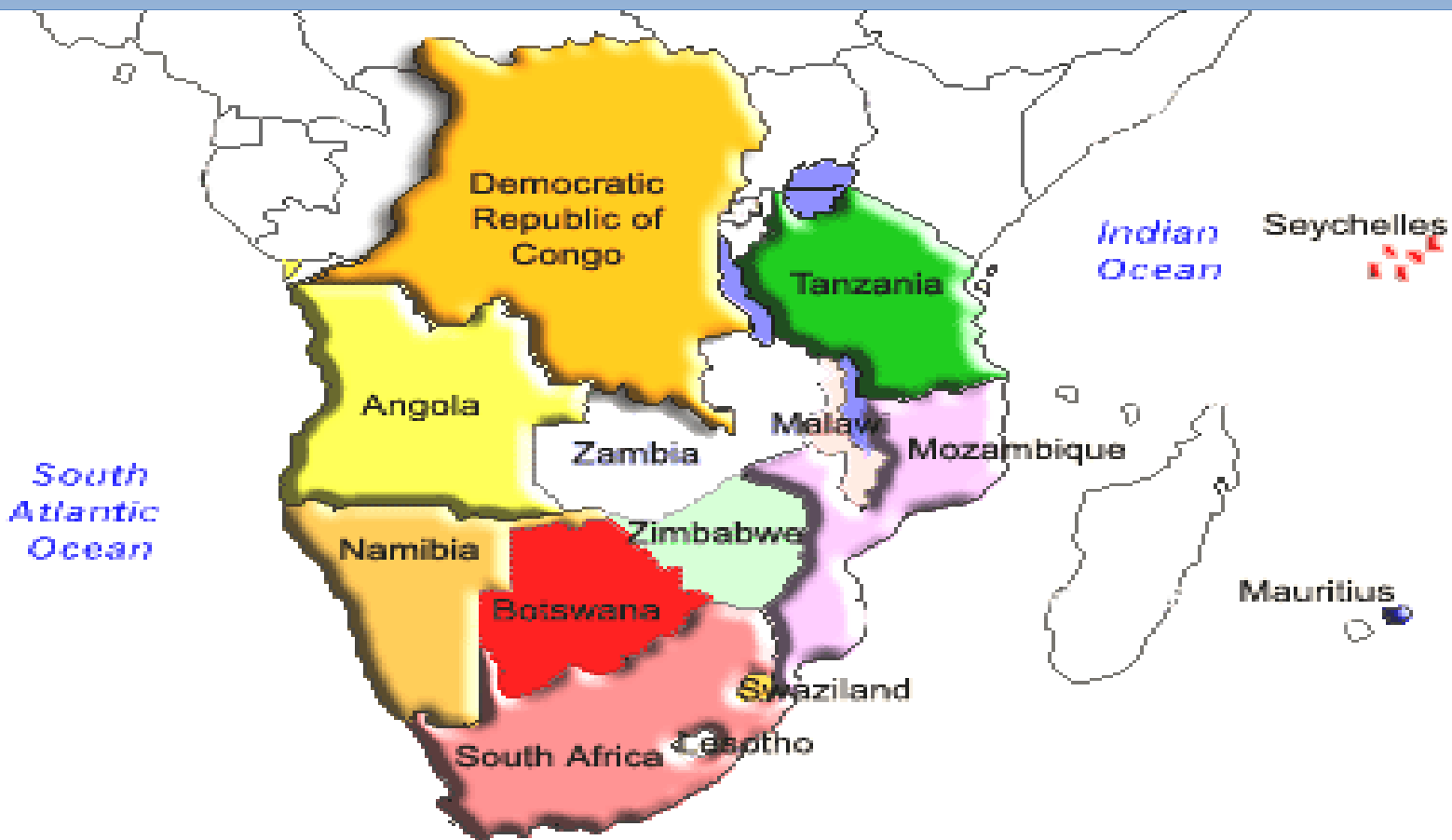


# 2010

## THE SADC BIODIVERSITY ACTION PLAN: Building Wealth and Livelihoods through Biodiversity Conservation and Management



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## ACRONYMS

ABS	Access and Benefit Sharing
ADMADE	Administrative Design Programme for Game Management Areas
AIMS	Agricultural Information Management (Systems)
APAI	African Protected Areas Initiative
APEI	Action Plan of the Environment Initiative
AREX	Agricultural Research and Extension Services (Zimbabwe)
ASFC	African Sustainable Fuels Centre
BAP	Biodiversity Action Plan
BBF	Biodiversity Business Facility
BCIS	Biodiversity Conservation Information System
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CBD	Convention for Biological Diversity
CBNRM	Community Based Natural Resources Management
CBO	Community Based Organisation
CC	Climate Change
CEC	Commission on Education and Communication
CEESP	Commission on Environmental, Economic and Social Policy
CEL	Commission on Environmental Law
CEM	Commission on Ecosystem Management
CGIAR	Consultative Group on International Agricultural Research
CIDA	Canadian International Development Agency
CIFOR	Centre for International Forestry Research
CITES	Convention on International Trade of Endangered Species
COP	Conference of Parties
D1-BP	D1-British Petroleum
DANIDA	Danish International Development Agency
DFID	Department for International Development
DRFN	Desert Research Foundation of Namibia
EIA	Environmental Impact Assessment
FANR	Food Agriculture and Natural Resources

FAO	Food and Agricultural Organisation
GDM	Green Development Mechanism
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gases
GMOS	Genetically Modified Organisms
HDI	Human Development Index
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HIVOS	Humanist Institute for Development Cooperation
I&S	Infrastructure and Services
IAS	Invasive Alien Species
ICRAF	International Centre for Research in Agro forestry
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IFM	innovative financing mechanisms
IPCC	Intergovernmental Panel on Climate Change
IPR	Intellectual Property Rights
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IUCN ROSA	International Union for the Conservation of Nature Regional Office Southern Africa
IUCN ESARO	International Union for the Conservation of Nature Regional Office for East and Southern Africa
JIP	Johannesburg Plan of Implementation
KAZA TFCA	Kavango-Zambezi Transfrontier Conservation Area
LIFE	Living in a finite environment
MDGS	Millennium Development Goals
MEAS	Multilateral Environmental Agreements
NAPAs	National Adaptation Programme of Action
NAPs	National Action Plans
NBSAPS	National Biodiversity Strategy and Action Plans
NEAP	National Environmental Action Plan
NEPAD	New Partnership for African Development
NGOS	Non-Governmental Organisations

NORAD	Norwegian Agency for Development Cooperation
NRM	Natural Resources Management
OAU	Organisation of African Union
PA	Protected Areas
PAME	Protected Areas Management effectiveness
ReBEN	Regional Biodiversity Expertise Network
RISDP	Regional Indicative Strategic Development Plan
SABA	Southern African Bio fuels Association
SABONET	Southern Africa Botanical Network
SABSP	Southern African Biodiversity Support Programme
SACCNET	Southern Africa Climate Change Network
SADC	Southern African Development Community
SAFNET	Southern Africa Fire Network
SANPARKS	South Africa National Parks
SARDC IMERCSA	SARDC Musokotwane Environment Resource Centre for Southern Africa
SARDC	Southern African Research and Documentation Centre
SASUSG	Southern Africa Sustainable Use Specialist Group
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SEA	Swaziland Environmental Authority
SEA	Strategic Environmental Assessment
SHD/SP	Social and Human Development and Special Programmes
SIDA	Swedish International Development Agency
SOE	State of the Environment
SREAP	Sub-Regional Environmental Action Plan
SSC	Species Survival Commission
TBNRMAS	Trans-Boundary Natural Resource Management Areas
TFCAs	Trans-Frontier Conservation Areas
TFPs	Trans-Frontier Parks
TIFI	Trade, Industry, Finance and Investment
TPARI	Transboundary Protected Areas Research Initiative
TRAFFIC	The Wildlife Trade Monitoring Network

TRIPS	Trade Related Aspects of Intellectual Property Rights
UN	United Nations
UNCCD	United Nations Convention on Combating Desertification
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	UN Framework Convention on Climate Change
UN-REDD	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
USAID	United States Agency for International Development
WCMC	World Conservation Monitoring Centre
WCPA	IUCN World Commission on Protected Areas
WEHAB	Water, Energy, Health, Agriculture and Biodiversity
WHC	World Heritage Centre
WIPO	World Intellectual Property Organization
WRI	World Resource Institute
WSSD	World Summit on Sustainable Development
WTO	World Trade Organisation
WWF	World Wide Fund



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## EXECUTIVE SUMMARY

**The Southern Africa Development Community** (SADC) constitutes a key geographical block of Africa. SADC consists of fifteen member states located in the southern and central part of the African continent. They are Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. The SADC region is rich in natural resources; yet the region carries some of the world's poorest communities. The economies of most countries in the region are heavily dependent on natural capital. Biodiversity forms the foundation of the vast array of eco-system products and services that contribute to human well-being and it drives the economies of SADC Member States. Over 50% of the Gross Domestic Product (GDP) of SADC Member States comes from primary sectors of production such as agriculture, mining, forestry and wildlife, which are based on biodiversity in its broadest sense (SADC Biodiversity Strategy, 2006). This means that if biodiversity resource base deteriorates this will have major economic and socio-economic impacts. Furthermore, between 40% and 85% of their citizens live in rural areas where they depend on natural resources for survival. This explains why the maintenance, enhancement or restoration of biodiversity is viewed as a means for achieving the region's socioeconomic development (SADC Biodiversity Strategy, 2006).

The SADC region has a wealth of biological resources found in various ecosystems and eco-zones such as freshwater, drylands, forests, agricultural, coastal and marine, and urban/built up ecosystems. The region houses a wide range of terrestrial, freshwater and marine ecosystems of pristine beauty and diversity, making them a key asset to the region's economy. The region is a globally recognised centre of biodiversity richness and endemism. The region is endowed with a rich and unique natural heritage that includes a wide range of landscapes and remarkably diverse flora and fauna. However, in recent years there has been a decline in biodiversity in terms of ecosystems, species and genes. There is also an increasing spread of invasive alien species.

Despite the impressive range of biological resources and many centres of endemism, the biodiversity in the SADC region is experiencing increasing pressure due to a number of factors. The major drivers and pressure forces affecting the current status of biodiversity are diverse and complex. The main threats to biodiversity in the region include population growth, worsening poverty, increasing trade in plant and animal species, climate change, invasive alien species, agricultural expansion, land degradation and introduction of genetically modified organisms. These threats (drivers) are largely responsible for the loss of biological resources and ecological processes. According to the Red Data List of plants produced for Southern Africa, there is a significant number of threatened species in the region.

All the SADC member states have ratified the Convention on Biological Diversity and are committed to the conservation of biodiversity. The Convention on Biological Diversity is one of the most all-encompassing international agreements ever adopted, seeking both to conserve the diversity of life on Earth and to ensure that this diversity continues to maintain the planet's natural life support systems. The *objectives* of the Convention are threefold, the conservation of biological diversity, the sustainable use of its components (species, genes and ecosystems), and the fair and equitable sharing of the benefits arising out of the utilization of biodiversity. These objectives are translated

into binding commitments in the text of the Convention. One of the key obligations under the convention is the development and implementation of NBSAPs. All the countries have completed their NBSAPs and as part of their fulfilment of the obligations under this convention, quite a number of countries are routinely producing their national reports on their biodiversity. The principal elements of a BAP typically include: (a) preparing inventories of biological information for selected species or habitats; (b) assessing the conservation status of species within specified ecosystems; (c) creation of targets for conservation and restoration; and (d) establishing budgets, timelines and institutional partnerships for implementing the BAP. All the SADC member states committed themselves to the 2010 Biodiversity target of halting the loss of biodiversity by 2010 and some have expressed interest in participating and contributing to the Countdown 2010 Network.

There is no doubt that Southern Africa has made considerable advances to conserve its biodiversity. Despite this progress, loss of biodiversity and related ecosystem services continue to be experienced in many places. The continued loss of biodiversity at genetic, species and habitat levels in both protected and non-protected areas is of great concern and this adversely impacts on the region's ability to realize the Millennium Development Goals. Biodiversity in the region is declining due to habitat destruction, fragmentation and loss, mainly as a consequence of land use changes and poor land management. Other issues and challenges affected biodiversity in the region include insufficient appreciation of the importance of biodiversity to national economies and sustainable livelihoods [resulting in continued exclusion of biodiversity from the mainstream sectors of national economies, and limited investment in areas such as value addition and bio-prospecting by national governments; poor performance of most protected areas, especially those under state management regimes [particularly with respect to the fulfilment of their primary roles of maintaining ecological processes and preserving biodiversity]; serious biodiversity governance challenges [glaring inequities in access and benefit sharing derived from biodiversity use]; paradigm shift in economic development [with an increasing call to open up the economies in order to facilitate economic development focused on short term gains at the expense of the environment]; worsening poverty, HIV/AIDS, political instability and under developed business enterprises and markets; the spread of alien invasive species; and the introduction of GMOs. A number of constraints such as finance and human and institutional capacity constraints continue to affect the progress of biodiversity conservation in the SADC region. A major challenge faced by the region in assessing the status of biodiversity is the inadequate knowledge and understanding on the status and trends of ecosystems, habitats and species in the region.

Cognisant of the importance of biodiversity to economic development and threats to biodiversity in the region, various policy pronouncement, programmes and initiatives, have been developed in the SADC region. In an effort to further the conservation of biodiversity in the region, the SADC member states under the coordination of the Directorate for Food, Agriculture and Natural Resources (FANR) and IUCN Regional Office for Southern Africa (IUCN ROSA) developed and produced a regional biodiversity strategy in 2006. This regional biodiversity strategy provides a framework for national, sub regional and regional actions on biodiversity conservation. However, since its approval in 2006, the strategy has not been operationalized due to lack of an action plan to operationalize it.

The overall purpose of the SADC BAP is to enable the operationalization of the regional biodiversity strategy. The SADC BAP is a plan that will guide the SADC Community in protecting and restoring the

region's biodiversity, and the invaluable benefits it provides. A Biodiversity Action Plan in this case, is a tool through which the regional structures, member states, relevant stakeholders and relevant partners can work together to deliver a programme of continuing action for biodiversity stewardship on a regional, national and local level. This SADC BAP outlines a 15-year path for the effective conservation of the SADC Region's biodiversity. This plan will be used as a blue print to guide Member States in implementing their own National Action Plans (NAPS). The SADC BAP set out a shared agenda for the conservation of biodiversity in the region. The Action Plan is aimed at both the SADC secretariat and the Member States. It contributes to the achievement of SADC's goals of social and economic development and poverty eradication as embedded in the Regional Indicative Strategic Development Plan (RISDP); the New Partnership for Africa's Development (NEPAD) Environment Action Plan; and the Millennium Development Goals (MDGs). In additions cooperation will enhance the region to forge partnerships and leverage funding from various development partners and the international community on biodiversity issues.

**The SADC BAP addresses** issues related to the conservation of biodiversity, its sustainable use, as well as issues around access and benefit sharing. The SADC BAP covers not only the conservation of the diversity of ecosystems, habitats and species, but the potential and opportunities for biodiversity based economic development and community livelihoods. The SADC BAP stipulates the region's vision on biodiversity, priority objectives, strategic directions, strategies and actions. It further specifies the main supporting measures, as well as monitoring, evaluation and review measures. Building on the SADC Biodiversity Strategy vision, the aspirations expressed in the National Biodiversity Strategies and Action Plans and those expressed by the SADC Biodiversity Focal points at the SADC Regional Biodiversity Action Plan Workshop (26 – 27<sup>th</sup> November, 2009) meeting in Johannesburg), the SADC Biodiversity Action Plan VISION is for:

***“The people of the SADC region enjoying a healthy environment and enhanced quality of life derived from effective conservation and sustainable use of biodiversity in line with international and regional commitments, while respecting national spiritual and cultural values”***

This vision can only be achieved if SADC member states take a good look at the existing biodiversity management systems, the prevailing governing policies and legislation, and the socio-economic imperatives affecting the region's biological resource base. The key vision drivers, based on the analysis of the situation in the region are described in box 3. The actions required to achieve this vision include:

- Meeting the urgent livelihoods and economic development needs from biodiversity
- Improving biodiversity management systems
- Strengthening biodiversity

### **Box 3: Key Vision Drivers**

- **Socio-economic factors such as poverty and population growth**
- **Environmental factors such as floods, droughts, pollution, etc.**
- **Governance factors such as accountability, transparency and good governance**
- **Technology factors such as gaps in data, poor technology, etc.**

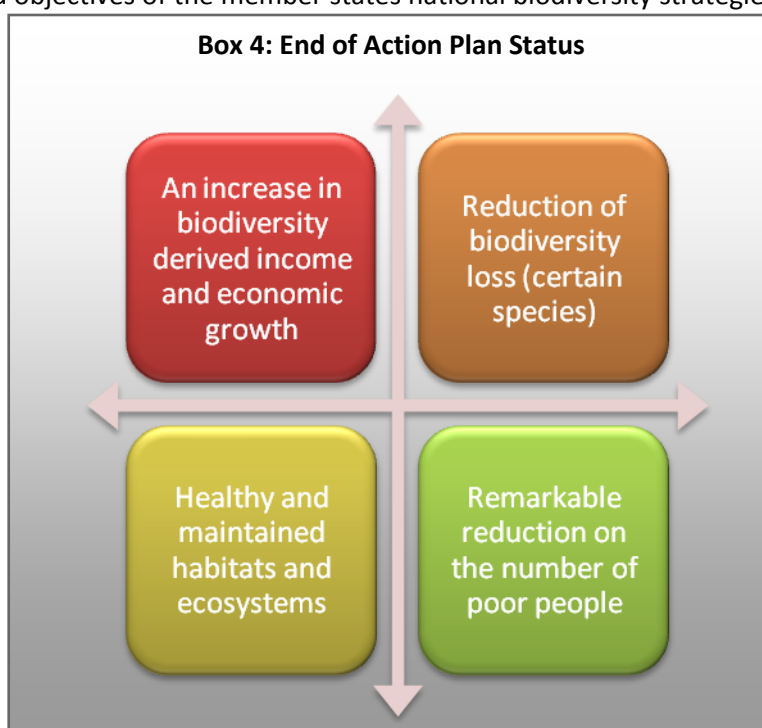
management governance

- Strengthening the financial base for the desired biodiversity future.

In view of the region's biodiversity problems and challenges, and the accompanying threats, challenges, and constraints to sustainable use of biological resources, the desired biodiversity future, the overall goal of the SADC BAP is to:

**“Promote equitable and regulated access to, sharing and enhancement of the benefits from, and responsibilities for protecting biodiversity in order facilitate economic growth and poverty reduction in the SADC region”**

This goal compliments the goals and objectives of the member states national biodiversity strategies and action plans. The goal of the SADC BAP stipulate what the region hopes to achieve by 2025, and talks to issues of equity, regulated access and sharing (all of which are *biodiversity management governance* elements); enhanced benefit (which is an aspect of *biodiversity utilization*); and responsibility for protecting biodiversity (which is a *conservation and management issue*). In essence, the goal of the SADC BAP is focused on addressing three main broad areas of biodiversity, i.e. improve biodiversity governance, promote sustainable use, and encourage the conservation and protection of biodiversity.



Within the context of the expressed vision and goal, the specific objectives of this regional biodiversity action plan are to:

- ❑ **Improve the governance (policy, legal and institutional) framework for effective and efficient biodiversity conservation and management.**
- ❑ **Promote sustainable use of biodiversity for improved economic growth and poverty reduction**
- ❑ **Enhance biodiversity conservation and management systems**
- ❑ **Respond to and address the impacts of climate change and energy development on biodiversity and related ecosystem services**

The SADC BAP will directly contribute to the SADC vision and goals, the goal and objectives of RISDP, CBD objectives, NEPAD Environmental action plan, and the Southern Africa Environmental Action Plan. The Action plan includes a range of interventions to conserve and sustainably use biodiversity that will yield positive conservation outcomes in the short-term while providing the basis for sustainable biodiversity conservation and improvements in human well-being over the long-term. The key strategic areas of the SADC Biodiversity Action Plan are:

❑ **Biodiversity Management Governance**

The main problems faced in the governance of biological resources in the SADC region are concerned with inequities in the sharing of benefits derived from biodiversity. The improvement of biodiversity management governance will go a long way in fostering equity and regulated access, sharing of benefits, and the improvement of biodiversity conservation and sustainable use. Considering the governance challenges faced by the SADC member states, the interventions actions under the biodiversity governance strategic area will focus on effective biodiversity management policies and legislation; fostering equity and benefit sharing from biodiversity; synergies and implementation of MEAs and Regional Environmental Protocols; institutional frameworks for biodiversity management; and improving the governance frameworks of TFCAs.

❑ **Biodiversity Based Community Livelihoods**

Reducing poverty and protecting the environment are important goals in the SADC region. Member States identified poverty as their overarching priority and committed themselves to working together bound by the SADC Treaty with a 3-fold agenda. The improvement of biodiversity based livelihoods and their diversification is therefore a strategic priority that will contribute to poverty reduction and a reduction in biodiversity loss. The interventions areas under this strategic area will focus on diversification of community biodiversity based livelihood options; biodiversity based community businesses; community empowerment for the sustainable use of biodiversity; and the development and application of sustainable biodiversity use

❑ **Biodiversity for Economic Development**

Economic growth and environmental management are not always mutually compatible, and have often been viewed as divergent alternatives. Economic growth has often meant 'mining' resources for immediate development. Some development sectors significantly influence the conservation and sustainable use of biodiversity. Facilitating wealth generation from the region's biological resources, based on the concept of environmental sustainability, is a must in a region that largely relies on biodiversity for economic development. The interventions under this strategic area will focus on mainstreaming biodiversity conservation values into economic policy, finance and markets; promoting viable natural products industry; facilitating biodiversity based tourism and the development of a vibrant bio-trade sector.

❑ **Biodiversity Management Systems**

There is increasing evidence that inability of the SADC region to convert biological resources into wealth and to sustainably use its natural resource capital is largely caused by the weaknesses in the management systems applied in the region. Interventions under this strategic area include

biodiversity inventory and monitoring, effective protected areas management system, rehabilitation and restoration of degraded ecosystems and biodiversity, promotion of CBNRM as a biodiversity conservation tool, conserving agro-biodiversity, and the prevention, control and management of Invasive Alien Species.

#### □ **Biodiversity and Climate Change**

The SADC region is experiencing a variety of environmental stresses imposed by climate variability and change factors and this is manifested by the cycles of droughts and floods that regularly affect the regions. Climate change is one of the key drivers of biodiversity and ecosystem change. The fact that there is no single nation, least of all those in the SADC region that can stop the climate from changing implies that efforts should go into mitigation and adaptation. The interventions areas under this strategic area will focus on the vulnerability assessments of biodiversity and ecosystems; biodiversity adaptation strategies to climate change; mitigation of the potential impact of climate change; and integration of biodiversity considerations into climate change policy and practice. It is acknowledged that the adaptation of biodiversity management to climate change is hindered by inadequate capacity to address the rapid changes that occur. It is important that the region's capacity to adapt to climate change is strengthened.

#### □ **Biodiversity and Energy**

The living standard and overall quality of life of the population in southern Africa is strongly influenced by the availability and access to energy. Energy is recognized as a prerequisite for economic development, poverty reduction and is critical to the achievement of MDGs in the SADC region. Charcoal production is a major activity in some member states and this activity has the potential of having negative impacts on biodiversity, if not well managed. Bio fuel development in the SADC region, coined farming for energy is viewed as a new and promising area of development. There is a high risk that energy security could lead to loss of biodiversity, if proper measures are not taken at the planning stage. Key interventions under this strategic area will include the management of the impacts of the bio fuels industry on biodiversity; promoting biodiversity friendly charcoal sector; and catalysing sustainable energy development.

***The SADC BAP is a regional*** plan whose actions will be implemented at the regional, sub-regional (trans-boundary), national and local levels. The implementation of the action plan requires a special structure and arrangements, specific coordination mechanisms and networking system. The implementation of the will be is coordinated and managed through a four-tier structure comprising of coordination and management, oversight and strategic advice, technical backstopping and sounding board, and implementation.

The SADC BAP falls under the leadership of the SADC secretariat whose main responsibility is to facilitate the enabling environment for the effective implementation of the action plan. In addition to creating an enabling environment, the SADC secretariat will nature synergies and collaboration between and among the various directorates with a bearing on biodiversity. The secretariat will also facilitate the creation of a special biodiversity technical committee comprising of representatives of the national directors of Environment, Wildlife, Forestry, Fisheries, Tourism, Agriculture, Water and

Energy should be established to provide strategic direction and advice, and publicize and market the SADC BAP. The SADC Environment Technical Committee will provide oversight supervision, review progress on the implementation of the action plan, and publicize and market the products produced through the action plan. The SADC FANR – Environment Unit will facilitate the coordination and management of the action plan. The SADC FANR – Environment Unit will be responsible for pulling together the development, management and administration of the various components of the action plan. Specifically the Unit will play the role of programming, planning, budgeting, coordination, facilitation, reporting and routine monitoring of the action progress towards achieving the intended targets. In addition, the SADC FANR – Environment Unit will coordinate and mobilize resources to facilitate implementation of the action plan.

The overall responsibility and accountability on the delivery of this action plan rests with the national governments in the SADC region. The implementation of the action plan within the member states will be spearheaded by the National Committees working with other implementing institutions. The programme/project teams will provide on-the ground planning, administration, management and supervision of the action plan implementation. Implementing institutions (inclusive of international organizations, national government departments, NGOs, private sector and other civil society groups) will deliver the action plan activities on the ground under the guidance and supervision of the SADC FANR – Environment Unit. The competencies of the relevant stakeholders will be harnessed and applied in the implementation of this action plan.

International organizations will provide technical backstopping to the implementation of the action plan. The Biodiversity Stakeholder Forum, once established will serve as a sounding board and ensure that the action is continuously addressing pertinent issues. This forum will also assist in monitoring the performance of the action plan against the set targets as stakeholder will report and share their experiences and progress at stakeholder meetings. This will also act as a platform that links science, private sector and politics in order to raise the profile of biodiversity and ecosystems management and conservation.

In order to effectively implement the actions prescribed under this regional biodiversity action plan, a number of supporting measures should be put in place at the regional national and local levels. Financing the SADC BAP action plan is one of the critical supporting measures required by the region. Without finance, very little or no actions can be implemented. The SADC BAP requires a total investment of **US\$40 million (Forty Million United States dollars)** over a period of 15 years. This amount is in addition to the national budgetary allocation by the member states to their NBSAPs. A number of funding options exist in the region and these should be explored in order to ensure that the SADC BAP is well funded. There are a number of financing options that SADC can use to finance the SADC BAP.

The SADC BAP is an initiative of the 15 SADC member states, and these member states have a key role to play in the decision making process. The implementation of the SADC BAP will therefore be governed by the SADC structures. The council/committee of Environment Ministers will be the highest decision making body, with a focus on policy and strategic direction of the SADC BAP implementation. The Biodiversity Technical Committee to be established under this SADC BAP will direct the implementation of the action plan and report to the council/committee of Environment



Ministers. The Environmental Technical Committee will supervise the implementation of the SADC, supported by the SADC FANR – Environment Unit. The SADC National Committees will make in country decisions and supervise the national implementation of activities. The programme/project steering committees will make decisions and supervise the implementation of specific programme/projects and either report to the Environmental Technical Committee or SADC National Committees, depending on the geographical scope of the actions.

In order to build accountability, the SADC BAP institutional structure will develop and implement supporting measures that will empower and enable stakeholders to participate in the implementation of the regional biodiversity action plan. This should include a public education and awareness plan, SADC BAP communication strategy and stakeholder engagement framework/plan. It is important that the biodiversity stakeholders are identified in terms of type, name, role, interest, category, importance, effect on biodiversity, preferred mode of engagement, and required level of engagement. This information will be used to produce the SADC BAP stakeholder engagement framework/plan.

It is important that the implementation of the SADC BAP is effectively managed and coordinated. Although the SADC FANR and member states focal points are quite exposed to biodiversity issues, there still some challenges with regards to coordination and monitoring. Strengthening of capacity at SADC Secretariat as well as member states to effectively implement the SADC BAP is essential. A capacity building plan, targeting the SADC FANR, the Biodiversity technical committee, environment technical committee, SADC national committees, and programme/project personnel is an important supporting measure which will facilitate the effective delivery of the action plan.

The effective implementation of the SADC BAP can only be achieved through partnership arrangements. Investing in strategic partnerships to biodiversity conservation and sustainable use is a more cost effective way to attain sustainable biodiversity use. Building partnerships within and across sectors is essential to establish cost-effective interventions to sustainable biodiversity conservation and management. Strategic partnerships, coalitions and consortiums will be the driving force behind the delivery of the SADC BAP.

If the SADC region is to be successful in achieving its conservation vision and outcomes under the SADC BAP, a sound monitoring and reporting framework is critical. A framework for reporting, communicating and verifying the progress and outcomes of the SADC BAP internally and to relevant or interested parties externally is important. In order to assess the region's progress towards the implementation of the SADC BAP, a monitoring and reporting framework is required. This will comprise of a performance measurement matrix, internal monitoring and external monitoring and evaluation. While the SADC BAP has a 15 -year scope, it will be reviewed on an annual basis. The outputs of all Management Review Reports generated throughout the year by all relevant branches will be considered comprehensively and the results will, in turn, inform an update of the strategies and actions identified in the Action Plan

## CHAPTER 1: INTRODUCTION

### 1.1 The SADC Region

From a geopolitical, socio-economic and environmental perspective, the Southern Africa Development Community (SADC) constitutes a key geographical block of Africa. SADC consists of fifteen member states located in the southern and central part of the African continent. They are Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

The SADC, established in Windhoek, on August 17<sup>th</sup> 1992, is framed under the principles of the “SADC Treaty” and largely seeks to achieve an integration of the economies of member States ([www.sadc.com](http://www.sadc.com)). The SADC vision is one of a common future, a future in a regional community that will ensure economic well-being, improvement of standards of living and quality of life, freedom and social justice and peace and security for the peoples of the region. This shared vision is anchored on the common values and principles and the historical and cultural affinities that exist between the peoples of the region” (SADC, 2004). The SADC Mission Statement is "to promote sustainable and equitable economic growth and socio-economic development through efficient productive systems, deeper co-operation and integration, good governance, and durable peace and security, so that the region emerges as a competitive and effective player in international relations and the world economy" (SADC, 2004).

The total population of the SADC region is estimated at 250 million people (SADC Poverty Profile Report, 2008). Approximately 45% of the total population lives on 1 US\$ per day (SADC Poverty Profile Report, 2008). According to the SADC Poverty Profile Report (2008), malnutrition is on average around 36.1% with a range of 44% to 72% across the region. Life expectancy has been declining over the years from about 60 years to slightly below 40 years at present. Infant mortality rates remain for most countries in the SADC region above 50 per 1000 births (SADC Poverty Profile Report, 2008).

The SADC region is rich in natural resources; yet the region carries some of the world’s poorest communities. The 15 states that make up the SADC region have predominantly underdeveloped economies and undergoing different stages of development resulting in an economic and social growth and development that is heterogeneous across the region. Some countries are well endowed in natural resources and are generating considerable levels of wealth while others have relatively lower levels. The region has a combined GDP US \$ 436 billion and an average annual real GDP growth 6.2% (SADC Poverty Profile Report, 2008).

