) Develop and adopt measures to ensure availability and access to water (e.g. demand management, recycling/reuse, conjunctive use of surface and groundwater, dams)
- iii) Support development and implementation of awareness programmes on water-use efficiency, to make more water available for productive use (refer to Chapter 10 for details)

4.2 Water Supply, Sanitation and Hygiene

Less than 40% (SADC *Water Supply and Sanitation situational analysis study, 2002*) of the people in Southern Africa have access to safe water to meet their basic human needs and proper sanitation. The health and socio-economic implications are enormous, with a high morbidity and mortality from water-borne diseases, such as cholera, resulting in the loss of life, children kept out of school, and women deprived of time for productive pursuits due to daily drudgery of fetching water and caring for sick family members. In order to meet the international targets such as the MDGs, vigorous and accelerated interventions need to be put in place to provide water and sanitation services, especially to the most adversely affected rural and peri-urban communities.

Lack of access to safe water, basic sanitation and hygiene is a fundamental challenge to the region and is directly contributing to the extreme poverty experienced by the majority of the people in the region. Some challenges in this regard are listed below:-

- There is **inadequate water and sanitation services** to rural and peri-urban communities, mainly due to poor policies and unsustainable strategies, and lack of implementation and limited resources.
- Water is **not adequately accessible** for economic use by poor and marginalised communities, especially in rural areas. Increased access to water use for economic development has a direct impact on poverty reduction and concurrently lead to improved access to water for basic human needs.
- There is **very slow progress** in improving coverage on water supply and sanitation in Member States, mainly due to increases in population size, poor settlement patterns and to the poor quality of operation and maintenance of infrastructure as a result of inadequate cost recovery mechanisms
- There are still some weak points in **integration and cooperation** on water supply and sanitation programmes within and between Member States
- There is an **inadequate allocation of investments** to water supply and the provision of sanitation service. This is partly due to the limited profit margin within the provision of supply and sanitation services, as this is inherently a social responsibility and is not considered a significant commercial investment opportunity. .
- There is **not enough** attention given to **education** on hygiene and the **creation of awareness** of water-borne and related diseases in the region.
- The **definitions of adequate** water supply and sanitation services vary widely in the region. Measuring and comparing progress in providing supply and sanitation between Member States is very difficult, if not impossible, to achieve. It is recognised that different settlement patterns will affect the rate at which the water supply goals are achieved. It is however imperative to agree on a uniform definition in the region. Such will enable a common language and prioritisation of resources.
- Inadequate use of **appropriate smart technologies** backed by research and development to enhance sustainability in the provision of water supply and sanitation services

Strategic Objective

- ❖ To Promote an integrated approach and accelerated sustainable delivery of water supply, sanitation and hygiene services to the poor and vulnerable recognising the productive use of water thereby contributing to socio-economic development, cost recovery, and meeting regional and international targets e.g. MDGs.

Strategies

4.2(a) Strategy: Facilitate an agreement on the definition and adoption of a basic service level for water supply and sanitation

There is an urgent need to address the problem of having a common definition of adequate water supply and sanitation. Some of the specific actions which need to be taken are:-

- i) Develop or adopt minimum water quality standards

- ii) Develop minimum water access and sanitation standards (cartage distance & quantity) for domestic use
- iii) Develop regional minimum sanitation standards for domestic use

4.2(b) Strategy: Develop a regional water supply and sanitation programme to support Member States' efforts in meeting agreed targets e.g. MDGs

At a regional scale, it is essential that a strategic water supply and sanitation support programme be developed that will provide a coherent and optimal approach in the provision of water supply and sanitation services. This would include:-

- i) Sharing of best practices among Member States
- ii) Resource mobilisation to assist Member States in their endeavour of meeting recognised targets such as MDGs
- iii) Development of joint strategic infrastructure for water supply and sanitation
- iv) Supporting formulation and implementation of a water supply and sanitation monitoring, evaluation and reporting programme
- v) Supporting the establishment of institutional guidelines for service provision, sector regulation and pollution control
- vi) Promote mechanisms to enhance performance of the water supply and sanitation (WSS) sector to achieve the MDGs and national targets including the development of indicators

4.2 (c) Strategy: Facilitate and support the development and implementation of appropriate cost recovery mechanisms that take cognisance of the socio-economic situation of the poor and vulnerable

To ensure sustenance of water supply and sanitation services, progressive cost recovery mechanisms need to be developed. Such measures must, however, consider the social responsibility of providing affordable water to the poor and vulnerable people. Various options should be considered, including cross-subsidisation and productive use of water

4.2 (d) Strategy: Promote awareness of and the understanding of regional and international targets in water supply and sanitation e.g. MDGs

It is astonishing to note that at the time of writing the MDGs, which were pronounced five years earlier, are not well understood or interpreted in a consistent manner by the technocrats in the water sector. There is an urgent need to address this problem so that assessment of progress of Member States in achieving the MDGs is based on a level playing field. Specific actions will include, among others, the following;

1. Development of educational and awareness programs at regional and national levels
2. Building capacity for Local ministries responsible for water to carry out awareness programs
3. Develop indicators for monitoring international targets such as the MDGs
4. Involve stakeholders in information gathering and awareness creation

4.2 (e) Strategy: Promote and facilitate increased awareness of the inter-linkages of water supply, sanitation and hygiene

An awareness creation programme on water supply and sanitation is already overdue in the region (refer to chapter 10 for details). This programme need to be developed such that it takes on board some of the specific actions below:-

- i) Facilitate development of agreed procedures for participation of all stakeholders in the planning and implementation of water projects and programmes
- ii) Promote development and dissemination of policies that promote water conservation, including water demand management
- iii) Support the development and implementation of a knowledge management, advocacy and information sharing programme on basic water supply
- iv) Improve awareness and buy in to the importance of an integrated approach to water supply, sanitation and hygiene

4.2 (f) Strategy: Influence the international, regional and national investment financing decisions for the provision of basic water services

Although water supply and sanitation is key to the upliftment of the standard of living of human kind, financing such noble services is still far below expectations. There is a need for strong advocacy, to convince national governments, the private sector and cooperating partners that it is worthwhile to support and invest in such endeavours. To ensure its financial sustenance, it is imperative to develop and document alternative financing options for water supply and sanitation services (refer to Chapter 11 for details).

4.3 Water for Food Security

Food security has deteriorated significantly throughout the region for the past two decades and nearly half of the population is considered food-insecure. With the highly seasonal rainfall and variable flows in rivers, drought still poses a threat to food production. Reliability of available water for agriculture and aquaculture would promote reliable food production. The region is currently engaged in a process of developing strategies to attain regional food security, as opposed to national food self-sufficiency, as per the declaration on Food Security which was signed by Heads of States at the *SADC Extra Ordinary Summit on Food Security*, held in Dar-es-Salaam, the United Republic of Tanzania, in May 2004.

Regional food security still poses a challenge due to a number of key issues, which are listed below:-

- **Inadequate agricultural research and/or poor dissemination of its results**, which should provide information and guidance on drought resistant crops, livestock and affordable efficient irrigation technology

- Adverse Impact of **Climatic Change** and general climatic variations undermine the livelihood of the people of the region, especially the poor
- Emphasis on **national food self sufficiency** in Member States mitigates against regional cooperation
- **Inadequate water allocation** for small-scale economic agricultural enterprises for rural livelihoods and poverty reduction
- **Inadequate storage facilities in some parts of the region**
- Lack of adequate knowledge and appreciation of quantities and quality of ground water resulting in unsustainable development and management of ground water resources

Strategic Objective

- ❖ To attain Regional Food Security through sustainable irrigated agriculture, rainfed agriculture, aquaculture and livestock production, through optimal use of both surface and ground water with the ultimate goal of poverty reduction

Strategies

4.3(a) Strategy: Promote agricultural research and its application in the context of water use efficiency, climatic change trends and temporal climatic variations as the basis for improved agricultural productivity.

Climate Change studies need to be promoted in the region focusing on developing adaptation strategies on water resource management. Such studies must be designed to be cross-sectoral to lead to development of integrated models. Agricultural development should also take cognizance of spatial and temporal climatic variations. Specific actions include, among others, the following;

- i. Development, adoption or promotion of soil and water conservation measures
- ii. Breeding drought, pest and disease resistant crops
- iii. Adopt and/or promote tools for drought management

4.3(b) Strategy: Promote sharing of benefits rather than the actual water, through promotion of comparative advantage taking due cognizance of economic disparities among Member States

Comparative advantage opportunities within the region and between Member States, both in products and in services provision, should be explored. Trade in goods and services based on such comparative advantage may enable improved efficiency in the allocation of scarce water resources. Interventions in this regard should be done in a holistic manner taking full cognizance of the sectors involved (trade, immigration, labour, land policies etc.).

4.3(c) Strategy: Promote the participation of communities and private sector in the development, improvement and management of irrigated and rainfed agriculture in small- and medium-scale enterprises, as well as aquaculture practices

Measures that should be explored include:

- i) Promote small scale irrigation, gardening practices as well a construction of small earth dams
- ii) Support the formulation of guidelines for the participation of communities in the development and management of irrigated agriculture in small- and medium-scale enterprises, as well as aquaculture farming
- iii) Promote high value and horticultural crop production

4.3(d) Strategy: Promote the expansion and allocation of sufficient water for sustainable stock farming based income generating interventions

Food security in the region cannot only be achieved through having enough cereal grains, but also from animal based products, such as meat, eggs and milk. The advantage of stock farming is its higher allocative efficiency compared to irrigated agriculture, and its general suitability to those areas of higher water scarcity. A deeper understanding of various options is required and may be achieve through:

- i) Conducting detailed studies on various options for stock-husbandry, which can be taken further within Member States to refine and contextualise the recommendations. It is recognised that a lot of information on the subject is already available in which case application of the results is the missing ingredient
 - ii) Resource mobilisation to assist small farmers to undertake such business enterprises (details in Chapter 11)
- *4.3(e) Strategy: Promote construction of multi-purpose storage facilities that will benefit irrigation and ground water recharge to enhance food security.*

There are some discrepancies in the development of water resource infrastructure in the region. Therefore there is a need to develop additional facilities especially in the areas of lower infrastructural capacity. New developments will of necessity be steered away from the historical single purpose focus in favour of an IWRM approach which also take cognisance of WDM. . Specific actions will, among others, include the following;

- i. Prioritization of potential sites for multipurpose water storage infrastructure
- ii. Identification and exploitation of opportunities for joint water infrastructural development

4.4 Water for Energy Development

This subject is better addressed by the Energy sector in the region. It is covered here only in as much as it relates to water. The power demand in the SADC region is increasing at a rate of about 3% per annum, implying an addition requirement of 1200MW per year. It is anticipated that by the year 2007 the region will change from a surplus to a deficit generation capacity, if no new generation projects are put in

place by then. There are indications that countries to the south of the sub-region might encounter a blackout within the next five years. The issue was on top of the Agenda during the SADC Council of Ministers meeting held in Mauritius in February 2005. The issue was also the subject of the AMCOW meeting on hydropower held in Johannesburg in 2006. Not only rural communities are affected, but also a number of cities in the region suffer from serious power cuts and surges, which inevitably have an adverse effect on the socio-economic development of the region. The SADC region is well endowed with resources for energy generation, especially renewable energy such as hydropower. If the hydropower potential were extensively developed, the region would not only meet its own internal needs but would generate sufficient energy for export. However, less than 10% of the region's hydropower potential has been developed.

On a broader scale, the challenges facing the energy sector in the region can be summarised as follows:-

- Need for **increased access** to electricity services at affordable prices, especially to rural communities in light of rapid population increases in the region.
- Need for the strengthening of the existing **electricity interconnections** as well as accelerating new interconnections, particularly to those countries that are not yet covered by the regional grid (SAPP)
- Lack of **continuous electricity supply** to some regional cities
- Inadequate exploitation of abundant **new and renewable sources of energy** in the region, especially hydropower development (less than 10% of the potential)
- About 80% of the regions' population relies on **biomass burning** as their primary source of energy. The extensive burning of fuel wood is leading to environmental degradation, including the depletion and deterioration of water resources
- **Inefficient water-use cooling technology** in thermal power stations

Strategic Objective

- ❖ To promote the development of water resources for environmentally sustainable and socio-economically viable hydropower generation plants and improve grid inter-connectivity between sources and demand centres, and improve electricity service delivery especially to rural communities.

Strategies

4.4(a) Strategy: *Facilitate sharing of information with regard to identification and prioritisation of potential hydropower generation sites in the region and cooperation in their development*

The region is endowed with a high, largely untapped potential for hydropower generation and there is a need to share information on the identification and joint development of hydropower sites that are of a regional strategic nature. Such studies should be followed with specific actions for implementation on the ground, such as:-

- i) Prioritise viable potential sites of hydropower that are of a strategic nature and that can facilitate the provision of electricity in the region
- ii) Mobilise resources for the development of prioritised hydropower sites, as well as for undertaking rural electrification programmes in the region (refer to Chapter 11)
- iii) Accelerating the development and adoption of environmental guidelines for hydropower development

4.4(b) Strategy: Improve and promote power grid interconnectivity between Member States to balance the distribution of electrical energy in the region

Although some Member States are experiencing acute shortages of electricity, others have excess actual and potential capacity in electricity generation. There is need, therefore, to strengthen the existing electricity interconnections as well as accelerating new interconnections particularly to those countries that are not yet covered by the regional grid (SAPP).

4.4(c) Strategy: Identify alternative power options and improve access to affordable electricity services, especially to rural communities

Accelerate rural electrification programmes, including identification and prioritisation of potential sites for hydropower generation from mini and micro plants to serve areas that are remote from the main grid. Economies of scale on these mini and micro plants need to be considered to ensure sustainability whilst taking cognisance of the social responsibility to provide such services. Alternative energy sources such as wind energy, solar etc. should be exploited for the benefit of the rural people.

4.4(d) Strategy: Promote water-use efficiency in the cooling of thermal power stations and secondary use of the water

The majority of thermal power stations in the region use very inefficient water-cooling technologies. A move towards water-saving technologies, such as dry cooling, should be promoted to improve water use efficiency in power generation.

4.5. Water for Industrial Development

It is generally accepted that water for industrial purposes has a higher allocative efficiency than other uses. It is, therefore, very important to promote more water allocation for industrial purposes, to maximise the return per volume of water utilised whilst giving due cognisance to the provision of water for domestic use/social needs. Strategies promoting industrial development will contribute immensely to the region's effort of economic integration and trade, development and prosperity.

Due to the competitive nature of water uses, water allocated for industrial development is sometimes insufficient despite its higher allocative efficiency. Some of the problems which contribute to retardation of industrial development are:-

- **Insufficient allocation** of water for industrial purpose due to competing demands

- Inadequate provision of **appropriate water quality** for various industrial uses
- Fear of higher potential for **water pollution** by industrial wastewater
- Insufficient awareness and/or application of water recycling technologies

Strategic Objectives

- ❖ To promote optimal allocation of water for industrial purposes and taking appropriate measures for the control of water pollution due to industrial wastewater

Strategies

4.5(a) Strategy: Promote water use efficiency as a predominant factor for all water allocations

The economic and social value of water for all its competitive uses should be explored so that its allocation is based on the highest returns having taken cognisance of socio-economic obligations. This includes carrying out a regional study for economic accounting for water for different uses.

4.5(b) Strategy: Promote efficient use of water for industrial purposes including wastewater treatment and recycling

To achieve this strategy, it is very essential to carry out the following specific actions:-

- i) Carry out a regional study on best practices on the provision of water for industrial purposes
- ii) Carry out a regional study on best practices in industrial wastewater treatment and re-use, to protect the environment and vital eco-systems (details in Chapter 5)
- iii) Promote reuse of treated wastewater (recycling)

4.6. Water for Sports and Recreation

Water sports and recreation are recognised as legitimate uses of water in the SADC region. Recreational water use plays a major role in improving the physical fitness of people, thus contributing to better health in the Region. It also promotes the all important tourism industry. In most cases the water requirements for sports and recreation are non-consumptive and may be included in in-stream use, although care must be taken to minimise water pollution due to the sporting activities.

Water for sport and recreation is normally taken for granted and some of the challenges associated with it are:-

- Water for sports and recreation is normally **not highly prioritised** and generally considered as a subsidiary project
- Water quality management is generally posing a threat in water sports and recreation
- Historical marginalisation of affected community from the tourism industry has led to lack of appreciation of the socio-economic value of the sector by people at grass-root level

- Inadequate exploitation of water related ecotourism potential and opportunities in the region

Strategic Objective

- ❖ To promote appropriate allocation of water for sports and recreation as legitimate users of water

Strategies

4.6(a) Strategy: Develop regional guidelines for water sport and recreational uses of water to promote tourism

To avoid over exploitation of the water sporting and recreation facilities, it is paramount to develop guidelines that will spell out the optimal uses of the water for such activities. Such guidelines will also contribute significantly to the effort to control water pollution from recreational use.

4.6(b) Strategy: Develop and promote ecotourism, water transport, water sporting and recreation in the region thus encouraging a shift from single purpose to multi-purpose reservoirs

There are many water bodies in the region that are under-utilised, especially reservoirs and lakes which could provide excellent water sporting and recreation opportunities with minimal additional investments. This will contribute to the paradigm shift from single purpose to multi-purpose reservoirs and will promote tourism. This way the benefits from water resource development projects would be increased without commensurate increases in cost.