The social and economic performance across the region is reflected not only in the level of the natural resources available but also in the management of macroeconomic policies. The Human Development Index (HDI) in SADC shows a very different picture due to the various aspects involved in the measurement of the HDI. Mauritius ranks high with a measure of 65 and Mozambique the lowest with 172 (1 being the perfect measure). In relation to the Human Development Index (HDI), the Human Poverty Index (HPI) inverts the position. In SADC, Mozambique is at a higher level at 8 and Mauritius at 82. The HPI measures the number of people below the poverty threshold in terms of education, life expectancy, health conditions and the general standard of living in a country, going beyond the money metric approach. The economies of most countries in the region are heavily

dependent on natural capital, yet the stock of renewable resources is rarely considered at the macro-economic levels where major strategic planning decisions are made. Overall, this situation has led to a vicious downward spiral of resource depletion and growing poverty.

The SADC region is facing a serious humanitarian crisis with long term consequences caused by the HIV/AIDS pandemic which threatens the lives of some 16 million people. With 4% of the world's population, the region carries about 40% of the HIV cases. The epidemic levels varies from <1% to 30%. Since 1990, the region has lost between 10 and 20 years of life expectancy to average below 45 years. Children are especially vulnerable because they loose their carers, teachers and parents ([www.oxfarm.org](http://www.oxfarm.org)). Access to safe water and basic sanitation is limited and this has resulted in poor health conditions and high mortality rates, resulting in reduced human welfare and lower human productivity. Access to energy, especially electricity is also limited, as the majority of the poor people have no been catered for

## 1.2 The Convention on Biological Diversity

Biodiversity can be defined as the *variety of life on Earth at all its levels, from genes to ecosystems, and the ecological and evolutionary processes that sustain that life*. The Convention on Biological Diversity (CBD) defines biodiversity as the variation between ecosystems and habitats, the variation between different species, and the genetic variation within individual species. According to Johnson (1995), biodiversity can be thought of as a system of interactions between genes, species, and the ecosystems they form, influencing and influenced by ecological and evolutionary processes. Thus, diversity exists at three main levels: the combination of species that make up different ecosystems; the number of different species; and the different combination of genes within species. This diversity is fundamental to the health and well-being of all living beings, providing the resiliency that allows natural systems to recover from environmental and human-caused stresses, and providing a great many other benefits to humanity and the other species with whom humanity share the earth. These benefits have been divided into five categories (MA 2005), i.e. provisioning services ( including the production of energy and water); regulating services(including the control of climate and waste); supporting services (including nutrient cycles and crop pollination); cultural services (including research, education, spiritual and recreational benefits); and preserving services (including guarding against uncertainty through the maintenance of diversity). Sustaining natural systems also means protecting the many species that depend on them for survival, and ensuring the persistence of the region's ecosystems for their inherent value, and their intrinsic right to exist.

The Convention on Biological Diversity is one of the most all-encompassing international agreements ever adopted, seeking both to conserve the diversity of life on Earth and to ensure that this diversity continues to maintain the planet's natural life support systems. The *objectives* of the Convention are threefold, the conservation of biological diversity, the sustainable use of its components (species, genes and ecosystems), and the fair and equitable sharing of the benefits arising out of the utilization of biodiversity. These objectives are translated into binding commitments in the text of the Convention. The CBD was opened for signature on 5 June 1992 and entered into force on 29 December 1993.

The Convention constitutes a framework for action that takes place mainly at the national level. The institutional structure established to facilitate the implementation of the convention include the Conference of the Parties (COP), whose principal function is to regularly review implementation of the Convention, and the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) - a subsidiary body of the COP, providing assessment of the status of biological diversity, assessment

of the types of measures taken in accordance with the provisions of the Convention, and advice on any questions that the COP may put to it. The COP as the governing body to the Convention provides guidance by adopting decisions based on the recommendations of SBSTTA and any other advice put before it. A key element of the CBD structure is the Secretariat, whose principal functions are to prepare for and service meetings of the COP and SBSTTA and associated meetings, to manage and/or coordinate ongoing services such as the clearing-house mechanism and to coordinate with other relevant international bodies. As of 2009, 191 countries have ratified the CBD, but only a fraction of these have developed substantive Biodiversity Action Plan documents.

### **1.3 Defining a Biodiversity Action Plan (BAP)**

A Biodiversity Action Plan (BAP) is an internationally recognized programme addressing threatened species and habitats and is designed to protect and restore biological systems. A biodiversity action plan is therefore a “plan to conserve or enhance biodiversity”, more specifically; this is a set of future actions that will lead to the conservation or enhancement of biodiversity. The original impetus for these plans derives from the 1992 Convention on Biological Diversity (CBD). The principal elements of a BAP typically include: (a) preparing inventories of biological information for selected species or habitats; (b) assessing the conservation status of species within specified ecosystems; (c) creation of targets for conservation and restoration; and (d) establishing budgets, timelines and institutional partnerships for implementing the BAP. Modern day BAPs use an analysis of ecosystem services, key ecological process drivers, and use species as one of many indicators of change. They would seek to maintain structure and function by addressing habitat connectivity and resilience and may look at communities of species (threatened or otherwise) as one method of monitoring outcomes. Ultimately, species are the litmus test for biodiversity - viable populations of species can only be expected to exist in relatively intact habitats.

### **1.4 Rationale and Justification for the SADC Biodiversity Action Plan**

There is an increasing recognition of the crucial role of biological diversity in sustaining life and in sustainable development. Biodiversity loss puts people at risk. Future generations face hunger, thirst, disease and disaster if society carries on losing biodiversity.

#### **1.4.1 Biodiversity, Economic Development and Livelihoods**

Biodiversity forms the foundation of the vast array of eco-system products and services that contribute to human well-being and it drives the economies of SADC Member States. Over 50% of the Gross Domestic Product (GDP) of SADC Member States comes from primary sectors of production such as agriculture, mining, forestry and wildlife, which are based on biodiversity in its broadest sense (SADC Biodiversity Strategy, 2006). This means that if biodiversity levels, i.e. the resource base, deteriorates this will have major economic and socio-economic impacts. Furthermore, between 40% and 85% of their citizens live in rural areas where they depend on natural resources for survival. This explains why the maintenance, enhancement or restoration of biodiversity is viewed as a means for achieving the region’s socioeconomic development (SADC Biodiversity Strategy, 2006). Cognisant of the importance of biodiversity to economic development and threats to biodiversity in the region, various policy pronouncement, programmes and initiatives, have been developed in the SADC region.

#### **1.4.2 Regional and National Obligations to the CBD**

All the SADC member states have ratified the Convention on Biological Diversity and are committed to the conservation of biodiversity. One of the key obligations under the convention is the

development and implementation of NBSAPs. All the countries have completed their NBSAPs and as part of their fulfilment of the obligations under this convention, quite a number of countries are routinely producing their national reports on their biodiversity as well as progress towards the 2010 target. The development and implementation of a regional biodiversity strategy provides a regional framework for the implementation of NBSAPs and is a further articulation of the region's obligation to CBD.

#### **1.4.3 The 2010 Target Commitments**

The World Summit on Sustainable Development endorsed the objectives of the Convention on Biological Diversity to *“achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of life on Earth”*. All the SADC member states committed themselves to the 2010 Biodiversity target of halting the loss of biodiversity by 2010 and some have expressed interest in participating and contributing to the Countdown 2010 Network. The Countdown 2010 is a powerful network of active partners working together to facilitate activities towards the 2010 Biodiversity Target. Each partner commits additional efforts to tackle the causes of biodiversity loss. In the SADC region, activities targeted at the Countdown 2010 Initiative started in early 2007, through an IUCN ROSA coordinated project, supported by the Countdown 2010 Network. Through this project, initial consultation with some SADC member states were carried out and scoping paper on biodiversity in the region was produced.

#### **1.4.4 Desire to Operationalize the SADC Biodiversity Strategy**

Throughout centuries, the people of southern Africa have developed strategies for tending and caring for their biological resources for the benefit of their own and future generations. There is also growing realisation that short-term economic thinking, the growing international trade in medicinal plants and wildlife products and some traditional land tenure systems are not conducive to sustainable harvesting, and encourage over-use and poaching of the region's biological resources (SADC Biodiversity Strategy, 2006). In an effort to further the conservation of biodiversity in the region, the SADC member states under the coordination of the Directorate for Food, Agriculture and Natural Resources (FANR) and IUCN Regional Office for Southern Africa (IUCN ROSA) developed and produced a regional biodiversity strategy in 2006. This regional biodiversity strategy provides a framework for national, sub regional and regional actions on biodiversity conservation.

The Strategy identified a wide range of biodiversity problems and challenges being faced by the region in trying to conserve biodiversity and offers various strategies to reinforce biodiversity conservation and management. However, since its approval in 2006, the strategy has not been operationalized due to lack of an action plan to operationalize it. The development of the regional biodiversity action plan shows the desire by SADC member states to operationalize the Regional Biodiversity Strategy.

### **1.5 Purpose and Scope of the Regional Biodiversity Action Plan**

The overall purpose of the SADC BAP is to enable the operationalization of the regional biodiversity strategy. The SADC BAP is a plan that will guide the SADC Community in protecting and restoring the region's biodiversity, and the invaluable benefits it provides. A Biodiversity Action Plan in this case, is a tool through which the regional structures, member states, relevant stakeholders and relevant

partners can work together to deliver a programme of continuing action for biodiversity stewardship on a regional, national and local level. It is a roadmap for the protection of the natural systems, and a guidepost for the engagement of the stakeholders in conservation activities. The SADC BAP will need to be in line with the priorities of existing or planned NBSAP to allow it to contribute to the broader vision of biodiversity conservation at national and regional scales. Considering the fact that actions are taken at the national and local levels, the SADC BAP should align with national priorities. In all cases, care should be taken to ensure that the SADC BAP does not involve actions that are likely to negatively impact other action plans. The SADC Biodiversity Action Plan (BAP) builds on the regional biodiversity strategy (2006) and the national NBSAPs from the 15 member states.

Regional cooperation on biodiversity will stimulate the combined and synergistic efforts by SADC Member States and their communities in biodiversity conservation and its sustainable use. It contributes to the achievement of SADC's goals of social and economic development and poverty eradication as embedded in the Regional Indicative Strategic Development Plan (RISDP); the New Partnership for Africa's Development (NEPAD) Environment Action Plan; and the Millennium Development Goals (MDGs). In addition, cooperation will enhance the bloc to forge partnerships and leverage funding from various development partners and the international community on biodiversity issues.

This SADC BAP outlines a 15-year path for the effective conservation of the SADC Region's biodiversity. This plan will be used as a blue print to guide Member States in implementing their own National Action Plans (NAPS). The SADC BAP sets out a shared agenda for the conservation of biodiversity in the region. The Action Plan is aimed at both the SADC secretariat and the Member States. It will be updated every five years, based on the results of regular monitoring of both actions undertaken and the impact these activities are having on the quality of the region's natural systems and the effectiveness of efforts to engage the stakeholders in this task.

The SADC BAP addresses issues related to the conservation of biodiversity, its sustainable use, as well as issues around access and benefit sharing. The SADC BAP covers not only the conservation of the diversity of ecosystems, habitats and species, but the potential and opportunities for biodiversity based economic development and community livelihoods. This SADC BAP stipulates the region's vision on biodiversity, priority objectives, strategic directions, strategies and actions. It further specifies the main supporting measures, as well as monitoring, evaluation and review measures. Chapter 1 provides the background to the SADC BAP, highlighting why the region has engaged in the development of a regional biodiversity action plan. Chapter 2 describes where the region is with regards to biodiversity conservation as well as the current planning context that the regional action plan needs to take into account. Chapter 3 describes the future that this plan is anticipated to create. With an understanding of the gap between where the region is and where it would like to be, chapter 4 articulates an action plan that can help the region achieve its vision. This chapter focuses on providing the key elements on how the region will get to the desired biodiversity future. Finally, chapter 5 of the action plan focuses on the implementation of the plan and the instruments required for monitoring performance.

This action plan considers biodiversity as an integral part of social development in the SADC region, and within the core concerns of tackling poverty, improving health, prosperity and security of the region's population, and dealing with climate change.

## CHAPTER 2: BIODIVERSITY IN THE SADC REGION

The SADC region has a wealth of biological resources found in various ecosystems and eco-zones such as freshwater, drylands, forests, agricultural, coastal and marine, and urban/built up ecosystems.

### 2.1 The Current State of Biodiversity

The SADC houses a wide range of terrestrial, freshwater and marine ecosystems of pristine beauty and diversity, making them a key asset to the region's economy. The region is a globally recognised centre of biodiversity richness and endemism. The region is endowed with a rich and unique natural heritage that includes a wide range of landscapes and remarkably diverse flora and fauna. However, in recent years there has been a decline in biodiversity in terms of ecosystems, species and genes. There is also an increasing spread of invasive alien species.

#### 2.1.1 Diversity and Status of Ecosystems

The SADC region has a diverse range of ecosystems of global significance. The ecosystem diversity found in the region includes terrestrial, freshwater, and coastal and marine ecosystems. Global terrestrial ecosystem diversity of significance in the region include *the arid and semi-arid ecosystems* (including the whole of the Karoo-Kalahari-Namibia region, which includes 38% of the world's succulent flora), *the Mediterranean-type ecosystem of the Cape Floristic Kingdom* (the richest Centre of botanical diversity and endemism in the world), *forest ecosystems* (including the Guineo-Congolian forests of Angola; the Usambara/Inhambane forests of Mozambique, the Afro-montane forests of Angola, Malawi, Mozambique, South Africa, Swaziland, Zambia and Zimbabwe; and tropical rainforests of DRC, Madagascar, Mauritius and Tanzania); *mountain ecosystems* (including the Huambo and Huila highlands of Angola, the Chimanimani of Mozambique and Zimbabwe, the Nyika of Malawi/Zambia, the Drakensberg of South Africa and Lesotho, and Mt. Mulanje of Malawi); agricultural eco-zone and the urban/built system. These terrestrial ecosystems are important for their biodiversity.

Although the percentage of the total area covered by freshwater ecosystems (particularly wetlands) in the SADC region has not been calculated, the region has important freshwater ecosystems of global significance. The major types of freshwater ecosystems found in the region are rivers, Rift valley lakes, flood plains, swamps/marshes, and a variety of seasonally wet areas such as dambos and pans. Notable freshwater ecosystem include whole of the Congo basin system, Zambezi system, the Okavango delta, the Kafue wetlands, Rufiji wetlands and Rift valley lakes. The freshwater biodiversity in the SADC region is highly diverse and of great importance to community livelihoods and economies. The wetlands have rich aquatic species diversity that is widely distributed and contains rare species. They are among the most biologically productive ecosystems in the SADC region and provide important seasonal habitats for migratory bird species.

The coastal and marine ecosystems of the region constitute another critical ecosystem. The region's coasts are home to an incredible diversity of coastal habitats and ecosystems. Nine SADC Member States have coastal and marine ecosystems. Coastal and marine resources in the region are unique because they benefit from the diversity of two different oceans, the Atlantic and the Indian oceans. The coastline along the Atlantic Ocean is characterized by long sandy beaches interspersed with rocky outcrops while that of the Indian Ocean is rich in coral reefs and mangroves. Four quasi-distinct but interdependent marine ecological regions occur on the sub-continent. They are the

Angolan Current, Agulhas bank, Mozambique Currents and Benguela systems (SADC Biodiversity Strategy, 2006). The Angolan Current of southern Angola supports large concentrations of fish that include Cunene horse mackerel, Benguela hake, several tunas and two species of pilchard. On the other hand, fish species on the Benguela Current of southern Angola, Namibia and western South Africa include sardine or pilchard, round herring, pelagic goby, several mesopelagic mid-water species, Cape horse mackerel and two species of hake. The Agulhas bank, off southern South Africa, provides a warm and stable spawning environment and many fish species migrate to it for this purpose. In Mauritius, the coastal eco-zone consists of lagoons, reefs, estuaries, mangroves, salt water wetlands, and sheltered bays.

### 2.1.2 Habitat Diversity and Status

Numerous habitats are found in the various eco-zones found in the SADC region. The following section provides a brief overview of the diversity of habitats under each ecosystem.

#### i) Terrestrial Habitats

The terrestrial ecosystem harbours a diversity of biomes (eco-zones) such as forests, woodlands, drylands, and agricultural areas as well as urban/built up areas.

**The forest biome** harbours numerous habitats with distinct biodiversity. SADC forests are among the richest and most diverse in the world, covering an estimated 357 million hectares or 55 percent of Africa's forest cover (FAO, 2001). They range from the tropical moist forests of Angola and the Democratic Republic of the Congo to the scrubland and desert ecosystems of the Kalahari and Namib deserts in western Botswana and southern Namibia. Natural forests comprise the following six main vegetation types.



Distinctive forest habitats include tropical rainforests, a variety of woodlands, dry and moist montane forests, swamp forests and mangroves. Different types of habitats are found in the region's rainforest. In the DRC, for example, there are various types of forests, i.e. moist evergreen and semi deciduous forests, montane rainforests, swamp forests, planted forests, mangroves, coastal forests, Congolian lowland forests, and forest savannah mosaics. Mangroves are very common along the coast of the tropical regions with a large concentration in Mozambique, DRC and Tanzania. Besides natural forest, forest plantations constitute another ecosystem. In the case of Island states, the forest eco-zones are quite distinct from those of the main land. In Madagascar for example, there is a wide range of forest habitats which include deciduous forests, high and middle altitude montane forests, littoral forests, lowland forest, evergreen high plateau forests, seasonally dry forests, spiny forests and oriental forests. The deciduous forests of Madagascar are the world's richest and most distinctive dry forests which forms a major part of the western centre of endemism in the country.



There is also a variety of **woodland habitats**. The region's



miombo woodlands constitute the largest dry deciduous forests in the world, extending north of the Limpopo River and covering about 270 million hectares in eastern, central and southern Africa. These woodlands form the most extensive forest vegetation type in SADC. They comprise predominantly *Brachystegia* spp. in association with *Julbernardia* spp. and *Isoberlinia* spp. ([www.sadc.int/fanr/naturalresources/forest/management.php](http://www.sadc.int/fanr/naturalresources/forest/management.php)).

Another important forest habitat is the Zambezi teak forests found in the Kalahari sands of western Zimbabwe, northern Botswana, north-eastern Namibia, eastern Angola and Zambia and cover an area of approximately 19 million hectares. They are dominated by Rhodesian teak (*Baikiaea plurijuga*) in association with mukwa (*Pterocarpus angolensis*) and false mopane (*Guibourtia coleosperma*), which are important commercial timber species ([www.sadc.int/fanr/naturalresources/forest/management.php](http://www.sadc.int/fanr/naturalresources/forest/management.php)). Mopane woodlands occupy areas of low rainfall and high temperature from Inhambane and Tete provinces in Mozambique to north of Namibia and southern Angola and large areas of Zimbabwe and Botswana. The acacia woodlands cover most of the arid and semi-arid areas where rainfall is low and soil is suitable.

Montane and tropical moist forests are found in pockets in high-altitude, high-rainfall areas of Malawi, Mozambique, Zambia and Zimbabwe, while the tropical moist forests are mostly found in Angola and the Democratic Republic of the Congo. The common species, most of which are commercially exploited, include African mahogany (*Chlorophora excelsa*), red mahogany (*Khaya nyasica*) and soccer ball fruit tree (*Tabernaemontana angolensis*) ([www.sadc.int/fanr/naturalresources/forest/management.php](http://www.sadc.int/fanr/naturalresources/forest/management.php)).

In the region, mangrove forests cover about 164 200 ha along the coastline of Angola, Mauritius, Mozambique, South Africa and United Republic of Tanzania ([www.sadc.int/fanr/naturalresources/forest/management.php](http://www.sadc.int/fanr/naturalresources/forest/management.php)). The common species include white mangroves (*Avicennia marina*) and species in the genera *Hyphaena*, *Xylocarpus*, *Sonneratia*, *Rhizophora* and *Nypa*. Plantations account for about 2.5 million hectares or approximately 1 percent of forest cover in the region (FAO, 2001). Over 75 percent of the plantations are commercially managed. These are mainly located in the high-elevation and high-rainfall areas in South Africa, Swaziland and Zimbabwe. Most of them are privately owned.

**The drylands biome** also provides diverse and important habitats. The most common habitats include grasslands, savannah, karoo, desert and fynbos. The Karoo-Kalahari-Namibia region, which includes 38% of the world's succulent flora is found in this eco-zone (SADC Biodiversity Strategy, 2006).

**The agro-eco-zone** supports three main habitats, i.e. cropland, grazing and agro-forestry. A large portion of this ecosystem comprise of cropland. Livestock farming is another important land use system in the region. For example, in Zambia, the agricultural ecosystems harbour about 100 cultivated plant species of which 15% are classified as indigenous and 7% naturalized (Zambia NBSAP, 2003). **The urban/built up eco-zone** on the other hand, comprise mainly of buildings and urban green spaces often occupied by trees and grass.

## ii) Freshwater Ecosystem Habitats

The freshwater ecosystem harbours unique habitats which include rivers, lakes, swamps and floodplains. The major rivers are Zambezi, Congo, Rovuma, Rufiji, Incomati, Limpopo, Save, Orange, Okavango, Cuanza and Cunene. Some of the well-known natural wetlands of the region include the Okavango delta (Botswana), Makgadikgadi Pans (Botswana), Barotse swamps (Zambia), Bangweulu swamps (Zambia), Kafue flats (Zambia), Wembere plains (Tanzania), Linyanti-Chobe Swamps, (Botswana

& Namibia), Etosha pan (Namibia), Raphia swamp forest (DRC), and Ngiri-Tumba-Maindombe and Sangha (DRC).

The main natural lakes in the region include Tanganyika, Malawi, Mweru, Victoria, Upemba (DRC), Alaotra (Madagascar), Albert, Chilwa and Bangweulu. Artificial lakes include Kariba, Cabora Bassa, Ithezithezi, etc. Some of the region's lakes, i.e. Tanganyika and Malawi have the richest lacustrine fish fauna in the world.



Lake Malawi's Maleri islands, is an area of high generic endemism. Lake Tanganyika has extraordinary biodiversity in terms of fish species. Of the 214 native fish species found in the lake, 176 are endemic to the lake (UNEP, 2002). The status of the region's freshwater habitats has been declining, with quite a number of the systems losing their functions. Some 28 southern African fish species are currently listed on the IUCN Red Data List, ranging from vulnerable to critically endangered (IUCN, 2003).

#### □ Coastal and Marine Habitats

The coastal and marine ecosystems of the region harbour diverse and very productive habitats. The Mozambique Currents of the east coast and Indian Ocean Islands have a much greater diversity of life due to the existence of varied habitats that include extensive deltas, estuaries, mud flats, mangrove forests, sea grass beds and coral reefs. Commercial exploitation of the lagoonal fisheries and other anthropogenic factors has contributed to reef stress and degradation in many parts of the region.

In the region, Angola, Mozambique, Tanzania, DRC and Madagascar have relevant areas of mangrove habitats. Mangrove forests are biologically rich ecosystems with extensive root systems stabilising sediments, providing shelter for birds, crabs, molluscs, fish and shrimp. The main mangrove species found in the region are *Rhizophora mucronata*, *Ceriops tagal*, and *Bruguiera gymnorhiza*. Other species include *Avicennia marina*, *Avicennia officinalis*, *Heritiera littoralis*, *Lumnitzera racemosa* and others.

Sea-grasses occur as dense turfs in shallow and calm waters. World-wide there are 58 species of sea-grass beds of which 12 are found in the Western Indian Ocean and these include, *Enhalus acoroides*, *Thalassia hemprichii*, *Halophilia ovalis*, *halophilia stipulacea*, *Zostera capensis*, *Cemodosea rotundata*, *Cemodocea serrulata*, and others (Gove, 1995). Sea-grasses occur as dense turfs in shallow and calm waters. They act as an accretion mechanism for suspended sediments and help reduce particulate pollution. They provide shelter, food and nursery areas for some of the important and valuable species of fish (*Siganitis*, *Lethrinids*, *Lutjanids*, *Scarids*) shellfish, dugong (*Dugong dugong*) and the green turtle (*Chelonia medas*) (Gove, 1995). Coral reefs are some of the most valuable, species diverse and spectacular places in the region.

Coastal wetlands constitute another important habitat within this ecosystem. Notable coastal wetlands in the region include Rufiji Delta (Tanzania), Zambezi delta (Mozambique), and St Lucia wetlands (South Africa). In Mauritius, a country entirely surrounded by coral reefs, there are 44 recognised coastal wetlands.

### 2.1.3 Protected Areas

In recognition of the important role that biodiversity plays ecologically and socio-economically, the SADC region has established an extensive network of conservation areas in form of parks, reserves, forests reserves, botanical gardens, and game management areas. The region has some of the world's largest protected areas, such as the Okavango Delta in Botswana, which is the largest inland delta in the world (16,000km<sup>2</sup>) and the Namib-Naukluft National Park in Namibia (49,768km<sup>2</sup>) (McCullum 2000). In recent years, a new conservation paradigm of espousing transboundary ecosystem management is taking centre stage in the region, with a number of Transboundary Natural Resource Management Areas, in the form of Transfrontier Parks (TFPs) and Transfrontier Conservation Areas (TFCAs) being established throughout the region.



### 2.1.4 Species Diversity

The SADC region harbours a vast range of plants and animal species. Some of the SADC member states contain rich biological resources with very high endemism. According to Krug and others 2002, Southern Africa has 65 endemic mammal species, 50 bird species and 3666 endemic plant species. The Seychelles, for example, harbours about 10,000 species of living organisms many of which are endemic (Seychelles NBSAP, 1997). The DRC is by far the most biologically rich country in Africa. In Madagascar, the endemic species richness relative to the land mass area is unparalleled. The region's terrestrial biodiversity is varied and abundant. They consist of hundreds or thousands of species of birds, plants, mammals, reptiles, butterflies, amphibians and invertebrates.

The status of the biodiversity in the region varies with different degrees of threatened species of both plant and animal species. A higher percentage of known plant species as compared to animal species are threatened. The percentage of threatened plant species ranges from 0.5% in Angola to 40% in Swaziland (Prescott-Allen, 2002). Table 1 presents a species and gene index for some of the countries in the SADC region.

Country	% of Threatened Plant Species	% of Animal Species	Plant Species score	Animal Species score	Wild Diversity score	Domesticated Diversity score	Species and Genes index	Species and Genes performance Rating
Angola	0.5	3.9	60*	61	60	43	54	Medium
Botswana	0.3	1	80**	80	80	72	77	Medium
Lesotho	0.7	7.2	93	44	68	48	61	Medium
Malawi	13.3	1.4	27	72	49	54	51	Medium
Mauritius	26.3	57.8	7	0	3	33	13	Bad
Mozambique	34.2	3.6	0	53	26	42	31	Poor
Namibia	2.36	4.6	77	53	65	27	52	Medium
South Africa	35.6	9.2	0	34	17	48	27	Poor

Swaziland	44.4	2.3	0	56	28	80	45	Medium
Zambia	33.6	2	0	70	35	48	39	Poor
Zimbabwe	17.7	1.3	18	74	46	48	47	Medium

Sources: IUCN ROSA undated Countdown 2010 Scoping Paper

The region is also very rich in domesticated plant and animal genetic resources due to its tropical location. The diversity of flora and fauna of wetlands in the region is immense and in many places unknown, with endemic and rare plant species and wildlife, including migratory bird species.

### 2.1.5 Mammal Species Diversity

The SADC region is known for its diversity of mammal species. Madagascar, for example has 155 mammal species, of which 144 species are endemic to the country (IUCN Species Survival Commission, 2000). The concentration of large mammal species in the SADC region is spectacular. For example, the region supports between 200 000 to 250 000 elephants. Leopard, buffalo, kudu, zebra and other antelopes also occur in large numbers (SARDC/IUCN/SADC, 2004). On the other hand, although cheetah and rhino are present in small numbers, the region has a high proportion of the world's population of both species. The proportion of threatened wild mammal species in the region ranges from 2.6 percent in Zimbabwe to 13 percent in South Africa (Prescott-Allen, 2001).

In terms of species extinction, the blue antelope and the quagga are the only mammalian species known to have become extinct in the region in recent times (Groombridge, 1993; SADC Biodiversity Strategy, 2006). On the other hand, species such as the white and black rhino, black wildebeest, crowned crane, velvet gecko and the cape mountain zebra have come critically close to disappearing altogether, but decisive conservation action is allowing their populations to revive. African wild dogs are also endangered in the region, surviving only in large protected areas (Ledger, 1990).

### 2.1.6 Plant Diversity

The SADC region harbours a vast range of plants species. The mainland region has many centres of endemism, including Nyika Plateau and Mount Mulanje in Malawi, Maputaland and Chimanimani highlands in Mozambique, the Zambezi basin at the source and in the mid-Zambezi Valley, the Bangweulu and the Mweru-Tanganyika basins in Zambia, and the grasslands of the great Dyke and Chimanimani highlands in Zimbabwe. Of the plant known species in Southern Africa, 3,000 are endemic to the region and about 2,000 are threatened (IUCN, 2003).

South Africa ranks as the third most biologically diverse country in the world, mainly because of the richness of its plant life. For example, the country hosts more than 18,000 species of vascular plants of which more than 80 percent are endemic (UNEP 2002). The Island states contain some of the richest plant species diversity. Mauritius harbours 900 species of plants, of which 311 have been identified as being endemic. Madagascar on the other hand,



has 13 000 plant species, of which 11 600 are endemic to the country (IUCN, 2003). The rich biological resources of the region play an important role in ensuring long-term food security and also

access to genetic resources for crop breeding purposes. Many species of plants have medicinal properties such that approximately 10 percent of the region's plants are used (SADC Biodiversity Strategy, 2006).

The rich plant biodiversity of the region is being threatened by various factors such as invasive alien species and habitat destruction. In the region, Mauritius has been ranked by IUCN as having the third most endangered flora in the world. In fact, Mauritius and Madagascar are ranked 2<sup>nd</sup> and 3<sup>rd</sup> in the world in terms of the percentage on native plants that are threatened (UNEP 2002).

## **2.2 Threats to Biodiversity**

Despite the impressive range of biological resources and many centres of endemism, the biodiversity in the SADC region is experiencing increasing pressure due to a number of factors. The major drivers and pressure forces affecting the current status of biodiversity are diverse and complex. The main threats to biodiversity in the region include population growth, worsening poverty, increasing trade in plant and animal species, climate change, invasive alien species, agricultural expansion, land degradation and introduction of genetically modified organisms. These threats (drivers) are largely responsible for the loss of biological resources and ecological processes. According to the Red Data List of plants produced for Southern Africa, there is a significant number of threatened species in the region.

### **2.2.1 Population Growth and Poverty**

Southern Africa has one of the fastest growing populations in the world and about 70% of the region's population live in rural areas on land that is mainly under communal tenure (FAO 2001). The increasing population growth and worsening poverty poses a major threat to the region's biodiversity, causing over-exploitation of wildlife, unsustainable exploitation of forest resources and clearance of forests, wetlands and grasslands for agriculture.

Since a vast majority of the region's population in the region depend on ecosystem goods and services for livelihoods, environmental issues are therefore not a luxury, but a matter of survival. Poverty has remained endemic and is worsening in the region. Currently almost 40% of the people



of the region live below the poverty line, and both income poverty and human poverty are increasing (SADC Poverty Profile Report, 2008). Poverty and environmental degradation 'are linked in a vicious circle in which people cannot afford to take proper care of the environment'. Poverty has been and remains a major cause and consequence of environmental degradation and resource depletion. Poverty and food security are closely intertwined. Lack of access to food is a major contributor to malnutrition and poverty. Food

security appears to have deteriorated significantly and households and communities are considerably more vulnerable to food and livelihood insecurity today than they were a decade ago.

### **2.2.2 Increasing Trade in Plant and Animal Species**

One of the greatest pressures to plant and animal species in the region has been trade in high value plant and animal products such as ivory, horns, game meat and skins as well as live capture and export of plants and plant products such as the African potato. Legal hunting of wildlife and illegal

hunting has caused a severe drop in wild animal numbers in some parts of the region. Animals noted for their decline because of poaching include rhinos and elephants. Birds have been subjected to over utilisation through smuggling.

Unsustainable debt servicing is undermining the ability of southern Africa to respond to the challenges of natural resources management and poverty alleviation. SADC countries have high external debt burdens. This means that most of the governments' earnings go to debt servicing instead of physical and infrastructural development, adversely impacting on investment and economic growth.

### **2.2.3 Climate Change**

Climate change is one of the emerging threats to biodiversity and human well being in the region. Vulnerability to climate change is a major issue, which poses a challenge to biodiversity and the sustainability of protected areas and livelihoods. Climate change in SADC region is likely to add further incremental stress to ecosystems already under pressure due to population growth, increasing subsistence needs and endemic droughts that have negative impacts on biodiversity. Several key centres of plant endemism that occur in SADC region are particularly vulnerable to climate change. Climate change further has an impact on the water and wetlands, which are central to the biodiversity and protected areas.

### **2.2.4 Invasive Alien Species**

Invasive Alien Species (IAS) are species introduced deliberately or unintentionally outside their natural habitats where they have the ability to establish themselves, invade, out-compete natives and take over the new environments (IUCN, 2000). A survey conducted in the region indicates that 40 different Invasive Alien Species (IAS) were identified falling into the following taxa; plants: 23, vertebrates: 4, insects: 9, other invertebrates: 2, micro-organisms: 2 (SABSP 2002). The introduction



of alien tree species such as pines, eucalyptus and Lantana camara, originally for plantations is of great concern. Other plant species are water hyacinth and water lettuce. Every alien invasive species that becomes established alters the composition of native biological communities in some way, and often drastically, upsetting species composition, changing soil chemistry, hydrology and fire frequency (SABSP 2002). The long-term impact is that there is a potential for IAS to displace

indigenous biological diversity loss as some alien species 'out-compete' native vegetation. Invasion of ecosystems by alien species cause significant economic losses.

### **2.2.5 Agricultural Expansion**

Most of the economies of the SADC region are agro based. About 70% of the region's population depends on agriculture for food, income and employment, and agricultural output strongly influences the region's economic growth (FAO, 2001).

Given the fact that the economies of most countries in region are based on crop production, there is a huge demand for land for agricultural expansion as the majority of the population practices subsistence farming which is characterized by low productivity. This expansion of agriculture is taking place at the expense of biodiversity. Soil erosion is one of the most important factors in the decline of biodiversity and agriculture productivity in the SADC region, degrading about 15 per cent of this region's land. This trend is likely to continue over the next 30 years, due to population pressure, skewed land tenure systems, and increasing demand for land (UNEP 2003).



### 2.2.6 Increasing Livelihoods Dependence on Natural Resources

Ecosystems in the SADC region and the biodiversity they harbour underpin community livelihoods and they support a suite of livelihood strategies and opportunities that are derived from agriculture and non-food ecosystem services. The most serious long-term threat to biodiversity in SADC region is habitat loss resulting from agricultural land expansion, settlements and infrastructure development, extraction of natural resources for industry etc. Short-term economic thinking is also contributing to habitat destruction through poor long-term management, overuse of water and natural resources and use of improper technologies.



There is widespread evidence that there is increasing dependence of community livelihoods on ecosystem services and biodiversity. This has resulted in the over-exploitation of wildlife, unsustainable exploitation of forest resources and clearance of forests, wetlands and grasslands for agriculture. This is against the background of limited research and appropriate technologies to sustainably harness the goods and services. The underlying causes to this threat have been poverty and lack of economic alternatives associated with rapidly declining economic conditions in the region. From an economic point of view, the inability to convert its natural capital to wealth also threatens biological diversity and people's livelihoods.



### 2.2.7 Introduction of Genetically Modified Organisms (GMOs)

In the quest for high agricultural productivity, within the context of recurrent droughts, the importation of Genetically Modified Organisms (GMOs) has been on the increase in the SADC region. Although GMOs have the capacity to boost the world's food supply in the face of increasing human populations, especially in developing countries, they can adversely affect local plant germplasm, human health and the environment if not properly handled (SADC Biodiversity Strategy, 2006). There is limited attention to their management in the SADC region. According to the SADC Regional Biodiversity Strategy (2006), there is no policy on dealing with GMOs in the SADC region, although the region has developed guidelines on the subject. Member states are dealing with GMOs in an ad

hoc manner. This lack of a coherent regional policy framework on GMO imports could have long-term implications on the region's biodiversity. However, a number of countries are in the process of developing legislation on bio safety.

### 2.2.8 Threat from Bio fuels

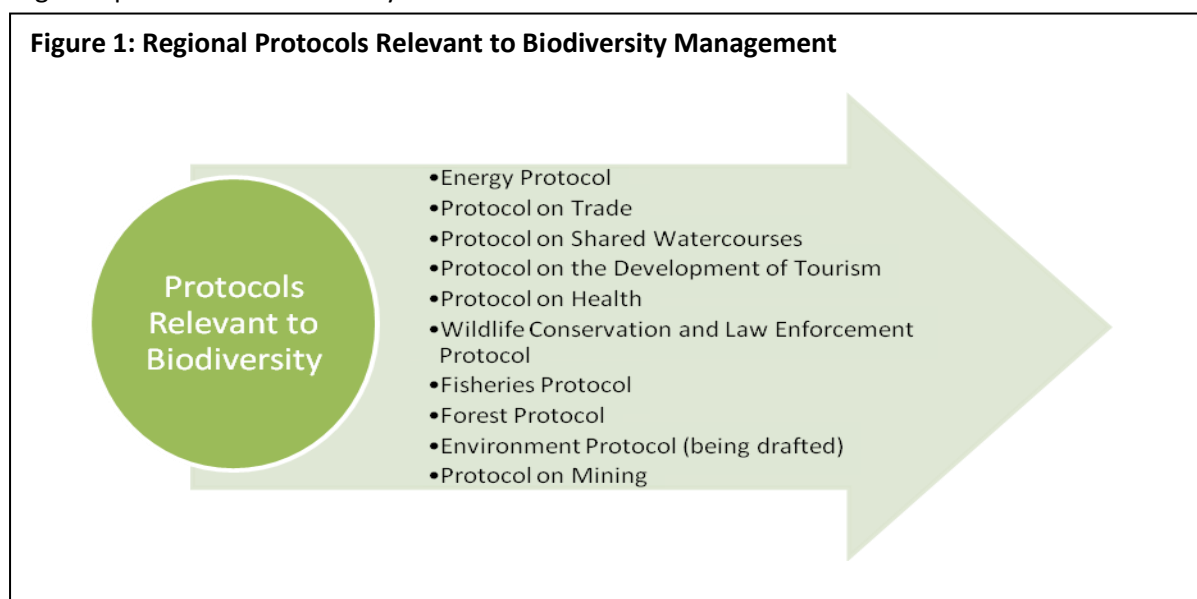
Another emerging issue that pose potential threats to biodiversity is the growing development of bio fuels to supplement the current energy sources in the region. With the looming power crisis in Southern Africa and high oil prices on the world markets, new energy supply strategies are being examined in the region. Bio fuel development in the SADC region, coined "*farming for energy*" is viewed as a new and promising area of development. Although there are positive aspects of bio fuels such as reduced CO<sup>2</sup> and GHG emissions, there is need for safeguards forests and biodiversity. There is a high risk that energy security could lead to loss of biodiversity, if proper measures are not taken at the planning stage. It is therefore important that the potential impact of bio fuels on the region's biodiversity is explored and that relevant information is made available to decision makers.

## 2.3 Current Biodiversity Conservation Efforts

The SADC region is quite aware of and appreciates the current threats to the biodiversity of the region. In response to these treats, a number of responses have been formulated and are being implemented at regional, national and local levels.

### 2.3.1 Formulation and Implementation of Regional Instruments

As part of its response to the threats on the region's biodiversity, SADC has formulated a number of regional instruments that are shown in figure 1. These protocols contain elements of biodiversity and are at various stages of implementation. Such a protocol enhances SADC's commitment to biodiversity conservation and its sustainable use. Furthermore, the protocol demonstrate the cross cutting nature of biodiversity through cross-references to other protocols. For example, Protocols on Health and Forestry provide suitable entry points for developing regional instruments on Access and Benefit Sharing (ABS) and on Invasive Alien Species (IAS). However, most of the protocols have not yet been fully integrated into national policies and laws (IUCN, 2003). There is no stand-alone regional protocol on biodiversity.





These protocols have been ratified and signed by a number of countries (see table 2)

<b>Table 2: Status of Regional Protocol Ratification in the SADC Region</b>						
	Trade	Tourism	Wildlife	Shared Watercourses	Fisheries	Forestry
Angola	a	-	s	s	r	s
Botswana	a	r	r	r	r	-
DRC	s	-	s	-	s	s
Lesotho	a	r	r	r	r	r
Madagascar	-	-	-	-	-	-
Malawi	a	s	r	s	r	s
Mauritius	a	r	r	r	r	r
Mozambique	a	r	r	r	r	-
Namibia	a	r	r	r	r	-
Seychelles	s	-	s	s	s	s
South Africa	a	r	r	r	r	r
Swaziland	a	r	s	r	s	s
Tanzania	a	r	r	r	r	r
Zambia	a	s	r	r	r	s
Zimbabwe	a	r	s	s	s	s

Key: a = acceded; r = ratified; s = signed; - = no information (Source: SADC Secretariat October, 2004)

### **2.3.2 Establishment of Transfrontier Conservation Areas**

In recognition of the trans- boundary nature of natural resources, SADC has been promoting the conservation of transboundary ecosystems and biodiversity. The concept of creating transfrontier conservation areas (TFCAs) is recognized as important tool in promoting the conservation of biodiversity and endangered ecosystems. It has been established that the development of TFCAs can contribute to the welfare and improvement in the standards of living of rural communities through the development of tourism and tourism related products. A TFCA can be defined as parts or components of larger ecoregions that straddle borders between two or more countries, encompassing one or more protected areas as well as multiple-resource areas for the use of communities and landholders, managed for sustainable use of natural resources (Griffin, etal, 1999).

Besides ecological reasons, the TFCA concept has been accepted as a means for increasing economic opportunities, decreasing cultural isolation, as well as fostering peace in a bilateral and regional framework (Singh 1998). This concept has appeal because it integrates ecosystem conservation and socio-economic development at a cross-border landscape level, with the intention of encouraging the formation of alliances between different stakeholders (governments, the private sector, local communities, and non-governmental organisations) as a means of developing consensus and

enabling the available finite skills and resources to be maximised in promoting sustainable land use, ecosystems and biodiversity conservation (Simon Munthali, 2007).

TFCAs compliment the SADC principles related to alleviation of poverty and regional economic integration. A TFCAs strategy has been drafted, with a number of Transboundary Natural Resource Management Areas, in the form of Transfrontier Parks (TFPs) and Transfrontier Conservation Areas (TFCAs) being established throughout the region. Table 3 shows the existing and potential TFCAs in the SADC region.

<b>Name of TFCA</b>	<b>Countries Involved</b>	<b>Status</b>
1.  Ai- Ais/Richtersveld Transfrontier Park	Namibia and South Africa	MoU signed 17 August 2001. Treaty signed 1 August 2003
2. Kgalagadi Transfrontier Park	Botswana and South Africa	Treaty signed May 2000
3. Limpopo-Shashe TFCA	Botswana, South Africa and Zimbabwe	MoU signed 13 June 2006
4. Great Limpopo Transfrontier Park	Mozambique, South Africa and Zimbabwe	MoU signed 10 November 2000. Treaty signed 9 December 2002
5. Lubombo Transfrontier Conservation and Resource Area	Mozambique, South Africa and Swaziland	Trilateral Protocol signed 22 June 2000
6. Maloti-Drakensberg Transfrontier Conservation and Development Area	Lesotho and South Africa	MoU signed 11 June 2001
7. Iona-Skeleton Coast TFCA	Angola and Namibia	MoU signed 1 August 2003
8. Liuwa Plain-Kameia TFCA	Angola and Zambia	Conceptual phase
9. Kavango-Zambezi TFCA	Angola, Botswana, Namibia, Zambia and Zimbabwe	MoU developed, to be signed during 2006
10. Lower Zambezi- Mana Pools TFCA	Zambia and Zimbabwe	Conceptual phase
11. Malawi-Zambia TFCA (combination of Nyika and Kasungu/Lukusuzi TFCAs)	Malawi and Zambia	MoU signed 13 August 2004
12. Niassa – Selous TFCA	Mozambique and Tanzania	Conceptual phase
13. Mnazi Bay – Quirimbas Transfrontier Marine Conservation Area	Mozambique and Tanzania	Conceptual phase
14. Chimanimani TFCA	Mozambique and Zimbabwe	MoU signed
15. Maiombe Forest TFCA	Angola, Congo and DRC	Conceptual phase
16. Kagera TFCA	Rwanda / Tanzania	Conceptual phase
17. ZIMOZA TFCA	Mozambique, Zambia and Zimbabwe	Conceptual phase

Source: IUCN ROSA undated Countdown 2010 Scoping Paper

### **2.3.3 Regional Programmes and Projects**

In an effort to conserve the region's biodiversity, regional programmes and projects have been developed and are being implemented by SADC, member states and other stakeholders. Although the list is non-exhaustive, notable programmes include the development of the SADC Regional Biodiversity Strategy (2006), which is the biggest regional response to biodiversity issues. Other important programmes include the Southern African Sub-Regional Action Plan of NEPAD (2005), whose main objectives among other things, is to enhance the capacity of economic agents to convert natural resources into goods and services for sustainable development; the UNCCD sub regional action plan, Implementation and Coordination of Agricultural Research and Training and the TFCA programme to name a few.

### 2.3.4 Signing and Ratification of International Instruments

All the SADC member states have ratified the Convention on Biological Diversity and did sign up and commit themselves to the 2010 Biodiversity Target. As part of their fulfilment of the obligations under this convention, quite a number of countries are routinely producing their national reports on their biodiversity as well as progress towards the 2010 target. Table 4 shows the state of SADC member state on the CBD.

Country	Date Ratified	Status of NBSAP
Angola	1 April, 1998	Completed
Botswana	12 October, 1995	Completed
DRC	3 December 1994	Completed
Lesotho	10 January, 1995	Completed
Madagascar	4 March, 1996	Completed
Malawi	2 February, 1994	Completed
Mauritius	4 September, 1992	Completed
Mozambique	25 August 1995	Completed
Namibia	16 May, 1997	Completed
Seychelles	22 September, 1992	Completed
South Africa	2 November 1995	Completed
Swaziland	9 November, 1994	Completed
Tanzania	8 March 1996	Completed
Zambia	28 May, 1993	Completed
Zimbabwe	11 November, 1994	Completed

Source: IUCN ROSA undated Countdown 2010 Scoping Paper

In addition to the CBD, SADC Member States have signed, and/or ratified and acceded to a number of international instruments related to biodiversity. The MEAs are recognized as the primary instruments for state commitment to the pursuit of sustainable development. Table 5 shows the status of SADC member states with regards these instruments.

Country	CBD	UNCCD	CARTAGENA	ITPGRFA	RAMSAR	KYOTO	WHC	ACPNNR	UNFCC	CITES
Angola	r	r	-	r	s	-	r	-	r	-
Botswana	r	r	r	-	r	ac	ac	-	r	r
DRC	r	r	a	r	r	ac	r	-	r	r
Lesotho	r	r	a	r	r	ac	ac	-	r	r
Madagascar	r	r	r	r	r	ac	r	a	r	r
Malawi	r	r	r	r	r	ac	r	a	r	r
Mauritius	r	r	a	r	r	ac	r	-	r	r
Mozambique	r	r	r	-	r	ac	r	a	r	r
Namibia	r	r	r	r	r	ac	ac	-	r	r
Seychelles	r	r	r	r	r	r	ac	a	r	r
South Africa	r	r	a	-	r	ac	r	-	r	r
Swaziland	r	r	a	s	-	ac	r	a	r	r
Tanzania	r	r	a	r	r	ac	r	a	r	r
Zambia	r	r	a	r	r	r	r	a	r	r
Zimbabwe	r	r	r	r	-	-	r	-	r	r

Key: r = ratified; s = signed; a = acceded; m = member; ac = acceptance (Source: Compiled from the IUCN ROSA undated Countdown 2010 Scoping Paper, SADC Biodiversity Strategy (2005) and NFDS Africa (2006))

### 2.3.5 National Biodiversity Strategies and Action Plans (NBSAPs)

As part of the signing and ratification of the CBD, national governments are required to develop Biodiversity Strategies and Action Plans. Article 6 of the CBD calls for the development of national strategies, plans or programmes and the integration of conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies. All the SADC member states have produced NBSAPs to provide for a mechanism to implement the Convention on Biological Diversity (CBD) (see table 4) and are currently implementing these action plans. In some countries, based on the experience of implementing the NBSAP, reviews have been carried out with objective of improving the national actions. Although there are some differences in the main focus of the national biodiversity strategies and action plans some common features exist (see table 6 in Annex 1).

### 2.3.6 Expansion of Protected Areas System

The Protected areas system is a critical instrument for biodiversity conservation in the SADC region. The Convention on Biodiversity recognizes the value of Protected Areas in delivering environmental goods and services, which underpin sustainable development and human well-being. These areas are managed for environmental protection, conservation of biodiversity, water catchment functions, wildlife reservoirs, commercial exploitation of indigenous timber, and for aesthetic values. Protected areas in the SADC region provide a myriad of benefits for human development. The land coverage of protected areas ranges from one country to the other (Table 7). Over 70% of the protected areas lie across international boundaries. They therefore provide opportunities for Trans-boundary Natural Resource Management initiatives within the region.

**Table 7: Proportions of Land Set Aside as protected areas in SADC Region**

Country	Total Area in Ha (mil)	Protected areas in Ha (mil)		% Total of Wildlife and Forest Areas
		Wildlife	Forest	
Angola	124.67	2.958	69.76	58.33
Botswana	58.17	4.55	12.43	29.19
DRC <sup>1</sup>	234.51	11.26	135.21	62.46
Lesotho	3.04	0.006	0.01	0.66
Madagascar	-	-	-	-
Malawi	11.85	0.696	2.56	27.49
Mauritius	0.2	0.0006	0.02	8.30
Mozambique	79.94	1.58	30.60	40.25
Namibia	82.43	3.16	8.04	13.59
Seychelles	-	-	-	-
South Africa	118.48	4.02	8.92	10.92
Swaziland	1.74	0.06	0.52	33.45
Tanzania	94.51	4.10	38.81	45.40
Zambia	75.3	6.36	31.25	49.94
Zimbabwe	39.06	2.72	19.04	55.70
<b>Total</b>	<b>923.9</b>	<b>41.46</b>	<b>357.16</b>	<b>43.15</b>

Source: SREAP of the NEPAD Environment Action Plan, 2005

<sup>1</sup> Democratic Republic of the Congo

### 2.3.7 Domestication of MEAs

As highlighted in table 4, SADC member states have ratified numerous biodiversity related MEAs. When a member state indicates its commitment to an international accord, this needs to be followed by a decision or an action in the form of establishing a mechanism for implementing the agreement in the country. The most common mechanisms used have either been enacting acts or laws in the country to implement what has been agreed at the international level, or incorporating these agreements in domestic policy in the form of creating national incentive or disincentive schemes. The incorporation of provisions of agreements signed at the international level in national policy can include giving tax incentives, and export or import subsidies, imposing bans, introducing licensing requirements, setting standards etc., in the country to adhere to what is agreed upon at the international level. As part of the response to biodiversity threats and the region's obligation to the MEAs, a number of countries are in the process of domesticating the MEAs.

The approaches used to domesticate MEAs in the SADC region varies from one country to the other. The regional protocols produced by SADC at the regional level contain provisions that talk to the conventions. The most favoured means of domesticating MEAs at the national level has been the enactment of laws and passing of decrees. The review of policies and legislation is another way of domestication used in the region. In the SADC region, South Africa is the only country with a stand alone biodiversity act – National Environmental Management: Biodiversity Act (2004). This act provide for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith. In Zimbabwe, the African Convention on the Conservation of Nature and Natural Resources is reflected in national instruments such as the Trapping of Animals Control Act (1973) and the Parks and Wildlife Act (1975) in Zimbabwe.

Most national environmental policies and legislations have provisions for the conservation of biodiversity. In Zambia for example, chapter 32 of the Fifth National Development Plan calls for the domestication of MEAs and improved coordination of environmental management. The environmental policy, legislation and regulatory instruments in this country are in the process of being modernization, which include the domestication of international conventions. Botswana has also developed several policies that support the implementation of MEAs. The key sustainable development principles that are advocated by MEAs and reflected in the policies include public participation, the precautionary approach to development, integrated management of natural resources, consideration of transboundary impacts, and the need for polluters to pay for the full costs of their actions.

The Convention on Biological Diversity (CBD) has also led to the formulation of biodiversity plans and strategies. Most countries have now developed NBSAPs (CBD), National Action Plans (NAP for UNCCD] and NAPAs for UNFCCC] in response to these conventions. The CITES convention is closely related to the CBD and national programmes have been introduced in much of Africa to help in the sustainable utilization and trade in wildlife. Such programmes include the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe, the Peace Parks Concept in Mozambique and South Africa, and the Administrative Design Programme for Game Management Areas (ADMAGE) in Zambia.

## **2.4 The Governing Policy and Legislative Framework**

Biodiversity in the SADC region is governed by a multiplicity of policies and legal instruments that operate at the international, regional, national and local levels. The following sections highlight the current governing policy and legislative framework for biodiversity in the SADC region.

### **2.4.1 International Agreements**

The international agreements and conventions provide an important component of biodiversity management governance in the region. Most countries in Southern Africa have signed, and/or ratified a number of Multilateral Environmental Agreements (MEAs) such as the United Nations (UN) Convention on Biological Diversity (CBD); the UN Convention to Combat Desertification (UNCCD); the Ramsar Convention on Wetlands; the Cartagena Protocol on Bio safety; the Kyoto Protocol of the UN Framework Convention on Climate Change (UNFCCC); the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA); and the World Intellectual Property Organization (WIPO) (see table 5). While all the countries are signatories to the CBD, there is limited implementation of the Conference of Parties (COP) decisions as reflected by irregular and inadequate national reporting and outdated National Biodiversity Strategies and Action Plans. There is limited synergy in the implementation of MEAs in the region. A key challenge faced in the region, is the inability to implement Multilateral Environmental Agreements in a coherent and strategic manner.

### **2.4.2 Regional Protocols, Policies, Strategies and Agreements**

The SADC structure has formulated a number of protocols, policies, strategies and agreements that are used to govern and control the management and use of biodiversity. The SADC Treaty, as amended, puts the achievement of sustainable utilization of natural resources and effective protection of the environment as one of SADC's objectives.

#### **□ Regional Protocols and Policies**

The most commonly used regulatory framework for biodiversity management at the regional level is an agreement and/or protocol signed by the state. These protocols provide legally binding frameworks for regional collaboration among Member States and demonstrate the region's political and technical will to mainstream the environment (including biodiversity) into its development strategies. The protocols that influence the use and management of biodiversity are listed in figure 1. The Protocols contain elements of biodiversity conservation and management and are at various stages of implementation. The SADC Water Policy has some provisions that can be used to effectively manage biodiversity, especially freshwater biodiversity.

#### **□ Regional Strategies**

A number of regional strategies and plans also exist. The existing relevant strategies include the Regional Indicative Strategic Development Plan, Regional Biodiversity Strategy, and Regional Water strategy. The political and administrative roles for biodiversity are guided by the Regional Indicative Strategic Development Plan (RISDP) – a 15 year programme. The Plan recognizes the importance of agriculture and other natural resources in the attainment of these goals.

The SADC Regional Biodiversity Strategy was developed as part of regional compliance to the CBD and in order to provide a framework for regional cooperation in biodiversity issues that transcend national boundaries and to stimulate the combined and synergistic efforts by SADC Member States and their communities in biodiversity conservation and its sustainable use. The Strategy contributes to the achievement of SADC's goals of social and economic development and poverty eradication as embedded in the Regional Indicative Strategic Development Plan (RISDP); the New Partnership for Africa's Development (NEPAD) Environment Action Plan; and the Millennium Development Goals (MDGs).

The SADC Regional Water Policy and Strategy also makes provision for the environment and biodiversity. Chapter 5 of the Regional Water Policy is focused on water and environmental sustainability. Under this section of the policy and strategy, the environment is recognised as a resource base and legitimate user of water in the SADC region. The strategy calls on member states to allocate sufficient water to maintain ecosystem integrity and biodiversity, including marine and estuarine resources. The policy and strategy makes EIA a mandatory requirement for water development projects. The policy and strategy also regulates Invasive Alien Species by calling on member states to control IAS with the ultimate aim of eradicating them.

#### ❑ **Sub-Regional Treaties and MoUs**

There are also a number of instruments governing the conservation of Transfrontier conservation areas. These are in form of treaties and memorandum of understanding (MoUs). Some of the current treaties and MoUs are listed in table 3.

#### **2.4.3 National Policy and Legislation**

Biodiversity management at the national and local level is mainly governed through Acts of Parliament, National policies and regulations. Most of the national policy's and legislation are developed along sectoral lines e.g. Water, Environment, Land, Wildlife, Tourism, Agriculture, etc, thus different Government Ministry's and institutions mandated to implement these policies play various roles in the management of biodiversity. For example in Malawi biodiversity conservation and management is governed by the Environment Act, Forestry Act, National Parks and Wildlife Act and the Fisheries Act, the National Herbarium and Botanic Gardens Act and the Water Resources Act. Other Acts of Parliament that affect biodiversity management include Intellectual Properties Rights (IPR) Act; the Land Act, the Town and Country Planning Act; the Local Government (Urban Areas) Act and the Mines and Minerals Act. Relevant Policies and Action Plans that affect biological diversity are: - the National Environmental Action Plan (NEAP), National Environmental Policy (NEP), the National Population Policy, the Agricultural and Livestock Strategy and Action Plan, and the Water Development Strategy and Action Plan. The main thrust of Malawi's National Environmental Policy is to prevent environmental degradation, protection of the environment (including wetlands), conserve and enhance biological diversity (including wetland biodiversity) and ensure a healthy living and working environment for its citizens. The Angola National Environmental Management Programme policy (2006) contains specific objectives which are related to environmental protection and biodiversity conservation.

Some countries in the region have formulated national biodiversity policies, providing effective guidance on the management of biodiversity in the country. In South Africa, the National Policy on

the Conservation and Sustainable Use of South Africa's Biodiversity (2002) is a key instrument for the sustainable use of the country's biological resources. Swaziland is in the process of a Biodiversity Policy, whose main objectives are to restore and maintain the biological genetic resources; to utilize bio- and cultural diversity in sustainable ways in order to meet present and future needs; to preserve the unique ecosystems of the country through an expanding network of carefully selected and well-managed protection worthy areas.

## **2.5 The Institutional Structure Landscape**

Since the formulation of the Convention on Biological Diversity, there has been a growing interest and efforts towards biodiversity conservation in the SADC region. This has resulted in organised institutional structures to manage and coordinate biodiversity conservation and management at the regional and national levels. The regional institutional landscape for biodiversity management is characterized by government institutions at the regional, subregional and national level; international organizations and UN bodies; national NGO's, research institutions, the private sector and CBO's.

### **2.5.1 Regional Institutional Arrangements**

The regional institutional structure is dominated by the SADC structures and international organizations.

#### **❑ Southern African Development Community (SADC)**

At the regional level, SADC, through the various Directorates and various committees provides the regional vehicle for managing and conserving biodiversity issues in the region. SADC consists of four Directorates namely: Trade, Industry, Finance and Investment; Food, Agriculture and Natural Resources; Infrastructure and Services; and Social and Human Development and Special Programmes. Although biodiversity issues are cross cutting, the management of biodiversity mainly falls under the portfolio of the Directorate of Food, Agriculture and Natural Resources. Issues of biodiversity are also of concern to the Directorate of Infrastructure and Services through the Water Division. The main function of the Directorate Food, Agriculture and Natural Resources through its Natural Resources, is to coordinate and harmonize agricultural policies and programmes in the SADC region, in line with priorities in the RISDP. The main focus of FANR is to ensure food availability, access, safety and nutritional value; disaster preparedness for food security; equitable and sustainable use of the environment and natural resources; and strengthening institutional framework and capacity building. With regards to biodiversity FANR focuses on equitable and sustainable use of the environment and natural resources and strengthening institutional framework and capacity building.

#### **❑ Sub-Regional Institutional Structures**

Considering the fact that much of the biodiversity exists within trans-boundary areas and/or exhibits trans-boundary migration patterns, sub-regional structures to manage these areas have been established. There are a number of inter-state institutional arrangements partnerships to manage transboundary natural resources. Examples include the Great Limpopo Transfrontier Park, Kgalagadi Transfrontier Park, Maloti Drakensberg Transfrontier Project, KAZA TFCA, etc.



## ❑ **Other Actors**

At the regional level, SADC is supported by other international and regional actors such as New Partnerships for Africa's Development (NEPAD) through the Environment Action Plan; Secretariats of Multilateral Environmental Agreements such as CBD, CITES, CCD, Ramsar etc.; UN Agencies such as United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) and management and Food and Agriculture Organisation (FAO). Other international organizations that contribute to the regions biodiversity management include IUCN – The World Conservation Union, Centre for International Forestry Research (CIFOR), International Centre for Research in Agro forestry (ICRAF), WorldFish Centre, World Resource Institute (WRI), Consultative Group on International Agricultural Research (CGIAR), an informal association of some 50 countries, international and regional organization, and International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). A number of Cooperating Partners provide financial and technical assistance in implementing biodiversity programmes in the region. These include DFID, USAID, DANIDA, SIDA, CIDA, HIVOS, and NORAD.

A number of regional institutions such as IUCN – East and Southern Africa Regional Office, Desert Research Foundation of Namibia (DRFN); the Southern Africa Research and Documentation Centre, World Wide Fund for Nature (WWF), and Conservation International, to name a few. These institutions vary in their institutional structures and how their engagement at the regional level is organized at the regional level. For example IUCN - the World Conservation Union brings together States, government agencies, NGOs, and volunteer scientists and experts. The Union is governed by a Council whose responsibility is oversight and general control of all the affairs of the organization. There are national and regional committees comprised of IUCN members are responsible for facilitating cooperation among members, coordination of the components of IUCN, and participation of members in the programme and governance of IUCN. IUCN has 6 Commissions which are networks of expert volunteers entrusted to develop and advance the institutional knowledge and experience and objectives of the Union.

### **2.5.2 National Level Arrangements**

The national levels institutional arrangements are dominated by national governments, working with a variety of stakeholders, inclusive of international and national NGOS, private sector and CBOs.