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
4. WATER FOR DEVELOPMENT AND POVERTY ALLEVIATION			
Water for Socio-economic development: To promote equitable and efficiently water allocation in a sustainable manner amongst its competing and conflicting uses in order to optimise economic benefits and social upliftment of the region's people	<i>4.1(a) Strategy: Promote and facilitate acceptance of and accounting for water as a valuable input in socio-economic development programmes</i>	4.1.1 Policy: Water shall be considered as an economic good . . . 4.1.2 Policy: Water shall be considered as a social good that is essential to human dignity, poverty alleviation and social well-being.	RWR 4: Support for Strategic and Integrated Water Resources Planning
	<i>4.1(b) Strategy: Promote equitable and sustainable allocation of water resources between competing and conflicting demands</i>	4.1.3 Policy: Water allocation shall consider the economic benefits balanced with social obligation and environmental requirements 4.1.4 Policy: Regional water resources management shall consider the concept of comparative advantage in water availability	
	<i>4.1(c) Strategy: Promote availability and accessibility of water for socio-economic development</i>		
Water Supply, Sanitation and Hygiene: To Promote a coherent approach and accelerated sustainable delivery of water supply, sanitation and hygiene services to the poor to meet the MDGs	<i>4.2. (a) Strategy: Facilitate an agreement on the definition and adoption of a basic service level for water supply and sanitation</i>	4.2.1 Policy: Members States have a . . . responsibility to ensure sustainable access to safe water supply for basic human needs 4.2.2 Policy: Member States will prioritise the allocation, access and utilisation of water resources for basic human needs over any other allocation, access and utilisation. 4.2.3 Policy: Member States will seek to provide . . . water for productive activities to poor and marginalised communities 4.2.5 Policy: Member States will facilitate the provision of sustainable access to adequate sanitation for all . . . households. 4.2.6 Policy: Member States will ensure that provision of sanitation services is integrated into the provision of water supply	INF 2: Programme on Implementation of Water Supply and Sanitation in SADC
	<i>4.2 (b) Strategy: Develop a regional water supply and sanitation programme to support Member States' efforts in meeting agreed targets e.g. MDGs</i>		
	<i>4.2 (d) Strategy: Promote awareness of and the understanding of regional and international targets in water supply and sanitation e.g. MDGs</i>		
	<i>4.2 (c) Strategy: Facilitate and support the development and implementation of appropriate cost recovery mechanisms that take cognisance of the socio-economic situation of the poor and</i>	4.2.4 Policy: To ensure sustainability of water supply services to all areas, cost recovery will underpin all infrastructural developments and operations	

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
	<i>vulnerable</i>		
	4.2 (e) Strategy: <i>Promote and facilitate increased awareness of the inter-linkages of water supply, sanitation and hygiene</i>	4.2.7 Policy: <i>Public awareness, hygiene education and practice should be integrated in the provision, operation and maintenance of water and sanitation facilities</i>	
	4.2 (f) Strategy: <i>Influence the international, regional and national investment financing decisions for the provision of basic services</i>	11.3.2 Policy: <i>Partnerships considered where these contribute to . . . higher inflow of investment capital to the sector</i>	
Water for Food Security: <i>To attain Regional Food Security through sustainable irrigated agriculture and aquaculture with the ultimate goal of poverty eradication</i>	4.3 (a) Strategy: <i>Promote agricultural research and its application in the context of water use efficiency, climatic change trends and temporal climatic variations as the basis for improved agricultural productivity.</i>	4.3.3 Policy: <i>sustainable irrigated agriculture and aquaculture will be promoted in all Member States</i> 4.3.4 Policy: <i>Member states will promote improved tillage and rainwater harvesting techniques</i> 4.3.6 Policy: <i>Member States will promote measures to increase water use efficiency in agriculture</i>	handled by FANR – Land and Water Management Project
	4.3(b) Strategy: <i>Promote sharing of benefits rather than the actual water, through promotion of comparative advantage taking due cognisance of economic disparities among Member States</i>	4.3.1 Policy: <i>Member States will promote the attainment of regional food security</i> 4.3.2 Policy: <i>Water resources development for irrigation in commercial agriculture should be planned in coordination with other sectors in the interest of IWRM</i>	RWR 4: Support for Strategic and Integrated Water Resources Planning
	4.3(c) Strategy: <i>Promote the participation of communities and private sector in the development, improvement and management of irrigated and rainfed agriculture in small- and medium-scale enterprises, as well as aquaculture practices</i>	4.3.5 Policy: <i>Member States will promote affordable and sustainable techniques for small-scale irrigation</i>	RWR 4: Support for Strategic and Integrated Water Resources Planning
	4.3(d) Strategy: <i>Promote the expansion and allocation of sufficient water for sustainable stock farming based income generating interventions</i>	4.3.7 Policy: <i>Water requirements for livestock . . . shall receive adequate consideration in water resources allocations and management</i>	RWR 4: Support for Strategic and Integrated Water Resources Planning

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
<p><u>Water for Energy Development:</u> To promote the development of sustainable hydro-power generation plants and improve grid inter-connectivity between sources and demand centres, and improve electricity service delivery especially to rural communities</p>	4.4 (a) Strategy : Facilitate sharing of information with regard to identification and prioritisation of potential hydropower generation sites in the region and cooperation in their development	4.4.1 Policy: Member States will optimise the use of hydro-electricity generation potential	RWR 4: Support for Strategic and Integrated Water Resources Planning
	4.4 (b) Strategy: : Improve and promote power grid interconnectivity between Member States to balance the distribution of electrical energy in the region		Handled by the energy Unit and SAPP
	4.4 (c) Strategy Identify alternative power options and improve access to affordable electricity services, especially to rural communities :	4.4.3 Policy: Member States will encourage the development of small-scale hydropower to service energy needs of rural communities	Handled by the energy Unit and SAPP
	4.4 (d) Strategy: Promote water-use efficiency in the cooling of thermal power stations and secondary use of the water	4.4.2 Policy: Member States will encourage the use of more water-use efficient technologies in cooling of . . . electric power generation stations	Handled by the energy Unit and SAPP
<p><u>Water for Industrial Development:</u> To promote allocation of water for industrial purposes and taking appropriate measures for the control of water pollution due to industrial wastewater</p>	4.5 (a) Strategy: Promote water use efficiency as a predominant factor for all water allocations	4.5.1 Policy: Member States shall allocate water for industrial requirements at economic value of the resource	RWR 4: Support for Strategic and Integrated Water Resources Planning
	4.5 (b) Strategy: Promote efficient use of water for industrial purposes including wastewater treatment and recycling	4.4.2 Policy: Member States will encourage the use of more water-use efficient technologies in cooling of industrial processes	
<p><u>Water for Sports and Recreation:</u> To promote appropriate allocation of water for sports and recreation as legitimate users of water</p>	4.6 (a) : Develop regional guidelines for water sport and recreational uses of water to promote tourism	4.6.1 Policy: Water resources allocation at national and regional levels shall consider allocating water for Sports and for Recreation.	RWR 4: Support for Strategic and Integrated Water Resources Planning
	4.6 (b) Develop and promote ecotourism, water transport, water sporting and recreation in the region thus encouraging a shift from single purpose to multi-purpose reservoirs Strategy:		

CHAPTER 5

WATER AND ENVIRONMENTAL SUSTAINABILITY

Chapter Five describes the role of water in the environment, and details the strategies for achieving environmental sustainability, through the integrated management of water. The chapter further describes the strategies to promote the environment as a resource base and legitimate user of water, to address issues of water quality and the management thereof, and to control alien invasive species that are having a negative impact on the water resources of the region, amongst others. Furthermore the chapter enunciates strategy for adaptation to climate change as it affects water supply and demand.

5.1 Water and the Environment

The world, including the SADC region, needs to develop and manage water in a sustainable manner. That can only be achieved by recognising the environment both as a source and as a legitimate user of water. The region has not adequately addressed this requirement but the potential is there to improve. Strategies are required to fast-track adoption of this logical approach to water resource management.

The mainstreaming of the environment in water development and management in the region is inadequate. This is by no means due to lack of good will. The region is handicapped by a lack of data and resources (financial, human and infrastructure). In the limited areas where data and human resources are available, other competing needs have taken away the focus from sustainable water management and allocation in favour of short-term unsustainable developments because the latter yield more visible and quick results. The SADC region is faced with a number of challenges, which hinder conformity with the sustainable integration of the environment in water resource development. Some of the challenges are outlined below:

- The **environmental water requirements** are not adequately understood and defined for most of the regional watercourses. Financial and infrastructure capacity to determine and disseminate ecological water requirements, especially of aquatic ecosystems, are limited. As a result, there is a limited perspective in water resources in the region. Water is often regarded as nothing more than a physical resource, thus disregarding other critical aspects.
- Traditionally the practice has been to **compartmentalise** the surface water and ground water resources instead of viewing and managing them as an inter-linked hydrological unit.
- Policy and legislative provisions do not adequately recognise the environment as **legitimate user of water**
- **Limited information** is available on the economic value of the environment

Strategic Objective

- ❖ To mainstream the environment in water resource development and management

Strategies

5.1(a) Strategy: Create an enabling environment to ensure that the environment is recognised as the resource base and as a legitimate water user in all watercourses (perennial and ephemeral) in the region. -

The strategy is aimed at correcting historical imbalances in the way water was allocated in the past. The end result of careful implementation of the strategy is not so much the reduction of water allocated to other uses as it is ensuring that the resource base is sustainable in the long term. Some suggested actions are given below:-

- (i) Encourage Member States to sign and/or ratify and implement international, regional and bilateral protocols/conventions on water related environment e.g. Convention on Environmental Impact Assessment in a Transboundary Context (1991)
- (ii) Facilitate and monitor the systematic and timely integration of environmental quantity and quality objectives in water resources planning, development and management.
- (iii) Support and facilitate the development, harmonization and implementation of economic evaluation methods in water resources development to incorporate full socio-economic analysis of environmental costs and benefits.
- (iv) Ensure the integration of environmental concerns and requirements in shared watercourse conventions and agreements.
- (v) Conduct awareness programs on water and environment issues to reach all sectors of stakeholders, both regionally and nationally
- (vi) Build capacity on the various aspects of water and the environment (e.g. environmental water requirement training programs and short courses).
- (vii) Facilitate the development of capacity (financial, material and human resource) and commitment to mainstream the environment in water resource management
- (viii) Facilitate the development and adoption of environmental sustainability criteria in policies and legislation at river basin level.
- (ix) Identify and support good catchment management of shared water courses

5.1(b) Strategy: Facilitate the development and implementation of reasonable measures, minimum requirements and guidelines for determining and meeting environmental water requirements in all watercourses.

The information gap in the actual environmental requirements often causes misunderstanding among water users, particularly in shared watercourses. The following actions will help to promote a common understanding:-

- (i) Facilitate capacity building in Member States to determine and value the environmental water uses.
- (ii) Develop and implement a programme to determine environmental water requirements (instream flow, ephemeral rivers and catchment) for all shared watercourses.

- (iii) Facilitate the development of common approaches in determining in-stream flow and ephemeral river water requirements

5.1(c) Strategy: Promote synthesis and dissemination of information regarding impacts of climate change and variability on water resources and on the risk of water disasters and facilitate regional strategic planning for adaptation to the impending changes.

Normally climatic records extending over decades and even centuries are required in order to confirm climatic patterns. As a result there is a lot of debate whether recent events manifest climate change. There is a potential risk that the changes may occur too fast and warrant action without waiting for the traditional climatic times or face the risk of natural apocalypses with no capacity to mitigate them. The world at large and the SADC region in particular would be better advised to accept the reality of climate change and strategically plan for it. The problem is already recognised globally. The Kyoto Protocol currently under vigorous debate in the United Nations fora is a global response to the concerns expressed above. It is to the advantage of SADC Member States to support the adoption and implementation of appropriate and relevant provisions. A careful assessment of the impact of the protocols on the region is essential. It is recognised that most impact will be derived from lobbying the developed world to act responsibly. However, there are local actions that the region can undertake which are in line the provisions of the UNFCCC. Some of these are listed below.

- (i) Determine the regional vulnerabilities to climate change
- (ii) Identify adaptation technologies that reduce the emission of greenhouse gases for new industrial developments in line with provisions of the UNFCCC for instance
- (iii) Identify measures to mitigate the adverse impacts of climate change on the water supply/demand balance
- (iv) Facilitate capacitating, strengthening, coordination and alignment of emergency response strategies and institutions with foreseen climate change
- (v) Provide appropriate technical support to regional and continental politicians involved in the delicate negotiations.
- (vi) Aligning the water sector with related SADC protocols such as (i) SADC Protocol on Transport, Communication and meteorology, (ii) SADC Protocol on Environment

5.1(d) Strategy: Encourage Member States to enter into and ratify international, regional and other multi-lateral conventions / protocols / agreements that will embody environmental impact assessments (EIAs) as a pre-requisite for Water Resource Development in regional watercourses and enforce the EIA requirements

The EIAs provide for identification of impacts and mitigation measures as well as stakeholder input at project development. They provide a suitable forum for integrated development planning. By so doing they will assist in mainstreaming the environment in development. Some actions to effect the strategy are suggested below:-

- (i) Develop comprehensive EIA provisions in the protocol and involve stakeholders in the consultations thereof
- (ii) Facilitate the incorporation of EIA provisions in national policies and legislation
- (iii) Enforcement of the implementation of EIA comprehensive mitigation plans (CMPs)
- (iv) Make use of facilities such as the Convention on environmental Impact Assessment in a transboundary Context as resources for developing regional protocols and agreements.

This strategy is also covered in Chapter 10 that deals with participation.

5.2 Water Quality Management

In comparison to some regions in the world, the SADC region still has relatively good quality water. However, the signs are there for all to see that serious problems are emerging. Population explosions, industrial activity, agriculture and poverty are the major threats to water quality in a number of watercourses in the region. In a 2001 Progress Report on Implementation of Agenda 21 SADC observed that “Water Pollution in Southern Africa is a serious problem that needs to be addressed.” This chapter seeks to contribute in addressing the felt “serious problem”. Health problems to humans, the fauna and flora are already evident in some parts of the region. Pressure to create employment has forced some Member States to solicit and develop industrial, agricultural and mining operations that pose a serious threat to water quality and the environment in general. Pressure from interested and affected parties is undermined by the threats to relocate businesses with inevitable job losses. There are efforts by all Member States to monitor and control water quality. However, the pace is retarded by several constraints, which vary from one country to another. The weak economic situation in most SADC Member States is the major challenge to be overcome in monitoring and controlling water quality. Some additional challenges in the region include:-

- **Inadequate resource capacity** to manage water quality (infrastructure, financial and human)
- Lack of **agreed common guidelines** for minimum standards of water quality appropriate for regional ecosystems.
- Infantile stages of **integrated catchment management** approach in the management of water quality. (e.g. there is limited linkage between water quality management and aquatic/terrestrial life)
- **Inadequate monitoring** of the pollution of water in general and groundwater in particular
- Limited **awareness of pollution** in urban and per-urban areas
- **Diffuse pollution** (e.g. from agriculture) not properly monitored and accounted for
- Limited attention to other types of **point source pollution** (e.g. from pit latrines, cemeteries, cattle lots, refuse, etc.)
- **Limited enforcement** of pollution regulations

- **Rapid urbanisation**, coupled with the **failure by municipalities** to respond to the challenge of increasing sanitation requirements.
- **Limitations in EIA** provisions (e.g. sometimes EIAs do not isolate aquatic ecosystem dynamics as an entity)

Strategic Objectives

- ❖ To ensure adequate and accessible water of acceptable quality for environmental and socio-economic sustainability.

Strategies

5.2(a) Strategy: Facilitate the development, harmonisation and implementation of guidelines and/or minimum standards for water quality in the region.

The strategy aims to enable Member States to agree on the reasonable guidelines and standards of water quality in the region. These will be developed taking into account guidelines and standards used in the rest of the world, particularly those to which some or all members are signatories. Several actions are suggested below:-

- Facilitate the development of water quality standards and guidelines for the region with particular focus on shared watercourses
- Establish and maintain water quality monitoring systems both at regional and national levels
- Facilitate the formulation of mechanisms for enforcement (i.e. incentives and deterrents) of pollution management policies and legislation.
- Initiate and support research on the processes and impacts of other point source and diffuse pollution
- Encourage Member States to include diffuse and other types of pollution issues into policy and legislation
- Legislate against the importation of harmful waste for the sole reason of disposal in the region.

5.3 Alien Invasive Species

Alien invasive species have negative impacts on watercourses. They reduce the quantity of water available for use and choke aquatic life. Many parts of the region are heavily infested with such plant species as *lantana*, *mimosa* and *chromolena*, and watercourses are heavily infested with *water hyacinth* and *salvinia*. Many of the alien invasive species are of no economic value whatsoever to the Member States. The eradication and control of such species is essential to prevent eminent water shortages.

The region recognises the importance of controlling alien invasive species. However there are several real challenges to be overcome:-

- Limited financial, human resource and infrastructure **capacity**
- Limited **awareness** of alien invasive species by the public and lack of understanding of their effect on water resources
- **Reliance** on some of the alien invasive species for livelihood by the poor e.g. wattle trees

- No common and co-ordinated **approach** in the region to deal with alien invasive species

Strategic Objectives

- ❖ To establish and implement a co-ordinated, effective and efficient plan, among Member States, to control the entry and spread of alien invasive species in all watercourses in the region

Strategies

5.3(a) Strategy: Develop and establish mechanisms to co-ordinate efforts in identifying and controlling economical alien species and eradicating non-economical invasive alien species.

The strategy recognises that those alien species that have economic value need to be controlled and confined to specific areas. However, their introduction and management must be controlled or regulated at both regional and national levels. The ultimate target is to eradicate non-economical species and keep them out of the region. Efforts by individual Member States have a limited impact on the problem. The actions below will give effect to the strategy:-

- (i) Facilitate the development of a common regional approach to dealing with alien invasive species which take cognisance of individual circumstances of their occurrence
- (ii) Encourage Member States to build and strengthen capacity to identify and control alien species within watercourses
- (iii) Support Member States to develop and implement awareness programmes (understanding, categorisation, economic implications, etc.) to mobilise grassroots action
- (iv) Support research on the relationship between alien invasive species and the water resources
- (v) Collect and Share information on the alien invasive species
- (vi) Legislate against introduction of non-economical alien invasive species and make quarantine arrangements for economical species.
- (vii) Depending on the scales of non-economical alien invasive species consider declaring a regional disaster.

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
5. WATER AND ENVIRONMENTAL SUSTAINABILITY			
Water and the Environment: <i>To mainstream the environment in water resource development and management</i>	5.1 (a) Strategy: <i>Create an enabling environment to ensure that the environment is recognised as the resource base and as a legitimate water user in all watercourses (perennial and ephemeral) in the region</i>	5.1.1. Policy: <i>The environment is recognised as a resource base and a legitimate user of water and Member . . . the environment is sustained</i>	RWR 4: Support for Strategic and Integrated Water Resources Planning??
	5.1(b) Strategy: <i>Facilitate the development and implementation of reasonable measures, minimum requirements and guidelines for determining and meeting environmental water requirements in all watercourses.</i>	5.1.2. Policy: <i>Allocate sufficient water to maintain ecosystem integrity and biodiversity</i>	
	5.1(d) Strategy : <i>Encourage Member States to enter into and ratify international, regional and other multi-lateral conventions / protocols / agreements that will embody environmental impact assessments (EIAs) as a pre-requisite for Water Resource Development in regional watercourses and enforce the EIA requirements</i>		
Water Quality Management: <i>To ensure adequate water of acceptable quality for human consumption and environmental sustainability</i>	5.2(a) Strategy: <i>Facilitate the development, harmonisation and implementation of guidelines and/or minimum standards for water quality in the region</i>	5.2.1. Policy: <i>Harmonise and uphold common minimum standards of water quality</i> 5.2.2. Policy: <i>Adopt measures to prevent and control pollution of ground and surface waters</i>	
Alien Invasive Species: <i>To establish and implement a co-ordinated, effective and efficient plan, among member states, to control the entry and spread of alien invasive species in all watercourses</i>	5.3(a) Strategy: <i>Develop and establish mechanisms to co-ordinate efforts in identifying and controlling economical alien species and eradicating non-economical invasive alien species.</i>	5.3.1. Policy: <i>Member States are responsible for the control of alien invasive species with the ultimate aim of total eradication of those which are non-economical</i>	

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
<i>in the region</i>			

CHAPTER 6

SECURITY FROM WATER-RELATED DISASTERS

Chapter Six describes the strategies to ensure security from water-related disasters, such as droughts, floods, and water-borne and water-related diseases. The chapter describes the strategies to protect people from floods and droughts and details the approaches to the planning and mitigation of water-related disasters, facilitated by disaster prediction and early-warning systems.

All SADC Member States are, to different extents, vulnerable to some form of water-related disasters, such as droughts, floods, waterborne diseases etc. It appears as though the frequency of water related disasters is increasing. This may be attributable to climate change as a result of human activity such as deforestation, emission of ozone depleting gases and single purpose infrastructure such as dams and canals.

6.1 People's Protection from Floods, Droughts and Water-Borne Diseases

A lot of suffering, often involving loss of life, has resulted from the water-related disasters that occur in the region. Protecting life is, or should be, the primary function of each State. Predisposing activities in one state are likely to pose a threat to life in another state. As water-related disasters do not recognise political boundaries, a regional approach to controlling and mitigating their effects is essential. Recent disasters, such as droughts and floods (e.g. Cyclone Eline), have exposed the lack of preparedness for disaster management in the region. The region is faced with many other challenges, which exacerbate the impact of disasters as well as slow down reaction to them. The challenges include, *inter alia*:-

- **Climate change** resulting from activities taking place mostly outside the region
- Unilaterally, single-purpose, developed **dams** and other water structures
- **Growing** human activities and settlements in disaster prone areas
- **Poor demarcation** and control of disaster prone areas
- Growing **competing demands** for limited resources
- Lack of co-ordinated and continued disaster **preparedness and awareness** in the region
- Food aid practices that **undermine local capacity** to achieve regional food security e.g. imported famine relief grains putting local farmers out of business
- Inadequate health facilities and limited access thereto slowing down preventive and remedial efforts against waterborne or water related diseases
- Lack of health professionals in developed countries leading to exodus of health professionals from poor countries in the region
- Disparities in healthcare capacity among member states
- Illegal immigration which causes rapid spread of water borne diseases

- Inadequate sanitation facilities

Strategic Objective

- ❖ To minimise the impact of water related disasters and waterborne or water related diseases in the SADC region.

Strategies

6.1(a) Strategy: Facilitate the development, ratification and implementation of agreements that commit to joint efforts to minimise water related disasters.

Member States have assisted each other during past disasters. A good example was the rescue effort by South Africa during the floods in Mozambique. However such assistance is not formalised, which makes it difficult to plan for it in advance. The regional disaster management plans require clear specification of the obligations of all parties involved. The following actions are suggested:-

- (i) Encourage Member States to develop and establish mechanisms/ protocols for countries to call on each other for assistance in rescuing people whose lives are endangered
- (ii) Facilitate the conclusion of disaster management agreements at the appropriate spatial level (national, shared watercourse and regional)
- (iii) Encourage Member States to carry out strategic environmental assessments (SEA) of existing dams where possible

6.1(b) Strategy: Promote and coordinate optimal allocation and utilisation of resources for prevention, control and mitigation of water related disasters and water-borne diseases.

Resources for managing water related disasters in the region are often inadequate. Unilateral approaches have the risk of rendering those limited resources duplicitous and ineffective. The IWRM approach to water development and management has the potential to stretch the benefits from resources investment. Waterborne diseases generally cut across political boundaries and their control always demands cooperation among neighbouring states. Some actions are suggested below.

- (i) Create an enabling environment for initiatives like the standing task force on drought to be efficient, effective and gain public confidence.
- (ii) Provide adequate funding to the regional drought fund for it to effectively mitigate the impacts of water disasters
- (iii) SADC to promote strengthening of joint efforts to combat outbreaks of water-borne diseases

6.1(c) Strategy: Coordinate the development and/or strengthening of strategic water infrastructure for prevention, control and mitigation of water related disasters and diseases

While poorly planned water infrastructure can and often does increase the risk of disasters, the absence of basic infrastructure can also predispose the region to risk. Where appropriate and necessary the development of additional water infrastructure

with a regional perspective is to be promoted. Additional water infrastructure is still lacking in some parts of the region. The fact that only about 40% of SADC citizens have access to water supply, sanitation and hygiene is an indictment to the region and needs priority attention. Those inadequacies make parts of the region vulnerable to droughts and water-borne diseases.

6.2 Disaster Prediction, Planning and Mitigation

The disaster preparedness programmes in the region have been exposed as inadequate and fragmented by events such as droughts and floods. An effective and integrated regional disaster management plan is essential to mitigate the effects of such disasters.

The protection of human life and general mitigation of water-related disasters is entirely dependent on proactive strategies that anticipate and accurately predict such disasters. Such preparedness goes beyond national, regional and continental boundaries. They also require investment in human and physical infrastructure. It is recognised that some structures are in place to enable prediction and planning for water disasters. These include the SADC regional early warning unit, Drought Monitoring Centre (DMC) and Famine Early Warning system. The structures are however operating in an environment of complex challenges, some of which are listed below:-

- **Limited** human, physical and financial resources
- Inadequate **communication infrastructure** regionally and nationally
- Low appreciation of **linkages** between certain human practices and water-related disasters
- **Different languages** between and within countries
- **Political unrest** in some Member States

Strategic Objective

- ❖ To facilitate strengthening and capacity building for integrated disaster management plans and structures at appropriate levels within the region.

Strategies

6.2(a) Strategy: Strengthen and encourage collaboration of existing international and regional (e.g. DMC, Early Warning Unit, Famine Early Warning system and HYCOS) national early warning institutions to enable them to stay prepared for disasters and co-ordinate efforts when disasters occur.

As stated earlier the region already has early warning centres. In some cases these need strengthening in terms of equipment and staff. By their nature, early warning systems require collaboration with partners inside and outside of the region. The actions suggested below, among others, should take this into account:-

- (i) Participation in efforts by other regions to improve predictive equipment based in international waters e.g. tsunami disaster prediction facilities in Indian Ocean

- (ii) Formulation of consistent policies to guide the management of food aid in the region, with a view of saving lives while retaining the capacity to attain regional food security in the long run
- (iii) Coordination of resources (financial, infrastructural and material) for disaster management.
- (iv) Co-operation in creating an environment that enables sharing of communication infrastructure for speedy deployment of food from areas of plenty to those of shortage
- (v) Facilitate the development and implementation of joint disaster management plans, including risk assessments, prediction and monitoring, preventive planning and measures and mitigation, including re-vegetation, soil and water conservation
- (vi) Development of a co-ordinated management and contingency plan for dams in shared watercourses
- (vii) Supporting and strengthening of institutional capacities for disaster management at regional and national level, including emergency capacities.
- (viii) Development of adaptation strategies for disaster mitigation resulting from phenomena such as climate change.
- (ix) Establishment of early warning systems or focal points where these are not available or non-operational

6.2(b) Strategy: Facilitate formalisation and commitments to share information that is relevant to management of water related disasters and diseases in any of the watercourses in the region.

This area is covered in detail in Chapter 7 that deals with information. The actions below are suggested.

- (i) Information collection and management: risks and flood vulnerability mapping, harmonisation of drought and flood information systems, linkages to disaster information with environmental information systems
- (ii) Information exchange and sharing about impending disasters, diseases and risks

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
6. SECURITY FROM WATER-RELATED DISASTERS			
People's Protection from Floods and Droughts <i>To minimise the loss of human life that occurs as a result of water related disasters in the SADC region</i>	6.1(a) Strategy: <i>Facilitate the development, ratification and implementation of agreements that commit to joint efforts to minimise water related disasters.</i>	6.1.1 Policy: <i>Protection of human life, livestock, property and the environment against the effects of water related natural and human-induced disasters.</i> 6.1.2. Policy: <i>Facilitate and coordinate the management of natural disasters at a shared watercourse and regional level</i>	RWR 5: Dam Safety, Synchronisation and Emergency Operations WG 1: Implementation Programme for SADC Protocol on Shared Water Courses??
	6.1(b) Strategy: <i>Promote and coordinate optimal allocation and utilisation of resources for prevention, control and mitigation of water related disasters and water-borne diseases.</i>	11.1.1 Policy: <i>Member states shall ensure adequate financial resources for national as well as regional projects for water resources development and management</i>	
Disaster Prediction, Planning and Mitigation <i>To establish and manage effective and efficient disaster management plans and structures at appropriate levels within the region</i>	6.2(a) Strategy: <i>Strengthen and encourage collaboration of existing international and regional (e.g. DMC, Early Warning Unit, Famine Early Warning system and HYCOS) national early warning institutions to enable them to stay prepared for disasters and co-ordinate efforts when disasters occur</i>	6.2.1. Policy: <i>Improving the region's capacity in predicting water-related disasters associated with floods and droughts</i> 6.2.2. Policy: <i>Develop and implement integrated and coherent regional and watercourse level management plans and procedures for the management of natural disasters and emergency situations.</i> 6.2.3. Policy: <i>Regional disaster management planning shall be aligned with other sector disaster management plans and involve consultation with relevant stakeholders</i>	RWR 1: Consolidation and Expansion of SADC HYCOS??
	6.2(b) Strategy: <i>Facilitate formalisation and commitments to share information that is relevant to management of water related disasters and diseases in any of the watercourses in the region.</i>	6.2.4. Policy: <i>Each Member State has an obligation to notify and share knowledge and information with affected watercourse states in the event of actual or pending water related disasters</i>	

CHAPTER 7

WATER RESOURCES INFORMATION MANAGEMENT

Chapter Seven describes the management of water resource information and the systems required for the collection and management of water resources information. Data collection requires water resources assessment and research, and strategies for such assessment within SADC are described here. Information sharing is an essential ingredient for the integrated management of the resource. Accordingly, this chapter also details the strategies to achieve such sharing of information.

Water resource development policies and strategies cannot be realised without understanding the primary issue – the availability of surface and ground water and the occurrence of floods and droughts. This requires good information collection and dissemination.

7.1 Data and Information Acquisition and Management

Good quality hydro-meteorological data (quantity and quality), as well as socio-economic, demographic and water use data are essential for water resource planning and management in general and for transboundary river basins in particular. Therefore Member States should establish and/or cooperate in the establishment of efficient hydro-meteorological data acquisition and dissemination systems at regional and river basin and national levels.

However, water resources data and information acquisition and management in the SADC region faces many challenges, the key ones being:

- **Inadequate coverage** and poor operation and maintenance of hydro-meteorological networks due to low allocation of financial resources from national budgets.
- Low human resource **capacities** (professional as well as technical level staffing) of national hydrological services due to unattractive conditions of services and working conditions.
- **Incompatible** water resources data and information systems between riparian states.
- Poor **communication infrastructure** (phone, e-mail, computers, telemetry equipment) as well as language differences.
- **Vandalism** and theft of data monitoring networks.

Strategic Objective

- ❖ To promote and facilitate establishment and maintenance of sustainable hydro-meteorological data and information systems at national,

transboundary basin and regional levels to meet the needs for effective planning and management of water resources.

Strategies

7.1(a) Strategy: Promote and support the establishment of an appropriate hydro-meteorological data and information archival and dissemination system in the SADC region.

Design and implementation of hydro-meteorological data and information systems will need to give careful consideration to critical factors. These include among other things different types of data to be collected, methods of data collection, data storage (including aspects of location of database) and transmission, analysis and transformation into “user-friendly” information. Minimum standards for infrastructure and technology for data collection, analysis and exchange also deserve careful consideration.

7.1(b) Strategy: Extend, rehabilitate and upgrade hydro-meteorological networks to meet data and information requirements for planning, management and monitoring of water resources.

While the focus of network improvements and extension will be on conventional hydro-meteorological networks, careful consideration should be given to the establishment and strengthening of satellite linked regional data collecting platforms (DCPs) network systems (e.g. HYCOS) that provide near real-time data necessary for operation of hydraulic structures (e. g., dams) and for flood control.

7.1(c) Strategy: Support the strengthening of national hydro-meteorological institutions including development and retention of human resources capacities at professional and technical levels.

Data collection and transmission, as well as data analysis even for shared watercourses is invariably carried out at national level. Therefore strengthening capacities of national level institutions gives support to regional level activities. In this respect, essential activities should include:

- (i) developing and implementing institutional capacity building programmes, including training; and
- (ii) providing logistical support for field trips for reading data measuring stations, routine maintenance, and to detect and repair malfunctioning equipment.

7.1(d) Strategy: Develop awareness programmes for the importance of hydro-meteorological data and information systems.

Awareness programmes would be targeted at various stakeholders, from decision makers to the communities, to accomplish varying purposes including:

- (i) for decision makers to give greater support to financing water resources development and management;
- (ii) for professional and technical level staff to enhance greater cooperation and partnership in hydro-meteorological information management in the shared watercourse states;

- (iii) information users and other stakeholders so as to make judicious demands for hydro-meteorological data and information and
- (iv) dissuading communities from vandalising and theft of equipment and hydro-meteorological networks.

7.2 Information Sharing

Sharing hydro-meteorological data and information between shared watercourse states fosters collaboration in water resources development and management and thus contributes to regional co-operation, which is one of the cornerstone principles of SADC. Easy access to data and information enhances confidence and trust.

At present sharing hydro-meteorological data and information in the SADC region is constrained by the following challenges:

- **Incompatible** data and information systems.
- **Poor access** to relevant data and information by stakeholders.
- **Variations** in technology among Member States.
- Growing **imbalance** among Member States between availability and demand for water resources; some states have relatively abundant water resources while others have scarcity.
- Language differences among and within Member States

Strategic Objective:

- ❖ To improve access to hydro-meteorological data and information for stakeholders.

Strategies

7.2 (a) Strategy: Establish protocols for processing and exchanging hydro-meteorological data and information.

Sharing and transfer of hydro-meteorological data between SADC Member States is still not functioning well. In principle, SADC Member States are committed to cooperation, as enshrined in the SADC Protocol on Shared Watercourses. However, cooperation is constrained by lack of data exchange and sharing protocols. This would include clear guidelines on right of access to information, cost of information, and conditions for use, and rules and procedures for data processing and exchanges among Member States.

7.2 (b) Strategy: Harmonise national water resources databases including storage, data processing, retrieval, quality control and dissemination.

National hydro-meteorological databases are the repository of data and information, which is available for sharing between Member States. The ease, efficiency and speed of accessing and exchanging data will depend to a large extent on the

characteristics of national databases. It is, therefore, important to harmonise the national hydro-meteorological databases, with respect to data input, data analysis tools, procedures and information products. Existing international and regional standards should be used, as and where appropriate, to achieve this objective.

7.2 (c) Strategy: Improve dissemination of and access to hydro-meteorological data and information.