## ❑ **National Government**

At the national level the mandate to manage biodiversity falls under the jurisdiction of the respective state governments. Biodiversity issues cut across a number of key Government ministries and institutions. These include Ministries responsible for environment and natural resources, wildlife and tourism, water resources and agriculture among others. Their mandates and roles vary from country to country and are mainly regulated by the countries national policies and legal framework relevant to biodiversity management. In each country, there is a biodiversity focal institution. Table 8 highlights the biodiversity focal points for the Convention on Biological Diversity (CBD) in the SADC region.

<b>Table 8: National Biodiversity Focal Points for the Convention on Biological Diversity</b>	
<b>Country</b>	<b>Ministry Responsible for Biodiversity</b>
<b>Angola</b>	Direccao Nacional de Recursos Naturais, Ministerio do Ambiente
<b>Botswana</b>	Department of Environmental Affairs, Ministry of Environment, Wildlife and Tourism
<b>DRC</b>	Direction du Developpement Durable, Ministere de l'Environnement, Conservation de la Nature' et Tourusme
<b>Lesotho</b>	National Environment Secretariat, Ministry of Tourism, Environment and Culture
<b>Madagascar</b>	Directeur du Systeme des Aires Protegees, l'Environnement et des Forets
<b>Malawi</b>	Environmental Affairs Department
<b>Mauritius</b>	Ministry of Environment and Natural Development Unit
<b>Mozambique</b>	Environment Management, Ministry of Environmental Affairs
<b>Namibia</b>	International Environmental Convention Unit, Ministry of Environment and Tourism
<b>Seychelles</b>	Ministry of Foreign Affairs; Wildlife, Trade and Conservation Section, Ministry of Environment, Natural Resources and Transport.
<b>South Africa</b>	Chief Policy Advisor, International Biodiversity and Marine Cooperation, Department of Water and Environmental Affairs.
<b>Swaziland</b>	Swaziland Environment Authority (SEA)
<b>Tanzania</b>	Environment Policy and Planning, Division of Environment, Vice President's Office
<b>Zambia</b>	Department of Environment and Natural Resources Management; Ministry of Tourism, Environment and Natural Resources
<b>Zimbabwe</b>	Ministry of Environment and Tourism

Source: Convention on Biodiversity, National Focal Points, <http://www.biodiv.org/world/map.aspx>

Despite the existence of clear focal points, the in country responsibilities and institutional arrangements are more complex. Using Namibia as an example, while the Ministry of Environment and Tourism is the biodiversity focal point and has the mandate for environmental protection in Namibia through the Directorate of Environmental Affairs, a number of other institutions that have political and administrative responsibilities for biodiversity include Ministry of Fisheries and Marine Resources, Ministry of Agriculture, Water and Rural Development, Department of Water Affairs, Directorate of Forestry and the Desert Research Foundation of Namibia among other institutions.

#### ❑ Other National Actors

In addition to the government agencies responsible for biodiversity management, a host of public and private institutions also play a role in the management of biodiversity at the national level. These include Non Governmental Organisations, Academic and Research Institutions, Private Sector organizations and Community based organizations. These institutions play a role in research, monitoring, assessment and management of biodiversity at the national and local level depending on each organizations key focus and objectives. Research and academic institutions, NGO's and CBO involvement in biodiversity management at the national level is well established however, the role of the private sector has mainly been in tourism and is still being established in other areas of biodiversity management.

## 2.7 Issues, Constraints, Gaps, Challenges and Opportunities

There are a number of issues and challenges affecting the conservation and utilization of biological resources in the SADC region.

### 2.7.1 Major Issues

Although the region is endowed with natural resources, it is characterized by high levels of poverty that emanate from its inability to effectively transform this biological capital into goods and services for social and economic development and poverty eradication. The following sections highlight the main issues concerning biodiversity in the region.

#### ❑ Loss of Biodiversity and Related Ecosystem Services

There is no doubt that Southern Africa has made considerable advances to conserve its biodiversity. Despite this progress, loss of biodiversity and related ecosystem services continue to be experienced in many places. The continued loss of biodiversity at genetic, species and habitat levels in both protected and non-protected areas is of great concern and this adversely impacts on the region's ability to realize the Millennium Development Goals.

Biodiversity in the region is declining due to habitat destruction, fragmentation and loss, mainly as a consequence of land use changes and poor land management. As a result some species have gone extinct, while others are threatened with extinction. Due to habitat loss four antelope species in Lesotho and Swaziland, the blue wildebeest in Malawi, the Tsessebe in Mozambique, the blue buck from south-western South Africa, and the kob in Tanzania are threatened with extinction. The blue antelope and the quagga are the only mammalian species known to have become extinct in southern Africa in recent times, while species such as the white and black rhino, black wildebeest, crowned crane, velvet gecko and the cape mountain zebra have come critically close to disappearing altogether, but decisive conservation action is allowing their populations to revive. African wild dogs are also endangered in the region, surviving only in large protected areas. Reductions in populations are widespread and genetic diversity is considered to be on the decline in not only in the SADC region but the world at large.

According to the SADC Biodiversity Strategy (2006) there has been a marked decrease in the abundance of certain plants due to various human-induced pressures. For example, the over-reliance on traditional medicinal plants for primary health care has contributed to the over-exploitation of species such as *Waburgia salutaris* in Swaziland and Zimbabwe, and *Albizia brenfolia* in Namibia, while commercial crafts have caused the decline in the tree species such as *Berchemia discolor* in Namibia and Botswana.

The associated disruption of ecosystem integrity and reduction in population of some species alters the conditions necessary for the survival of others similar changes occur in the aquatic ecosystems. Some ecosystems such as wetlands are also being lost. Wetland loss in the region is significant and critical.

Agro-biodiversity is also declining, with the general trend of changing from indigenous breeds and varieties to more productive new breeds and varieties. The loss of traditional knowledge is also linked to the loss of germplasm.

#### ❑ Low Profile given to Biodiversity

Despite the importance of biodiversity in the region's economic development and livelihoods, there is insufficient appreciation of the importance of biodiversity to national economies and sustainable

livelihoods, resulting in continued exclusion of biodiversity from the mainstream sectors of national economies, and limited investment in areas such as value addition and bio-prospecting by national governments. There is limited awareness and appreciation of biodiversity among user sectors and legislators. This state of affairs is generally contributing to the destruction of various biological resources for immediate gain without due consideration to future needs and impacts on the environment. This has generally led to the loss of plant and animal species.

#### ❑ **Ineffectiveness of the Protected Areas System**

Protected areas established within the various biomes of the region are a key instrument to biodiversity conservation and sustainable use in SADC region. The region has protected areas in dryland ecosystems; forests; coastal and marine; and freshwater ecosystems. Despite the impressive conservation credentials, most protected areas, especially those under state management regimes are believed to be performing below the expected thresholds, particularly with respect to the fulfilment of their primary roles of maintaining ecological processes and preserving biodiversity.

Well-managed protected areas serve many purposes, including the preservation of biodiversity, assuring water supplies, and contributing to revenue earning, which would in turn provide livelihood opportunities and to contribute to the alleviation of poverty. However, in the SADC region, the protected areas network seem not to be adequately fulfilling this role as rural poverty continues to increase around protected areas, a situation that is troubling many stakeholders.

Despite the impressive network of protected areas in the region, many of the institutions created to manage these areas lack the adequate human and financial capacity to carry out their functions. In addition, a number of issues are being raised with regards to the governance of protected areas. There are also a number of challenges to wildlife management and its contribution to economic development. These include wildlife habitat loss, lack of sound scientific data for management decisions, policy and legislative constraints, wildlife human conflicts, and other external factors are HIV/AIDS, droughts and civil wars.

#### ❑ **Poor Biodiversity Management Governance**

Effective governance systems are critical to the conservation and sustainable use of Southern Africa's biodiversity. In this Action Plan, the term *governance* refers to the whole spectrum of regulatory and institutional arrangements and decision-making frameworks, processes and practices that, global, national and local state and non-state actors employ to control access to and use of natural resources and the environment. Although SADC Region is one of the regions that have made considerable progress in developing a conducive policy environment for effective natural resources management (in terms of regional protocols, institutions, national policies and legislation), the region is still experiencing serious governance challenges as far as biodiversity conservation and sustainable use is concerned. Since biodiversity is a cross cutting issue, there are numerous and fragmented policy and legislations governing its conservation and sustainable use. Biodiversity policies and legislation are limited. Policies on Bio Trade access and benefit sharing and Intellectual Property Rights are absent.

While all the countries are signatories to the CBD, there is limited implementation of the Conference of Parties (COP) decisions as reflected by irregular and inadequate national reporting and outdated National Biodiversity Strategies and Action Plans. There is limited synergy in the implementation of MEAs in the region. There is also limited synergistic implementation of MEAs and regional protocols.

Despite the progress made by the region in the area of improving the policy and legal instruments, there are a number of deficiencies in policies, legislative and institutional frameworks for addressing various drivers affecting ecosystems and their ability to supporting livelihoods and providing ecological services. The policies generally do not incorporate appropriate incentives for ecosystem management partly due to lack of capacity to incorporate such during policy formulation. There are shortcomings related to the actual application of ecosystem management practices such as land restoration given the problems of land degradation being experienced and this is partly a result of inadequate policy responses for combating natural resources degradation.

In addition, most of the existing legislation in the SADC region does not foster coordination and stakeholder participation. Most of them preclude neighbouring communities from accessing goods and services especially from protected areas. Because of the restrictive legislation, protected areas have remained “islands of green” surrounded by degraded communally owned landscapes. In some countries, existing laws do not allow for establishing the mechanisms required for community-based management of natural resources. Despite recognized effort towards improved participation and inclusiveness in policy formulation processes, the region is still faced with a major dilemma whereby large segments of the social fabric, specially the disadvantaged and dis-empowered local communities are systematically excluded from the policy and decision making process. Transparency, participation and equity continue to be key problems in the governance of biodiversity. Institutional arrangements, in terms of how the stakeholders are organized are key to the effectiveness of biodiversity management governance. A number of the existing institutions are weak.

Due to the growing interest and attention on biodiversity and protected areas as potential engines of economic growth in the region, the sector is progressively becoming crowded and the big challenge faced by the region is foster effective coordination and collaboration among and between the diverse groups of stakeholders. Considering the fact that much of the biodiversity exists within trans-boundary areas and/or exhibits trans-boundary migration patterns, regional co-operation is essential to address effectively the root causes of threats to biodiversity and to maintain the integrity of ecosystems that transcend national borders. Coordination between and among the relevant institutions remains a major problem.

#### ❑ **Unsustainable Economic Development**

The economies of many countries in the region are heavily dependent on their natural resource base. In recent years, the region has been experiencing a paradigm shift in economic development, with an increasing call to open up the economies in order to facilitate economic development. This new paradigm in economic development focusing on economic development (short term economic gain paradigm) with little due respect to environmental consequences is creeping into some countries in the region. Many of these countries are prepared to flout most of the global, regional and national environmental regulations (such as SEAs and EIAs) for economic development. Local

and regional patterns of dependence on natural resources, combined with large-scale exports of agricultural produce and other raw materials, exert even greater pressure on the region's natural capital, especially its biological diversity. The region has also been exploring on economic opportunities based on "bio trade" and diversification of economic activities based on biodiversity. However, this should be done in a sustainable manner to conserve the region's biodiversity and prevent loss of species, ecological processes and biological resources (SABSP, 2005). In many cases, the valuation of biodiversity does not feature in the economic development equation.

The increasing poverty, economic decline and a growing dependence on external sources of aid have forced many SADC member states to attempt short-term remedies that focus on immediate relief for communities in dire need of assistance. Whilst many of these attempts provide short-term relief, they merely represent cosmetic solutions to the underlying problems and seldom halt or reverse the adverse conditions. If current trends are to be arrested and reversed, greater attention must be paid to new environmental management approaches that will help to restore and conserve depleted resources while addressing the livelihood concerns of the population. In this respect, the need for Strategic Environmental Assessment (SEA) and Environmental Impact Assessments (EIAs) before such developments are embarked upon cannot be over emphasized. In addition, mitigatory measures recommended in SEA and EIA reports will have to be implemented timeously.

#### ❑ **Inequities in Access and Benefit Sharing (ABS)**

It is well appreciated that biodiversity is the engine for economic growth in the SADC region. However, there are glaring inequities in access and benefit sharing derived from biodiversity use. At the global level, there are inequitable terms of trade, where most SADC countries are short changed on the benefit derived from the use of their biological resources. Within the region, the distribution and access to natural resources for the local communities and the disadvantaged groups is a problem. The situation is worsened by the absence of tangible benefit sharing regimes that can build equity in the conservation and sustainable use of biological resources.

#### ❑ **Increasing Magnitude of Poverty**

The SADC region is one of the poorest regions in the world. About one in seven people in Southern Africa face starvation. Over fifty percent of the population is considered 'poor.' More than two thirds of the region's population derive their main income from agriculture and related activities. Like in many regions of the world, the region's poverty is both the cause and result of environmental degradation. Rapid population growth in a situation of limited livelihood options is a major factor in growing poverty and environmental degradation and biodiversity loss. In addition the over-dependence on one form of economic activity, in particular agriculture, whose performance is governed by water availability, has exacerbated the problem.

While it is acknowledged that biodiversity is important for the socio-economic development, the region is characterised by under developed business enterprises and markets. This limits the potential from the region's biological resources. The limited potential for improved gain from biodiversity may be attributed to a number of reasons. The most critical of these reasons include limited access to capital and credit, few business enterprises and skilled entrepreneurs, poor markets and marketing strategies, and dilapidated or absence of means of transport and infrastructure.

#### ❑ Proliferation Invasive Alien Species

The spread of alien species increases pressure on indigenous species, and contributes to the gradual loss of biodiversity. Invasive alien species of aquatic weeds (e.g. *Eichhornia crassipes*, *Pistia stratioides*, *Azolla filiculoides* and *Salvinia molesta*) are particularly troublesome and are threatening some of the region's important waterways, dams and wetlands, and control is taking up major resources, these are often transported in the ballast water of boats.

In the SADC region, the unique floral kingdom of the Cape fynbos, for example, is severely threatened by Australian acacia species, such as *Acacia mearnsii*, *A. podalyriifolia*, and *A. longifolia* which were originally introduced for timber, and bark products, or to stabilise sand dunes. Even protected areas that have been set aside to conserve biodiversity have not been spared from the menace of IAS (Macdonald 1983). In Malawi, for example the Nyika National Park's montane grassland has been infested by alien *Eucalyptus* and *Pinus* species, while in South Africa the Kruger, a world-famous national park, which is also part of the Great Limpopo Transfrontier Park, is infested by at least 214 alien plant species (Foxcroft 2001). Globally, IAS are also responsible for about 30% of all threatened birds, 15% of all threatened plants and 10% of all threatened mammals and are the second most important cause of extinction of molluscs (Foxcroft 2001).

#### ❑ Ad Hoc Management of GMOs

A key problem affecting biodiversity today is the introduction of GMOs. GMO's have the capacity to boost the world's food supply, while at the same time they can adversely affect local plant germplasm, human health and the environment if not properly handled. As highlighted in the earlier chapters, SADC has no policy on GMO's however guidelines have been developed. In 2003, SADC developed guidelines on GMOs, biotechnology and bio safety. They cover the following areas: handling of food aid, policy and regulations, capacity building and public awareness and participation. The guidelines urge member states to develop national biotechnology policies and strategies and to sign and ratify the Cartagena Protocol. In addition, they encourage the region to develop a harmonized policy and regulatory framework based on the African Model Law on Bio safety, the Cartagena Protocol and other relevant international processes.

At the regional level, SADC identified a number of priority actions that should be taken by the region. These include improving the region's capacity to manage GMOs; developing national and regional policy and legislative frameworks for dealing with GMOs; building national and regional capacities to handle GMO related issues including, human health; establishing the actual impact of GMOs on other biodiversity and economic activities; conducting studies to establish "best practices" in the management of GMOs and promote them; developing regional guidelines and/or protocols on the management and monitoring of GMOs; and collating and disseminating information on GM foods to various stakeholders.

#### 2.7.2 Key Constraints

The effective conservation and sustainable use of biodiversity in the SADC region is hindered by a number of constraints such as finances and capacity.

#### ❑ Financial Constraints

The conservation of biodiversity in the SADC region is seriously affected by limitations in financial resources to develop and implement the required programmes and projects. The high poverty levels in the region and national priorities result in smaller national budget allocations to biodiversity management as compared to other sectors. Management of biodiversity is thus highly dependent on external sources of funding. The sectoral nature of national legislation also results in overlaps and poorly coordinated programmes and inefficient use of scarce financial resources. As a result, biodiversity management at the national level is characterized by irregular and inadequate national reporting and outdated National Biodiversity Strategies and Action Plans and National Action Plans in the case of the CBD (SADC Biodiversity Strategy, 2005).



Countries and at times regions are required to produce progress reports towards implementation of MEAs, or they are required to come up with a position before attending COP meetings. Often there are no resources to allow the countries to develop strategies and come up with common positions and to have adequate representatives attending the conferences. Resources are often inadequate to collect the relevant information to meet the reporting requirements of some of the conventions. The experience of the SADC Biodiversity Support Programme showed that there is generally lack of preparedness, when it comes to the region's contribution to MEAs, with delegates being inadequately briefed by their national and sub regional constituents is limited implementation of decisions of Conference of Parties (COP) on MEAs due to inadequate financial resources. This is partly reflected in the irregular and inadequate national reporting and the outdated National Biodiversity Strategies and Action Plans and National Action Plans in the case of the CBD and the UNCCD respectively. The financing state of affairs in the region indicates that there is limited sustainable financing for biodiversity in the region, resulting in short term donor driven support.

#### □ **Capacity Constraints**

Both human and institutional capacity constraints continue to affect the progress of biodiversity conservation in the SADC region. Despite the region's effort to address this constraint, capacity limitation exist in various areas of biodiversity management. In South Africa for example, current capacity in taxonomy and systematic research is in danger of falling below critical mass level (D.G. Herbert, et.al. 2001). In addition to critical capacity constraints in biodiversity monitoring and research, the implementation of MEAs is seriously affected by limited human and institutional capacity. Implementation of Regional and International agreements is usually enabled through enactment of legislation or providing the relevant provisions in existing national legislation. At the regional and international level, although Member States have ratified Protocols and international agreements most SADC Protocols and MEAs have not yet been fully integrated into national policies and laws (IUCN, 2003) and where provisions have been made, implementation is still a problem due to capacity constraints. This is mainly because there are limited regional and national skills to ensure incorporation of regional and national concerns into international agreements, which contribute to lack of local level adaptation and implementation mechanisms. This is further hampered by



prevailing inadequacy of national and regional institutional arrangements required to create an enabling environment for effective enforcement of such conventions and agreements. Generally, the region has limited ability to mobilize the available human capital for the effective conservation of biodiversity.

#### ❑ **Key Constraints identified in the SADC Biodiversity Strategy**

As part of the development of the SADC Biodiversity Strategy, a number of constraints were identified and these are listed in box 1.

#### **Box 1: Constraints identified in the SADC Biodiversity Strategy**

The main constraints identified in the strategy are:

- Increased pressure and demand on biodiversity and agricultural land due to limited alternative livelihood opportunities outside agriculture and natural resource exploitation.
- Inadequate biodiversity inventory and monitoring systems, and knowledge on and ability to handle biodiversity information
- Inadequate incentives for biodiversity conservation and its sustainable use.
- Low levels of awareness, knowledge and appreciation, including the value of biological resources, at various levels.
- Weak institutional and legal frameworks for implementing biodiversity initiatives.
- Limited and unsustainable funding for implementing biodiversity programmes.
- Inadequate R&D approaches for implementing biodiversity programmes.
- Limited attention to the management of Genetically Modified Organisms (GMOs) and Invasive Alien Species (IAS)

Source: SADC Regional Biodiversity Strategy, 2006

#### **2.7.3 Major Gaps**

The review of the progress on biodiversity conservation carried out as part of the development of the SADC Regional Biodiversity Strategy revealed a number of gaps in the current efforts. These gaps are described in the following sections.

#### ❑ **Biodiversity Data and Information**

Reliable and regular provision of biodiversity data and information is critical if the SADC region is to avoid habitat and ecosystem degradation and improves its ability to convert its natural resources assets into wealth and reduce poverty. A major challenge faced by the region in assessing the status of biodiversity is the inadequate knowledge and understanding on the status and trends of ecosystems, habitats and species in the region.

While the Millennium Assessment made considerable contribution to biodiversity assessment and information in the region, there is still inadequate knowledge and understanding of the status and trends of ecosystems, habitats and species. There are no comprehensive biodiversity inventories, and the state of biodiversity in some biomes such as drylands is unknown. The location, numbers and character of species harboured by these ecosystems are not documented and hence poorly understood and managed. Although many countries have completed their National Biodiversity

Strategy and Action Plans (NBSAP), there are limited national and regional level inventories of various biodiversity components. Biodiversity inventory, (a comprehensive list of species) is very critical to the conservation and management of biodiversity. Without inventories, the region may not recognize changes when they occur or be prepared to respond appropriately when the natural resource assets are threatened. Obtaining baseline knowledge on what biodiversity exist is fundamental to recognizing changes when they occur, to understand what society is responding to and to know how best to respond.

As highlighted in SADC Regional Biodiversity Strategy (2006), the monitoring of biodiversity habitats, some of which are under extreme pressure is often lacking. According to the SADC Regional Biodiversity Strategy, only the large and commercial species of wildlife have been regularly inventoried and monitored because of their importance in national economies. Regular inventory and monitoring programmes have also been developed for commercial indigenous timber species and exotic timber plantations. Other species that provide a range of timber and non-timber forest products to local communities have not been catered for. This is also true of agro-biodiversity and aquatic biodiversity where inventories and monitoring systems are only in place for species of economic importance such as cash crops and fish respectively.

Other problems associated with the existing biodiversity inventory and monitoring systems in the region include the *diverse inventory and monitoring methods*; the *continued exclusion the values and aspirations of local people* on the basis of their indigenous knowledge; *no incentives* to inventory and monitor biodiversity except in a few habitats such as protected areas and for species of economic importance; *lack of up to date information* on biodiversity; and *very limited information and knowledge on the value, status and potential* of biodiversity in economic development. Data and information on the economic value of biodiversity in non prioritised biomes outside protected areas is lacking.

The issue of data and information is more critical in urban ecosystems. While urban areas are known to be rich in species, in particular plants and birds, the biodiversity status, trends and issues have largely been neglected in the region. While the Millennium Assessment considered urban ecosystems, the state and trends of biodiversity and the challenges faced were not given adequate attention. The role of cities in biodiversity conservation has not been explored and is least understood. As a result, efforts towards ecosystem and biodiversity restoration and conservation have largely excluded urban areas despite the important biodiversity harboured in these ecosystems (through the network of botanic gardens, etc) the potential for urban biodiversity in mitigating urban heat islands and the reduction of greenhouse gas emissions.

#### □ **Biome Representation in the Protected Areas System**

While the protected area system has registered some successes in the conservation of biodiversity in the region, there are gaps in biome representation. The current protected areas network does not adequately cover drylands, coastal and marine areas, as well as mountain ecosystems.

#### **2.7.4 Major Challenges**

There are a number of challenges faced by the SADC member states in their efforts to manage biodiversity.

### ❑ **Worsening Poverty**

It is widely appreciated that the SADC region is home to a strange and unacceptable paradox. On the one hand, the region is rich in biological resources and biodiversity; on the other, the region carries some of the world's poorest communities. The inability to convert its natural capital (biodiversity) to wealth is threatening both biological diversity and people's livelihoods. Given the fact that biodiversity in the SADC region is remarkably intact, the most immediate challenges faced by the region is to avoid degradation of habitats and ecosystems, and develop and facilitate processes that can enable the region to convert the region's biodiversity and natural assets to wealth and people's livelihoods. This is a tall order for the region. The situation is being worsened by the emerging and growing threat of climate change, whose impact on biodiversity is already manifesting itself in many parts of the region. The main challenge facing the SADC region, despite its impressive biological resources and its diversity, is therefore widespread and worsening poverty.

### ❑ **HIV/AIDS Pandemic**

HIV/AIDS epidemic has spread with devastating speed in the region, making the condition a serious threat to human health and population. Since 1990, the region has lost between 10 and 20 years of life expectancy to average below 45 years. Without AIDS, the population growth in Southern Africa would have been increasing with between 1% and 3%. The quality of health care has also been declining. For example, the health spending per capita in many countries such as Zambia, Zimbabwe and Malawi have plummeted in the last decade while the population has risen. The Zambian government for example has less than US\$2.00 per head to spend on human health. Because of poor health care, many people die of curable diseases due to lack of drugs.

### ❑ **Networking Challenges**

At national level the biodiversity issues cut across a number of key ministries and institutions requiring effective and efficient coordinating mechanism. The rich institutional landscape, with numerous stakeholders with a variety of different interests, creates an intrinsically complex web of relations and effective networking at the regional, national and ecosystem levels is critical. Cooperation and interaction between the various players and biodiversity management sectors in order to achieve sustainable use and maintain biodiversity is critical. Effective cooperation and cross-sectoral coordination is an important prerequisite for sustainable biodiversity management. The platforms for effective cooperation, cross-sectoral coordination and networking both vertically and horizontally are generally weak. Cross-sectoral coordination poses a serious challenge where data and information sharing, and consultation mechanisms required for the development of management policies and strategies are absent. This problem is most felt in the newly created TFCAs.

### ❑ **Political Instability**

While there is relative peace in the SADC region, political instability poses serious challenges to the effective conservation and sustainable use of biodiversity. Tensions associated with elections have been on the increase in the region. The continued conflict in DRC has negative impacts on biodiversity.

### 2.7.5 Opportunities

The SADC BAP has been developed against a background of global, continental and regional supporting priorities and opportunities. The following sections highlight some of the key supporting priorities and opportunities to this action plan.

#### □ **Regional Commitment to MDGs**

The SADC as an economic block and members states in their individual capacities are committed to the achievement of MDGs. MDG number 7, whose focus is on ensuring environmental sustainability and the related programmes is one of the key supporting priorities for biodiversity conservation and the implementation of the SADC BAP action plan in the region. Actions taken at the regional and national levels towards the attainment of target 7A (Integrate the principles of sustainable development country policies and programmes; reverse loss of environmental resources) and target 7B (Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss) will contribute to the objectives of the SADC BAP. The sub targets set under target 7B are directly relevant to the regional biodiversity action plan.

#### □ **Interest in the Johannesburg Plan of Implementation**

The Johannesburg Plan of Implementation (JIP) that was adopted at the conclusion of the World Summit on Sustainable Development (WSSD) in September 2002 provides a framework for action to implement the original UNCED commitments, with special focus on Water, Energy, Health, Agriculture and Biodiversity (WEHAB). The JIP acknowledges that human activities are having an increasing impact on the integrity of ecosystems that provide essential resources and services for human well-being and economic activities and argues that managing the natural resources base in a sustainable and integrated manner is essential for sustainable development. In this regard, to reverse the current trend in natural resource degradation as soon as possible, it is necessary to implement strategies which should include targets adopted at the national and, where appropriate, regional levels to protect ecosystems and to achieve integrated management of land, water and living resources, while strengthening regional, national and local capacities.

#### □ **African Union Commitment to Environmental Management**

The establishment of the African Union in 2002 has seen renewed commitment by the African nations to sound environment and natural resources management for sustainable development as exemplified by the African Union's Constitutive Act of 2002. Environment and natural resources concerns rank highly in continental priorities. The Constitutive Act of the Africa Union specifically mentions the promotion of sustainable development as an objective of the Union. Environmental cooperation is also enshrined in broad-based agreements such as Articles 56-59 of the OAU treaty establishing the African Economic Community relating to natural resources, energy, environment and control of hazardous waste. In 1998 the Organisation of African Unity (OAU) approved the African Model Law on the Protection of Rights of Local Communities, Farmers and Breeders and for Regulation of Access to Biological Resources. The Model Law's principal objective is to "*ensure the conservation, evaluation and sustainable use of biological resources including agricultural genetic resources and knowledge and technologies in order to maintain and improve their diversity as a means of sustaining all life support*". This model law support the conservation of biodiversity

#### ❑ **The NEPAD Environment Programme**

The SADC BAP is also supported by the NEPAD Action Plan of the Environment Initiative. The objectives of promoting the sustainable use of Africa's natural resources and strengthen public and political support to subregional and regional environmental initiatives; and supporting the implementation by African countries of their commitments under the global and regional environmental conventions and other legal instruments to which they are party; directly support the SADC BAP. Some of the programme areas such as combating land degradation, drought and desertification; conserving Africa's wetlands; prevention, control, and management of invasive alien species; transboundary conservation or management of natural resources and conservation and sustainable coastal and freshwater resources; are complimentary to the SADC BAP.

#### ❑ **Africa Wide Protected Areas Initiative**

Protected areas are also viewed as a key instrument for biodiversity conservation at the continental level. Responding to the global interests and biodiversity conservation challenges faced by the continent, an Africa wide African Protected Areas Initiative (APAI) <sup>2</sup> adopted by the AU clearly illustrate Africa's commitment to protected areas. There is ample political will in Africa (AU and NEPAD) in support of the need for improving protected areas management in order to meet both biodiversity conservation and poverty alleviation needs. Heads of State have adopted the APAI within the Action Plan of the Environment Initiative (APEI) of the New Partnership for Africa's Development (NEPAD).

#### ❑ **SADC's Commitment to Sustainable Development**

The SADC region is governed by the SADC Treaty, which promotes the fastening of a regional approach to sustainable development and attainment of an integrated regional economy on the basis of balance, equity and mutual benefit for all Member states. This is based on three key development objectives i.e. poverty alleviation, food security and industrial development.

As a commitment to sustainable development, SADC Council of Ministers in 1994 approved the *SADC Policy and Strategy for Environment and Sustainable Development: Towards Equity-led Growth and Sustainable Development in Southern Africa*. As a sign of SADC member states commitment to biodiversity conservation and sustainable use in the region, biodiversity is key theme within the SADC Regional Indicative Strategic Development Plan. The SADC Regional Indicative Strategic Development Plan (RISDP) realizes the importance of sustainable use and management of the environment in fighting against poverty and food insecurity and it identifies Environment and sustainable development as one of the key intervention areas. The objectives and targets set in the RISDP include; creating the requisite harmonized policy environment, as well as legal and regulatory frameworks to promote regional cooperation on all issues relating to environment and natural resources management including trans-boundary ecosystems; regular assessment, monitoring and reporting on environmental conditions and trends (including biodiversity); capacity building,

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<sup>2</sup> Heads of State have adopted the APAI within the Action Plan of the Environment Initiative (APEI) of the New Partnership for Africa's Development (NEPAD). Also sub-regional action plans have been developed which in some regions also include mention of protected area categorisation.

information sharing and awareness creation on problems and perspectives in environmental management; the establishment of protected areas, the implementation of trans-boundary natural resources management initiatives; and ensuring coordinated regional positions in the negotiations and implementation of Multilateral Environmental Agreements (MEAs) and other agreements. The SADC region is also striving to achieve both the JPI and NEPAD plan within the context of their national priorities that include protection and sustainable management of natural resources for economic and social development.

❑ **Regional Commitment to the Dar es Salaam Declaration (May 2004)**

Through the Dar es Salaam Declaration (May 2004) on Agriculture and Food Security, the SADC member states acknowledged the importance natural resources and biodiversity in the region. Under this declaration, member states committed themselves to promote conservation, management and sustainable utilization of plants and animals, including fisheries, forest and wildlife; to implement policies and legal reforms to monitor and curtail illegal harvesting and export of natural resources; and to harmonize and accelerate implementation of natural resources management policies and programmes; and to increase investment in processing of natural resources products.