Effective participation of all stakeholders in water resources management requires that they be better informed about choices they have to make or inputs required of them. The public, therefore, needs access to relevant and non-technical water resources data and information; for example, information on emergencies such as floods, droughts and pollution incidences. Towards this end, the following activities may be necessary:

- (i) Develop essential and easily understood information packages that can be disseminated gratis or at a nominal price to the general public.
- (ii) Develop and implement communication strategies geared towards formulation of information for general public consumption.

7.3 Water Resources Assessment and Research

Water resources assessment involves an examination of all aspects (hydrological, economic, environmental, legal and social) of the availability or supply and the demand for water resources. It is an important and primary step in the management of water resources at national as well as regional levels. In a shared river basin, water resources assessment must follow common and compatible methodologies if it is to engender trust, confidence and cooperation among the riparian states.

Two key challenges in water resources assessment in SADC are:-

- (i) Being essentially a national responsibility, there are **no common standards and procedures** for carrying out water resources assessment.
- (ii) Water resources assessment is highly dependent on the institutional **capacities**, qualification and experience of staff in the national hydrological institutions.

Strategic Objective

- ❖ To develop comprehensive standard methodologies for water resources assessment in the region so as to permit comparison of outputs and enhance regional cooperation.

Strategies

7.3 (a) Strategy: Develop and promote guidelines for water resources assessment in the SADC region.

Activities would include the development and dissemination of comprehensive guidelines for carrying out:-

- i. water resource assessments, incorporating assessment of available surface and groundwater
- ii. water demand assessments
- iii. socio-economic assessments
- iv. strategic environmental assessments and risk assessments
 - quality control

7.3 (b) Strategy: Prioritise, promote and support water resources research and data/information analysis at national and regional levels through national hydrological institutions, universities, and regional level institutions and bodies.

In order to tap available SADC and national expertise, as well as providing ownership of processes, and to enhance broad stakeholder involvement in water resources development and management, the following activities need to be carried out:-

- i. Identification, prioritisation and promotion of thematic research
- ii. Mobilise financial resources for research and training

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
7. WATER RESOURCES INFORMATION MANAGEMENT			
Data and Information Acquisition and Management <i>To provide sustainable water resources data and information systems at national and transboundary basin levels to meet the needs for effective planning and management of water resources.</i>	7.1 (a) Strategy : Promote and support the establishment of an appropriate hydro-meteorological data and information archival and dissemination system in the SADC region.	7.1.1. Policy: Member states shall establish water resources data and information systems in their territories in an integrated manner at regional, river basin and national levels to meet all water resources management needs. 7.1.2. Policy: Member States shall adopt compatible systems for data and information acquisition and management.	RWR 1: Consolidation and Expansion of SADC HYCOS
	7.1 (b) Strategy: <i>Extend, rehabilitate and upgrade hydro-meteorological networks to meet data and information requirements for planning, management and monitoring of water resources</i>		
	7.1 (c) Strategy: <i>Support the strengthening of national hydro-meteorological institutions including development and retention of human resources capacities at professional and technical levels.</i>	7.1.1. Policy: Member states shall establish water resources data and information systems in their territories in an integrated manner at regional, river basin and national levels to meet all water resources management needs.	CB 1: Skills training for water policymakers, managers and technicians
	7.1 (d) Strategy: <i>Develop awareness programmes for the importance of water resources data and information systems</i>	7.2.3 Policy: <i>Establish mechanisms for regular interpretation and dissemination of essential information on water resources so that the public is regularly informed.</i>	
Information Sharing <i>To improve access to water resources data and information to all stakeholders</i>	7.2 (a) Strategy: <i>Establish protocols for processing and exchange of water resources data and information.</i>	7.2.1. Policy: Member States shall share timeously relevant available information and data regarding the hydrological, hydro-geological, water quality, meteorological and environmental condition of shared watercourses 7.2.2. Policy: Member states shall ensure that the public in the region have access to relevant and understandable water resources information impacting on their health, safety and economic interests. 7.2.3 Policy: SADC Secretariat, SWCIs as well as member states shall establish mechanisms for regular interpretation and dissemination of essential information	RWR 1: Consolidation and Expansion of SADC HYCOS
	7.2 (b) Strategy: <i>Harmonise national water resources databases including storage, data processing, retrieval, and quality control</i>		
	7.2 (c) Strategy: Improve dissemination of and access to hydro-meteorological data and information.		WG 2: Promotion of Public Participation in Water Resources Development and Management??

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
		<i>on water resources so that the public is regularly informed.</i>	
Water Resources Assessment <i>To develop comprehensive standard methodologies for water resources assessment in the region so as to permit comparison of outputs and enhance regional cooperation</i>	<i>7.3 (a) Strategy: Develop and promote guidelines for water resources assessment in the SADC region</i> <i>7.3 (b) Strategy: : Prioritise, promote and support water resources research and data/information analysis at national and regional levels through national hydrological institutions, universities, and regional level institutions and bodies.</i>	7.3.1 Policy: <i>Member States shall adopt common or compatible procedures and methodologies for carrying out regular water resources assessment at regional, shared watercourse and national levels</i>	RWR 2: Standards Assessment of Surface Water Resources

CHAPTER 8

WATER RESOURCES DEVELOPMENT AND MANAGEMENT

Chapter Eight describes the strategies for the development and management of the region's water resources. This chapter describes the strategies for (i) river basin approach in managing water resources, (ii) integrated planning of water resources development,; (iii) water demand management, (iv) alternative sources of water; (v) dam development and management and (vi) communities affected by development of water related infrastructure

Water resources development in Southern Africa has historically been markedly unsystematic. With increasing demand and scarcity of the resource, transboundary Integrated Water Resource Management and Water Demand Management processes are now essential.

8.1 River Basin Approach

A river basin is a unitary natural physical system in which all hydrological processes and activities are interrelated. There are physical interactions between activities on land and water systems, between activities upstream and downstream, between surface water and groundwater. The physical processes are further affected by land use practices and socio-economic activities. Thus basing the planning of water resources development and management on a river basin enables appropriate consideration of the totality of activities and processes and their relationships.

However, there are many challenges in adopting the river basin approach to planning water resources in the SADC region. They include:

- **Transboundary nature** of major river basins in SADC (rivers shared by two or more countries); this poses challenges of balancing national sovereignty versus water interdependency.
- Need for the development of guidelines and criteria for **equitable sharing** of the water resource.
- **Disparities** in stages of water resource development and management between the riparian states.
- **Mismatch** between available water resources and the **water demand** over the region as a whole as well as at national level.
- Lack of or weak **shared watercourse institutions** with responsibility for planning and managing water resources for their respective basins.

Strategic Objectives

- ❖ To promote and adopt a basin-wide approach for planning, development and management of water resources.

Strategies

8.1(a) Strategy: Facilitate the adoption of river basin approaches to planning, development and management of water resources based on IWRM principles.

Sustainable water resources management requires a basin-wide approach that recognises and takes into account the unitary natural physical system. A river basin approach will invariably require execution of the following activities, among others:

- (i) Assessment of all uses and users within basins and preparation of implementation mechanisms of involving stakeholders in development of river basin plans in a consultative and participatory manner with the involvement of stakeholders in the basin.
- (ii) Establishment of a watercourse institution with authority to plan and manage the basin. For a transboundary basin such a river basin institution would have to be a shared watercourse institution established by the Watercourse States.
- (iii) Promoting the development and execution of multi- investment projects involving two or more countries to facilitate and strengthen basin-wide cooperation.
- (iv) Preparation and implementation of river operating rules and procedures for equitable and sustainable utilisation of water resources in the basin.
- (v) Regulating water use in the basin through appropriate regulatory mechanisms negotiated between the riparian states and implemented in a transparent manner.

8.1(b) Strategy: Develop appropriate allocation and regulatory guidelines for the utilisation of water resources in the basin.

Mechanisms for allocating, regulating and monitoring water use have to be developed for each basin in a consultative and participatory manner involving all stakeholders. The Protocol on Shared Watercourses provides broad principles to be followed. These need to be implemented in each basin. It is a process that requires open dialogue and negotiation between stakeholders, particularly the governments of Member States.

8.2 Integrated Planning

River basin planning should take full cognisance of the cross-cutting nature of water; recognising physical interactions between surface, groundwater and land-use, and the environment, as well as the impact on availability and quality of water by other sectors. The overall objective of river basin planning is to advance equitable and sustainable utilisation of the basin's water resources. This will be achieved through integrated planning and management based on IWRM principles. The challenges to integrated river basin planning and management in the SADC region are similar to those outlined in Section 8.1 above.

Strategic Objectives

- ❖ To promote planning, development and management of water resources in SADC based on the principles of IWRM.

Strategies

8.2(a) Strategy: Promote development of IWRM plans at regional, basin and national levels.

The application of IWRM at regional level (or transboundary basin) is more likely to be successful if national water policies have also adopted IWRM principles and implementing IWRM planning. Therefore important strategic activities in this respect are:

- (i) Facilitate the review and refocusing of national water policies and legislation to incorporate IWRM principles. Member States in the region are at varying levels in their sectoral development; some have relatively comprehensive water resources management policies and strategies, others are reforming their sectors and updating their policies. Therefore, a programme approach would have to be adopted in carrying out this activity.
- (ii) Promote and support the development of interlinked and harmonious IWRM plans at regional, basin and national levels
- (iii) Support existing river basin organisations to develop IWRM plans for their respective areas. A basin plan for a shared watercourse must anticipate future development possibilities and seek to meet the objective of advancing equitable, sustainable and reasonable utilisation of water resources in the basin.

8.3 Water Demand Management (WDM)

In all SADC countries, there are large inefficiencies of water conveyance and use. Inefficient water use is not only unsustainable under a situation of water scarcity, but also imposes significant costs on the economies of the region. Measures to improve water use efficiency are therefore clearly justified and make economic sense. The reorientation of water resource management from the supply-oriented approach to an emphasis on water demand management promises to be a viable approach. This will involve a wide range of interventions, including changing the behaviour of consumers, disseminating water efficient technologies, introducing efficiency-inducing pricing structures, reducing leakages in distribution networks and improving operating rules in supply systems.

Water demand management is not widely practiced in the SADC region due to a number of challenges that include:

- (i) Poor access to, and lack of awareness of appropriate **WDM information**; several water use sectors do not know how to effectively manage water demand as a conservation strategy.
- (ii) **Low cost** to consumers of supplied water; particularly the low cost of agricultural water (consumers do not pay economic prices for water).
- (iii) **Inadequate incentives** for improving water use efficiencies.

Strategic Objective

- ❖ To mainstream and promote use of WDM in all aspects of IWRM at the regional, basin and national levels.

Strategies

8.3(a) Strategy: Develop and promote the adoption and use of comprehensive WDM guidelines at regional, shared watercourse and national levels.

WDM guidelines have been developed with support of IUCN but they have not yet found wide-scale use in the region. This delay in the adoption and use of the WDM guidelines provides an opportunity to revise them and produce a more comprehensive set of agreed guidelines (targeting various sectors, particularly agriculture and domestic water supply), which would then be widely promoted and disseminated to all stakeholders in the region. This calls for a number of strategic activities, including:

- (i) development and incorporation of benchmarks for water use efficiencies for various sectors in the region;
- (ii) survey and incorporation of information on efficient water use technologies available from within and outside the SADC region; and
- (iii) development and incorporation of financial and economic indicators (e.g. price, subsidy, taxation) to encourage greater water use efficiency.

8.3(b) Strategy: Promote awareness about WDM at regional and national levels.

Awareness of WDM concept, issues and practices is essential for its successful introduction in water resources management in the SADC region. This awareness is essential at political leadership level so that it may enhance greater commitment to conservation of water resources and financial viability of the sector. Awareness is also vital at community level (end user) as it supports behaviour change for greater conservation of water resources, and financial responsibility. Stakeholders in between the political leadership and the community also need awareness raising because they have an important role to play in financial stewardship for the sector. Awareness raising will require design and implementation of appropriate communication programmes targeting various stakeholders.

8.4 Alternative Sources of Water

On a regional basis the average per capita annual renewable freshwater resources in SADC region are abundant. However, there is high seasonal and spatial variability in availability of water resources, and there is a mismatch between areas of demand and those of available water resources. This has led to localised deficits in water. Projections of population, water demand, and available water resources indicate that by 2025 six SADC countries will experience quality and quantity problems in the dry season, three countries will experience “water stress” and at least two countries (Malawi and South Africa) will experience “absolute scarcity”. There is, therefore, justification for investigating alternative sources of water such as rainwater harvesting, artificial recharge, desalination, reuse of water, recycling, and reclamation. The impact of the climate change phenomenon is likely to exacerbate the situation. By some research estimates (from University of Cape town) the rainfall in the region is expected to decline by at least 10% in the next 40-years.

The main challenges are:

- lack or limited awareness, accessibility, and inadequate utilisation of existing **information** on alternative sources
- lack or limited access and high cost of **applicable technologies**
- Inadequate research of appropriate technologies and lack of awareness of such technologies where available.

Strategic Objectives

- ❖ To identify and promote the use of alternative water resources where this is economically, socially and environmentally favourable and sustainable.

Strategies

8.4(a) Strategy: Improve and disseminate information regarding the most appropriate alternative sources of water in the region and facilitate their development.

Knowledge of alternative sources of water, as well as the related technologies, is not widely available in SADC. In areas of water scarcity communities have developed coping strategies and technologies for dealing with their water problems, but the awareness and knowledge about such strategies and applicable technologies are not widely known outside such local areas. To address these issues calls for the following strategic activities:-

- (i) Compilation of available information on alternative sources of water supply – rainwater harvesting, artificial recharge, recycling, reclamation, desalination, etc. – in the region as well as outside SADC. This would include specific recommendations on what is most appropriate under various situations in the region.
- (ii) Piloting the most promising approaches in specific localities and derivation of information on costs of such technology, appropriate implementation mechanisms, and requirements for operation and maintenance.
- (iii) Promote conjunctive ground and surface water use.
- (iv) Promote adoption of most appropriate (technically, financially, socially and environmentally) solutions.

8.4(b) Strategy: Increase support and focus on research, development and dissemination of new appropriate technologies with a view to promote adoption of such technologies in order to exploit alternative sources of water in a sustainable manner.

Some appropriate and affordable technologies for water management are available at global, regional and national levels. However, the research on, awareness, adoption and implementation of such technologies are either limited and/or fragmented. There is dire need to remedy the situation. Possible actions to give effect to the strategy include among others the following;

- i. Facilitation of exposure of regional and national water technicians to global developments in water development and management.
- ii. Strengthening interaction of water policy makers and experts with a focus on familiarization with technologies used in the region

- iii. Facilitation of the sourcing and allocation of human, financial and material resources to enable appreciation, adoption and implementation of **appropriate** technologies by the end users.

8.5 Dam Development and Management

Given the extreme variability (from season to season and from area to area even in a single country) in rainfall and hence available water resources in SADC, and the under-development of the region's water resources infrastructure, the region is not able to mitigate against droughts and floods. On one hand this has had negative impacts on food and energy security, and on the other hand, the region has not been able to cope with extreme events. The development of dams (large as well as small dams) is vital for SADC's water security to meet various socio-economic purposes. However, there is need to be fully cognisant of the environmental and social impacts of dam development and operation in the region.

The key challenges to development of dams in SADC include:-

- Despite effective WDM measures, more large dams, being critical to water security in the region, will inevitably be built in **shared watercourses** and there will be national and regional social, economic and environmental impacts. This requires integrated planning, development and management of such regional infrastructures.

Stakeholders at regional, basin, national and local levels who will be impacted by dam development need to be involved in decision-making; therefore modalities for effective stakeholder empowerment and participation need to be developed and implemented at all levels. This requires increased commitment of resources which are often limited (refer to 8.6 below for more details).

- Lack of effective and enforceable common regional methods for socio-economic and environmental **analysis** of dam development, management and performance monitoring.
- Poor maintenance and/or rehabilitation of existing small and medium sized dams due to among other things limited financial and material resources.

Strategic Objectives

- ❖ To promote integrated planning, development and management of dams to optimise the use of the water resources, maximise and equitably share derived benefits, and enhance environmental integrity.

Strategies

8.5(a) Strategy: Adopt and promote more integrated planning, socio-economic and environmental analysis of dam development management and performance monitoring.

All dams, whether large or small shall be designed and operated to maximise multi-purpose uses wherever these are technically and financially feasible and environmentally sustainable. Dam planning, design and management should

incorporate full analysis of socio-economic and environmental costs and benefits. This would require particular cooperation between Watercourse States for dams in their shared watercourses. The SADC Position on the World Commission on Dams (WCD) report which is being developed will provide more clarity on the development and management of dams in the region. Towards this end it will be necessary to:

- (i) Review and adopt more effective tools for socio-economic analysis at programme and project planning levels.
- (ii) Develop, adopt and promote guidelines for Strategic Environmental Analysis of dam development in the region
- (iii) Assist Shared Watercourse States in developing operating rules for joint operation of dams on shared watercourses so as to maximise and equitably share derived benefits among a broad number of stakeholders.
- (iv) Develop and apply consistent rules for dam design and safety monitoring, so as to protect the environment, communities, and to safeguard the usually high cost investments.
- (v) Develop and apply consistent rules for evaluating dam performance.

8.5(b) Strategy: Promote stakeholder empowerment and participation in dam planning, development and management

There is a wide range of stakeholders involved in water resources management. They include officials of governments of the watercourse states, representatives of river basin organisations, officials of national hydrological services, consultants, NGOs as well as the communities who will be directly affected. Effective and inclusive stakeholder participation is essential for sustainable water resources management. Strategic actions towards this end include:

- (i) Identification of all stakeholders and their specific interest in the proposed water activity.
- (ii) Establishment of mechanisms for stakeholder participation, defining how and when the various stakeholders will be involved in the decision-making process.
- (iii) Capacity building to ensure stakeholder knowledge of rights and risks and understanding of roles and responsibilities as well as skills for handling the expected responsibilities. This may include establishment of institutional frameworks through which to carry out the expected roles.
- (iv) Development and adoption of stakeholder participation guidelines.
- (v) Providing resources (time, funds, logistics and skilled personnel) for the participatory process.

8.6 Affected Communities

Stakeholder participation should have a special focus on those communities whose livelihood are materially and significantly affected either directly or indirectly. Women, children, the poor, the disabled and otherwise vulnerable groupings should receive greater and special attention as they stand to lose the most. The proposed stakeholder participation guidelines in Section 8.5 should pay particular attention to the communities directly affected.

There are several challenges that need to be overcome in dealing with the issue of affected communities. Some of these are listed below:

- Limited project financial resources often lead to relegation of the affected communities in the priority lists.
- Poor settlement patterns and complicated family structures which further compound the already difficult task of demarcating impact boundaries. Communities not directly affected by the developments may claim a right of access to the benefits of the development. There has been incidents in the region whereby there is an influx of settlements once an intention of developing an area has been pronounced. Older settlers may feel entitled to better compensation. There is also the difficulty of defining a family entity/unit to be compensated e.g. polygamous and extended families in some parts of SADC.
- Differences in the definition of the significance of the effect on communities.
- The difficulties arising from neglect of affected communities on developments which pre-exist the universal acceptance of the principle that communities should not be worse off as a result of the project. Compensation of the “victims” of new projects tends to inflame old grievances in projects already in operation.

Strategic Objectives

- ❖ To provide the guidelines for processes and legal and financial means for fair compensation of adversely affected communities and related socio-economic activities.

Strategies

8.6(a) Strategy: Develop and promote guidelines for relocation, rehabilitation, compensation and benefit sharing by genuinely affected communities.

Inequitable distribution of socio-economic benefits from water infrastructure projects, especially dam projects has frequently diminished the quality of life of dam-affected communities (including those upstream and downstream of the project area) through loss of livelihood and environmental goods and services, resulting in increased poverty, poorer health, and diminished cultural and social cohesion. On shared water courses dam-affected communities may include communities in neighbouring countries. Therefore, Member States need to exercise greater social responsibility and promote the development of the affected communities in their respective countries.

Possible actions to give effect to the strategy include the following among others:

- (i) Development and promotion of guidelines for compensation and cost and benefit sharing.
- (ii) Facilitating the setting up of structures for stakeholder participation in project development
- (iii) Empowering stakeholders to participate meaningfully in the planning of water infrastructure development through education

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
8. WATER RESOURCES DEVELOPMENT AND MANAGEMENT			
River Basin Approach <i>To promote and adopt a basin-wide approach for planning, development and management of water resources</i>	<i>8.1 (a) Strategy Facilitate the adoption of river basin approaches to planning, development and management of water resources based on IWRM principles.</i>	8.1.1. Policy: Member States will adopt a river basin or watercourse approach in the planning, development and management of water resources 9.2.2. Policy: A Watercourse Institution shall be established on each shared watercourse to advise and coordinate the sustainable development and equitable utilisation 9.2.5. Policy: Watercourse States are encouraged to jointly plan the development of water resources through the SWCI	WG 1: Implementation programme for SADC Protocol CB 4: Strengthening River Basin Organisations
	<i>8.1 (b) Strategy: Develop appropriate allocation and regulatory guidelines for the utilisation of water resources in the basin</i>	8.1.4. Policy: Water resources allocation will be based on equitable and reasonable use through negotiations between watercourse states. 8.1.5. Policy: Major water uses in the shared watercourses will be regulated through authorisations such as a system of permits	RWR 4: Support for Strategic and Integrated Water Resources Planning
Integrated Planning <i>To promote planning, development and management of water resources in SADC based on the principles of IWRM</i>	<i>8.2 (a) Strategy: Promote development of IWRM plans at regional, basin and national levels.</i>	8.2.1. Policy: Planning, development and management of water resources based on the principles of IWRM and cross-cutting nature 8.2.2. Policy: Joint planning and implementation of water resources developments within shared watercourse	RWR 4: Support for Strategic and Integrated Water Resources Planning
Water Demand Management <i>To mainstream and promote use of WDM in all aspects of IWRM at the regional, basin and national levels</i>	<i>8.3 (a) Strategy: Develop and promote the adoption and use of comprehensive WDM guidelines at regional, shared watercourse and national levels</i>	8.3.1. Policy: Utilise existing capacities more efficiently as part of the process of augmenting water supply. 8.3.2. Policy: WDM will be pursued by Member States as a fundamental requirement for integrated planning and management of water resources	RWR 4: Support for Strategic and Integrated Water Resources Planning??
	<i>8.3 (b) Strategy: Promote awareness about WDM at regional and national levels.</i>	8.3.2. Policy: WDM will be pursued by Member States as a fundamental requirement for integrated planning and management of water resources	CB 1: Skills training for water policymakers, managers and technicians??

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
<p>Alternative Sources of Water To identify and promote the use of alternative water resources where this is economically, socially and environmentally optimal</p>	<p>8.4 (a) Strategy: <i>Improve and disseminate information regarding the most appropriate alternative sources of water in the region and facilitate their development.</i></p>	<p>8.4.1. Policy: <i>Promote alternative sources of water such as rainwater harvesting, desalination, reuse of water, recycling, reclamation.</i></p>	<p>RWR 3: Groundwater Management Programme in SADC??</p>
<p>Dam Development and Management To promote integrated planning, development and management of dams to optimise the use of the water resources, maximise derived benefits, and enhance environmental integrity upstream and downstream</p>	<p>8.5 (a) Strategy: <i>Adopt and promote more integrated planning, socio-economic and environmental analysis of dam development management and performance monitoring.</i></p>	<p>8.5.1. Policy: <i>Integrated planning, development and management of dams will be promoted to optimise the use of the water resources, maximise derived benefits and take both positive and negative externalities into account for both upstream and downstream countries.</i> 8.5.3. Policy: <i>Watercourse States will negotiate on operating rules for dams on shared watercourses so as to optimise the socio-economic and environmental benefits in an equitable manner.</i></p>	<p>INF 1: Regional Strategic Water Infrastructure Programme RWR 4: Support for Strategic and Integrated Water Resources Planning??</p>
	<p>8.5 (b) Strategy: <i>Promote stakeholder empowerment and participation in dam planning, development and management</i></p>	<p>8.5.2. Policy: <i>Encourage the participation of all stakeholders in decision-making process for dam development and adequate empowerment of vulnerable groups</i> 8.6.1. Policy: <i>Watercourse states shall promote the development of and implementation of water infrastructure project through a participatory process especially of affected communities.</i></p>	<p>WG 2: Promotion of Public Participation in Water Resources Development and Management</p>
<p>Affected Communities To provide framework for fair compensation of adversely affected communities</p>	<p>8.6 (a) Strategy: <i>Develop and promote guidelines for relocation, rehabilitation, compensation and benefit sharing by genuinely affected communities.</i></p>	<p>8.6.2. Policy: <i>Legislation to provide for equitable compensation of affected communities, so that they will not be worse off as a result of the project</i></p>	

CHAPTER 9

REGIONAL WATER RESOURCES INSTITUTIONAL FRAMEWORK

Chapter Nine describes the strategies for establishing and strengthening institutional frameworks for water resources management in the region. The chapter describes the strategies for the strengthening and support to the SADC Secretariat structures responsible for the water (particularly the Water Division under the Directorate of Infrastructure and Services); improving water governance; and for the establishment and strengthening of shared watercourse institutions to manage water resources in transboundary river basins. The appropriate strategies for supporting the creation of an enabling institutional environment at national level for the management of shared watercourses, decentralised decision-making and stakeholder participation are described. The chapter also describes strategies for strengthening regional water sector monitoring and evaluation system in the SADC region.

9.1 SADC Secretariat

The SADC Secretariat has a key responsibility in promoting and coordinating the implementation of the RWP and Strategy, including monitoring the implementation of the Protocol on Shared Watercourses, supporting harmonisation of national water policy and legislation, and leveraging resources for implementation of the regional water programme (and projects). Furthermore the SADC Secretariat is responsible for supporting the establishment of shared watercourse institutions and assessing their compliance with the Protocol. As such, it has a critical role in the regional institutional framework which must be strengthened and supported by the Members States to which it is accountable to.

While the SADC water sector has historically been an active and effective institution at a regional level, capacity constraints, unclear institutional responsibilities and organisational limitations pose a challenge for the water sector within a restructured SADC Secretariat. Particular challenges include:

- The new governance arrangements within SADC without formal, nor clear **direct interaction** of the SADC Secretariat Water Division with the designated authorities (water ministers and departments of Member States).
- **Limited capacity (human and financial resources)** within the SADC Secretariat (Water Division) for the significant tasks required for implementation of this strategy through the Regional Strategic Action Plan (RSAP).
- **Mismatch between strategic priorities** of the SADC water sector and available resources (particularly finances provided by cooperating partners) contributes to supply-driven funding that is extremely difficult to coordinate strategically.

- **Lack of institutional understanding** on roles, responsibilities, relationships and procedures within SADC Secretariat, with Member States Departments of Water, and shared watercourse institutions.

Strategic Objective

- ❖ To establish a strong water secretariat with adequate human and financial resources to effectively coordinate, monitor and facilitate water resources development and management in the SADC region.

Strategies

9.1(a) Strategy: Strengthen the Water Division in the SADC Secretariat and build adequate institutional capacity to fulfil its functions.

It is critical to foster institutional and organisational certainty within the SADC Secretariat. The Water Division must be firmly established, within SADC, with adequate capacity to fulfil its responsibilities. In this context, institutional capacity must be seen broadly to include clear mandate, enabling policy and legal environment, planning and managerial skills, organisational (procedural), functional, financial resources, human and infrastructural resources, networks and associations, and stakeholder support. Institutional strengthening activities shall include:-

- Providing adequate technical and managerial support to the SADC Secretariat Water Division to implement the RSAP.
- Strengthening the SADC institutional arrangements for the water sector.

9.1(b) Strategy: Promote governance arrangements that facilitate close cooperation between the SADC Secretariat (Water Division) and Member States' Water Ministers and Departments.

The multi-sector nature of governance arrangements within SADC (through the Integrated Council of Ministers) provides an effective integrating mechanism. However, an effective integrating mechanism to support the highly specialised technical nature of the water sector is advocated, particularly given the fairly ambitious water programme (through the RSAP). A more direct governance (or at least advisory) relationship needs to be developed between the SADC Secretariat "Water Division" and Member States' Water Ministers and/or Departments, possibly including the Council of Ministers and/or WRTC.

In an effort to achieve the dual objectives of cooperation between national departments of water affairs and strengthen the capacity of the SADC Water Division, consideration should be given to setting up a formalised programme of secondments from national departments to the SADC Secretariat.

9.1(c) Strategy: Develop a comprehensive programme (with appropriate management arrangements) for implementation of the RWS, linked to priorities and resources.

The RWS needs to be implemented through a series of short-term (e. g. 5-year) water sector programmes with associated projects. The Regional Strategic Action Plan in its current and future forms (RSAP₂, etc) provides the appropriate mechanism linked to

the SADC multi-sector Regional Indicative Strategic Development Plan (RISDP). This requires the following:

- i. Recognition of the RSAP as the SADC water programme for implementation of Regional Water Policy and Strategy, inclusive of all relevant SADC led initiatives and its realignment with RWP and Strategy.
- ii. Clarify and possibly institutionalise the involvement of civil society in the formulation and/or implementation of the RSAP.
- iii. Develop a comprehensive strategy for financing the RSAP through cooperating partners and Member States. (also refer to Chapter 11).

9.2 Shared Watercourse Institutions

The establishment of shared watercourse institutions by formal agreement between Watercourse States is fundamental to the Protocol and RWP. These institutions provide an important mechanism to promote regional cooperation and integrated water resources management within shared watercourses, while in some cases they enable the joint development and operation of shared water resources infrastructure.

Despite the experience with managing shared watercourses in SADC, coherent, effective and efficient establishment and strengthening of shared watercourse institutions in all shared watercourses is hampered by the following:

- **Uneven institutional development** and priorities in different Member States.
- **Limited institutional stability and capacity** within the SADC, due to limited human and financial resources at the national level.
- **Inadequate stakeholder involvement** in water related institutions at a national and regional level.
- **Lack of institutional clarity** on roles, responsibilities, relationships and organisation from the perspective of evolving shared watercourse institutions.
- Complexities associated with institutional arrangements on **river basins shared with non-SADC countries (e.g. the Congo and Nile basins)**.

Strategic Objective

- ❖ To establish and strengthen effective and sustainable shared watercourse institutions in accordance with the Protocol on Shared Watercourses.

Strategies

9.2(a) Strategy: Promote and support the accelerated establishment and institutional strengthening of shared watercourse institutions for basin management.

While there is considerable experience between SADC Member States on the institutional management of shared watercourses, the establishment of formal structures under the Protocol is relatively new. This requires the following areas of specific focus and support:

- i. Capacity building of established shared watercourse institutions, focusing on institutional, governance and management requirements.

- ii. Guidelines on financial viability and organisational sustainability, reflecting the phased evolution of shared watercourse institutions.
- iii. Clarify the role of SADC Secretariat (Water Division) in the strengthening and functioning of shared watercourse institutions.
- iv. Create and support a network for shared watercourse institutions, to enable cooperation and information sharing.
- v. Accelerate the assumption of legal persona / corporate identity by shared watercourse institutions, based on guidelines on options for the formal registration of these institutions and their possible secretariats.
- vi. Actively promote the twinning of shared watercourse institutions both within the region, the Continent and with other institutions in the developing and the developed world.

9.2(b) Strategy: Promote effective stakeholder participation in decision-making by shared watercourse institutions and institutionalise cooperation with civil society.

More details on these strategies are provided in Section 10.1 which addresses *Stakeholder Participation and Capacity Building*.

The level, nature and timeframe of participation will vary between shared watercourse institutions, depending upon the local circumstances and the institutions functional responsibilities. Guidelines and facilitated processes need to be developed to assist Member States and shared watercourse institutions in planning, enabling and supporting appropriate stakeholder participation and cooperation with civil society at regional and national levels, possibly through local water management institutions.

9.3 Institutional Arrangements at National Levels

Member States have a responsibility to ensure that the institutional arrangements at a national level support the management of shared watercourses, including the policy and legislation, water resources strategies, water sector administration and finance, and stakeholder participation.

Most Member States are undergoing some level of institutional transition due to processes of policy and legislative review and/or water sector reform. While this provides an important opportunity for shared watercourse management, it also highlights a key challenge, due to the following:-

- **Inadequate harmonisation of policy and legislation**, particularly in its implementation.
- **Institutional uncertainty** in the future arrangements at a national level during the change process, including the appropriate level of decentralisation given limited institutional capacity and stakeholder participation.
- **Limited institutional capacity** for the traditional water management expertise, but particularly for the new skills required by the changing role of water institutions.
- **Inadequate stakeholder involvement** in local decision making.

Strategic Objective

- ❖ To create an enabling institutional environment at a national level, for the management of shared watercourses, decentralised decision-making and stakeholder participation to support integrated water resources management.

Strategies

9.3(a) Strategy: Facilitate and support the creation of an enabling environment for integrated planning and management of shared water resources in SADC

More detail on these strategies is provided in Chapter 3 of this Strategy which addresses *Regional Cooperation in Water Resources Management* (Section 3.4).

Specific attention in this process of harmonisation must be given to the institutional arrangements required to support shared watercourse management (and institutions), as well as the appropriate decentralisation of decision-making to catchment level and participation of local communities. This should also include support to the implementation of these policies and legislation, particularly where this is through institutional decentralisation. Where appropriate these processes need to consider the existence of customary approaches and governance arrangements to managing natural resources at a community level.

9.3(b) Strategy: Promote and institutionalise effective stakeholder participation in decision making by national and catchment level water institutions, focusing on the role of civil society in representing community perspectives.

More detail on these strategies is provided in Chapter 10 of this Strategy which addresses *Stakeholder Participation and Capacity Building*.

IWRM is broadly recognised by Member States as the approach to managing water resources, which is built on the principles of decentralisation and local decision making.

9.4 Institutional Framework for Monitoring and Evaluation

A coherent water sector monitoring and evaluation system that addresses policy objectives (in terms of impacts) and strategy implementation (at a programmatic level) is necessary for the successful implementation of the Regional Water Policy and Strategy. It should consider these at a regional, shared watercourse and national level, and should capture the monitoring requirements related to the Millennium Development Goals (MDGs) and the Johannesburg Plan of Implementation Targets from the World Summit on Sustainable Development (WSSD).

The central challenge to developing such a system is the difficulty of developing **consistent indicators** that can be supplied with **comparable information** from shared watercourse and national level, given the limitations of monitoring and evaluation systems and **inadequate data collection** at these levels.

Strategic Objective

- ❖ To develop an effective and efficient institutional framework for monitoring and evaluating the regional water sector.

Strategies

9.4(a) Strategy: Develop and implement a Monitoring and Evaluation System of the regional water sector programme.

A water sector monitoring and evaluation system must focus on a number of levels, from the policy impacts, through the strategy objectives, the programme execution and project implementation. It must be able to “roll-up-and-down” information through these levels, thereby relating specific projects through the strategic focus to the policy intent.