❑ **Southern Africa Sub-Regional Environment Action Plan (under NEPAD)**

At the regional level, SADC developed the Southern Africa Regional Environmental Action Plan (under NEPAD), in which biodiversity and its sustainable use is one of the key focus areas. The goal,

**Box 2: SREAP Goal, Purpose and Objectives**

**Goal:** To contribute to effective environmental management for improved livelihoods and status of biodiversity and ecosystems health in southern Africa

**Purpose:** To enhance the human, institutional, organizational and technical capacities of SADC sub-regional economic grouping and its partners for effective implementation of NEPAD environmental action plan and improve the ability to mainstream environmental considerations into other economic development streams of NEPAD

**Objectives:**

- To enhance the capacity of economic agents to convert natural resources into goods and services for sustainable development
- To enhance integration of the environment into mainstream social and economic development
- To enhance the human, institutional and technical capacities of SADC sub regional economic groups to implement conservation livelihoods
- To ensure effective development and implementation of the programmatic areas identified in the overall NEPAD EAP and adjusted to the context of the southern African region

purpose and objectives of this action plan are given in box 2. The goal, purpose, objectives and key programme areas have direct relevance to the conservation and sustainable use of biodiversity. Some of the objectives of this regional action plan directly speak to biodiversity conservation and the sustainable use

of biological resources for economic development and livelihoods.

❑ **Southern Africa Regional Action Plan on Drought and Desertification (SRAP)**

In 1997, SADC adopted a sub-regional Action Plan on Drought and Desertification. The plan identified seven priority areas of action and these include capacity building and institutional strengthening, strengthening early warning systems, cooperation in the sustainable management of shared natural resources and ecosystems, information collection, management and exchange, development of alternative sources of energy, development and transfer of appropriate technology at the community level and socio-economic issues. Biodiversity in the dryland biome is one of the focus areas of this Action plan. The implementation of this regional action plan will contribute to the conservation and management of biodiversity in areas affected by drought and desertification.

## CHAPTER 3: SADC BIODIVERSITY ACTION PLAN – Vision, Goal and Strategic Areas

### 3.1 Vision

Building on the SADC Biodiversity Strategy vision, the aspirations expressed in the National Biodiversity Strategies and Action Plans and those expressed by the SADC Biodiversity Focal points at the SADC Regional Biodiversity Action Plan Workshop (26 – 27<sup>th</sup> November, 2009) meeting in Johannesburg), the SADC Biodiversity Action Plan vision is for:

***“The people of the SADC region enjoying a healthy environment and enhanced quality of life derived from effective conservation and sustainable use of biodiversity in line with international and regional commitments, while respecting national spiritual and cultural values”***

This vision can only be achieved if SADC member states take a good look at the existing biodiversity management systems, the prevailing governing policies and legislation, and the socio-economic imperatives affecting the region’s biological resource base. The key vision drivers, based on the analysis of the situation in the region are described in box 3. The actions required to achieve this vision include:

- Meeting the urgent livelihoods and economic development needs from biodiversity
- Improving biodiversity management systems
- Strengthening biodiversity management governance
- Strengthening the financial base for the desired biodiversity future.

#### Box 3: Key Vision Drivers

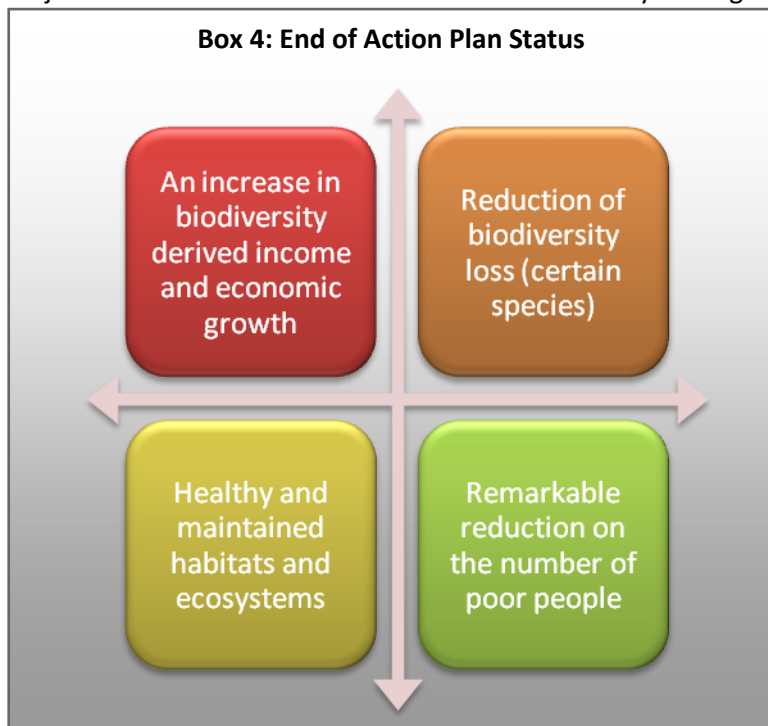
- Socio-economic factors such as poverty and population growth
- Environmental factors such as floods, droughts, pollution, etc.
- Governance factors such as accountability, transparency and good governance
- Technology factors such as gaps in data, poor technology, etc.

### 3.2 Goal of the Action Plan

In view of the region's biodiversity problems and challenges, and the accompanying threats, challenges, and constraints to sustainable use of biological resources, the desired biodiversity future, the overall goal of the SADC BAP is to:

**“Promote equitable and regulated access to, sharing and enhancement of the benefits from, and responsibilities for protecting biodiversity in order facilitate economic growth and poverty reduction in the SADC region”**

This goal compliments the goals and objectives of the member states national biodiversity strategies and action plans. The goal of the SADC BAP stipulate what the region hopes to achieve by 2025, and talks to issues of equity, regulated access and sharing (all of which are *biodiversity management governance* elements); enhanced benefit (which is an aspect of *biodiversity utilization*); and responsibility for protecting biodiversity (which is a *conservation and management issue*). In essence, the goal of the SADC BAP is focused on addressing three main broad areas of biodiversity, i.e. improve biodiversity governance, promote sustainable use, and encourage the conservation and protection of biodiversity.



### 3.3 Key Objectives of the SADC BAP

Within the context of the expressed vision and goal, the specific objectives of this regional biodiversity action plan are to:

- ❑ **Improve the governance (policy, legal and institutional) framework for effective and efficient biodiversity conservation and management.**
- ❑ **Promote sustainable use of biodiversity for improved economic growth and poverty reduction**
- ❑ **Enhance biodiversity conservation and management systems**
- ❑ **Respond to and address the impacts of climate change and energy development on biodiversity and related ecosystem services**



The SADC BAP will directly contribute to the SADC vision and goals, the goal and objectives of RISDP, CBD objectives, NEPAD Environmental action plan, and the Southern Africa Environmental Action Plan. The Action plan includes a range of interventions to conserve and sustainably use biodiversity that will yield positive conservation outcomes in the short-term while providing the basis for sustainable biodiversity conservation and improvements in human well-being over the long-term.

### 3.4 SADC BAP Strategic Areas

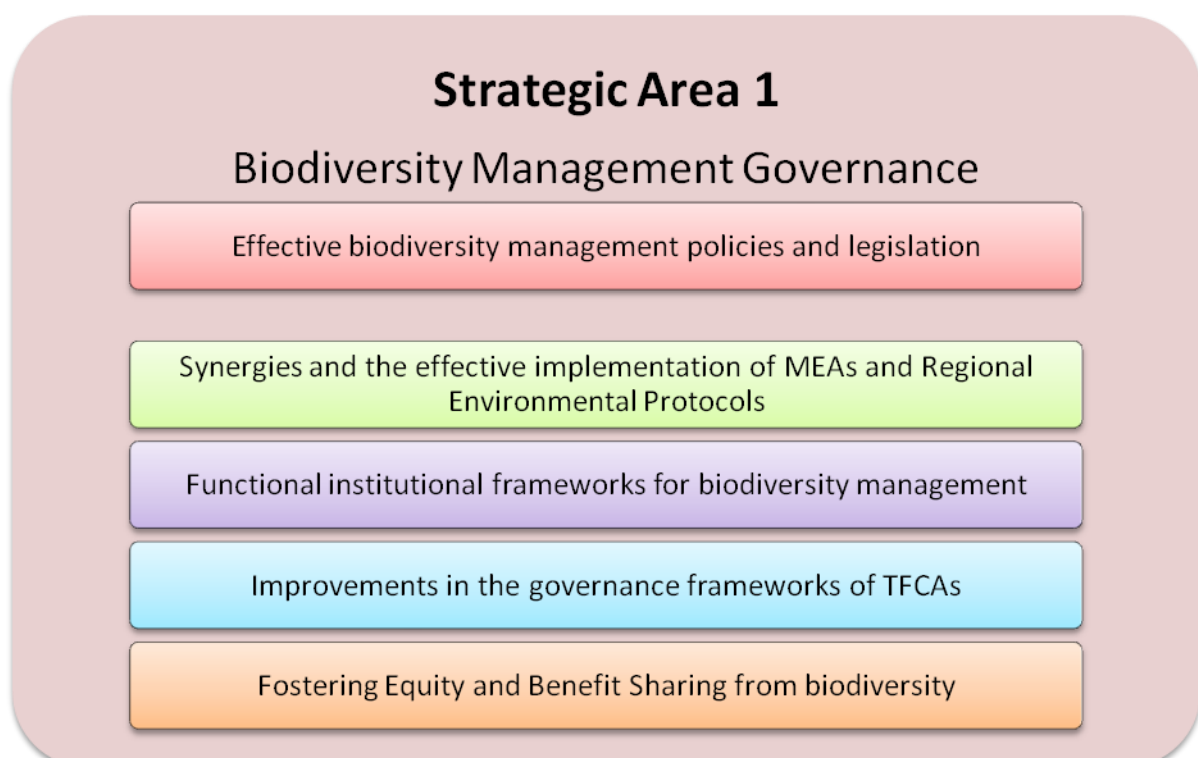
The following strategic level outcomes were identified based on the vision, goal and objectives. This section outlines a set of strategic level outcomes and associated indicators. In this context, an indicator defines the performance standard to be reached in order to achieve an objective or result. Indicators can be direct or indirect. Direct indicators reflect the changes sought by the result, e.g. acres of forest protected. Sometimes it is not possible to measure change directly and in such cases, indirect indicators can be used, e.g. an indirect indicator of improved income of communities residing in a forest area can be standard of housing, purchase of radios, etc.

In view of the issues and challenges faced by the SADC region with regards to biodiversity conservation, the priorities articulated in the SADC Biodiversity Strategy, and building on national biodiversity efforts, the key strategic areas of the SADC Biodiversity Action Plan are:

#### 3.4.1 Biodiversity Management Governance

The institutions of governance, including government-managed, co-managed, private, charitable and community-based structures, are constantly evolving and the quality and consistency of governance vary greatly. Governance, as used in this regional biodiversity action plan, involves the interactions among structures, processes traditions and knowledge systems that determine how power and responsibility is exercised, how decisions are taken, and how citizens and others have their say. Success in biodiversity conservation and management more and more depends in part on strengthening the governance.

The main problems faced in the governance of biological resources in the SADC region are concerned with inequities in the sharing of benefits derived from biodiversity. The improvement of biodiversity management governance will go a long way in fostering equity and regulated access, sharing of benefits, and the improvement of biodiversity conservation and sustainable use. Considering the governance challenges faced by the SADC member states, the interventions actions under the biodiversity governance strategic area will focus on effective biodiversity management



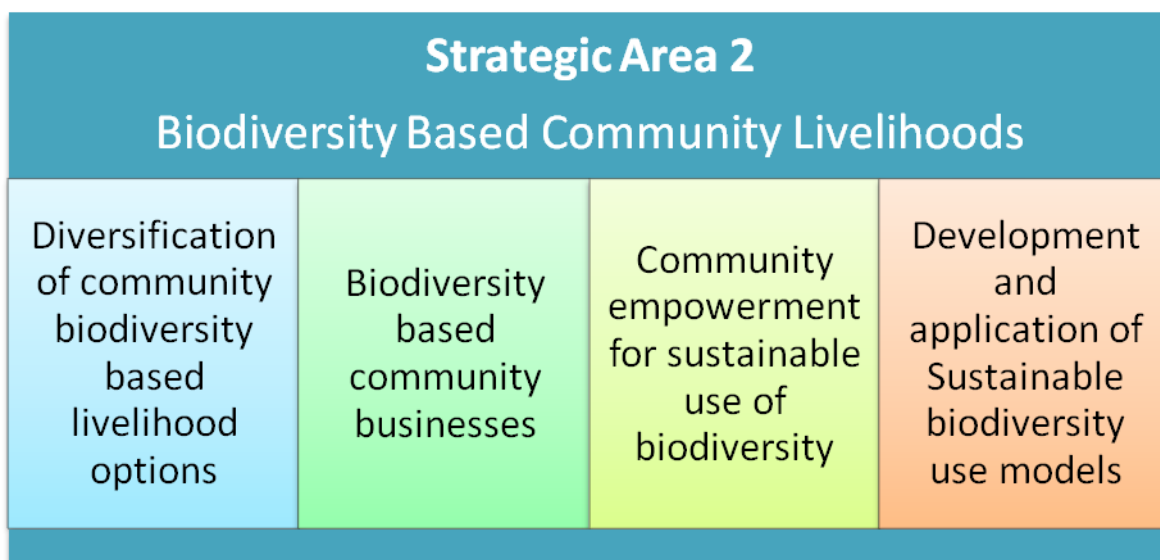
policies and legislation; fostering equity and benefit sharing from biodiversity; synergies and implementation of MEAs and Regional Environmental Protocols; institutional frameworks for biodiversity management; and improving the governance frameworks of TFCAs (see figure 3).

### 3.4.2 Biodiversity Based Community Livelihoods

Human beings as important element of the ecosystem depend on ecosystem services for their well being. A continuous supply of ecosystem services is integral to provide many material factors essential for human beings, such as shelter, clothing, food, and livelihood. Biodiversity and its related ecosystem services is the basis for livelihood in the SADC region, especially among the majority of the population resident in rural areas and living in extreme poverty. Ecosystem services underpinned by biodiversity are the basis for food security (including being a direct source of food, for soil fertility improvement, pollination); medicines and health accessories, clean water (both ground and surface resources), timber, fisheries, tourism, mitigation and adaptation to climate change, addressing poverty, and many more. In most member states, issues affecting ecosystems and the associated resources are a matter of serious concern, and a number of rural communities are experiencing ecological poverty (defined as the lack of natural resources, both in quantity and quality that are needed to sustain a productive and sustainable biomass-based economy).

Reducing poverty and protecting the environment are important goals in the SADC region. All SADC Member States are grappling with poverty reduction as the key piece to sustainable development and the achievement of Millennium Development Goals (MDGs). Member States identified poverty as their overarching priority and committed themselves to working together bound by the SADC Treaty with a 3-fold agenda. Both poverty reduction and the sustainable management of biodiversity rank high on the agenda for sustainable development.

While most of the rural communities depend on the natural resources for their livelihoods, there is a lack of knowledge for optimal and sustainable use of these natural resources in terms of both diversity of uses and uses and in value adding processes and technologies. This in the long run also leads to environmental degradation through over-harvesting while poverty levels are getting worse. The improvement of biodiversity based livelihoods and their diversification is therefore a strategic priority that will contribute to poverty reduction and a reduction in biodiversity loss.



The interventions areas under this strategic area will focus on diversification of community biodiversity based livelihood options; biodiversity based community businesses; community empowerment for the sustainable use of biodiversity; and the development and application of sustainable biodiversity use (see figure 4).

### 3.4.3 Biodiversity for Economic Development

The economies of all countries in the region are heavily dependent on natural resource capital. Biodiversity is recognized as a key ingredient in the region's economic development. Biodiversity and economic development in the SADC region are interlinked, i.e. biodiversity sustains economic development and development has an impact on biodiversity, either positive or negative (CBD Brochure on Biodiversity for Poverty Alleviation and Development, undated). In the SADC region, some key economic activities such as agriculture, forestry, fisheries, etc., depend directly on biodiversity. The conservation of biodiversity is therefore critical in order to sustain these economic activities. According to the CBD Brochure on Biodiversity for Poverty Alleviation and Development (undated), other development sectors rely on biodiversity for their functioning. This is the case for health and water supply, tourism, flood protection and waste management.

Economic growth and environmental management are not always mutually compatible, and have often been viewed as divergent alternatives. Economic growth has often meant 'mining' resources for immediate development. Some development sectors significantly influence the conservation and sustainable use of biodiversity. This is the case with many macro-economic policies in the SADC region. While most countries acknowledge and appreciate the concept of environmental sustainability, it is not defined clearly nor integrated properly in economic development policies. There is generally a lack of knowledge on the potential impacts of macro-economic policy and practice on natural resource and environment management in the region. With a focus on opening up the region to the global economic markets, there has been increasing levels of natural resources plundering. Policy and programme analysis rarely takes into account the potential impacts of each macro-economic policy intervention such as the Structural Adjustment Programmes, National Development Plans and many more. Due to this oversight, the stock of renewable resources is rarely considered

**Strategic Area 3**  
**Economic Development and Biodiversity**

- Biodiversity conservation values integrated into economic policy, finance and markets
- Viable natural products industry
- Biodiversity based tourism
- Vibrant BioTrade sector

at the macro-economic levels where major strategic planning decisions are made. Overall, this situation has led to a vicious downward spiral of resource depletion and growing poverty. Although many economic development promoters are very sceptical about biodiversity conservation to the extent that they reluctantly accept that biodiversity conservation is fundamental to sustainable development, without the region's biological resources, economic growth is constrained. The conservation of the region's biodiversity is therefore important if economic development can be sustained. It is important that there is guidance and monitoring of these development sectors.

Although the region is endowed with natural resources, it is characterized by high levels of poverty that emanate from its inability to convert its natural capital to wealth. Despite the recognition of the importance of biodiversity to economic development, the potential and diversity of biodiversity based economic development opportunities have not been fully explored in the region. This state of affairs threatens biological diversity and people's livelihoods. Facilitating wealth generation from the region's biological resources, based on the concept of environmental sustainability, is a must in a region that largely relies on biodiversity for economic development. The interventions under this strategic area will focus on mainstreaming biodiversity conservation values into economic policy, finance and markets; promoting viable natural products industry; facilitating biodiversity based tourism and the development of a vibrant bio-trade sector (see figure 5)

#### **3.4.4 Biodiversity Management Systems**

There is increasing evidence that inability of the SADC region to convert biological resources into wealth and to sustainably use its natural resource capital is largely caused by the weaknesses in the management systems applied in the region. The review of various reports and documents, as well as consultations and discussions with member states and other key stakeholders revealed that the continued loss of biodiversity and related ecosystem services is partly caused by poor biodiversity management systems. While a number of ecosystem management practices are in use in the region, there are generally some inadequacies in the effectiveness of the application of some of the practices.

The poor performance of the existing biodiversity management systems is largely due to poor biodiversity inventory monitoring, limited efforts to rehabilitate and restore degraded ecosystems and biodiversity, underperformance of the protected areas system, and limited approaches for biodiversity conservation (CBNRM not effectively used as a biodiversity conservation approach), and erosion of agricultural biodiversity. In order to improve biodiversity management systems it is important for member states to improve biodiversity management systems for effective conservation, sustainable livelihoods and economic development. These efforts will yield a reduction in biodiversity loss. The main areas of intervention under this strategic area are listed in figure 6.

- Biodiversity Inventory and Monitoring
- Effective Protected Areas Management System
- Rehabilitation and Restoration of degraded ecosystems and biodiversity
- Promotion of CBNRM as a Biodiversity Conservation Tool
- Conserving Agro-biodiversity
- Prevention, Control and Management of Invasive Alien Species

### **Strategic Area 4**

### **Biodiversity Management Systems**



### 3.4.5 Biodiversity and Climate Change

Natural disasters are a key challenge in the SADC region, affecting both human and ecosystem well-being. The SADC region is experiencing a variety of environmental stresses imposed by climate variability and change factors and this is manifested by the cycles of droughts and floods that regularly affect the regions. Current data suggests that temperature has been slowly increasing above long-term averages, and rainfall trends indicate that droughts and floods caused by tropical storms have been frequent and severe recently. The effects of the predicted changes in climate change on human and ecosystem well being are expected to be more severe than those observed in the past. The magnitude of impacts is variable across the region depending of the specific characteristics of the various environmental and socio-economic conditions making up the regional environmental diversity.

As far as biodiversity conservation is concerned, climate change is one of the emerging threats in the region. Climate change is one of the key drivers of biodiversity and ecosystem change. It has been observed that changes in the climate impact biological diversity and an ecosystem's ability to deliver goods and services for human well-being. There is a strong correlation between biodiversity and an ecosystem's resilience, and its ability to deliver ecosystem services. Resilience in this context refers to the capacity of an ecological system both to withstand perturbations from e.g. climate or economic shocks and to rebuild and renew itself afterwards. Climate change will introduce new vulnerabilities to the functioning of these natural and managed ecosystems and therefore society's ability to obtain traditional goods and services from them.

While ecosystems are impacted by climate change, ecosystems can regulate the climate and mitigate the effects of natural catastrophes. There is a cause and effect relationship among the two elements. Research has also shown that ecosystem services play a central role in both adaptation to and mitigation of climate change. It is argued that maintaining diversity of local varieties, crops and agricultural systems contributes to risk distribution and decreased vulnerability, and increases the ability of the agricultural system to adapt. Appropriately managed forested areas not only improve water sources, but also absorb and moderate the consequences of flooding, while wetlands have a buffering effect against drought and flooding and also contribute to other ecosystem services such as removal of nitrogen from agricultural runoff. Sustaining biological diversity and ecosystem services are therefore important in the efforts to deal with climate change. Sound management of biodiversity and ecosystem services is often believed to be a highly cost-effective way to adapt to climatic change. Measures taken in support of both adaptation to and mitigation of climate change should include the sustaining of biodiversity and ecosystem services as an important starting point.

## Strategic Area 5

### Biodiversity and Climate Change

- Vulnerability Assessment of the region's biodiversity (especially protected areas)
- Implementation of adaptation strategies for biodiversity
- Use biodiversity and ecosystem restoration as a climate change mitigation tool
- Intergrate biodiversity considerations into climate change policy and practice

The fact that there is no single nation, least of all those in the SADC region that can stop the climate from changing implies that efforts should go into mitigation and adaptation. The SADC member states' contribution to greenhouse gas emission is insignificant compared to industrialized countries. As a result, the focus of the region's attention is on mitigation and adapting to climate change. However, the idea of using ecosystem restoration as a tool for climate change mitigation has not been widely embraced in the region although opportunities exist. Assessments of biodiversity and ecosystems vulnerability and the development and application of mitigation and adaptation measures have been limited. The region has only been dealing with disaster management, as opposed to comprehensive disaster preparedness. If the region is to adapt to climate change effectively, there is a need for long-term planning. The development of mechanisms for reducing impacts of climate change on biodiversity through mitigation and adaptation measures are a necessity. The interventions areas under this strategic area will focus on the vulnerability assessments of biodiversity and ecosystems; biodiversity adaptation strategies to climate change; mitigation of the potential impact of climate change; and integration of biodiversity considerations into climate change policy and practice (see figure 7). It is acknowledged that the adaptation of biodiversity management to climate change is hindered by inadequate capacity to address the rapid changes that occur. It is important that the region's capacity to adapt to climate change is strengthened.

### **3.4.6 Biodiversity and Energy**

The living standard and overall quality of life of the population in southern Africa is strongly influenced by the availability and access to energy. Energy is recognized as a prerequisite for economic development, poverty reduction and is critical to the achievement of MDGs in the SADC region. Energy security is a key priority for SADC. A large majority of the SADC population rely on wood fuel for energy. Charcoal production is a major activity in some member states and this activity has the potential of having negative impacts on biodiversity, if not well managed.

Another emerging issue that pose potential threats to biodiversity is the growing development of bio fuels to supplement the current energy sources in the region. With the looming power crisis in the SADC region and high oil prices on the world markets, new energy supply strategies are being examined in the region. Bio fuel development in the SADC region, coined farming for energy is viewed as a new and promising area of development. Although

## **Strategic Area 6**

### **Biodiversity and Energy**

- Manage the impacts of the biofuel industry on biodiversity
- Promote biodiversity friendly charcoal production sector
- Catalyse sustainable energy development

there are positive aspects of bio fuels such as reduced CO<sup>2</sup> and GHG emissions, there is need for safeguards forests and biodiversity. There is a high risk that energy security could lead to loss of biodiversity, if proper measures are not taken at the planning stage. It is therefore important that member states manage the potential impact of energy development, especially bio fuels on the region's biodiversity and that relevant information is made available to decision makers (figure 8).

### 3.5.2 Guiding Principles for the Action Plan

The implementation of the SADC BAP will be guided by the following principles.

#### ● Stakeholder Empowerment

Empowering regional, national and local stakeholders to participate actively and effectively in the actions of the plan is an important pre-requisite for the successful implementation of the SADC BAP. This requires building the capacity, responsibilities and willingness of institutions to think and work in co-operative and integrated ways towards conservation and sustainable use of biodiversity. Capacity building will specifically enable stakeholders at local, national and regional levels to increase their ability to understand and deal with their development needs within the biodiversity sector. Community empowerment and capacity building will therefore be mainstreamed in the actions of this Action Plan.

#### ● Gender Equity and Gender Mainstreaming

Considering the importance and relevance of gender issues in natural resources planning, development and management, gender issues will be central to the SADC BAP. Gender variables will be used in the Action Plan to clarify the indefinite boundaries of household and family and the complex ways in which family, household, community and biodiversity are linked.

The understanding and appreciation of gender issues and addressing gender inequality are important in the management and control of biological resources under this Action Plan. A gender mainstreaming approach (which enables women and men to benefit equitably from biodiversity, opportunities and benefits of the mainstream development process) will be used in the delivery of the Action Plan.

#### ● Transparency

The SADC BAP will be implemented and managed in a transparent way. To achieve transparency, the Action Plan will work with clearly defined goals, objectives, outputs, reporting timelines, and operational and financial responsibilities. The key stakeholders and beneficiaries will effectively participate in the Action Plan through clearly defined roles. Transparency will also be achieved through regular updates on progress, upcoming events, meetings and deadlines for the Action Plan partners.

#### ● Consensus Building

The sustainability of the actions to be initiated under the SADC BAP will largely depend on the ability of institutions and individuals to understand and deal with their development needs in a sustainable manner. Consensus building on issues of common interest is central to the delivery and management of the SADC BAP.

#### ● Strategic Partnerships Approach

The SADC BAP is a collaborative effort of SADC Secretariat, member states and regional and national organisations that range from regional intergovernmental bodies, local national and regional institutions and agencies, and multilateral agencies. Investing in strategic partnerships to biodiversity management is a more cost effective way to attain sustainable development. Building partnerships within and across sectors is essential to establish cost-effective interventions to sustainable biodiversity conservation and management. Strategic partnerships, coalitions and

consortiums will be the driving force behind the delivery of the SADC BAP. The inclusive nature of the Action Plan is expected to nurture the development of a large number of partnerships at local, national, regional and international levels. To allow for successful development of partnerships, information on participating institutions will be made available on the SADC Secretariat website.

### **● Ecosystem Approach**

The Convention on Biological Diversity promotes the ecosystems approach. This is a strategy that aims at the integrated management of land, water and living resources and which promotes conservation and sustainable use in an equitable way. Meeting the needs of people is central to the approach, which aims to:

- Maintain ecosystem functions and services, enhance the equitable sharing of benefits
- Promote adaptive management strategies
- Implement management actions through decentralization
- Foster inter -sectoral/inter disciplinary co-operation

The ecosystem approach is central to the SADC BAP and will be used as the unifying theme for this programme.

### **● Participatory & Iterative Approach**

Central to the philosophy of SADC activities, is the active participation of key stakeholders, inclusive of local communities, civil society, governments, the private sector and regional institutions in natural resources planning and management. The SADC BAP will facilitate and build local, national and regional organisational capacity, effective community participation, and local control and authority over biodiversity. A participatory approach will ensure that there is also a sense of ownership of the process and the Action Plan. This sense of ownership is of ultimate importance if the SADC BAP is to be successful. An iterative approach, on the other hand, ensures that there is adaptive management whereby the Action Plan considers the absorptive capacity of stakeholders thereby allowing for modification of the pace of design and implementation.

### **● Catalytic Approach**

Considering that biodiversity actions often take place at the national and local levels, the SADC BAP will act as a catalyst to influence actions and investments of other stakeholders, especially member states and partners in the region. The SADC Secretariat will provide a forum where governments, private sector and NGOs meet to discuss and debate biodiversity issues in the region. In this vein, the SADC BAP will catalyze and facilitate the input of member states, and the network of international, regional and national institutions in the delivery of the Action Plan. The effective application of this approach will contribute to the sustainability of the actions.

### **● Learning Approach**

Various actions of the SADC BAP will be specifically designed to enable structured learning. The Action Plan's monitoring and evaluation system will provide the required framework to establish structured learning within the programme. The learning will not only benefit the SADC Secretariat and member states, but the whole region, UN system (MEAs), as well as stakeholders at the local level.



## CHAPTER 4: THE BIODIVERSITY ACTION PLAN

This chapter contains the details of the SADC BAP, outlining how the region will achieve its vision, goal and purpose as far as biodiversity conservation and sustainable use is concerned. The chapter comprise of the action plan key elements and priority actions under each element; key actions, and indicators; the implementation arrangement for the action plan; supporting measures; and the monitoring and reporting framework.

### 4.1 SADC BAP Key Elements and Priority Areas of Action

The work to be carried out under this Action Plan falls into six main elements addressing the key drivers for the desired biodiversity future, issues and challenges faced by the region. The following sections describe the elements of the action plan based on the strategic areas described in chapter 3 and the actions that member states should undertake.

#### 4.1.1 Strengthen Biodiversity Management Governance

As described in earlier sections, the SADC region face major governance issues and challenges as far as the management of biodiversity is concerned. The main challenges faced are concerned with the non and/or limited implementation of multilateral agreements and regional protocols (including limited synergistic implementation); deficiencies in policies, legislation and institutional frameworks; limited appreciation of the impact of macro-economic policies on biodiversity; deteriorating terms of trade, weak frameworks for TFCA management; and resource rights and tenure challenges. The strengthening of biodiversity management governance is a key element of the SADC BAP. There are five elements under this strategic area and these are listed in table 9.