On the other hand, it should capture information at a regional, shared watercourse and national levels, once again, being able to roll information up to monitor and evaluate status and progress at a regional scale, particularly in terms of MDGs, WSSD targets and SADC RISDP objectives. There is a need to develop consistent, measurable and comparable indicators as the basis for reporting the situation across the region.

The monitoring and evaluation system should link with other systems, including the SADC systems related to the RISDP, as well as Continental initiatives under AMCOW and NEPAD.

Chapter 13 in Part 3 of this strategy addresses the monitoring and evaluation requirements for the RWS (and policy), making the relevant linkages to the RSAP as the regional water sector implementation programme (and specifically to the proposed RSAP monitoring and evaluation system). It is recognized that the RWS is a broad statement of intent. Its implementation will be through more detailed strategic action plans such as the RSAPs. Therefore detailed monitoring and evaluation of the RWP and RWS will be detailed at that level.

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
9. REGIONAL WATER RESOURCES INSTITUTIONAL FRAMEWORK			
SADC Secretariat <i>To stabilise and strengthen the SADC Secretariat (Water Division) to enable it to play the required institutional coordinating, facilitating and integrating role</i>	<i>9.1(a) Strategy: Strengthen the Water Division in the SADC Secretariat and build adequate institutional capacity to fulfil its functions</i>	9.1.1. Policy: <i>The SADC Secretariat is responsible for promoting and coordinating the implementation of the Regional Water Policy and Strategy and Protocols for the water sector in cooperation with other sectors such as health, energy, agriculture, tourism and environment.</i>	CB 3: Capacity Building Support to the SADC Water Division
	<i>9.1(b) Strategy: Promote governance arrangements that facilitate close cooperation between the SADC Secretariat and Member States' Water Ministers and Departments</i>	9.1.3. Policy: <i>SADC Secretariat is accountable to the Member States through the Council of Ministers and shall ensure direct coordination with National Water Departments</i> 9.1.2. Policy: <i>The SADC Secretariat is responsible for supporting SWCI and assessing their compliance with and implementation of the Revised Protocol</i> 9.2.7. Policy: <i>All SWCI must enable the SADC Secretariat to fulfil its coordination and guidance responsibilities</i>	WG 1: Implementation Programme for SADC Protocol on Shared Water Courses
	<i>9.1(c) Strategy: Develop a comprehensive programme for implementation of the regional water strategy, linked to priorities and resources</i>	9.1.1. Policy: <i>The SADC Secretariat is responsible for promoting and coordinating the implementation of the Regional Water Policy and Strategy</i>	WG 3: Promotion of Implementation of Regional Water Policy and Strategy
Shared Watercourse Institutions <i>To establish and strengthen effective and credible shared watercourse institutions in terms of the Protocol on Shared Watercourses</i>	<i>9.2(a) Strategy: Promote and support the accelerated establishment and institutional strengthening of shared watercourse institutions for basin management</i>	9.2.1. Policy: <i>Appropriate Shared Watercourse Institutions shall be negotiated by agreement between the Watercourse States</i> 9.2.2. Policy: <i>A Watercourse Institution shall be established on each shared watercourse</i> 9.2.3. Policy: <i>The development of SWCI may</i>	WG 1: Implementation Programme for SADC Protocol on Shared Water Courses

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
		<p><i>be phased</i></p> <p>9.2.4. Policy: <i>SWCI must efficiently and effectively fulfil the institution's responsibilities considering sustainability</i></p> <p>9.2.6. Policy: <i>Policy and strategy level decision making within SWCI should be through consensus</i></p>	
	<p><i>9.2(b) Strategy: Promote effective stakeholder participation in decision making by shared watercourse institutions and institutionalise cooperation with civil society</i></p>	<p>9.2.8. Policy: <i>Stakeholder participation in decision making shall be promoted by Member States and/or SWCI.</i></p> <p>9.2.9. Policy: <i>In the interests of IWRM, SWCI are encouraged to foster cooperative relationships with non-governmental and civil society grouping within the shared watercourse</i></p>	<p>WG 2: Promotion of Public Participation in Water Resources Development and Management</p>
<p>Institutional Arrangements at National Levels</p> <p><i>To create an enabling institutional environment at a national level, for the management of shared watercourses, decentralised decision-making and stakeholder participation to support integrated water resources management</i></p>	<p><i>9.3(a) Strategy: : Facilitate and support the creation of an enabling environment for integrated planning and management of shared water resources in SADC</i></p>	<p>3.4.1. Policy: <i>Member States shall promote the harmonisation of their water policies and legislation with the regional water policy.</i></p>	<p>WG 3: Promotion of Implementation of Regional Water Policy and Strategy</p>
	<p><i>9.3(b) Strategy: Promote and institutionalise effective stakeholder participation in decision making by national and catchment level water institutions, focusing in the role of civil society in representing community perspectives</i></p>	<p>9.3.2. Policy: <i>Member States are encouraged to decentralise the management of water. . , while maintaining appropriate institutional arrangements for the management of shared watercourses</i></p> <p>9.3.3. Policy: <i>Member States shall develop and implement appropriate institutional arrangements to enhance the participation of NGOs and civil society organisations.</i></p>	<p>WG 2: Promotion of Public Participation in Water Resources Development and Management</p>
<p>Monitoring and Evaluation</p> <p><i>To develop a SADC regional water sector monitoring and evaluation system</i></p>	<p><i>9.4(a) Strategy: Develop and implement a Monitoring and Evaluation System of the regional water sector programme.</i></p>	<p>9.1.4. Policy: <i>The SADC Water Sector's achievement of its development goals, objectives, strategies, programmes and institutional performance shall be assessed through a coherent monitoring and evaluation</i></p>	<p>WG 3: Promotion of Implementation of Regional Water Policy and Strategy</p>

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
		<i>system</i>	

CHAPTER 10

STAKEHOLDER PARTICIPATION AND CAPACITY DEVELOPMENT

Chapter Ten describes the strategies to engender stakeholder participation in integrated water resource management, and to promote the development of capacity to enable such participation and to support the management of the water resources. Strategies for gender mainstreaming particularly to promote the effective engagement of women in IWRM are described, coupled with the approach to build capacity and expertise in IWRM through education and training, and effective networking and collaborative partnerships in WRM. The chapter also describes strategies to facilitate research that is appropriately focussed and to ensure that knowledge and information is transferred widely.

10.1 Participation and Capacity Development

The participation of stakeholders in decision-making processes is a fundamental principle of IWRM, as captured by, *inter alia*, the Dublin Principles. It is through the engagement of stakeholders that issues of local and regional significance are highlighted, that ownership of the process is transferred to the people that the process is affecting and that a consensual, people-oriented approach is pursued. Stakeholder participation should, therefore, be encouraged at all levels within regional and national water resources development and management processes and activities, and stakeholders should be capacitated and empowered to be meaningfully engaged in the processes and activities.

The challenges below exist in the region;

- Limited history of stakeholder participation giving rise to suspicion and lack of understanding of the value or incentives for participation
- Limited understanding of the IWRM principles and their relevance to stakeholder needs
- Lack of **awareness** and **common understanding** of the need for, and the nature of stakeholder participation in IWRM
- Lack or inadequate structures for effective stakeholder organization
- Lack of capacity by some stakeholders to participate with understanding particularly of technical information

Strategic Objective

- ❖ To promote effective mechanisms for stakeholder participation, capacitating and empowerment.

Strategies

10.1(a) Strategy: Develop and promote mechanisms to encourage stakeholder participation

Stakeholder participation and the involvement of stakeholders in the decision-making process is a cornerstone of IWRM. A range of mechanisms exists to encourage such participation, including:

- i) Awareness amongst all stakeholders, including the private sector, local governments, NGOs and other civil society organisations and society-at-large
- ii) Dialogue and debate amongst stakeholders and a raised profile of IWRM in local affairs
- iii) Appropriate forums and an enabling environment for dialogue and debate
- iv) Incentives for stakeholder engagement and participation in the process and activities of water resource management and development

10.1(b) Strategy: Identify and promote best practices for effective participation in the region and support/facilitate the dissemination of this information (guidelines) to the appropriate institutions in an appropriate manner

Stakeholder participation is an elastic concept, and the process and methodology requires a careful understanding of the local social, cultural, economic and political dynamics, and incorporates the sensitivities and focuses inherently on those dynamics. Accordingly, the best mechanisms for stakeholder participation are often locally grown and significant capacity exists within the indigenous knowledge base to foster stakeholder engagement and participation. Some of the relevant actions are;

- i) To support regional harmonisation of instruments and mechanisms for stakeholder participation, while allowing for local variation in approach and methodology
- ii) To promote, support and/or facilitate the exchange of experiences in mobilising effective stakeholder participation

10.1(c) Strategy: Promote mechanisms for the development of appropriate levels and channels of information and the wide dissemination of that information

Information is empowerment. The collection and compilation of appropriate levels of information and the wide dissemination thereof is a natural precursor to the engagement of individuals and groups with the dominant debates and issues in IWRM. Information is a pre-requisite for effective and efficient stakeholder engagement and participation. This, however, requires a number of mechanisms and measures, including:

- i) Collection of the correct information and that the information is processed and presented at an appropriate level of detail
- ii) Mechanisms of information dissemination that bring the right level of detail to all stakeholders and constituencies,
- iii) Empowerment of all stakeholders through the transfer of information
- iv) Regular, frequent and wide dissemination of information
- v) Impartial information compilation and dissemination, and that information is not used to promote a particular agenda

10.1(d) Strategy: Develop and promote mechanisms to effectively involve the youth, women and the poor in IWRM decision-making, and to empower them to participate in IWRM dialogue and debate

Engaging the youth, women, poor and other vulnerable groupings in the process of IWRM and decision-making is a fundamental principle of the integrated, participatory, representative and people-orientated approach to water resources management, as highlighted in the Dublin Principles, *inter alia*. The inclusion of women in the process forms a separate component elsewhere in this chapter (**Section 10.2**). However, the involvement of the youth and the poor is an equally important component of achieving the goals of IWRM and requires some specific activities, including the following:

- i) Specifically target the marginalised groups in awareness and education campaigns, and information dissemination.
- ii) Specific forums for dialogue and debate amongst the youth about issues of IWRM
- iii) Inclusion of issues relevant and/ or specific to the young and women in the dialogue surrounding the decision-making in IWRM
- iv) Youth-centred and pro-poor incentives for engagement and participation in IWRM and decision-making
- v) Where appropriate consider setting quotas for marginalised groups

10.1(e) Strategy: Evaluate and monitor stakeholder participation in IWRM

Assessing the success of adopted or advocated approaches and mechanisms to stakeholder engagement is an integral component of the process by which the approaches and methodologies are adapted to achieve the aims of inclusive, effective and efficient stakeholder participation. Such benchmarking requires an evaluation and monitoring strategy that periodically reviews the successes and failures, appropriateness, and impacts of the adopted mechanisms. Monitoring and evaluation systems are treated elsewhere in this document (**Sections 9.4 and Chapter 13**), and the reader is referred to the relevant sections for further details.

10.2 Gender Mainstreaming

The world over women play a pivotal role as providers and users of water, and as guardians of the living environment. Within the SADC region, this role is particularly pronounced. However, this role has seldom been reflected in the institutional arrangements for water resource development and management, with women playing a peripheral part in the decision-making processes. Creating equality between women and men through the mainstreaming of gender is accorded priority status through the SADC Declaration on Gender and is captured in the RISDP and the SADC Regional Water Policy.

While gender mainstreaming is a cross-cutting issue focusing on the roles of both women and men in IWRM, there is also a need to focus on the empowerment of women to participate at the professional and managerial level in the water sector, as well as to ensure the involvement of women in local community decision-making

bodies and processes. This focus is particularly important in the SADC context where women are not well represented in the water sector.

WRM in SADC has taken little cognisance of the role that women play in water resource development, utilisation and management, and has made little effort to involve women in the decision-making processes. The challenges that exist in gender mainstreaming are highlighted by:

- Limited understanding and integration of **gender sensitivity** in IWRM
- Lack of recognition and appreciation of the **role of women** in IWRM
- **Inadequate capacity** by women to engage in IWRM
- **Lack of opportunities** for women and other disadvantaged groups to participate in IWRM at different levels. For instance lack of child care facilities can deny women with small babies from participating in stakeholder fora.
- Inadequate capacity and/or reluctance by some service providers to engage women and other disadvantaged groups in IWRM processes

Strategic Objective

- ❖ To promote effective engagement of women in IWRM

Strategies

10.2(a) Strategy: Promote and facilitate the involvement of women in decision-making in water resource development and management

A very significant body of knowledge and understanding exists within the women of SADC, in terms of the social, cultural, environmental, economic and political issues and approaches in water resource management, development and utilisation. Yet the involvement of women in WRM decision-making and in the process of IWRM is seldom representative or proportional to the role that women play within this environment and, accordingly, the process does not capture the full potential of the existing human and institutional capital for IWRM. Specific measures to facilitate and enhance the participation of women in water resources management include:

- i) Specifically target women and girls in awareness and education campaigns, including supporting their education in science and social subjects so they may become female water sector professionals
- ii) Mechanisms specifically targeted at women to encourage, promote and facilitate their engagement and participation in IWRM e.g. affirmative action or other quota system
- iii) Specific forums for dialogue and debate about issues of gender in IWRM
- iv) Mechanisms and programmes that overcome cultural and social barriers that perpetuate gender inequalities
- v) Assist shared watercourse institutions and national water institutions to develop gender mainstreaming programmes

10.2(b) Strategy: Monitor and evaluate gender participation in WRM

Assessing the success of adopted or advocated approaches and mechanisms to the engagement of women in the stakeholder process is an integral component of the development and adaptation of approaches and methodologies to achieve the aims of

inclusive, effective and efficient participation of women in IWRM. Monitoring systems should be designed to capture or factor in women's involvement in IWRM.

10.3 Capacity Building and Training

IWRM is by definition, the integration of the natural (land, water and other natural resources) and the social environment (social, cultural, economic and political) for the development, management and utilisation of water resources. Achieving such integration requires an inter-sectoral and multidisciplinary approach, with innovative thinking and action across, *inter alia*, science, technology, finance and economics, and politics. This implies the need for strong institutions with significant human, technical, institutional and financial resources.

The region suffers from absolute shortages and/or imbalanced distribution of material resources, technology and infrastructure, and financial and human resources. This shortage or imbalance manifests itself through, or is exacerbated by:

- Limited **formal training** and **education** in interdisciplinarity and the principles of IWRM, leading to a lack of experience and expertise in IWRM
- Language, and other social and cultural **barriers** to access training
- Insufficient **incentives** to **build, foster, support** and **retain** skilled and qualified individuals, leading to a drain of expertise and capacity from the region
- Limited knowledge of available opportunities and awareness of **career options** in the sector among the youth and educators
- Limited **institutional history** and **knowledge** in IWRM
- Ineffective **networking** and **communication** mechanisms
- Limited or ineffective capture of **partnership potential** and a lack of awareness of **opportunities** for collaboration and cooperation

Strategic Objectives

- ❖ To build capacity and expertise in IWRM through education and training, and effective networking and collaborative partnerships in WRM

Strategies

10.3(a) Strategy: promote education opportunities and training programmes to develop and foster knowledge and skills

Education and training lie at the heart of developing and strengthening the intellectual and human resources required for IWRM. Education, focussing on the youth, develops the knowledge base required for interdisciplinarity and the integration of the natural and social environment. Training, often focussing on the skilled, semi-skilled or professionals, develops and strengthens experience, technical and institutional knowledge specific to the development, management and utilisation of water resources. Both education and training can be further disaggregated into:

- i) Introduction of interdisciplinarity at primary education level
- ii) Engaging the details of interdisciplinarity and, amongst other, IWRM at a secondary education level

- iii) Detailed education on interdisciplinarity at a tertiary education level, with specific opportunities to learn about IWRM and gather knowledge skills relevant to IWRM
- iv) Training opportunities within and outside IWRM institutions to strengthen technical skills, expertise and experience of staff, interested and affected individuals
- v) Researching, compiling and promotion of indigenous knowledge on IWRM

10.3(b) Strategy: promote the retention of skills within the region, and/ or attract skills to the region

The drain of skills, knowledge and/ or human potential from the region undermines the ability of institutions to achieve the objectives of IWRM and to retain the institutional knowledge in IWRM. A further drain on skills, knowledge and human potential from the region is the HIV/AIDS pandemic: personnel and institutions in the water sector have not been spared the ravaging effects of HIV/AIDS. The retention of those skills, and the further attraction of new or other skills into the region and institution, would strengthen the ability to achieve IWRM. Mechanism to retain or attract such skills can take a number of forms:

- i) Financial, institutional and social incentives to reward knowledge and experience on a level at par with the international arena
- ii) Address the challenges of HIV/AIDS and adopt measures to combat the pandemic in collaboration and cooperation with the health sector and other sectors.
- iii) Strengthening institutional memory through documentation (e.g. databases), particularly to counter the loss of skills as a result of the effects of HIV/Aids

10.3(c) Strategy: promote or create mechanisms to enable effective networking, collaboration and cooperation, to enable the capture of partnership potential

The strategies in 10.3 (a) and (b) above have focussed largely on individual capacity, and the mechanisms to access, strengthen and retain that capacity. A further form of capacity exists – institutional capacity – that enables the effective networking, communication, cooperation and collaboration between institutions, thereby capturing the potential contained with partnerships in water resource development, management and utilisation. Such institutional capacity can be furthered through:

- i) Provision of material resource, technology and infrastructure, human and financial resources to enable those institutions to effectively execute their roles and responsibilities, including partnership arrangements.
- ii) Promoting functional networking frameworks for various IWRM activities (e.g. GWP-SA model, WaterNet model, and NAWISA), including provisions of information on collaboration opportunities in the region
- iii) Guidelines for effective partnerships, highlighting the definitions of roles and responsibilities within partnership arrangements
- iv) Financing resources for partnership arrangements

- v) Facilitate exchange between officials of Member States, Shared Watercourse Institutions and possibly the SADC Secretariat to build capacity and develop a common understanding

10.4 Research, Technology Development and Transfer

Research identifies the problems of today and tomorrow, and develops the solutions to those problems. Moreover, research and technology development is an important process through which local capacity and knowledge is strengthened and serves as an incentive through which that capacity is retained or attracted. Sharing of water related technology and information is a vital step towards regional integration and cooperation, both in terms of building regional capacity and in developing common understanding, synergy and trust between Member States and institutions.

However, research and technology development is generally fragmented and mainly geared towards addressing national issues and there is need for these activities to address the specific challenges facing the SADC Water Sector regionally. Challenges in addressing this *status quo* are:

- Lack of **coordinated** research that extends the scope beyond national boundaries
- Lack of sufficiently **focussed** research that is needs driven, focuses on local solutions and appropriate technology, and follows a coherent and coordinated direction
- Lack of **agreements** to share information and technology between countries and institutions within the region
- Limited research and technical capacity within the water sector in the region
- Weak **institutional capacities** and **arrangements** to coordinate water sector research and to ensure transfer of knowledge and information at an appropriate level of detail
- Different languages among and within Member States

Strategic Objective

- ❖ To ensure that research in water resources management is appropriately focussed and that knowledge and information is transferred widely

Strategies

10.4(a) Strategy: Ensure research and technology development is focussed at an appropriate level

Research and technology development in the SADC region is generally poorly coordinated and often times of an academic interest. Little research that addresses the specific challenges facing the SADC Water Sector regionally is undertaken. In order to promote IWRM, especially in a region with numerous shared river basins, the appropriate focus of research is required. Such focus can be further described as:

- i) Strengthening institutional and financing mechanisms to ensure that research has an integrated, cooperative regional focus on the water resource issues facing SADC

- ii) Improve communication and collaboration between academic, research and scientific institutions
- iii) Promoting demand-driven research on IWRM at policy and decision-making level

10.4(b) Strategy: Ensure that research, knowledge and information is transferred and disseminated widely within the region

The transfer of knowledge and information ensures cooperative and collaborative research with appropriate focuses on specific, key research areas. Moreover, such transfer ensures that parallel research programmes and processes are complimentary, rather than incoherent, unrelated, or repetitive. Ensuring transfer of knowledge and dissemination of information can be achieved through, *inter alia*:

- i) Development of protocols for information and technology sharing
- ii) Support the establishment and consolidation of Regional Centres of IWRM Excellence

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
10. STAKEHOLDER PARTICIPATION AND CAPACITY DEVELOPMENT			
Participation and Capacity Development <i>To promote effective mechanisms for stakeholder participation, capacitating and empowerment</i>	<i>10.1 (a) Strategy: Develop mechanisms to encourage stakeholder participation</i>	10.1.1. Policy: <i>Water resources development and management at all levels shall be based on a participatory approach, with effective involvement of all stakeholders</i> 10.1.2. Policy: <i>All stakeholders shall be empowered to effectively participate in the development and management of water resources at international, regional, river basin, national and community levels</i> 10.1.3 Policy: <i>Member States and SWCI shall recognize the positive role played by NGOs in water resources management particularly at community level, and shall facilitate their participation at all levels in water development and management activities.</i>	WG 2: Promotion of Public Participation in Water Resources Development and Management
	<i>10.1 (b) Strategy: Identify and promote best practices for effective participation in the region and support/facilitate the dissemination of this information (guidelines) to the appropriate institutions in an appropriate manner</i>		
	<i>10.1 (c) Strategy: Promote mechanisms for the development of appropriate levels and channels of information and the wide dissemination of that information</i>		
	<i>10.1 (d) Strategy: Develop and promote mechanisms to effectively involve the youth, women and the poor in IWRM decision-making, and to empower them to participate in IWRM dialogue and debate</i>		
	<i>10.1 (e) Strategy: Evaluate and monitor stakeholder participation in WRM</i>		
Gender Mainstreaming <i>To promote effective engagement of women in water resources management</i>	10.2a Strategy: Promote and facilitate the involvement of women in decision-making in water resource development and management	10.2.1. Policy: <i>Women are recognised as playing a central role in . . . water and shall be fully involved in . . . policies, processes and activities at all levels.</i> 10.2.2. Policy: <i>All SADC water institutions shall implement the principles, goals and objectives of gender mainstreaming in their administration and implementation</i>	CB 1: Skills Training for Policymakers, Managers and Practitioners?? CB 3: Capacity Building to the SADC Water Division?? CB 4: Strengthening River Basin Organisations??
	<i>10.2b Strategy: Monitor and evaluate gender participation in WRM</i>		
Capacity Building and Training	<i>10.3 (a) Strategy: promote education opportunities</i>	10.3.1. Policy: <i>All water institutions in the</i>	CB 1: Skills Training for

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
<p><i>To build capacity and expertise in IWRM through education and training, and effective networking and collaborative partnerships in WRM</i></p>	<p><i>and training programmes to develop and foster knowledge and skills</i></p>	<p><i>region shall make all efforts to collaborate in developing and sharing capacity to carry out their mandate efficiently and effectively</i> 10.3.2. Policy: <i>IWRM and regional integration shall be promoted in water sector education and training with special emphasis on youth</i></p>	<p>Polymakers, Managers and Practitioners CB 2: WaterNet CB 3: Capacity Building to the SADC Water Division CB 4: Strengthening River Basin Organisations</p>
	<p><i>10.3 (b) Strategy: promote the retention of skills within the region, and/ or attract skills to the region</i></p>		
	<p><i>10.3 (c) Strategy promote or create mechanisms to enable effective networking, collaboration and cooperation, to enable the capture of partnership potential</i></p>		
<p>Research, Technology Development and Transfer <i>To ensure that research is appropriately focussed and that knowledge and information is transferred widely</i></p>	<p><i>10.4 (a) Strategy: ensure research and technology development is focussed at an appropriate level</i></p>	<p>10.4.1. Policy: <i>A regional perspective for effective and efficient demand-driven water sector research and technology development shall be adopted in the region.</i></p>	<p>CB 5: Regional Water Research Fund</p>
	<p><i>10.4 (b) Strategy: ensure that knowledge and information is transferred and disseminated widely within the region</i></p>	<p>10.4.2. Policy: <i>Member States shall share appropriate water technology and information as a means of building capacity and integration.</i></p>	<p>CB 2: WaterNet</p>

CHAPTER 11

FINANCING WATER RESOURCES DEVELOPMENT AND MANAGEMENT

Chapter Eleven describes the strategies for financing the development and management of water resources in the region. The strategies described are those that (i) promote adequate, fiscally efficient and sustainable funding of the water sector; (ii) promote the effective and efficient use of financial resources to achieve sector goals; and (iii) facilitate the establishment of stakeholder partnerships in order to share water resource benefits equitably and liabilities fairly.

The financing of water resource development projects requires funds for initial capital expenditure as well as operating costs. While capital funding may be through donors or governments, operating funding must essentially be from revenue.

11.1 Financial Sustainability

Historically, in developing water resources, the focus has been on water supply for railways, power production (thermal and hydropower), mining, industry, irrigated agriculture and urban development. As a result governments and business have not normally allocated the same financial and human resources to development of water resources for the less economically powerful sectors of the community and maintaining the water resource and the environment.

Water as a resource was taken for granted because it has been perceived as infinitely renewable. However, of late water is increasingly being recognised as a variably available and frequently scarce economic good to which realistic value must be attached. Significant investment is needed to achieve the goals of the various development and management projects, but the region has difficulty in mobilising adequate funds for developing and managing the water resources.

With respect to financial sustainability, several challenges face the region among which are those listed below:-

- Widespread poverty, and declining economies in a large number of countries in the region; consequently most of the countries are unable to finance water resources development and management.
- The majority of water consumption is by irrigated agriculture and human use. However, most of the population of the SADC community are unable to **pay**, or are unwilling to pay the real price of reticulated water or the price of crops irrigated by realistically priced water.

- Historically governments (including state utility companies) have financed water resources development and management; but there has not been effective measures to attract **private sector financial partners**
- The continuous and enormous demand for job creation often lead to governments giving investors preferential and sometimes uncontrolled access to water resources, where these could provide employment which may not even be long term. This has led to a **skewed distribution** of available water resources.
- Economically marginalised communities expect governments to provide water services free of charge because they cannot pay even for basic living requirements. Many users still expect governments to provide water **services free** of charge.
- **Lack of awareness** of funding availability has often led to under-utilisation of already sourced donor or government finances.
- Financial resources are sometimes **not adequately co-ordinated**. Co-operating partners often work in isolation leading to duplication of efforts such that the region ends up with several inadequately funded and fragmented products instead of fewer adequately funded and successful projects.
- A substantial part of available **funds is used for frequent conferences** and repeated studies instead of implementing projects on the ground. This is often aggravated by the requirement by some co-operating partners to award contracts to vendors and service providers from the donor countries.
- Historical **legacy of “free” water and services** instead of financial assistance to defray costs of the resource. The latter approach would foster the correct perception of water as a finite resource with economic value and encourage its conservation.

Strategic Objective

- ❖ To ensure adequate, fiscally efficient and sustainable funding of the water sector in SADC.

Strategies

11.1(a) Strategy: Commit realistic and reasonable amounts from local financial resources to the water sector from Member State governments and water users

The SADC Member States need to demonstrate their commitment to the development and management of water resources by elevating the resource in the budget priority lists. Water users need to be assisted in understanding the fact that water is an economic good that has to be paid for, taking into account social obligations. Some possible actions to address the strategy are listed below.

- (i) Promote ownership, cost efficiency and financial sustainability by conducting awareness campaigns at grass root level.
- (ii) Devise equitable methods for cost recovery to ensure adequate funds for financial viability of investments while maintaining lifeline access to services for vulnerable groups in society
- (iii) Explore and pursue opportunities for joint projects with a view of sharing costs and benefits

11.1(b) Strategy: Solicit and ensure coordination and guidance of initiatives financed by co-operating partners .

Cooperating partners, particularly external ones, could benefit the region better if properly guided by the SADC secretariat and/or Member States. A situation is to be avoided wherein a project proceeds just because money has been made available. The projects must fit in the regional plans. Preferably the region must identify the needs. There is genuine need to combine resources from different sources and produce a good product. Cooperating partners need to be assisted by SADC to create an environment whereby it is feasible for them to collaborate for the good of the region. Some possible actions to give effect to the strategy are given below.

- (i) SADC Secretariat (WD) and SWCI must investigate and take advantage of the new and emerging Continental and International funding mechanisms (e.g. African Water Facility, NEPAD, and EU Water Initiative).
- (ii) Leveraging resources and finance from national, regional and international sources.
- (iii) Establish and strengthen a platform for co-operating partners to work together and combine efforts to achieve coordinated development plans. Funding mechanisms such as basket funding may be explored.
- (iv) SADC Secretariat to maintain a strong relationship with funding agencies to facilitate access and potential decentralisation of funding arrangements.

11.2 Efficient use of financial resources

Financial resources are always limited, particularly in the SADC region. The water sector must run as a business with checks and balances. Efforts must be made to make it self financing in the long run. Fiscal discipline and accountability must be practised in the management of both donor and Member State funds.

The region is already operating within tight budgets. There are challenges to be overcome as a means to cut costs. Some of the challenges are listed below:-

- **Duplication** of costs due to lack of co-ordination or weak financial management skills.
- **Conditionality of donor funding**, especially the requirements that materials and consultancy resources are to be sourced only or mainly from donor countries.

Strategic Objective

- ❖ To use financial resources effectively and efficiently to achieve SADC water sector goals.

Strategies

11.2(a) Strategy: Put in place effective measures to ensure that financial resources are managed in an efficient and accountable manner in an environment of strict and world standard fiscal discipline.

There is always an opportunity to waste financial resources. This may be due to negligence or malice. SADC and Member States must be put in place measures to guard against such unfortunate eventuality. Some possible actions are:-

- (i) Co-ordinate projects to avoid duplication of efforts and resources.
- (ii) Strengthen measures to ensure proper financial management.
- (iii) Proactively identify regional needs and priorities and let cooperating partners fit into those.

Engage donors in dialogue with a view to eliminate donor conditionalities that inhibit efficient use of resources (finance, materials, and personnel).

11.3 Public- Private Sector- Civil Partnerships

All stakeholders in the water sector need to come together and join hands in financing and management of water resources. The objective of such alliances is to provide a service that reflects value for money.

The partnerships are mostly at infancy stages in the region. There are still a few challenges to overcome in order to make such partnerships fruitful/beneficial. These are summarised below:-

- Changing conventional wisdom takes time and effort. In some cases governments are **reluctant** to relinquish central management in favour of the relatively new participatory approach. On the other hand other critical stakeholders are reluctant to commit financial, material and human resources to the sector, and to support partnerships. Such reluctance is borne out of history of free use and project designs based on that assumption
- Formation of the aforesaid partnerships also **costs money**. There is often dispute as to the source of the required funds.
- Some potential partners **lack the capacity** to meaningfully participate in the new partnerships. Corporate partners are usually better organised than poor communities. There is a risk of the former dominating the partnerships at the expense of the latter.

Strategic Objective

- ❖ To form stakeholder partnerships in order to share water resource benefits equitably and liabilities fairly.

Strategies

11.3(a) Strategy: Establish sustainable partnerships among stakeholders in the water sector, including private sector, and ensure equity and fairness in cost and benefit sharing.

The participation and capacity building issues are covered in detail under Chapter 10 of this Strategy. It is mentioned here as far as it relates to financing water sector. The following actions are suggested;

- i. Enable through legislation the formation and support of legal entities such as **Irrigation Districts (Swaziland)**, Water User Associations (Swaziland and South Africa) and Sub-catchment Councils (Zimbabwe)
- ii. Decentralise water management responsibilities and liabilities while providing financial assistance for marginalised users to pay costs of the service

Strategic Objective	Strategy	Relevant Policy Statement	RSAP2 (New Project)
11. FINANCING WATER RESOURCES DEVELOPMENT AND MANAGEMENT			
Financial Sustainability <i>To ensure adequate, fiscally efficient and sustainable funding of the water sector</i>	11.1(a) Strategy: <i>Commit realistic and reasonable amounts from local financial resources to the water sector from member state governments and water users</i>	11.1.1 Policy: <i>ensure adequate financial resources for national and regional projects</i> 11.1.2 Policy: <i>Strive to recover all costs for managing the resources.</i>	WG 3: Promotion of Implementation of Regional Water Policy and Strategy??
	11.1(b) Strategy: <i>Solicit and ensure coordination and guidance of initiatives financed by co-operating partners.</i>	11.3.3 Policy: <i>Partnerships with external development agencies maintained and strengthened.</i>	
Cost Reduction <i>To keep water resources expenditure to the minimum possible without rendering the sector ineffective</i>	11.2(a) Strategy: <i>Put in place effective measures to ensure that financial resources are managed in an efficient and accountable manner in an environment of strict and world standard fiscal discipline</i>	11.2.1 Policy: <i>Institute planning and operational systems to facilitate cost reduction in the management of water resources</i>	CB 3: Capacity Building to the SADC Water Division?? CB 4: Strengthening River Basin Organisations??
Public- Private Sector- Civil Partnerships <i>To form stakeholder partnerships in order to equitably and fairly share water resource liabilities and benefits</i>	11.3(a) Strategy: <i>Establish sustainable partnerships among stakeholders in the water sector and ensure equity and fairness in cost and benefit sharing</i>	11.3.1 Policy: <i>Actively develop partnerships with communities, civil society organisations and non-governmental organisations</i> 11.3.2 Policy: <i>Partnerships considered where these contribute to efficient management of resources and delivery of services, and higher inflow of investment capital to the sector.</i> 11.3.3 Policy: <i>Partnerships between SADC Water Sector, SWCIs, Member States and external development agencies shall be maintained and strengthened.</i>	

PART THREE
IMPLEMENTATION, MONITORING AND EVALUATION

CHAPTER 12

STRATEGIC IMPLEMENTATION PLAN

Chapter Twelve describes the implementation plan for the Strategy. The Chapter describes the RISDP targets and their relevance to the implementation of the RWS. The RSAP is recognised as the main SADC water sector programme, and there are clear linkages between RSAP₂ and the Strategic Objectives in the RWP and Strategy. The Chapter identifies SADC as having the primary implementation responsibility in terms of the Strategy, with Member States having an implementation responsibility to the RSAP projects with which they are associated.

12.1 Priorities for Strategy Implementation

The strategies identified in Part 2 provide a framework for giving effect to the RWP. The RWS has a 20-year timeframe, to coincide with the 2025 time horizon of the Southern African Water Vision. The 10 year mid-term of the strategy implementation coincides with the target date for the Millennium Development Goals (MDGs), hence will require a mid-term evaluation against the MDGs. The five year term of the RSAPs will also avail an excellent opportunity for a five year interval evaluation of the strategy which will coincide with the RSAP evaluation.

Priorities for strategy implementation must be agreed by Member States through the RSAPs, within the context of accepted objectives and targets. The RISDP water strategy and targets provide the initial basis of prioritisation for the Strategy implementation programme.