**Table 9: Biodiversity Management Governance: Elements and Indicators**

Strategic Area	Intervention Area	Indicators
<b>Biodiversity Management Governance</b>	Biodiversity management policies and legislation	<ul style="list-style-type: none"> <li>No. of policies and legislation implemented</li> <li>An improvement in compliance with policy and legislation</li> <li>A reduction in biodiversity loss</li> <li>No. of policies and laws enacted</li> <li>CBNRM Policy Guidance</li> <li>Prominence of CBNRM issues in SADC policy processes</li> <li>Enabling regional bio trade policy framework</li> <li>Operational national bio safety decision-making systems that contribute to the safe use of biotechnology in conformity with the provisions and decisions of the Cartagena Protocol on Bio safety</li> <li>Improved monitoring of the movement of tradable biological resources across borders</li> </ul>
	MEA and Regional Environmental Protocols Synergies and Implementation	<ul style="list-style-type: none"> <li>Number of MEAs mainstreamed into national policies and strategies</li> <li>Participation of civil society in MEA processes</li> <li>Coordinated implementation of MEAs</li> <li>Number of regional protocols mainstreamed into national policies and strategies</li> <li>National and regional institutions capable of negotiation, domestication and implementation of MEA &amp; regional protocols</li> </ul>
	Institutional frameworks for biodiversity management	<ul style="list-style-type: none"> <li>Stakeholder participation &amp; engagement frameworks</li> <li>National and regional institutions capable of negotiation,</li> </ul>

	<ul style="list-style-type: none"> <li>• domestication, enforcement</li> <li>• Operational SADC Centres of Excellence</li> <li>• A functional regional biodiversity forum</li> <li>• At least 5 regional biodiversity networks functioning and supporting biodiversity actions</li> <li>• Functional regional thematic groups on biodiversity</li> </ul>
Equity and Benefit Sharing from Biodiversity	<ul style="list-style-type: none"> <li>• No. of legal frameworks on ABS</li> <li>• National and Regional Capacity to apply ABS principles</li> <li>• Regional, national and local level benefit sharing mechanisms developed and demonstrated in all countries</li> <li>• An improved security of tenure and increased access to natural resources (biodiversity)</li> <li>• Regional and national recognition of marginalised people natural resource rights (gender disparities)</li> </ul>
TFCA Governance Frameworks	<ul style="list-style-type: none"> <li>• Enabling regulatory frameworks in place for the major TFCAs</li> <li>• Number of TFCA multi-stakeholder fora</li> <li>• Number of CBO networks linked to TFCA initiatives</li> <li>• TFCA management and coordination frameworks</li> <li>• Functional and effectively managed public-private-civil society partnerships in TFCAs</li> <li>• Operational SADC TFCA Learning Network</li> </ul>

The following sections describe the specific actions that the SADC member states are encouraged to undertake in order to improve biodiversity management governance.

#### **4.1.1.1 Biodiversity Management Policies and Legislation**

Policies and legislation are critical aspects of biodiversity governance. Biodiversity related policies and legislation in the region do shape the activities that impact (positive and negative) on the region's biological resources. As highlighted in earlier sections, there are very few stand alone biodiversity policies and legislation, the existing biodiversity related policies and legislation tend to foster fragmentation and quite a number are conflicting. There is also an absence of an enabling policy framework that should promote sustainable trade on biological resources and community driven biodiversity conservation and management. The SADC member states are therefore called upon to:

- **Develop National Biodiversity Policies and Legislation**

Considering that biodiversity is a cross cutting issue, the management of biological resources is governed by a multiplicity of policies and legislation. Although a number of countries have taken the initiative to develop national biodiversity policies and legislation, it is widely acknowledged that there are no comprehensive/harmonised policy and legislation frameworks at the regional and national levels. An enabling policy and legal framework that promotes effective and efficient governance is therefore required. The regulatory instruments should effectively address the issue of corruption as this relate to biodiversity.

While the current efforts on the development of the Environment Protocol are appreciated, the SADC secretariat should speed up the process to finalise the development of the protocol and facilitate its implementation.

- **Improve Implementation and Enforcement of Biodiversity Policies and Legislation**

While the region has witnessed progressive improvement in biodiversity legislative (integral ingredient to the sustainability of the region's biodiversity) environment, a lot of the policies and legislation are sectoral and tend to be conflicting. The enforcement of most biodiversity related legal instruments has been limited. In order to improve the implementation of these regulatory instruments, the SADC member states are encouraged to review and harmonize national biodiversity policies and legislation for them to be in tandem with best practice and to craft effective ones where these are missing. A key challenge faced by the region is limited implementation and enforcement of policies and legislation. In order to move away from the state of affairs, the member states are called upon to develop and implement strategies to improve implementation and enforcement. In this vein, member states are encouraged to review implementation of existing policies and legislation and identify constraints. Based on these constraints, strategies to address identified constraints should be developed and implemented. In addition, capacity for enforcement and implementation should be enhanced.

- **Support Policy Guidance on CBNRM**

Some member states in the SADC region have used CBNRM as a tool for promoting biodiversity conservation and improving community livelihoods. Due to the positive success in this area, policy discussions have ensued in the region. Some countries have embarked on the development of elaborate CBNRM policies to provide guidance in this area. Due to the observed successes, stakeholders in this sector have been calling for the formulation of a Regional CBNRM policy & principles. In order to advance the efforts of regional stakeholders working within the CBNRM sector, the Action plan should support a number of CBNRM policy formulation processes at regional, national and local levels.

- **Strengthen Regional Bio Trade Policy**

Considering the region's dependence on the natural resource capital for economic development, Bio Trade constitute a considerable component of the trading activities in the SADC region. In general terms, Bio Trade activities include trade in spices, herbs, fruits, nuts and other food; in wildlife and wildlife products; and cultivated and non-cultivated natural products used as ingredients in the cosmetic, pharmaceutical and food industries. All of these activities involve the use of components of biodiversity. The current trade policies in the SADC region aim at developing competitive economies with export led growth and the harmonization of trade policies in line with the SADC protocol on trade and other regional and international agreements.

There are also a number of challenges with trade policy and systems for biological resources in the region. For example, the application of trade rules can also interfere with national and international rules and policies for sustainable forests management. The conflict between the Convention of Biological Diversity and the WTO agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) is one very good example. The patenting of genetic resources promoted by TRIPS is at variance with the protection of indigenous knowledge systems, which in most cases are not owned by individuals, as is the case with the normal industrial technology. There is need to develop enabling policy frameworks that are effective in the control as well as provide opportunities for community benefits. The model legislation developed by the African Union which addresses acquisition of all biological resources and their derivatives, provide can be used as a guide to the regional framework. To address these challenges, SADC BAP will support the:

- *Development of Supportive Policy Framework for Bio Trade*
- *Production and Implementation of Guidelines for Implementing the Policy*
- *Improvement of Monitoring of the Movement of Tradable Biological Resources*

- **Develop National Biotechnology Policies and Strategies**

The introduction of GMOs, although considered positive in terms of food security, has brought in a number of problems and challenges. The region is currently engaged in a debate on the advantages and disadvantages of GMOs. At the regional level, SADC identified a number of priority actions that should be taken by the region. These include improving the region's capacity to manage GMOs; developing national and regional policy and legislative frameworks for dealing with GMOs; building national and regional capacities to handle GMO related issues including, human health; establishing the actual impact of GMOs on other biodiversity and economic activities; conducting studies to establish "best practices" in the management of GMOs and promote them; developing regional guidelines and/or protocols on the management and monitoring of GMOs; and collating and disseminating information on GM foods to various stakeholders. Under this SADC BAP, SADC member states are called upon to develop national biotechnology policies and strategies and a harmonized policy and regulatory framework based on the African Model Law on Bio safety, the Cartagena Protocol and other relevant international processes.

- **Facilitate Policy Advocacy on Biodiversity**

In response to the limited appreciation of the impact of macro-economic policies on biodiversity, the SADC BAP will support and facilitate policy advocacy targeted at parliamentarians and decision makers, especially from the biodiversity user sectors and economic planning.

#### **4.1.1.2 MEAs and Regional Protocols Synergy and Implementation**

Most countries in the SADC region are party to a number of multilateral Environmental Agreements (MEAs) and nearly all the countries have signed the environment related regional protocols. While many countries have signed these conventions and protocols, there has been very little domestication of these instruments and limited synergy as far as the implementation is concerned. The situation is made worse due to institutional constraints at country level that do not favour multidisciplinary cooperation. As a result, the call for synergies between conventions remains largely theoretical, although many countries recognize that a shared approach would clearly strengthen the coherence of national and regional frameworks for natural resource management. The SADC member states are called upon to:

- **Facilitate Synergy in MEA Implementation**

Most of the countries in the SADC region are signatories to the Convention on Biological Diversity (CBD) and other biodiversity related conventions such as the Ramsar, the CCD, UNFCCC and CITES. A key challenge faced in the region, is the inability to implement Multilateral Environmental Agreements in a coherent and strategic manner. Although efforts to bring some synergy exist in some countries, common methodologies for integrating the Rio conventions in planning instruments are still absent. The trans boundary nature of biological resources in the absence of harmonized implementation of Multilateral Environment Agreements (MEAs), create a lot of problems in the effective management of these habitats. There is limited coordination of various MEAs and related

processes in the SADC region and this has contributed to the sub region's inability to capitalize on synergies and to maximize on the utilization of its scarce human and financial resources. Very often there is a limited or no regional consultation forum for obtaining regional positions on priority environmental issues before engaging in global negotiations and reporting back is generally not planned for. There are also limited efforts in the region to bring the perception of synergies to the ground level. There is, therefore, an urgent need to develop clear synergies and linkages of key global environmental agreements with national development strategies and implement the provisions of these conventions and protocols.

- **Domesticate MEAs into National Policy and Legislation.**

A number of international conventions and protocols ratified and signed by most the countries in the region lack local level adaptation and implementation mechanisms. Implementation of MEA's is usually enabled through enactment of legislation or providing the relevant provisions in existing national legislation. Although some countries have made such provisions, implementation still remains a challenge due to lack of resources and capacity constraints. There is therefore a compliance gap in the region, which affect the conservation and sustainable use of biodiversity. The main reason given for this state of affairs is the multiplicity of international environmental conventions, treaties and agreements places a considerable burden on national legislatures who are supposed to domesticate these into national laws. This overload results in many well-meaning conventions failing to be domesticated into local rules. In addition, SADC and its member states lack the human skills to ensure that regional and national concerns are incorporated into international agreements, conventions and policies during negotiations. Under this Action Plan, member states should target their efforts towards filling the compliance gap through the domestication of MEAs and regional protocols, the systematic analysis of compliance in order to inform decision makers, awareness raising and building the capacities of implementers.

- **Enhancing National and Regional Capacity for the Implementation of MEAs**

Another challenge that is faced in the region is the limited regional and national skills to ensure incorporation of regional and national concerns into the international agreements policies, which contributes to lack of local level adaptation and implementation mechanisms. There is an also inadequate regional and national capacity to effectively domesticate international conventions and agreements in a cross-sectoral manner once they are ratified. This is coupled with inadequate regional and national skills to ensure incorporation of regional and national concerns into international agreements, policies and conventions during the formulation and negotiation stages. Often there are no resources to allow the countries to come together and strategise and come up with common positions and also to have adequate representatives attending the conferences.

The experience of the SADC BSP programme showed that there is limited implementation of decisions of Conference of Parties (COP) on MEAs due to inadequate human, technical and financial capacity. This is partly reflected in the irregular and inadequate national reporting and the outdated National Strategies and Action Plans in the case of the CBD and the UNCCD respectively. There is general lack of preparedness, when it comes to the region's contribution to MEAs, with delegates being inadequately briefed by their national and sub regional constituents. This affected the participation of the region; resulting in most of these conventions do not reflect the regional concerns or needs in their formulations. This makes the implementation of such conventions almost

impossible. Member states are therefore encouraged to focus on strengthening national and regional capacity in the understanding, negotiation, influence and implement the MEAs.

#### **4.1.1.3 Institutional Frameworks for Biodiversity Management**

Biodiversity cuts across many sectors and various levels of society. Although at the regional level, the SADC Framework, through the various Directorates and various committees provides a good vehicle for engaging government representatives on biodiversity issues; institutional frameworks for biodiversity conservation in the region continue to be weak. The coordination and collaboration between and among relevant directorates is a challenge and biodiversity initiatives continue to be implemented using a sectoral approach.

There are inadequacies in national and regional institutional arrangements required to create an enabling environment for effective enforcement of such conventions and agreements. At the national level, institutional frameworks for dealing with biological resources are also weak both in terms of financial and human resources. Both at the regional and national level, there are a variety of institutions with mandates and roles that are sometimes conflicting and overlapping and a key issue is the rationalization of responsibilities between these institutions in order to encourage proper biodiversity conservation and sustainable use. Although efforts at the national level have achieved a lot of success in rationalizing the responsibilities of the various institutions, rationalization of responsibilities still remains a big issue and challenge at the regional level.

While SADC is committed to civil society and private sector participation in its intergovernmental structures and processes, this is still to be effected. There are increasing efforts to increase the participation and contribution of civil society and private sector in these biodiversity management institutional frameworks. However, challenges of effective and genuine stakeholder participation (especially the participation of the poor, women and youth) are still being experienced. In this regard, SADC member states are called upon to:

- **Establish and Facilitate a SADC Biodiversity Forum**

At the regional level, the SADC secretariat is encouraged to establish the SADC Biodiversity Forum, a platform that will encourage multi-stakeholder interaction, networking and communication on biodiversity issues; Regional Technical working groups around each of the strategic areas to facilitate technical support and backstopping on the implementation of the action plan; and a networking and information sharing platform. This platform will link science and politics in order to raise the profile of biodiversity and ecosystems management and conservation. This forum should house and/or establish working linkages with already existing structures such as the Regional CBNRM Forum in the SADC.



- **Enhance the Capacity of National Institutional Frameworks**

Although member states have worked and are working on improving the capacity of national institutions, capacity constraints exist in many areas such as financial and human capacity. Under this SADC BAP, member states are called upon to intensify their efforts and enhance the capacity of local and traditional institutions for biodiversity management; facilitate the devolution of resources management to local and traditional institutions, and promote and establish institutional frameworks for effective stakeholder participation.

- **Facilitate the Operation of Regional Centres of Excellency**

Building on the efforts and results of the SADC Biodiversity Programme, SADC should facilitate the implementation of the biodiversity centres of Excellency approach developed under this programme. At the end of the programme, centres of Excellency for ABS and IAS had been established. This effort should be followed and new centres for other relevant areas identified and working arrangements established.

- **Strengthen Existing Regional Biodiversity Networks**

A number of specialized networks in the area of biodiversity exist in the region. Notable networks include the Southern Africa Botanical Network (SABONET) which has been spearheading information and experience exchanges within the field of botanical diversity; IUCN Commissions such as WCPA, CEM, CEC SSC, CESP, and CEL; Southern Africa Sustainable Use Specialist Group (SASUSG); Regional Biodiversity Expertise Network (ReBen); Southern Africa Fire Network; to name a few. In recent years, researchers have also started to organize themselves to contribute to the transboundary protected management information, and here, the Transboundary Protected Areas Research Initiative (TPARI) is the most advanced group. Under the SADC BSP, a network of national biodiversity contact persons was established and two rosters of experts on IAS and ABS were produced. At the community level, efforts to establish a regional CBNRM network are underway.

Despite these efforts, the region continues to face serious networking challenges, resulting in limited vertical and horizontal interactions. In the cases where networks have been established, sustainability of these structures poses key challenges. In addition, most networking structures lack clearly defined mechanisms and where they exist, they are poorly moderated, resulting in failure to achieve the intended objectives. Due to the failure to define the mechanisms of interaction, members of most networks generally focus on delivering institutional objectives and targets, with less focus on meeting regional agreed targets. Another issue affecting the performance of existing network is the continued exclusion of other key stakeholders in the biodiversity conservation equation. SADC secretariat is called upon to strengthen existing biodiversity networks for improved conservation and management of the region's biological resources

- **Establish and Manage Regional Thematic Working Groups on Biodiversity**

The effective implementation of the SADC BAP will require the input of committed and interested champions. SADC, through various directorates have the experience of working through working groups. Under this SADC BAP, the SADC secretariat, working with member states and other key regional stakeholders is called upon to establish and manage thematic working groups (multi-

stakeholder) for each of the strategic areas on the action plan. These will be groups working on voluntary basis to champion the effective implementation of the SADC BAP elements.

#### **4.1.1.4 TFCA Governance Frameworks**

Over the past seven years, the concept of TFCAs has widely been adopted in the SADC region as an approach to promoting cross-border landscape conservation. The challenge that SADC faces with regards to TFCAs, include (i) their acceptability by local communities who have not been fully involved in their development; (ii) lack of awareness about their potential to contribute to both biodiversity conservation and socio-economic development; (iii) lack of mechanisms for integrating other stakeholders (communities & private sector) in their development. So far governments have dominated the establishment and development of TFCAs. In response to the increasing prominence of the TFCA concept, many countries in the region have been advocating for research and documentation of governance models in TFCAs and the enhancement of stakeholder participation in TFCAs management arrangements. In order to improve the TFCA governance frameworks, SADC member states are called upon to:

- **Harmonize National Policies and Legislation**

Unfortunately, some countries in the region have not yet clearly articulated their national policies on TBNRM. This apparent lack of clarity and consensus at national level partly explains the slow rate of implementation of some of the TBNRM initiatives. There is therefore an urgent need for member States to develop national consensus, policies and capabilities on the subject. The harmonisation of policies and legislation across countries involved in TFCAs is therefore necessary. In addition, it has been observed that where TFCAs exist, community rights to land and resources are ill defined and therefore the conditions under which communities can engage in TFCAs are usually not clear. The state management authorities that are responsible for implementing TFCAs are finding it difficult to equitably engage communities. Under this Action Plan, SADC should explore and promote mechanisms of defining and integrating community rights into TFCA governance models.

- **Establish and Implement Effective TFCA Structures**

With the increasing trend in the establishment of TFCAs, various formal bi-lateral and tri-lateral structures have been developed in the region to facilitate the management of these habitats. These structures deal with the management of joint issues, which include inter alia conservation and wildlife management, veterinary issues, cultural resource management, community based natural resource management, infrastructure development, stakeholder participation, etc.

With regards to stakeholder participation in biodiversity conservation, the issue of private sector participation in the management of biodiversity in TFCAs continues to be a challenge. In comparative terms, SADC has a well-endowed corporate private sector. A strong potential exists in forging links between the public and private sector in initiating and implementing integrated biodiversity management programmes in the region. The lack of private sector participation in environmental programmes undermines efforts for domestic resource mobilization and partnership building. The Blair report (2005) stress that growth and poverty reduction call for a close partnership between the government and the private sector with the latter removing barriers to investment on one hand, and rural development on the other stressing the importance of agriculture, enterprise development as well as safeguarding the environment.



Partnerships are formal or informal relationships and agreements that are entered into between two or more key players who are involved in natural resources management activities (e.g. in conservancies) for the benefit of the resource base and the players. Partnership in the framework of TFCAs should accommodate broader multiple views and needs in addressing problems of resource depletion and livelihoods insecurity, facilitate exchange of information and experiences, help avoid fragmentation and duplication of effort, help in leveraging resources from investors, government and possibly donors, and address issues of poverty and resource inequities. Dialogue, informed consent, transparency and trust, equity, sharing of risks, responsibilities and benefits, and sharing of work plans characterize strong partnerships. The management authorities of the various TFCAs in the region are engaged in a complex search for the best and win-win models of partnerships. SADC and member states are therefore called upon to develop viable institutional frameworks for the management of TFCAs. This action plan will contribute to this search through the documentation and synthesis of the current experiences, commissioning of relevant research and demonstration of the most promising models.

- **Improve TFCA Learning and Networking**

Given that most TBNRM projects are still in their infancy, their impact on trans-boundary natural resource management and on human welfare in the region still remains to be seen. The way each of the TFCA's projects is dealt with differs as they occur within a different ecological, socio-economic and political context. Currently the deliberations and discussions amongst the various partner countries involved in each of the TFCA projects focus on project specific issues, and there is not much opportunity to discuss how these issues are dealt with at other conservation related projects. Very few managers are involved in more than one TFCA project in the region.

While TFCA structures could be used as a formal vehicle to learn particularly given the fact that each of the countries involved in the development of TFCA's has had its successes, limited interaction and sharing of experiences still characterize this field. There is need to foster trans-national collaboration and co-operation amongst countries to facilitate effective ecosystem management, the exchange of technical, scientific and legal information for the joint management of ecosystems. The SADC secretariat is called upon to develop and implement mechanisms that will improve learning and networking around TFCAs. An example is the TFCA Learning Network, an idea expressed through the SANPARKS and the Transfrontier Protected Area Research Initiative (TPARI). This will be a vehicle that will expose TFCA managers also to other conservation related projects.

#### **4.1.1.5 Equity and Benefit Sharing from Biodiversity**

The SADC region is characterized by acute inequalities which render access to natural resources as a major governance issue on which democracy must deliver. Access to natural resources in the SADC region is perhaps the most socially and politically sensitive issue now being entangled in environmental and political agendas. The fair and equitable sharing of benefits arising from the utilisation of biodiversity is one of the central objectives of the Convention on Biological Diversity (CBD), and the basis of the primary obligations established for Contracting Parties. The concept of Access and Benefit Sharing (ABS), as promulgated by the Convention on Biological Diversity (CBD, Article 1) is concerned with how regulations can be made to protect the rights of individuals or groups to make use of and benefit from the diversity of genetic resources found in the ecosystems within which they reside.

Frameworks to facilitate fair and equitable benefit-sharing in particular contexts, though useful, have not yet developed practical guidelines for implementation. Equity in access to natural resources and the sharing of benefits from their uses remains a critical and largely an unanswered issue. In conceptualizing access and benefit sharing of natural resources, the costs associated with

either conservation or use are therefore important because they determine whether the 'benefits' provide incentives for conservation. Equity and gender issues should also be considered within the context of allocation of costs and benefits. These underpin the importance of recognising the rights of women to natural resources and the need to improve their access to the resources and the benefits that accrue from their use. The formulation of sound ABS regimes has however proved to be a daunting task for many developing countries.

Critical to the success of biodiversity conservation and management is the issue of tenure and access to resources. Resource tenure and property rights in the region are a blend of traditional systems, the colonial system and the post-independence government policies. Resource tenure security and reform is crucial to the livelihoods of poor people who live in the marginal areas of the SADC region. Most of the rural populations have insecure access to land and its products. The prevailing distortions in resource tenure regimes have direct implications on existing regional levels of social inequity with respect to access and control over natural resources. The current mix of resource tenure systems, for example, allow for varying degrees of access to resources by women. The effectiveness on ongoing approaches and practices aiming at addressing fair share of cost and benefits in natural resources management remains a challenge. At local and regional levels successful community management of natural resources depends on security of land tenure, issues of access to and rights to products from the ecosystem that they live in or around them such as drylands, wetlands, forests, marine etc. Another major concern in this area is the inherent inadequacy in the exploration of local knowledge and culture and their incorporation into contemporary natural resources management initiatives at the local level. Within the scope of equity and benefit sharing challenges, the member states are called upon to:

- **Create the Policy and Legal Environment for ABS**

ABS was one of the focus areas of the SADC BSP, a programme supported by GEF and implemented by SADC FANR in collaboration with the then IUCN Regional Office for Southern Africa. Building on the results and successes of the SADC Biodiversity Support Programme [2004 – 2007], the SADC BAP will facilitate the creation of an enabling policy and legal environment for access and benefit sharing to promote effective regional collaboration in the application of ABS in the region. One of the key outputs of the SADC BSP is a publication on "Regional Analysis and Guidelines on ABS agreements, legislation and institutional frameworks for biodiversity management in Southern Africa". Under this SADC BAP, the SADC secretariat is called upon to widely disseminate this publication and encourage the use of the guidelines to formulate ABS policies and legislation. Member states are called upon to apply the Access and Benefit Sharing principles and formulate policies and legislation to effect these principles.

- **Develop and Demonstrate Access and Benefit Sharing Regimes**

In a region where there are marked disparities in resource endowment, income streams and access to biological resources, inequities emanating from distorted access and sharing of benefits are topical issues. In recent years, the region has been talking about the need to develop benefit sharing regimes around the use of biodiversity. Under this action plan, SADC secretariat and member states are called upon to develop and demonstrate Access and Benefit Sharing Regimes in various ecosystems and habitats, highlighting how gender issues can be integrated in order to achieve greater equity. The focus should be on ABS protocols, guidelines and institutional arrangements, with a focus on non-tradable products. Special attention should be given to the development and implementation of Access and Benefit Sharing Regimes in TFCAs. The development of equitable

benefit sharing mechanism for TFCAS at local, national and transboundary level is of outmost importance. SADC is called upon to work with member states on developing Access and Benefit regimes for TFCAs. In addition, the Action Plan will facilitate research on gender issues in access and benefits sharing and produce guidelines for mainstreaming gender in access and benefit sharing regimes, and promote the use of the guidelines.

- **Build Capacity for Improved ABS**

Building capacity for ABS was one of the objectives of the refocused SADC BSP. The purpose of the refocused programme was to establish capacity and institutional mechanisms that can enable SADC member states to collaborate in the application of ABS principles, among other things. The programme identified the following ABS capacity needs: contract law; intellectual property rights and indigenous knowledge; bio prospecting; natural product processing; and packaging and marketing. Regional and national institutions to facilitate the training were also identified and some of these institutions had met and agreed on generic work plans and budgets. Under this Action Plan, SADC secretariat and member states are called upon to facilitate capacity building in these and other areas, in order to improve the application of the ABS principles.

- **Facilitating Resource Tenure and Rights**

Resource tenure is a critical component of environmental governance. Tenure and ownership are basic incentives for sustainable use and management. Equity dimensions in natural resources management are determined by the nature of prevailing policies regulating access to and control over resources. Most of the existing environmental legislation (especially for protected areas) in the region precludes neighbouring communities from accessing goods and services especially from protected areas. Resource rights issues in the region are manifested in increasing pressure on resources, resources-based conflicts and pressure on rural development. The conflict over natural resources encompasses ancestral claims, and gender imbalances. Considering that the sense of resource stewardship and rights to resource use has direct implications on prevailing management and practices, inequitable access to natural resources underlies the sustainability of the region's biodiversity. The prevailing distortions in resource tenure regimes have direct implications on existing regional levels of social inequity with respect to access and control over natural resources. Resource tenure security remains a challenge for many communities and individuals in the region. The SADC BAP will facilitate process aimed at ensuring the rights and resource tenure of marginalised groups. Considering that the success of CBNRM has largely depended on the level of devolution of management authority to local communities; the Action Plan will focus on supporting the devolution of biodiversity management authority to local communities.



- **Address Gender Disparities in Resource Tenure and Rights**

Social inequity is further demonstrated in the customary practices with regards to women's access to land, wildlife, forests and other resources. Women have little or no access to natural resources that can help to improve their livelihoods and those of their households. Despite the fact that over the past fifteen years considerable efforts have been made at national and international fora, very

little progress has been made about understanding the fundamental role that women play in the use, management and conservation of biodiversity. Rural women do not have control over natural resources and they face institutional barriers that impede their livelihood activities. Access to key resources that are essential for economic empowerment such as land, water and wildlife are constrained by customary law. Furthermore, most of rural women do not have access to agricultural credit, which is necessary for buying farming inputs. Under this SADC BAP the gender dimension of tenure and rights on biodiversity should be explored, documented and addressed as a key element of the sustainable use of these biological resources.

#### **4.1.2 Improving Biodiversity Based Livelihoods**

In many developing countries, the rural people, especially the poor depend on the natural resource capital for incomes and sustaining their livelihoods. There is growing evidence throughout the world that the maintenance of and sustainable use of biodiversity underpins human welfare and economic development. The poor especially in rural areas depend on biodiversity for food, fuel, shelter, medicines and livelihoods. This is true for the SADC region where most of the countries depend on natural capital for economic development. Although the appropriate and productive use of biological resources and ecosystems is central to long-term human and sustainable development in the region the exploitation of these natural resources for the pursuit of short-term economic gain continues unabated. Rapid population growth in a situation of limited livelihood options is a major factor in growing poverty and environmental degradation and biodiversity loss. DFID (1997) identified land degradation and desertification as one of several issues that any poverty alleviating activities need to tackle. In addition the over-dependence on one form of economic activity, in particular agriculture, whose performance is governed by water availability, has exacerbated the problem. Sustainable poverty reduction is a crucial indirect driver for biodiversity conservation.

Sustainable livelihoods approaches are being used as an optic through which poverty can be better understood and development options prioritized. A livelihood comprises of the capabilities, assets (including material and social resources) and activities required for a means of living (Long, 2001). Poverty reduction can only be achieved if increased output or income for the rural communities, especially the poor is coupled with access to biological assets. Equitable access to vital ecosystem services is critical to poverty reduction in the region. This is critical to promoting local employment and income generation from biodiversity based enterprises. Capitalization on ecosystems goods and services to generate wealth for rural communities is important as much as is the reinvestment in the enrichment of the biological resources and diversification of economic activities. Viable biodiversity enterprises comprising of both high value to ecosystem products will provide communities with employment and income generating opportunities which can contribute towards poverty alleviation. The improvement of biodiversity based livelihoods is a key element of the SADC BAP. There are 5 elements under this strategic area and these are listed in table 10.

**Table 10: Biodiversity Based Community Livelihoods Elements and Indicators**

Strategic Area	Key Element	Indicators
<b>Biodiversity Based Community Livelihoods</b>	Consolidation of CBNRM	<ul style="list-style-type: none"> <li>Information on CBNRM as a biodiversity conservation tool available in public domain</li> <li>No. Of CBNRM initiatives focused on biodiversity conservation</li> <li>An improvement in community incomes</li> <li>Empowered local communities, capable of monitoring and reporting on biodiversity status</li> </ul>
	Diversification of Community Biodiversity Based Livelihood Options	<ul style="list-style-type: none"> <li>Diversified livelihoods options</li> <li>Increase in community livelihood assets</li> <li>An improvement in community incomes</li> </ul>
	Biodiversity Based Community Businesses	<ul style="list-style-type: none"> <li>An improvement in community incomes</li> <li>Increased biodiversity derived revenue</li> <li>No. and range of biodiversity based businesses</li> <li>Community use of models of sustainable harvesting of biodiversity products</li> </ul>
	Development of the Medicinal Plants sector	<ul style="list-style-type: none"> <li>Increase awareness on the opportunities</li> <li>No. of potential products</li> <li>Availability of market surveys and sustainable harvesting approaches</li> </ul>
	Climate Change Resilient Biodiversity Based Livelihoods	<ul style="list-style-type: none"> <li>Tools and mechanisms for climate change adaptation</li> <li>Number of initiatives targeting community vulnerability to climate change</li> <li>Range of strategies available</li> </ul>

The following sections describe the specific actions that the SADC member states are called upon to undertake in order to improve biodiversity based livelihoods.

#### **4.1.2.1 Consolidation and Enhancement of CBNRM initiatives**

For more than two decades, some countries in the SADC region have been implementing strategies that support human livelihoods through the sustainable use of biological resources within the context of Community Based Natural Resource Management (CBNRM). CBNRM occurs across many different resources such as forests, water, etc. CBNRM is said to enhance the livelihoods of poor people in remote and marginal areas particularly through empowerment and improved governance. CBNRM has been popularized as a mechanism for the management of natural resources to safeguard livelihoods of local people.

CBNRM has been viewed as an incentive based conservation and development model that is adaptively implemented by and for people who live with and directly depend on biological resources and who therefore have the greatest impact on such resources. In this model, communities are given rights of access to wild resources and legal entitlements to benefits that accrue from using the resources. This is intended to create positive social and economic incentives for the people to invest

their time and energy in natural resource conservation. Typically, CBNRM initiatives have been implemented in ecologically marginal areas, with limited capacity for other natural resource based economies such as agriculture. Community based natural resource management (CBNRM) involves the management of land and natural resources such as pastures, forests, fish, wildlife and water by a group of rural people through their local institutions. Community empowerment activities focused on enhancing the capacity of the poor people to influence the state institutions that affect their lives by strengthening their participation in political processes and local decision making is important. Building on the current efforts, the Action Plan will support the documentation and dissemination of CBNRM experiences through the commissioning of further research on the use of CBNRM as an effective biodiversity conservation tool. In addition, the SADC BAP will facilitate the up-scaling of CBNRM based livelihoods and build the capacity of the poor within CBNRM context.