The focus areas of the RISDP are (with the associated targets):

- ***Establish and strengthen shared watercourse institutions in order to facilitate the development of comprehensive, integrated basin-wide plans;***

Target 5: Establish and strengthen at least eight River Basin Organisations by 2006

This prioritises the shared watercourse institutions strategies of Chapter 9: Regional Water Resources Institutional Arrangements (particularly 9.2).

- ***Improve the legal and regulatory framework at national and regional levels to ensure harmonised policies and legislation and consistency with international water principles;***

Target 1: Long term Regional Water Policy and Strategy developed and approved by March 2004

This prioritises the development of the strategy itself, but not necessarily its implementation. Obviously the development of the strategy is behind schedule which should form a subject of the RISDP M&E process.

Target 4: *Water sector policies and legislation harmonised by 2006*

This prioritises the harmonisation strategies of Chapter 3: Regional Cooperation in Water Resources Management (particularly 3.4).

- ***Promote the development of strategic water infrastructure (rehabilitation and expansion of existing facilities, creation of new facilities, regional programme for water supply and sanitation, pre-feasibility studies for strategic regional infrastructure projects e.g. water transfer and storage; irrigation; flood control and drought mitigation);***

Target 8: *Halve by 2015 the proportion of people without access to safe drinking water and sanitation services [also the MDG and SADC Water Vision target for water]*

This prioritises the water supply strategies of Chapter 4: Water for Development and Poverty Alleviation (particularly 4.2).

Target 9: *Develop by 2015 water resources infrastructure needed to double land under irrigation*

This prioritises the irrigation strategies of Chapter 4: Water for Development and Poverty Alleviation (particularly 4.3), considering the infrastructure development strategies of Chapter 8: Water Resources Development and Management.

- ***Strengthen the capacity of national and regional water institutions for water resources planning, development and management;***

Target 7: *Training and institutional capacity strengthening programmes developed and implemented by 2008*

This prioritises the capacity building strategies of Chapter 10: Stakeholder Participation and Capacity Building (particularly 10.3), as well as the institutional strengthening strategies of Chapter 9: Regional Water Resources Institutional Arrangements (particularly 9.1 and 9.2).

- ***Enhance the knowledge base on water resources through improved information management, research and technology development (to improve the availability and quality of water); and***

Target 3: *Centres of excellence for water research and technology development are identified, strengthened by 2005*

This also prioritises the research-based strategies under Chapter 10: Stakeholder Participation and Capacity Building (particularly 10.4).

Target 6: *Water data banks and planning networks are established and fully operational by 2007*

This prioritises the data acquisition and management strategies of Chapter 7: Water Resources Information Management (particularly 7.1)

- ***Promote awareness and public participation in policy and programme formulation and implementation.***

Target 2: *Increased awareness, broad participation and gender mainstreamed in water resources development and management by 2005*

This prioritises the participation strategies under Chapter 10: Stakeholder Participation and Capacity Building (particularly 10.1 and 10.2).

The RISDP places strong strategic emphasis on the development of regional institutions, promotion of a harmonised and enabling policy environment for water resources management, development of infrastructure for domestic and agricultural use, and building of capacity and empowerment to participate in the water sector. This is another area where the target has not been met and the RISDP need to be revised accordingly.

12.2 RSAP as the Water Sector Implementation Programme

Implementation of these regional water strategies will require a coherent regional water programme with specific projects, preferably developed on a 5-year basis. The Regional Strategic Action Plan (in its current second version: RSAP2) is the SADC recognised water programme and is therefore the *de facto* implementation plan for the RWS.

The RSAP2 has 4 approved project clusters that broadly reflect the strategic priorities captured in the RISDP:

- i) Regional Water Resources Development Planning and Management:*
Provide framework for sustainable, effective and efficient planning and management of shared river basins at regional and related national scale levels.
- ii) Infrastructure Development Support:*
Establish supporting mechanisms for strategic infrastructure development for regional integration and development, and poverty alleviation as well as for achieving targets related to access to safe water and sanitation.
- iii) Water Governance:*
Develop, promote and implement best practices regarding effective participation by various stakeholders in all aspects of water resource management, including the disadvantaged such as the rural poor and women.
- iv) Capacity Building:*
Build and strengthen human and institutional capacity for sustainable management of water resources at local, national and regional level.

Table 12.1 presents the projects within these clusters that have been endorsed by the SADC Water Ministers, and indicates the key strategic areas that these projects support. A more detailed linkage between the strategic objectives, strategies, policy statements and RSAP2 projects is presented at the end of each chapter.

Although there are a number of strategic areas that are not the direct focus of a RSAP2 project, most strategic objectives and strategies are indirectly supported by these projects. To close the gap where they exists the RSAP will need to be

reviewed/revised accordingly in order to adequately accommodate pronouncements in
th RWP and RWS

Table 12.1: Linkage between the RSAP2 and the RWP and Strategy Chapters and Strategic Objectives

Regional Strategic Action Plan 2 [2005-2010]			Regional Water Policy and Strategy	
Cluster Name	Project Ref.	New Project Title	Primary Focus Areas	Key Strategic Objective
Regional Water Resources Planning and Management	RWR 1	Consolidation and expansion of SADC-HYCOS	Chapter 7 - Water Resources Information and Management	7.1: Data and information acquisition and management 7.2: Information sharing
	RWR 2	Standard assessment of surface water resources	Chapter 7 - Water Resources Information and Management	7.3: Information assessment
	RWR 3	Groundwater Management Programme in SADC	Chapter 8 - Water Resources Development and Management	8.2: Integrated planning 8.4: Alternative sources of water
	RWR 4	Support for Strategic and Integrated Water Resources Planning	Chapter 8 - Water Resources Development and Management Chapter 5 - Water for Environmental Sustainability	8.1: River basin approach 8.2: Integrated planning 5.1: Water and the environment
	RWR 5	Dam Safety, Synchronisation and Emergency operations	Chapter 8 - Water Resources Development and Management	8.5: Dam development and management
Infrastructure Development Support	INF 1	Regional Strategic Water Infrastructure Programme	Chapter 8 - Water Resources Development and Management Chapter 4 - Water for Development and Poverty Alleviation	8.1: River basin approach
	INF 2	Implementation of the Water Supply and Sanitation Programme for SADC	Chapter 4 - Water for Development and Poverty Alleviation	4.2: Water supply, sanitation and hygiene
Water Governance	WG 1	Implementation Programme for SADC Protocol on Shared Watercourses	Chapter 3 - Regional Cooperation in Water Resources Management Chapter 9 - Regional Water Resources Institutional Framework	3.1: Water for economic integration 3.2: Water for peace 3.5: Conflict resolution in WRM 9.1: SADC Secretariat 9.2: Shared watercourse institutions
	WG 2	Promotion of public participation in water resource development and management	Chapter 10 - Stakeholder Participation and Capacity Building	10.1: Participation and capacity development 10.2: Gender mainstreaming
	WG3	Promotion of Implementation of RWP and Strategy	Chapter 3 - Regional Cooperation in Water Resources Management Chapter 9 - Regional Water Resources Institutional Framework Chapter 11 - Financing	3.4: Harmonisation of National Policy and Legislation 9.1: SADC Secretariat 9.4: Monitoring and evaluation 11.1: Financial sustainability

Regional Strategic Action Plan 2 [2005-2010]			Regional Water Policy and Strategy	
Cluster Name	Project Ref.	New Project Title	Primary Focus Areas	Key Strategic Objective
Capacity Building	CB 1	Skills training for water policymakers, managers and practitioners	Chapter 10 - Stakeholder Participation and Capacity Building	10.3: Capacity building and training
	CB 2	WATERNET	Chapter 10 - Stakeholder Participation and Capacity Building	10.4: Research, technology development and transfer
	CB 3	Capacity Building Support to the SADC Water Division	Chapter 9 - Regional Water Resources Institutional Framework	9.1: SADC Secretariat
	CB 4	Strengthening River Basin Organisations	Chapter 9 - Regional Water Resources Institutional Framework	9.2: Shared watercourse institutions
	CB5	Regional Water Research Fund	Chapter 10 - Stakeholder Participation and Capacity Building	10.4: Research, technology development and transfer

12.3 Implementation Responsibilities

The SADC Secretariat has primary responsibility for promoting, coordinating and monitoring the implementation of the RWS, primarily through coordination and facilitation of resources for the RSAP2 (and successor versions) projects.

Member States also have a responsibility to implement the RWS through relevant RSAP2 projects with which they are associated, as well as to roll out the broad strategic principles of the RWP and strategy in national policy and strategy.

CHAPTER 13

MONITORING AND EVALUATION

Chapter Thirteen describes monitoring and evaluation of the Strategy, highlighting the need for M&E, the elements and principles of M&E and a broad overview of the particular M&E components of the Strategy to be developed in an RWS Manual.

13.1 Need for and Process of RWS Monitoring and Evaluation

It is recognized that monitoring and evaluation (M&E) are key elements of effective and responsible strategic programme and project management. Therefore, M&E is essential for the effective implementation of the RWS. In the case of the RWS, the need for M&E is particularly high because of the complexity and inter-related nature of the environment and strategies, and the number of stakeholders with an interest in its execution. It is important for the SADC water sector to understand the progress with implementation of the RWS and to report on this regularly.

M&E occurs at a number of levels and should be appropriately decentralised in the multi-national context of the RWS. The M&E system for the RWS must reflect this by allowing participation of Member States and, cognisant of the inter-sectoral nature of water strategies, link to other sector M&E processes.

The RWS is a broad statement of intent which shall be effected through specific action plans like the RSAP. Therefore the M&E process of the RWS will be through these action plans. Secondly the proposed M&E system for the multi-sector RISDP also applies to the strategy.

Primary responsibility for developing and implementing appropriate M&E for the RWS lies with the SADC Secretariat, but this must be done in collaboration with Member States and other role players.

13.2 Understanding Monitoring and Evaluation for the Strategy

Monitoring is the regular or continuous measuring of key progress and performance indicators so that the impact of the strategy, programme, project or process may be maintained at an optimum level.

Evaluation is the targeted detailed assessment of a strategy, programme, project or process in order to determine specific aspects or impacts. Whilst monitoring focuses on the process of implementation, evaluation typically concentrates on the impacts. It seeks to establish whether the original goals have been achieved and if they were relevant. Evaluation may be done during (mid-term) or after completion of an

identified period and usually requires initial baseline data and indicators against which progress can be assessed.

In the context of the RWS, M&E needs to be engaged at 3 main levels, namely:

- The achievement of the strategic objectives and indicators related to the policy statements, linked to RISDP, MDG, AMCOW and SADC targets.
- The implementation of the strategy through RSAP programmatic indicators and the degree to which these are meeting the requirements of the RWS.
- The implementation of projects in terms of achievement of outputs, activities and resources.

13.3 Key Principles for Strategy Monitoring and Evaluation

The RWS will be implemented through the RSAP programmes. The RWS by design lacks the “Who” and “When” elements which facilitate fleshing out of M&Es. Therefore its monitoring will measure the level to which it influences and guides the future versions of the strategic action plans. The broad “HOWs” of the M&E for the Strategy shall be detailed in a subsequent RWS Manual. The M&E for the RWS shall be guided by agreed principles developed through stakeholder consultation. These principles will guide the SADC Secretariat and Member States in developing and implementing an appropriate M&E system, as well as the implementing agents that are responsible for elements of the RSAP programme and associated projects. It suffices to indicate that the RWS is a dynamic document that shall be subject to review at intervals of at least five years with a ten year period being considered an ideal interval.

Key principles that shall be considered (and were incorporated into the RSAP M&E strategy) include:

- M&E should not be viewed as a punitive measure, but rather as a supportive management tool to facilitate rapid learning and support management functions.
- The monitoring and evaluation framework should be used as a base to promote results-based programme and project implementation in a complex regional environment.
- The framework should be based on manageable processes and measurable and verifiable indicators. M&E systems and technology must be based on simplicity and be related to the available resources to carry out the monitoring.
- M&E must inform management and mobilise appropriate and purposeful intervention where this is necessary. Acting on M&E feedback implies capacity beyond the M&E function itself, i.e. authority and capacity to act on the findings.
- M&E capacity must be transferred to a spread of durable Water Sector institutions to be sustainable. Among these institutions are shared watercourse institutions, regional and country water partnerships and national water departments.

- M&E systems and M&E implementation must be a part of all project memoranda and contracts. In this context the M&E must be compatible with the requirements of the cooperating partners and the Member States involved in a particular project or group of projects.

DEFINITIONS

Agricultural use means use of water for irrigation purposes

Annual renewable water resources means average annual flow of rivers and groundwater generated from endogenous precipitation. Annual averages disguise large seasonal, inter-annual and long term variations.

Aquaculture means all activities aimed at producing in restricted areas, processing and marketing aquatic plants and animals from fresh, brackish or salt waters.

Blue water refers to water in rivers, lakes and shallow aquifers (In the past this has received most of the attention from planners, engineers and policy makers because of its association with established forms of irrigation).

Comparative advantage A country has a comparative advantage over another if in producing a commodity it can do so at a relatively lower opportunity cost in terms of the forgone alternative commodities that could be produced.

Conservation means the protection, maintenance, rehabilitation, restoration and enhancement of natural resources and includes the management of the use of natural resources to ensure the sustainability of such use.

Cost recovery means the extent to which users are charged for goods and/or services to generate revenue to cover the costs of provision.

Development is the process of improving the quality of all human lives. Important aspects of development are raising people's living levels, creating conditions conducive to the growth of people's self-esteem and increasing people's freedom of choice.

Domestic use means use of water for drinking, washing, cooking, bathing, sanitation and stock watering purposes

Economic co-operation means two or more countries working together to promote their common economic interests through joint projects and programmes, physical or otherwise.

Economic good means a scarce resource that is limited in quantities in comparison to the demand for the resource. Treating water as an economic good recognises that water has an opportunity cost.

Economic growth is the steady process by which the productive capacity of the economy is increased over time to bring about rising levels of national output and income.

Economic integration is the merging to varying degrees of the economies and economic policies of two or more countries in a given region.

Environmental flow requirement means the water that is deliberately left in the river or released from a reservoir for maintaining the structure and function of aquatic ecosystems downstream.

Gender refers to the socially and culturally constructed roles, privileges, responsibilities, power and influence, social relations, expectations and value of men and women, girls and boys. There are significant differences in what women and men can or cannot do in one

society when compared to another. In all cultures, the roles of women and men are distinct, as are their access to productive resources and their authority to make decisions. Typically, in most cases, men are held responsible for the productive activities outside the home, while the domain of women is the reproductive and productive activities within the home. In most societies, women have limited access to income, land, credit, education, limited ownership and control over these resources.

Gender mainstreaming is defined by the United Nations as *the process of assessing the implications for women and men of any planned action, including legislation, policies and programmes, in any area and at different levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension in the design, implementation, monitoring and evaluation of policies and programmes, in all political, economic and societal spheres so that women and men benefit equality, and inequality is not perpetuated. The ultimate goal is to achieve gender equality.*

Green water refers to water in unsaturated soil; it is responsible for the production of biomass that accounts for 60% of the world food production.

Human Development Index (HDI) is a composite index based on three indicators: longevity, as measured by life expectancy at birth; educational attainment, as measured by a combination of adult literacy (two-thirds weight) and the combined gross primary, secondary and tertiary enrolment ratio (one-third weight); and standard of living, as measured by per capita GDP (in PPP US\$).

Industrial use means use of water for commercial, electrical power generation, industrial, manufacturing and mining purposes;

Integrated Water Resources Management (IWRM) means a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems

Management of a shared watercourse means

- i) planning the sustainable development of a shared watercourse and providing for the implementation of any plans adopted; and
- ii) otherwise promoting the rational, equitable and optimal utilisation, protection, and control of the watercourse.

Participatory approach means a planning approach in which all stakeholders, and in particular the envisaged beneficiaries are part of the decision process.

Policy coordination refers to voluntary and largely unenforceable alignments of national policies and measures in particular fields.

Policy harmonisation refers to agreement on the manner in which each Member State will exercise or use a particular instrument over which it retains control.

Poverty is the situation facing those in society whose material needs are least satisfied. Inability to afford an adequate standard of consumption because of low income is referred to as **income poverty**. If, apart from low income, a country is characterised by malnutrition, poor health, low survival rates, low literacy levels, inadequate housing and living conditions, etc., then there is **human poverty**.

Privatisation is the sale of public assets to individuals or private business interests.

Protocol means an instrument of implementation of the SADC Treaty, having the same legal force as the Treaty.

Region means the SADC region and not any geographic or jurisdictional area at country level

SADC Common Agenda means the set of fundamental principles and values, referred to in Article 5A of the SADC Treaty that will guide the integration agenda of the organisation.

Secretariat means the Secretariat of SADC established by Article 9 of the Treaty.

Shared watercourse means a watercourse passing through or forming the border between two or more states.

Social good means water as a commodity to which social value is attached, arising from the fact that water is an essential building block for life.

Sustainable development is a pattern of development that permits future generations to live at least as well as the current generation.

Sustainable use means use in a way and at a rate that does not lead to the long-term decline of natural resources.

Watercourse means a system of surface and ground waters consisting by virtue of their physical relationship a unitary whole normally flowing into a common terminus such as the sea, lake or aquifer

Water Demand Management means the use of price, quantitative restrictions and other devices (e.g., leakage detection and control) to control the demand for water.

Sources of Definitions:

1. SADC 2003. *Regional Indicative Strategic Development Plan*
2. African Development Bank, 2000. *Policy for Integrated Water Resources Management.*
3. SADC, IUCN, SARDC, SIDA, World Bank, 2002. *Defining and Mainstreaming Environmental Sustainability in Water Resources Management in Southern Africa*