#### **4.1.2.2 Diversification of Community Livelihood Options**

In most countries of the SADC region, there is limited empirical work has been undertaken to seek alternative livelihoods. The ability to cope with adverse livelihood conditions (such as drought) is determined by the nature and extent of their livelihood choices. When communities are vulnerable they often have to choose coping/adaptive strategies that further undermine their resilience. Diversification of livelihood options can empower people by broadening the range of strategy options. One critical area is that of diversifying livelihood choices, which reduces vulnerability. A diverse portfolio of activities contributes to sustainability of a rural livelihood because it improves its long run resilience in the face of adverse trends or sudden shocks. Increased diversity promotes greater flexibility because it allows more possibilities for substitution between opportunities that are in decline and those that are expanding. The positive impacts of diversification include seasonality, risk, employment, credit and assets effects. The diversity of livelihoods is an important feature of rural survival. Diversity is closely linked with flexibility, resilience and stability. In this sense, diverse livelihood systems are less vulnerable than undiversified ones. In most countries of the region, limited empirical work has been undertaken to seek alternative livelihoods.

Diversification of livelihood strategies is key to sustainable local livelihood strategies, these include becoming seasonality and spatially mobile and flexible (Biggs et.al, 2004). Therefore in order to build the resilience of communities living in fragile ecosystems it is essential to enhance their adaptive capacity i.e. through diversification of their livelihoods base.

Currently there is a limited understanding of local adaptation and coping strategies implored by communities residing in the region. In most cases the nature of support to local communities has been channelled towards supporting agro-pastoral activities and excluding other natural resources based livelihoods such as hunting and gathering which is practiced by San communities found in Botswana, Namibia and South Africa. In cases where programmes have been identified for purposes of the diversifying the rural livelihoods economies such as CBNRM these strategies have not reached the maturity to achieve this goal. For instance CBNRM has been identified as a potential vehicle for diversifying rural livelihoods however this programme remains largely underdeveloped in where there are no protected areas. For communities, which rely directly on natural resources for their livelihoods, uncertainty is inevitable, especially in dry ecosystems. It is hence important that a diversification of livelihood strategies is fostered and maintained, as diversity has been proven to enhance resilience of both social and ecological systems.

The focus of CBNRM efforts in the region has been around wildlife, neglecting other key resources critical for community livelihoods. In recent years, the region has witnessed an increase in the use of veld products such as Devil's Claw which is endemic to southern Africa. Likewise, *Hoodia goordonii*, a succulent plant with appetite suppressant qualities, growing only in the driest parts of southern Africa provides a unique opportunity for livelihood diversification in rural communities. Such products have potential for nutritional, pharmaceutical and industrial use; and for generating income for rural people.

Although many ecosystems offer various opportunities of alternative livelihoods in the SADC region, the lack of research and appropriate technologies to harness the goods and services is limiting. There is limited information on the incomes of populations residing in fragile ecosystems, job opportunities and little empirical scientific research on what is happening to their lands, aquifers, forests and other livelihoods sustaining natural resources. In recent years, commercialisation of indigenous products for the benefit of the rural poor has come into sharper focus. There is also growing interest in adding value and commercializing biological resources in the region.

Although the SADC region has been very successful in developing and championing models for community participation and benefit sharing (e.g. ADMAD in Zambia, Tchuma Tchatu in Mozambique, CAMPFIRE in Zimbabwe, LIFE in Namibia and CBNRM in Botswana), these models are predominantly wildlife-resource based, and not directly addressing other natural resources or provide incentives for investment in sustainable and profitable management of resources by rural communities. The potential role of veld products in these areas is only beginning to be realized through value addition and commercialization. Such products have potential for nutritional, pharmaceutical and industrial use; and for generating income for rural people. Consequently, they have the capacity to broaden the economic viability of CBNRM initiatives. The main advantage of veld products is their wider distribution when compared to wildlife. In view of this gap and the current state of biodiversity loss, it is important that models of best practices in biodiversity community enterprises are developed, tested and shared throughout the region.

The Action Plan will facilitate the development of strategies geared towards supporting the diversification livelihood strategies. Efforts to diversify CBNRM beyond wildlife to cover other types of natural resources such as rangelands and veld products will be encouraged. Opportunities of alternative livelihoods will be explored and research on appropriate technologies to harness the ecosystem goods and services will be carried out. Community business enterprises will be promoted.

#### **4.1.2.4 Exploring the Medicinal Plants Product Sector**

The use of Traditional Medicines and other natural products as an alternative to modern medicines in both rural and urban settings in the region has for various reasons increased in recent times. This may be attributed to a number of factors including limited access to modern medicines to the rural poor and the recognition of the important role traditional medicines can play in the health sector in other quarters. The advent of the HIV/AIDS pandemic has also led to an increase in the use of traditional medicinal plants in the wide search for a cure to the scourge and the associated ailments. This has led to increased pressures from some times, unsustainable harvesting techniques of traditional medicinal plants without commensurate efforts to conserve the valuable species. The lack of a legal framework specific to conservation and sustainable use of traditional medicinal plants is a key factor affecting sustainability of traditional medicinal plants.

There are also limited economic incentives for traditional healers and herbalists to conserve the medicinal plants due to lack of appropriate property rights to them for these resources. Pressures on traditional medicinal plants is envisaged to continue to increase due to the HIV/AIDS pandemic and land conversion due to pressures for agricultural expansion, overuse of forest resources and loss of indigenous knowledge on the medicinal values of certain plants as a result of lack of documentation and loss of conservation folklore. Currently, economic disincentives and inappropriate legal and policy frameworks are not able to neither ensure sustainable use of medicinal plants nor prevent the gradual loss of the very diverse indigenous knowledge of medicinal plants. The conservation and sustainable use of biological resources including traditional medicinal plants is well articulated in SADC Regional Biodiversity Strategy and SADC member states have prioritised the conservation and management of medicinal plants.

The SADC BAP will: promote the conservation, sustainable use and cultivation of endangered medicinal plants in the region by demonstrating effective models at the local level, and developing strategies for the conservation and sustainable use, of medicinal plants. Specifically, the Action Plan will promote the cultivation of medicinal plants as a tool for biodiversity conservation and poverty alleviation and demonstrate effective models of medicinal plants management using the CBNRM approach for economic incentive creation for sustainable management, and facilitate the development and dissemination best practices for sustainable collection of medicinal plants from the wild. The Action Plan will develop and encourage techniques for cultivation of medicinal plants so as to relieve pressure on the wild plants and come up with appropriate economic incentives to ensure financial and ecological sustainability.

#### ***4.1.2.5 Supporting Climate Change Resilient Biodiversity Based Livelihoods***

Africa (and the SADC) is the continent that will be seriously affected by climate change. Considering the dependence of community livelihoods on biodiversity and the potential climate change threat to both biodiversity and livelihoods, communities in the region are most vulnerable to climate change. The SADC BAP will support efforts targeted at building resilient biodiversity based livelihoods, focusing on vulnerability assessments and adaptation strategies. Specifically, the Action plan will facilitate community livelihoods vulnerability assessments, and support the design and implementation of coping and adaptation strategies.

#### **4.1.3 Biodiversity for Economic Development**

The SADC region is endowed with diverse and rich biological resources. Although many national economies rely on biological resources, many member states are unable to sustainably convert their natural resources/biodiversity into wealth, hence the widespread poverty experienced in the region. The biological capital locked up in the region's natural resources has to be tapped using business principles of value addition underpinned by investment in appropriate technology. This can make biodiversity management a relevant development tool in southern Africa by contributing towards the cost of its own management (SABSP, 2005).

While it is acknowledged that biodiversity is important for the socio-economic development, the region is characterised by under developed business enterprises and markets due to a number of reasons which include limited access to capital and credit, few business enterprises and skilled entrepreneurs, poor markets and marketing strategies, and dilapidated or absence of means of transport and infrastructure. Commercialisation of indigenous products for the benefit of the rural poor has come into sharper focus in recent years as the growing interest in adding value and commercializing biological resources intensified. In recent years, trade on natural products has been



on the increase within many communities. There has also been increasing interest to explore trade principles for the natural product sector. In the region, a number of frameworks are used to trade in natural products with the EU and US markets.

As highlighted in chapter 3, the economies of many member states rely on biological resources. Despite this key role of biodiversity in the region’s economic development, biodiversity has not been accorded the importance and profile it deserves, resulting in unsustainable economic development approaches. There is generally a lack of knowledge on the potential impacts of macro-economic policy and practice on biodiversity and environment management in the region. There are/or limited efforts towards biodiversity mainstreaming into the economy, a new development paradigm focused on building a green economy in the region. Many countries in the region do not carry out valuation of biodiversity and ecosystem services as part of national accounting and public and private investments. A number of countries are prepared to flout most of the global, regional and national environmental regulations for economic development despite the fact that SADC identified ineffective EIA as one of the key challenges facing the environment sector in the region. Although many countries have embraced EIA, with legislation and capacity enhancement in this area, however EIA recommendations and mitigation measures are rarely implemented. Strategic environmental assessments, as a decision making tool are quite rare in the region.

In view of this state of affairs, the facilitation of sustainable biodiversity related economic development opportunities constitute a key element of the SADC BAP. There are four elements under this strategic area and these are listed in table 11.

**Table 11: Biodiversity for Economic Development**

Strategic Area	Key Elements	Indicators
<b>Biodiversity for Economic Development</b>	Promoting the development of natural products and enterprise	<ul style="list-style-type: none"> <li>• Number of local natural resource based enterprises</li> <li>• Empowered local entrepreneurs</li> <li>• Volume and diversity of natural products</li> <li>• Increased income and revenue</li> <li>• Established markets</li> </ul>
	Biodiversity based tourism	<ul style="list-style-type: none"> <li>• No of conservation based tourism ventures</li> <li>• Increased income and revenue</li> <li>• No. of jobs created</li> </ul>
	Bio Trade and Diversification of Economic Activities	<ul style="list-style-type: none"> <li>• An operational Biodiversity Business Facility</li> <li>• Information on the potential of biodiversity based business investment widely available.</li> <li>• No of Green Jobs created</li> </ul>
	Biodiversity Certification Scheme	<ul style="list-style-type: none"> <li>• Regional Certification scheme</li> <li>• No. of businesses and industries certified</li> </ul>
	Mainstreaming biodiversity into regional and national development plans	<ul style="list-style-type: none"> <li>• Guidelines on mainstreaming biodiversity into national and regional development plans</li> <li>• The contribution of biodiversity reflected into GDP and GNP</li> <li>• Sustainable utilisation of biodiversity reflected in national development plans</li> </ul>

- Incentives for biodiversity conservation
- Natural resource accounts in selected countries
- Approaches for establishing natural resources national accounts available
- No of participating countries and institutions
- Skills for biodiversity valuation, accounting and strategic environmental assessments

The following sections describe the specific actions that the SADC member states are encouraged to undertake in order to facilitate the sustainable biodiversity related economic development opportunities.

#### **4.1.3.1 Development of Natural Products and Enterprises**

Natural products industry has been growing rapidly world-wide over the last few years. Natural products are products derived from naturally occurring biological resources, harvested from the wild by rural producers. Trade in the region will inevitably increase and this presents huge opportunities to rural communities. However, it also poses several threats, including those of adverse ecological impact, bio-piracy and the threat that benefits will not accrue to rural producers.



There have been very few efforts in the region to develop and promote community-based enterprises targeted at poverty reduction. Access to biodiversity and ecosystem services pave the way for active engagement in sustainable use. The SADC BAP will support natural products enterprises with the objective enhancing the livelihoods of the poor and environmental sustainability through the development of a vibrant pro-poor natural products sector in the SADC region. Market failures that hinder the emergence of natural products will be addressed in such a way as to diversify rural livelihood options and create economic incentives for improved natural resource management practices. The SADC BAP will facilitate the exploration of the full range of conservation-based business opportunities for communities living in and around protected areas as means of providing incentives for local communities to commit themselves to biodiversity conservation. In addition the Action plan will support the development of markets and facilitate the marketing of biodiversity products.

#### **4.1.3.2 Promote Conservation Based Tourism**

It is widely acknowledged that tourism is the most promising economic development venture directly linked to biodiversity and related ecosystem services. Nature-based Tourism can be a win-win sector for biodiversity and poverty alleviation. Conservation based tourism is a good example where the income stream to private enterprise depends directly on the health of the surrounding ecosystem. In such cases, business owners and managers need little persuasion to invest in biodiversity management. However, the degradation of ecosystems and the services they provide destroys business value and limits future growth opportunities.

The region has identified the development of TFCAs are an important component in regional economic development. Joint management of natural resources and joint tourism development,

through TFCAs, can offer important opportunities for local communities. The creation of TFCAs is a regional approach to combine biodiversity conservation and tourism development. In the region, tourism has the potential to boost economic growth and rural livelihoods in many countries. In the SADC countries, ecotourism already employs over 1.8 million people, and it is the single most rapidly growing source of employment in this region. In this regard, the SADC BAP will support biodiversity based tourism development ventures, with a particular focus on TFCAs, as well as community based ecotourism.

#### **4.1.3.3 Exploring Bio Trade Opportunities**

The economies of many countries in the region are heavily dependent on their natural resource base. The region has also been exploring on economic opportunities based on “bio trade” and diversification of economic activities based on biodiversity. However, this should be done in a sustainable manner to conserve the region’s biodiversity and prevent loss of species, ecological processes and biological resources. The SADC BAP will support the: facilitate the exploration of bio trade opportunities as well as the:

- **Exploration and Establish Bio trade opportunities**

The SADC BAP will also identify high potential opportunities to build biodiversity businesses, including investment in commercial enterprise as well as activities that build the foundations of biodiversity markets, such as market research and product development, pilot testing of biodiversity business concepts, pre-commercial purchase of biodiversity services based on competitive business principles and, where appropriate, policy advice on market creation for biodiversity.

- **Design and Implement a Regional Bio-trade Programme and Strategy**

In order to guide regional trade in biological resources a regional strategy and programme is essential. The SADC will support the design and implementation of a regional bio-trade strategy and programme.

- **Explore and Support the Establishment of a Biodiversity Business Facility (BBF)**

While the unique biological resources of the region provide huge opportunities for business, investment in this area is very limited. Sustainable investment is therefore essential. The SADC BAP will explore the feasibility of the biodiversity business facility concept. Based on the outcome of this exploration, advocacy and awareness of the BBF concept will be facilitated. The feasibility study process may look at the main obstacles to and risks of market-based biodiversity conservation, such as lack of finance, limited knowledge about how to supply biodiversity through the market, weak capacity, lack of enabling policy, insufficient public consensus, weak or fickle consumer demand, potential adverse social impacts, etc.

- **Develop and Apply a SADC Brand for Biodiversity Products**

In order to facilitate trade in natural products and effect control and quality, the SADC BAP will facilitate feasibility on the possibility of developing a SADC brand for biodiversity products. Based on the outcome of the study, the Action plan will support the development of a common brand for transboundary products such as devils claw, and for other relevant natural resources.

#### **4.1.3.4 Consolidate and Expand the Biodiversity Products Certification Schemes**

Certification is assumed as one of the promising options towards sustainable natural resources management that optimizes economic and social benefits without compromising the ecological integrity of ecosystem and biodiversity. Within the energy sector, certification is seen as an instrument that can both encourage and quantify sustainable bio fuels production. It may thus become a precondition for bio fuels to be counted towards national utilization targets or for benefiting from tax breaks and other incentives. It may also become a prerequisite for consumers' acceptance.

The region had started to work on the certification of biodiversity related products. For example, IUCN ESARO already has experience with the development of certification system for biodiversity friendly natural products. The Fair Trade and Tourism South Africa (FTTSA) has been working with the tourism sector on certification of tourism activities. The SADC BAP will build on this experience and consolidate and expand the biodiversity products certification schemes, support the improvement of existing certification standards and development of new standards to achieve global environmental objectives; increasing country capacity to scale up and increase the sustainability of certification systems; establishment of sustainable training for biodiversity user sectors and certifiers; and strengthening market outreach to enhance consumer awareness of certified products and hence increase demand for higher environmental and social standards.

#### ***4.1.3.5 Mainstreaming Biodiversity into National and Regional Development Planning***

As highlighted in earlier sections, the stock of renewable resources is rarely considered at the macro-economic levels where major strategic planning decisions are made. Overall, this situation has led to a vicious downward spiral of resource depletion and growing poverty that has often been accompanied by political instability. According to the GEF Biodiversity Strategy (2007), the Millennium Ecosystem Assessment identified agriculture, forestry, fisheries, tourism, infrastructure and transport; oil, mining and gas; and banking and insurance as exhibiting a high impact on biodiversity over the last century through the main drivers of change: habitat change, climate change, invasive species, over-exploitation, and pollution. Considering the diversity that exist among the SADC member states, each member state will establish the key sectors that exhibit high impact on biodiversity. The objective of mainstreaming is to integrate the goals of conservation and sustainable use of biodiversity into those sectors. The main focus is to improve the efficiency and environmental soundness of production practices, reduce the threats to biodiversity and enhance the sustainable management of biodiversity goods and services, and consolidate conservation initiatives within the production systems. The SADC BAP will encourage the mainstreaming of biodiversity into national and regional development planning. Incorporate biodiversity concerns and ecosystem services poverty reduction processes in the region. The SADC BAP will support the:

- **Develop and Promote the Use of Generic Guidelines for Mainstreaming Biodiversity**

Considering the fact that there are few attempt and experiences on mainstreaming biodiversity into national economic development planning, the SADC BAP will facilitate the development of generic guidelines on how to mainstream, and promote their widespread use among the member states.

- **Biodiversity Valuation and Natural Resources Accounts**

Despite the fact that biodiversity is a key ingredient in the region's economic development, the value of biodiversity has not been determined and factored in into economic development planning

processes. There is insufficient appreciation of the importance of biodiversity to national economies and sustainable livelihoods, resulting in continued exclusion of biodiversity from the mainstream sectors of national economies, and limited investment in areas such as value addition and bio-prospecting by national governments. There is a need to value the goods and services of the various ecosystems and the biodiversity therein in order to map out strategies for both their protection and sustainable utilization. Valuation and accounting for biodiversity in this sense has to be broadened to include the benefits that can be derived from rehabilitation of degraded ecosystems. Understanding the opportunity costs of managing ecosystems is central to influencing decision-making on the need to invest in biodiversity and reduce the vulnerability of populations living in these areas. Equally the goods and services offered by these ecosystems can have significant potential for alternative livelihoods. This state of affairs is generally contributing to the destruction of various biological resources for immediate gain without due consideration to future needs and impacts on the environment. This has generally led to the loss of plant and animal species. The SADC BAP will facilitate biodiversity valuation work and the establishment of natural resources accounts

- **Building Skills for Biodiversity Valuation and Accounting; EIA and SEA; and Ecosystem Approach**

There are inadequate skills in valuation of ecosystem goods and services in the region. The understanding of ecosystems is not normally equated to the goods and services that these ecosystems provide. For example, drylands species provide drugs, resins, waxes, oils and other commercial products including one third of the plant derived drugs used in the USA. Currently there are a limited number of institutions and individuals undertaking work on generating detailed information on the value of ecosystems of the region. Without this information stakeholders in the region will continue to design interventions that are inappropriate. Thus there is a need to enhance skills in economic valuations and accounting in the region through training. There is need to train a pool of skilled professionals, develop, test and share lessons on appropriate tools for economic valuation of ecosystem goods and services.

In the areas of SEA and EIA, although the region has progressed with regards to creating the enabling environment for assessing environmental impact of development on biodiversity, a number of challenges are being faced by a number of countries in the region. Capacity to carry out SEA and to mainstream SEA in policy-making processes is still very limited in the region. The SADC BAP will facilitate the integration of SEA and EIA in decision making processes, and support the carrying out of environmental audits, screening of development projects; facilitate the implementation of EIA recommendations; and build capacity in carrying out SEA.

#### **4.1.4 Enhancing Biodiversity Management Systems**

The management systems applied at various levels are instrumental in the achievement of the desired biodiversity future and the goal of the SADC BAP. Under this strategic area, the key elements and priority actions should be targeted towards improving biodiversity monitoring in the region, enhancing Protected Areas management, rehabilitating and restoring degraded ecosystems and biodiversity, conserving agro-biodiversity, using and promoting CBNRM as a biodiversity conservation tool, and the control and management of invasive alien species. The following sections

provide a further elaboration of the priority actions. Under this strategic area, there are six key elements and these are listed in table 12.

**Table 12: Biodiversity Management Systems Intervention Areas and Indicators**

Strategic Area	Key Elements	Indicators
<b>Biodiversity Management Systems</b>	Biodiversity Inventory and Monitoring	<ul style="list-style-type: none"> <li>Regular updates of data on the status of biodiversity</li> <li>Biodiversity information and related issues readily available</li> <li>Routine collection of information</li> <li>Sharing of information between and among the various stakeholders</li> <li>Functional biodiversity information sharing systems</li> </ul>
	Effective Protected Areas Management System	<ul style="list-style-type: none"> <li>Resourced and properly managed protected areas</li> <li>Socio-economic planning decisions and policies that incorporate values of Protected areas</li> <li>Improvements in the status of biodiversity in Protected areas</li> <li>Range of biomes represented in Protected Areas</li> </ul>
	Rehabilitation and Restoration of degraded ecosystems and biodiversity	<ul style="list-style-type: none"> <li>No. and diversity of rehabilitated ecosystems</li> <li>An improvement of biodiversity in selected urban environments</li> <li>Improvements in awareness and appreciation of the need for biodiversity conservation and restoration outside protected areas.</li> </ul>
	Promotion of CBNRM as a Biodiversity Conservation Tool	<ul style="list-style-type: none"> <li>Widespread use of CBNRM as a key instrument for biodiversity conservation</li> <li>Availability of CBNRM tools, approaches and guidelines</li> <li>Documented evidence of the contribution of CBNRM to biodiversity conservation</li> </ul>
	Conserving Agro-biodiversity	<ul style="list-style-type: none"> <li>An improved diversity in crop, animal and fisheries genetic resources</li> <li>Enhanced capacity to detect and test GMOs</li> <li>Operational Regional Dialogues on GMOs.</li> </ul>
	Prevention, Control and Management of Invasive Alien Species	<ul style="list-style-type: none"> <li>Widespread use of the SADC generated IAS guidelines</li> <li>Operational IAS management programmes and frameworks</li> <li>No. of ecosystems and habitats where IAS is controlled</li> </ul>

The following sections describe the specific actions that the SADC member states are encouraged to undertake in order to improve biodiversity management systems.

#### **4.1.4.1 Improve Biodiversity Inventory and Monitoring**

The importance of environmental information as a tool for sound natural resource and environmental management was articulated in a SADC report to the 1992 Earth Summit. The need

for environmental information was further reinforced by the 1996 SADC Policy and Strategy for Environment and Sustainable Development, which calls for an increase in public information, education and participation on environment and development issues.

As highlighted in earlier chapters of this regional action plan, the region is gradually losing its biodiversity due to limited knowledge and understanding of the status and trends of biological resources in the region. At a national and regional level there is inadequate knowledge on the status of biodiversity in the various biomes and ecosystems such as drylands, wetlands, forests and marine ecosystems. In view of this state of affairs, the SADC BAP will support the:

**a) Generation of the Knowledge Base and Wisdom**

□ *Harmonize Biodiversity Inventory and Monitoring*

Effective management of biodiversity requires both ecological and socio-economic information that feeds into the areas' management planning. The required ecological information includes maps, and other visual materials that enable spatial analyses (e.g., land cover), geological/soil information, biological information on protected areas' resources (e.g., distribution of species, and natural communities), and information of ecological processes particularly for the identification of hotspots and areas of endemism. Socio-economic information requirement includes anthropological factors, which show levels of pressure on the protected resources, and community needs assessments. For example very few if any protected areas have adequate sets of ecological and socio-economic information. The bias in most of them will be on biological and ecological data, leading to ill-conceived local community participation programmes that are not based on communities' felt needs. It is therefore important that ecosystems in the region are clearly understood in the broader context of their socio-economic, political and ecological dimension. Inadequate knowledge on the status of biodiversity in the region continues to be a key challenge in the management of protected areas and biodiversity. Maintaining inventories of biodiversity and developing baselines upon which changes over time can be monitored is essential. The SADC BAP will facilitate actions on biodiversity inventory, as well as the challenges around the use of different standards and methods of selecting biodiversity indicators.

□ *Facilitate the Continuous Monitoring of Biodiversity Rich Areas.*

Although the biodiversity both inside and outside protected areas is still well preserved, there are an increasing number of hotspots in terms of threats. Based on the Red Data List of plants produced for Southern Africa, there is a significant number of threatened species and their conservation need both enabling policies and practical conservation interventions. Although monitoring is integral to the process of biodiversity conservation and management, few agencies continue to engage in these activities. There is an urgent need to generate knowledge on biodiversity hotspots through field level assessments of extent to which such species can be salvaged and continuous monitoring of such species to avoid extinction. Another issue is that the inventory and monitoring methods tend to vary between countries making it difficult to compare results, especially on trans-boundary initiatives. Furthermore, the technical and institutional capacity to conduct inventories and monitoring studies varies across the region and the capacity to analyse and utilize the available knowledge is also limited. Responding to the increasing number of

threatened species, this Action plan will facilitate an inventory of biodiversity hotspots, the detailed mapping and research on these areas and the development of elaborate monitoring activities.

□ *Promote Biodiversity Research*

Although research and monitoring are integral to the process of biodiversity conservation and management, few agencies continue to engage in these activities and where research has been conducted, the information is not readily available. Research on key social issues, such as anthropogenic factors influencing the pressure and threats on the natural resources, economic development opportunities for local communities, etc. is essential. Additionally, research on key species and their ecological interactions, threats, and pressures to protected areas' resources for example and other ecological issues need attention. The SADC BAP will support research in order to generate data and information, and inform biodiversity development and policy. The establishment of a biodiversity Research Fund, whose main objective is to support biodiversity research, will be supported.

□ *Document and Distribute Information on potential impacts of GMOs*

With the growing introduction of GMOs to meet the region's food demands, a key challenge in the region is inadequate knowledge on genetically modified organisms and their impact on the regions ecosystems. The SADC Regional Biodiversity Strategy (2006) highlighted the need for intensive research on the introduction of GMO's to the region's natural habitats and the impacts and implications to food security and the biodiversity of the region. There is a need for intensive research on the introduction of GMO's to the region's natural habitats and the impacts and implications to food security and the biodiversity of the region. Building on SADC identified priority on collating and disseminating information on GMO foods to various stakeholders, the SADC BAP will facilitate awareness on GMOs, research on the impact of GMOs on biodiversity, document and package information on GMOs and distribute this information to various stakeholders.

□ *Improve Biodiversity Awareness*

It is acknowledged that the continued loss of biodiversity in the SADC region is partly due to limited understanding and appreciation of values of biodiversity. Due to this, the profile of biodiversity among politicians, local indigenous communities and other sectors continues to be very low.

Despite the fact that all the countries in the SADC region have ratified the Convention on Biological Diversity, which advocates for the ecosystem approach to natural resources management, the understanding and appreciation of this approach is limited in the region. The understanding of the concept of ecosystems management seems to be weak, resulting in poorly defined programmes and projects. The SADC BAP will support advocacy and awareness raising (especially for sustainable management of biodiversity). Building on the efforts of the Millennium Ecosystem Assessment work carried out in the region, the Action Plan will also advance awareness on the ecosystem approach.

**b) Biodiversity Knowledge Management**

In recent years, SADC has directed its efforts towards improving access to information and information technology. One of the objectives of its informational technology programme is to improve and broaden equitable access to information, including biodiversity information. The SADC BAP will:



▪ *Facilitate the Operationalization and Management of the Biodiversity Information Database*

There is limited exchange of biodiversity information at various levels in the region. Efforts towards the conservation and sustainable use of biodiversity continue to be hindered by the absence of a shared Regional Biodiversity Information System. Since the mid 1990s, SADC has been struggling to establish a regional functioning biodiversity information management system, building on the national environmental information systems known and the idea of the Clearing House Mechanisms (CHM) agreed upon at the regional level. The establishment of Regional Biodiversity Information System (RBIS) and Regional Biodiversity Expert Network were central outputs of the SADC Biodiversity Support Programme. However, the focus of this programme was changed and these critical systems were not been well established. Without a functional Regional Biodiversity Information System and Clearing House Mechanisms, it is difficult to exchange information and adequately prepare the region for participation in CBD COP meetings.

Most information and data on biodiversity in the SADC region is available in hard copy and print form and not accessible electronically. Existing data in the region is also spread among many agencies that focus on one aspect or sector of the environment and as such it is difficult to integrate the data sets in order to inform how policies contribute to loss of biodiversity and the impact on human and ecological well being. State of Environment reporting for example requires strong datasets that are stored in a form that is easy to retrieve. Database management systems reduce redundancy, inconsistency and make data management more efficient providing a centralized control of the data. It is also crucial when building databases to build meta-databases of the environment and related socio-economic data, which quantify and qualify the state and changing condition of biodiversity.

Building on the work carried out under the SADC BSP and the national efforts on national biodiversity information systems and clearinghouse mechanism, the SADC BAP will bring together a network of national Biodiversity information institutions, broker agreement on regional data-set standards, Biodiversity information classification systems, and compatible software and information management procedures. Biodiversity information and database(s) will be designed using the most appropriate and cost effective software for the region to increase knowledge and access to expertise and information on biodiversity in the region. This will facilitate data-set exchange between countries and institutions in the region (e.g. SADC Sector Co-ordinating Units, universities, botanical centres and natural history museums, Southern African Bird Atlas, TRAFFIC, etc.) and outside the region (e.g. UNEP, Ramsar, Birdlife International, etc.). The information system and database will also function to disseminate Biodiversity information in appropriate formats to relevant end-users, notably conservation and development planners and managers. Linkages will also be established with the UNEP database, the IUCN/WCMC Biodiversity Conservation Information System (BCIS), SABONET, the SADC Forestry Regional Information System, other relevant regional and national information activities.

□ *Regional Database on IAS and ABS*

One of the outcomes of the SADC BSP is a recommendation to establish a regional database on IAS and on ABS. The databases are Metadata databases (Clearing Houses) with links to relevant national databases. Under this SADC BSP, the Namibia National Botanical Research Institute was recommended to host the regional database on IAS while the Mozambique National Institute of

Health was recommended to host that on ABS. The SADC BAP will further this effort and facilitate the implementation of this recommendation.

### **c) Capacity Enhancement for Improved Monitoring**

It is well appreciated that both human and institutional capacity constraints continue to affect the progress of biodiversity conservation in the SADC region. Despite the region's effort to address this challenge, capacity limitation exist in various areas of biodiversity management. There are serious capacity constraints in biodiversity monitoring and research. In South Africa for example, current capacity in taxonomy and systematic research is in danger of falling below critical mass level (D.G. Herbert, et.al. 2001). The SADC secretariat and member states to develop and maintain knowledge management systems relevant to key conventions, is also limited. The SADC BAP will facilitate capacity building in biodiversity monitoring, research and knowledge management.

#### **4.1.4.2 Effective Protected Areas Management System**

The SADC region biodiversity assets have over the years been conserved and protected through various initiatives at local, national and regional levels, such as through the state - controlled protected areas of various types (national parks, national reserves, forestry reserves, hunting areas, wildlife sanctuaries, etc); private nature reserves/conservancies; and quite recently, community nature reserves in countries, such as Namibia, South Africa and Mozambique. In addition to conventional protected areas, a new conservation paradigm of espousing transboundary ecosystem management is taking centre stage in southern Africa, with a number of Transboundary Natural Resource Management Areas, in the form of Transfrontier Parks (TFPs) and Transfrontier Conservation Areas (TFCAs) being established throughout the region.

Throughout the region, the sustainability of protected areas is waning and capacity weakening. There are major challenges with regards to Protected Areas Management effectiveness (PAME). Protected Areas Management effectiveness (PAME) covers a number of interrelated issues, ranging from site design and planning, provision of management inputs (e.g., personnel, infrastructure, finance), management processes (e.g., law enforcement, research, public relations, etc), and monitoring and evaluation of the protected areas outputs against the protected areas' objectives and inputs. Ultimately it is about reducing/mitigating pressure and threats to the protected biodiversity and maximizing benefits to the society.

Despite the conservation credentials of these habitats, especially those under state management regimes they are performing below the expected thresholds, particularly with respect to the fulfilment of their primary roles of maintaining ecological processes and preserving biodiversity. They are faced with a number of challenges. The challenges relate to funding, staffing, infrastructure, research and monitoring, ecological and socio economic information, communication, development of TFCAs, biome representation, integration, livelihoods, stakeholder participation, wildlife-human conflicts, alien invasive species and HIV/AIDs. The management of protected areas remains a major challenge especially where government institutions are involved given the ever-declining government financial allocations to Protected Areas Management. As a result, a number of designated Protected Areas are highly degraded and in most cases not serving the objectives for which they were originally established. However, protected areas remain a critical foundation of

biodiversity conservation in the region and are a high priority for governments as reflected in the SADC programme of work in this area.

Under this SADC BAP, member states are expected to move their protected area systems towards being more effective as defined and measured by: (i) well resourced and properly managed protected areas; (ii) socio-economic planning decisions and policies that incorporate values of Protected areas (iii) protected area coverage of previously neglected biomes; (iv) improvements in the status of biodiversity in Protected areas. This SADC BAP will address the problem of inadequate management effectiveness experienced in most of the protected areas in the region by enhancing protected areas management systems appropriateness through the promotion of training and development of skills that are relevant for effective protected areas management, and advocate for provision of infrastructure and equipment, and employment of adequate numbers of skilled personnel that would carry out critical management activities. Specifically, the SADC BAP will:

▪ ***Facilitate the Enhancement of Protected Area Management Capacity***

Protected areas management requires a range of skills (e.g., human resource management, management planning, resource inventorying, monitoring, law enforcement, communication, etc). Many protected areas in the region are affected by human capacity constraints. With inadequate funding, most PA agencies are unable to employ sufficient numbers of qualified staff that can capably fulfil the management requirements of protected areas. This has led to situations where protected areas have personnel capacities that are below the threshold to fulfil their mandates. With such low density of law enforcement personnel, it is impossible to detect and counteract illegal resource users, hence unsustainable use and the potential for losing valuable wildlife species is high.

There is generally a failure by some state protected areas' agencies to provide the requisite infrastructure for protected areas' management, such as: transport (roads, vehicles, boats, motorcycles, etc), field equipment (for camping, monitoring, etc). Although research and monitoring are integral to the process of protected areas' management, few protected area agencies continue to engage in these activities. Very few if any protected areas have adequate sets of ecological and socio-economic information.

The development of TFCAs has introduced a new dimension in the management of protected areas and the region seems to be ill equipped in terms of capacity. The issue of adequate national capacity in managing TFCAs is very critical for their success. This is largely because the TBNRM process impinges on national sovereignty regarding certain natural resources. The capacity of local communities is also critical in TBNRM initiatives. Enhanced capacity development of individuals and institutions is essential to make protected area management (including TFCAs) more effective. The skills and competencies now required are more specialized than in the past requiring a range of adaptive approaches. The SADC BAP will facilitate capacity building for effective PA management.

□ ***Achieve Financial Sustainability of Protected Area Systems***

Fundamental to achieving effective protected areas' management is the availability of financial resources, which in turn would pay for a number of management activities that are crucial to the achievement of these areas' objectives. Funding for protected areas has dwindled because of a number of factors. The current approach of relying on government subventions is inadequate,

requiring innovative methods that would enable protected areas to pay for their own management. Restricted budgets and public sector reforms in many countries have resulted in the rapid decline of single-source income from the national Treasury to support protected area management. In situations where this may not be feasible, alternative or complementary sources of financing management activities should be identified. Financial sustainability is achieved when a protected area system is able to secure sufficient resources over the long term to meet its total costs. Thus, sustainable financing strategies for protected area systems are more critical than ever to ensure sustainability from an ecological and social perspective (without sufficient resources it is impossible to equitably and effectively manage biodiversity).

Financial sustainability requires appropriate policies and laws to allow protected areas to manage the entire revenue stream from generation of income to investment; business plans that include multiple funding sources and have a long term perspective that matches expenditure to revenue; agencies responsible for managing protected areas with sufficient capacity to manage protected areas based on sound principles of business planning as well as conservation biology principles; and full recognition of the contributions to protected area conservation and management that are made by communities living in, and near, protected areas. The SADC BAP will promote comprehensive, system-level financing solutions and help build the capacity required to make the best use of a variety of discrete tools and revenue mechanisms that are responsive to the specific country situation (conservation Trust Funds, systems of payments for environmental services, easements, debt-for-nature swaps, certification processes, bio trade, and other mechanisms.) Furthermore, the Action plan will support protected area agencies and administrations to respond to the commercial opportunities that protected areas provide through consumptive and non-consumptive uses of biodiversity.

#### □ ***Develop and Update PA Management Plans***

In SADC region effective Protected Area management is constrained by the fact that some protected areas do not have management plans, or their plans are outdated. A number of factors can be attributed to this failure – lack of finance to develop them, and/or insufficient technical expertise to recognise the need for management plans. Most of the protected areas in Mozambique, for instance, have no **management plans** or have plans that have been rushed out without consideration of all aspects that are required for such plans. In other countries like Malawi, and Zambia, some protected areas have management plans that are outdated requiring urgent revision. The absence of these plans has resulted in exclusion of protected on the broader land use and socio-economic development planning. Although the need for PA business plans is widely being recognised in region, few countries have managed to develop them.

One of the arguments behind the establishment of protected areas is that these areas provide environmental goods and services that contribute to poverty alleviation. However, although some attempts have been made to integrate local communities into the management of protected areas as a means of providing sufficient benefits that would positively impact on communities' livelihoods, reduce poverty and improve their attitudes towards nature conservation, and ultimately offset illicit off-take of the protected resources, anecdotal success stories on such programmes are rare. One of the major challenges faced by protected areas in meeting neighbouring community's needs being provision of tangible benefits that would sufficiently contribute to human livelihood security. Protected areas are often seen as 'islands' instead of as parts of 'networks' set within a wider matrix

of ecosystem based environmentally sensitive land and water management to assist in achievement of their objectives. Protected areas are more often than not immersed in a sea of land uses that are inimical to their objectives. To address this, an ecosystem or landscape-scale approach to protected area planning is needed.

The SADC BAP will facilitate the development and updating of management plans and also ensure that protected areas achieve their primary objectives of preserving landscapes, ecosystems' functions and biodiversity, as well as provision of benefits to society by supporting improved capacity for tracking Protected Areas Management effectiveness. As part of the action plan development support, the SADC BAP will explore the possibility of reviewing the current IUCN PA management categories, guidelines for the application of the current categories in accordance with the regional needs for protected areas to attain financial self-sustainability, sustaining the conservation of ecosystems' functions, biodiversity and meet human livelihood aspirations and socio-economic development. The Action Plan will facilitate the integration of protected areas management within the management of the broader landscape. In this way, protected areas can better fulfil their fundamental conservation objective while meeting measured and realistic expectations of what protected area management can contribute to poverty alleviation in rural areas. The Action Plan will assess the status of biological diversity in selected protected areas in the region and document the capacity of those protected areas to deliver essential ecosystem goods and services which serve the greater good of the countries. Specifically, attention will be given to the establishment of the ecological footprint of protected areas in dryland ecosystem. The Action plan will support the development and testing of indicators to assess the status of biodiversity in selected protected area. It will also assess the status of ecosystems in selected protected areas, and prepare practical tools for protected areas managers to assess the status of biological diversity and broader ecosystems represented in their protected areas.

#### □ ***Managing Human – Wildlife Conflicts***

Conflict between human and wildlife populations are emerging as a major conservation issue worldwide. This is particularly so in the SADC region where some wildlife estates allow for co-existence of humans and wild animals. Human-wildlife conflicts range from nuisance encounters to attacks on humans, pets and destruction of crops. Crop raiders, including elephants, many primates, several bird species, and small rodent-like animals can diminish or destroy farmers' food and cash crops. Carnivores (big cats and crocodiles) and larger crop raiders also threaten the lives of both humans and livestock. Lions, leopards and other cats kill people; elephants and baboons destroy crops while wild dogs devastate sheep and goat herds. Elephants, buffalo, hippos, baboons, big cats and crocodiles account for much of the wildlife-human conflicts in Southern Africa.

The conflicts stem from the fact that most of the people in rural areas of the SADC region are living by subsistence agriculture, usually in arid surroundings. In the face of poverty, the imperatives of survival direct many of the people's activities such as provision of water, food and shelter, which are a lot more immediate to them than conservation. Communities are as such disillusioned by the much talked about benefits of wildlife to them when they suffer severe damage to property and sometimes injury or even death through wildlife encounters. There are few countries with comprehensive wildlife conflict resolution strategies or policies. The SADC region is presently faced with actual and potential conflicts on shared natural resources. The most widespread conflict experienced in the region is between human and wildlife populations. This is particularly so in areas where some wildlife estates allow for co-existence of humans and wild animals. The SADC will

facilitate the establishment, documentation and resolution of human and wildlife conflicts in selected areas.

□ ***Facilitate the Establishment of Protected Areas in Neglected Biomes***

Although the SADC region today has an impressive suite of protected areas, not all biomes have been represented in its protected-areas' network. The current regional system of protected areas in Southern Africa is far from complete, with gaps in ecosystems, such as freshwater and marine ecosystems, including the high seas, which are largely unprotected. For instance in Zambia, only four of the country's 14 vegetation types is adequately covered by its network of protected areas. A particular concern is the lack of protection for marine systems, in both sovereign and international waters. Less than 1% of the ocean is protected leading unsustainable fisheries that have caused a worldwide collapse in fisheries and attendant environmental damage and disruption to ecosystem structures and functions. The other biome of concern is the Mountain ecosystems, which are also critically important for the protection of biodiversity since they often contain the last undisturbed lands and certain high levels of endemism. They provide key ecological services such as clean water and protection of watersheds, as indeed they are the "water towers" of the world in receiving the bulk of world's rainfall.

The SADC BAP will promote establishment of a regional network of protected areas that incorporate representative examples of the full range of the region's landscapes, ecosystems (including terrestrial and marine) and biodiversity, support and seek to enhance the implementation of the World Heritage Convention in the region to ensure that heritage sites contribute meaningfully to conservation and sustainable development. Specifically, the SADC BAP will support the creation and management of coastal and marine protected areas, including no-take zones, to conserve marine biodiversity, enhance long-term fisheries management, contribute to local livelihoods, help hedge against natural disasters and mitigate the effects of global climate change. The Action Plan will also support the creation and management of freshwater protected areas as part of integrated approaches for conserving inland water biodiversity and to support provision of clean water, flood control, and productive fisheries.

□ ***Establish the Role of TFCAs as an Effective Conservation Approach***

Most biodiversity issues in SADC transcend national boundaries. Trans-boundary Natural Resource Management (TBRNM) has been hailed as a way to promote biodiversity conservation, bring local socio-economic development and broker peace and co-operation in the region. While there is a high profile of TFCAs and high-level political support, the role of TFCAs in conserving biodiversity has not been adequately established, although there is positive development with regards to wildlife movement. The SADC BAP will support studies that will establish the role of TFCAs in conserving biodiversity.

□ ***Establish and Manage the Vulnerability of Protected Areas to Climate Change***

Climate change adds another dimension to the management of protected areas. As important centres of biodiversity, protected areas in the region are believed to be vulnerable to climate change and variability. The SADC BAP will commission studies to assess the potential impact of climate change on the region's protected areas and generation critical information for policy and decision makers.

#### **4.1.4.3 CBRM as a Conservation Tool**

For more than two decades, some countries in the SADC region have been implementing Community Based Natural Resource Management (CBNRM) as a mechanism for the management of natural resources to safeguard livelihoods of local people, however, the role of CBNRM as an effective conservation tool is being questioned and this has affected the promotion of this conservation mechanism in many countries. The SADC BAP will:

##### **□ *Generate Knowledge and Produce Guidelines for CBNRM use as a Biodiversity Conservation Tool***

The SADC region is a front-runner in the field of CBNRM research and approaches. The concept and approach has been used for the past two decades and many countries do generally accept it as an alternative approach for biodiversity conservation. Despite the widespread research, documented evidence of the effectiveness of CBNRM in conserving biodiversity is a bit scanty. This dearth of information and knowledge is of serious concern considering the fact that a large portion of the region's biodiversity is found outside protected areas where these resources are subjected to different tenure regimes. CBNRM offers an alternative approach for managing this biodiversity. The SADC BAP will capture and document the experiences where CBNRM has been used to conserve biodiversity for the purposes of generating knowledge and develop guidelines.

##### **□ *Support CBNRM Based Biodiversity Conservation***

The region has been working in the area of CBNRM for several decades and the proponents of CBNRM argue that it is an important tool for biodiversity conservation. Evidence from CBNRM initiatives around national parks does indicate improvements in biodiversity. The SADC BAP will facilitate the production of guidelines for using CBNRM as a conservation tool and make these available to stakeholders. The Action Plan will also support CBNRM initiatives aimed at biodiversity conservation in selected areas

#### **4.1.4.4 Rehabilitation and Restoration of Degraded Ecosystems and Biodiversity**

The Convention on Biological Diversity calls for the rehabilitation and restoration of degraded ecosystems. With the escalating environmental degradation, destruction of trees and natural vegetation and high population increase, the region is losing biodiversity at genetic, species and habitat level. Restoration of degraded ecosystems plays a critical role in biodiversity conservation and management. The SADC BAP will invest in building ecosystem resilience and productivity, with an aim of encouraging a better ecological balance. Specifically, the SADC BAP will:

##### **□ *Promote Urban Biodiversity Conservation***

Biodiversity in urban areas is also under immense threat, with some localities being depleted. In the region, the biodiversity of urban environment have not been given the necessary attention, resulting in considerable loss of biodiversity in these areas. Restoration of the region's ecosystems in urban areas continues to be a key challenge. In South Africa, the Johannesburg City Parks has embarked on the biodiversity conservation focusing on urban initiatives, aimed at effecting the constitutional right of people to an environment that is not harmful to their well being. This initiative contributes to the goals of sustainable settlements through greening and an enhancement of ecosystem's goods and services in this urban context. Other urban greening initiatives are being explored in Lusaka, Harare and many other urban centres. The Action Plan will facilitate biodiversity management in selected urban environments.

#### □ **Facilitate Community Driven Restoration of and Rehabilitation of Biodiversity**

The SADC region has a significant number of threatened ecosystems, habitats and species, whose conservation need both enabling policies and practical conservation interventions. At the plant species level, there has been a marked decrease in the abundance of certain plants due to various human induced pressures. For example, the over-reliance on traditional medicinal plants for primary health care by the majority of the region's citizens has contributed to the over-exploitation of species such as *Waburgia salutaris* in Swaziland and Zimbabwe; and *Albizia brevifolia* in Namibia (SADC Biodiversity Strategy, 2006). The commercialization of crafts like baskets and wood curios has led to a decline in tree species such as *Berchemia discolor* which is used as a palm leaf fibre dye in Botswana and Namibia (SADC Biodiversity Strategy, 2006). There has also been over-harvesting of *Afzelia quanzensis* and *Pterocarpus angolensis* in a number of countries in response to the flourishing woodcraft industry. Building on regional and national biodiversity restoration work, the SADC BAP will facilitate the restoration of biodiversity in various key habitats in the region. The focus will be on supporting community driven biodiversity conservation efforts.

#### 4.1.4.5 **Conserving Agro-Biodiversity**

The rich biological resources of the region play an important role in ensuring long-term food security and also access to genetic resources for crop and animal breeding purposes is a critical factor. Agro-biodiversity in the SADC region is declining, with the general trend of changing from indigenous breeds and varieties to more productive new breeds and varieties.



- **Conserving Crop and Animal Genetic Resources**

Building on the efforts of the SADC Gene Bank, the SADC BAP will support and facilitate the conservation of agro-biodiversity. Efforts will also include animal and fisheries genetic resources.

- **GMO Detection and Control**

GMOs have serious implications on the region's capacity to trade and meet standards for GMO content set by countries in the European Union and other industrialised countries. Lack of resources and technical support for GMO detection in laboratories across the SADC region is stalling efforts to successfully implement the Cartagena Protocol. Most of the countries in the region do not have the capacity to test for GMOs. Specifically, the SADC BAP will support and strengthen genetically modified organism detection laboratories to curb the influx of undesirable GMO products and enhance the capacity of the region to verify the GM content of food imports and exports. At the SADC regional level such competencies are essential to deter any unjustified inflows and exports of GMOs that are deemed undesirable for any use. The SADC BAP will also support policy discussions on the issues around GMOs.

#### 4.1.4.6 **Prevention, Control and Management of IAS**

IAS affects all levels of biological diversity and is widespread in all types of ecosystems, and their threat to biodiversity is considered second only to that of habitat loss. The Millennium Ecosystem Assessment identified the spread of invasive alien species as one of the five major direct drivers of





change in biodiversity and ecosystems. In addition, invasive alien species can markedly decrease outputs in such productive systems as agriculture, fisheries, and forestry when alien species become invasive weeds, pests and diseases. In many countries of the region, failure of these productive ecosystems or reductions in their outputs can force resource-dependent people to fall back on native biodiversity, furthering its decline by overuse. It is against the foregoing background that Article 8h of the Convention on Biological Diversity (CBD) requires Parties to “as far as possible and as appropriate [to] prevent the introduction of, control or eradicate those alien species that threaten ecosystems, habitats or species”.

Besides cursory inventories of IAS, little is being done (except in some protected areas in South Africa) to understand their impacts on indigenous species, and biodiversity, and preventing and/or controlling them. Apart from reducing biodiversity, Invasive Alien Species (IAS) threatens the integrity of ecosystems. Notwithstanding, there is limited to no information on the extent and impact of most IAS in the region. Furthermore, there has been no comprehensive and coordinated strategy on the prevention, eradication and control of invasive species. In addition, citizens of the region have not been adequately educated on the presence and adverse effects of IAS for them to effectively participate in their prevention and control.

The SADC Regional Biodiversity Strategy (2006) identified the issue of Invasive Alien Species (IAS) among the high priority intervention areas for promoting biodiversity conservation and its sustainable use in the SADC region. The SADC BAP will encourage integrated cross-sectoral approaches to prevent, control and manage invasive alien species in the region. The SADC BAP will specifically:

□ ***Promote the Use of the Regional IAS Guidelines***

Building on the results of the SADC BSP, the SADC BAP will promote the use of the regional guidelines on the prevention, eradication and control of invasive alien aquatic plants and of invasive alien terrestrial plants in Southern Africa were produced.

□ ***Build Capacity for IAS Detection and Management***

The capacity building efforts initiated by the SADC BSP will be strengthened. Capacity building efforts on IAS will be anchored on the Regional Roster of Experts on IAS, produced under the SADC BSP through the distribution and use of the roster. Under the roster, 39 qualified experts were recorded. National and Regional Expert Working Groups on IAS were established and will be used to provide a forum for information exchange among experts and advising governments on topical issues.

□ ***Manage Invasions***

As part of the region’s endeavour to manage invasive species, affected areas will be selected and managed. The institutions identified under the SADC BSP, i.e. AREX in Zimbabwe - for prevention, eradication and management; and CIB in South Africa for impact/risk assessment, will support these regional efforts. Additional centres of Excellency will also be established and commissioned to support this work.

#### **4.1.5 Managing Climate Change Impacts on Biodiversity**

Climate change is a real threat to the region’s biodiversity. Every time a severe drought occurs in the region, biodiversity is subjected to pressure. Climate change, and especially a drying of the climate,

will have major effects on biodiversity as habitats will change. In this respect, drylands and the species which reside there are particularly vulnerable. In this case, vulnerability in this case refers to the sensitivity of physical environments to the impacts unleashed by climate change and variability. Adaptation, meanwhile, follows on from the discussion on vulnerability in that, having identified vulnerable environments and systems, new or adapted processes may be sought to reduce the harshness of impacts and create alternative viable activities and dynamics to replace and exceed any value lost, directly or indirectly as a result of climate change. In so doing, it is often the case that new and more efficient ways of utilising resources are discovered and that would, in any case, assist the overall development effort. Adaptation takes place in two modes on two timescales, retroactively as a reaction to existing impacts of climate change or variability and proactively in advance of predicted impacts. The term adaptation is used here to refer to adjustments in a system's behaviour and characteristics that enhance its ability to cope with external stresses.

The SADC is one of the most vulnerable regions in the world where climate change (CC) is predicted to have profound impacts (IPCC, 1998). Countries in the SADC region are already experiencing climate variability, in the form of droughts and floods, and this is projected to intensify in the future. This will have implications for biodiversity and ecosystem services. In the region, climate change will result in a net loss in biodiversity, increased spread of woody plants, intensified land degradation and severe fires; and an increase in nutritional deficiency.

While some species will manage to migrate with the change, others are likely to disappear with the disappearance of their traditional habitats, unless conservation measures are put into place. While the region appreciates the potential impacts of climate change on biodiversity and has recorded some of the symptoms, the impact of climate change on the SADC region's biodiversity has not been adequately established and the capacity of many organisms to respond through adaptation or migration has not been established. Table 13 summarises the key elements and indicators of success under this strategic area.

**Table 13: Biodiversity and Climate Change Key Elements and Indicators**

Strategic Area	Key Elements	Indicators
Biodiversity and Climate Change	Assessment of Biodiversity and Ecosystems Vulnerability	<ul style="list-style-type: none"> <li>Information on the vulnerability of the region's biodiversity readily available</li> <li>Well informed decision and policy makers on the climate change - biodiversity issues</li> </ul>
	Manage biodiversity for climate change adaptation and mitigation	<ul style="list-style-type: none"> <li>Technologies and methodologies availed to decision makers</li> <li>Adaptation strategies for biodiversity widely applied</li> <li>Reduction in climate change induced biodiversity loss</li> </ul>
	Capacity Building for Climate Change Adaptation	<ul style="list-style-type: none"> <li>Cadre of climate change experts, capable of conducting research</li> <li>Well informed practitioners and local communities on the impacts of climate change on biodiversity</li> </ul>

Under this strategic area, the SADC BAP will:

#### **4.1.5.1 Biodiversity and Ecosystem Vulnerability Assessment to Climate Change**

Many knowledge gaps and uncertainties around the impact of CC on biodiversity were identified for the SADC region. Assessments of biodiversity and ecosystems vulnerability and the development and application of mitigation and adaptation measures have been limited. Decisions on adaptation options require a regionally focused set of climate change scenarios. Often these exist but there is a need for wider communication of these scenarios and examination of local context. If the region is to adapt to climate change effectively, there is need to better understand the impact of climate change on biodiversity in the region. The region has to generate information and avail it to those responsible for long-term planning. There is The SADC BAP will support vulnerability studies and generated knowledge and information for improved decision making. This will entail research and documentation of the potential impacts of climate change on various ecosystems, habitats and species at national and regional levels, packaging the information and making it available to decision and policy makers. In addition, the SADC BAP will facilitate policy discussions on the impact of climate change on the region's biodiversity.

#### **4.1.5.2 Manage Biodiversity for Climate Change Adaptation and Mitigation**

While the increasing threat of climate change to the region's biodiversity is looming, the region has not been taking serious efforts to mitigate and adapt to the challenges. As far as climate change is concerned, the region has only been dealing with disaster management, as opposed to comprehensive disaster preparedness. Efforts are often targeted at dealing with the after effect of climate related disasters instead of being proactive. If the region is to adapt to climate variability and change effectively, there is a need for long-term planning. It is important that the region adopts integrated approaches to addressing climate change impacts on biodiversity.

- **Development and Implementation of Adaptation Strategies**

Based on the region's biodiversity vulnerability assessment, the SADC BAP will encourage the development and implementation of appropriate adaptation strategies. In addition, the action plan will facilitate an improvement in the access of climate change adaptation technologies and methodologies.

- **Restore Ecosystems and Biodiversity for Climate Change Mitigation**

Global research on climate change and biodiversity does indicate ecosystems and biodiversity can be used as an effective climate change mitigation measure. These research findings argue that reducing deforestation in developing countries is a key element of addressing the global climate change challenge. The UNFCCC work programme includes the promotion of forest maintenance, in particular afforestation using plantation forests as carbon sinks. However, the idea of using ecosystem restoration, especially forest as a tool for climate change mitigation has not been widely embraced in the region although opportunities exist. Furthermore, the proposed granting of credits for offsetting carbon dioxide (CO<sub>2</sub>) emissions in return for investments in carbon sequestration projects is likely to lead to the promotion of large-scale tree plantations. Such large-scale plantations may pose a threat to communities and ecosystems at a local level because they may contribute to encroachment on agricultural land, replacement or simplification of complex natural ecosystems, worsen inequity in land ownership, increase poverty, lead to evictions of local communities, and undermine local stewardship practices needed for forest and woodland conservation. Use of these large-scale plantations as carbon sinks can lead to loss of biodiversity in forests and woodlands.

Given the fact that climate change is one of the greatest threats to the conservation of forests and woodlands, it is a justifiable concern that a decision to allow industrialised countries to offset the need for major reductions in emissions through the creation of a global market in carbon credits may have considerable costs for biodiversity and sustainable development in years to come in the



regions targeted for this trade, which includes the SADC region. This approach is potentially in conflict with the aim for conserving biodiversity, as enshrined in the Convention on Biological Diversity (CBD). To date, however, very little discussions have taken place on the impacts on the biodiversity that exists in the woodlands and forests, and human livelihood through the

use of forest plantations as carbon sinks as a climate change mitigation measure.

Sustainable forest and land use management are efficient adaptation and biodiversity conservation strategies. Efforts targeted at protecting forests in developing countries to save on carbon emissions could also help slow down the rapid loss of the planet's species. Massive increases in biodiversity protection can be achieved at very low cost to carbon outcomes. Two SADC countries, i.e. Tanzania and Zambia are being supported under the REDD programme to further explore these outcomes. However, the idea of using ecosystem restoration and biodiversity as a tool for climate change mitigation has also not been explored and widely embraced in the region although opportunities exist. The role of plant biodiversity in climate change mitigation has also not been well explored in the region. The SADC BAP will explore and establish the role of plant biodiversity in climate change mitigation. In addition, the action plan will encourage the restoration of ecosystems and biodiversity for climate change mitigation.

#### **4.1.5.3 Capacity Building for Climate Change Adaptation**

The SADC countries and SADC, as a political and economic block has been participating in the climate change issues and debates. Despite this engagement, SADC countries have tended to be reactive, and not proactive, in the climate change negotiation process. This state of affairs is largely attributed to limitation in capacity to effectively engage, negotiate, adapt and mitigate climate change impacts. While some capacity existed in the region, it was not well oriented. Links between technical expertise and political expertise are weak. The SADC BAP will support:

- **Awareness and Understanding of Climate Change**

The awareness and understanding of climate change and its impact on biodiversity is also limited. The capacity to deal with impacts of climate variability and change has therefore been ad hoc, implying that the solutions are short-term. The SADC BAP will promote awareness and understanding of the impacts of climate change on biodiversity and create information sharing platforms at community level.

- **Capacity Building**

The SADC BAP will specifically support capacity development in vulnerability and adaptation; climate change mitigation, and national communications.

#### **4.1.6 Dealing with the Potential Impacts of Energy Development on Biodiversity**

Energy is a strategic sector in the SADC region. In the SADC region, energy is viewed as an economic development tool, livelihood tool and transport and communication tool. The objective of the SADC energy sector is to ensure the availability of sufficient, reliable, least cost energy services that will assist in the attainment of economic efficiency and the eradication of poverty whilst ensuring the environmentally sustainable use of energy resources. Environmental sustainability is one of the key principles of the SADC Energy Protocol, signed in Maseru in August 1996 (came into force in 1997).

The energy needs of the region's rural sector and the poor are met almost exclusively from ecosystems. Consumption of modern energy is very low with the exception of South Africa, Mauritius and Seychelles, where a considerable number of the rural population have access to electricity. The majority of the population still relies on the use of biomass (wood and charcoal) as their primary source of energy and accounting for approximately 75% of the total final energy demand. This reliance on biomass encourages land degradation through deforestation. Biomass accounts for approximately 75% of the total final energy demand in the region. The highest rates of biomass consumption are in Mozambique, Zimbabwe, Tanzania, Zambia and Malawi. Over 70% of the people in the rural areas in these countries depend on biomass for cooking and heating. As alluded in the AU Maputo Declaration on Energy Security and Sustainability in Africa (March 2007), the predominance of biomass energy sources is an issue of serious concern to national governments and a number of national and sub-regional efforts have been initiated in order to achieve a more balanced energy mix.

With the looming power crisis in the SADC region and high oil prices on the world markets, new energy supply strategies are being examined in the region. Bio fuel development in the SADC region, coined farming for energy is viewed as a new and promising area of development. Responding to rising oil prices and the impending energy insecurity, many SADC countries plan to expand bio fuel production and use (World Watch, 2006). Rising world petroleum prices have prompted plant based bio fuel initiatives in Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. These countries are growing oil rich *Jatropha curcas* plant for the production of cheaper and cleaner bio diesel. In Zambia, sweet sorghum trials at the University of Zambia are underway. The scenarios for SADC ethanol supply and demand show an increasing trend in sweet sorghum production from 5000 in the year 2010 to more than 30000 by the year 2025. There is also an increasing trend in ethanol production from 939 million litres in 2005, to 36996 million litres in the year 2025.

To facilitate the production of bio fuels, some countries have embarked on policy changes and a number of institutional arrangements are being established. In the region, South Africa has produced a draft bio fuels Industrial strategy, while in Zambia, bio ethanol has been introduced in the new national energy policy, national bio fuels strategy, bio fuels act. In Mozambique, the government has expressed commitment to bio fuels and has already adopted appropriate legislation for introducing bio fuels in recognition of the potential for large scale bio fuel production in that country. Considering the potential impact of bio fuels and energy development on biodiversity and ecosystem services, it is important that these policy provisions integrate environmental sustainability criteria.

Although there are positive aspects of bio fuels such as reduced CO<sub>2</sub> and GHG emissions, no SO<sub>2</sub> content and emissions, better energy balance, biologically degradable, revenue generation and provide a real potential for energy import substitution and exports in the region, there is need for safeguards on biodiversity, social equity and benefit sharing. The growth of the bio fuels industry in

the SADC region if not monitored will cause irreparable damage and loss to biodiversity. Under this strategic area, the SADC BAP will address three main elements shown in table 14.

Table 14: Energy Development on Biodiversity Key Elements and Indicators		
Strategic Area	Key Elements Area	Indicators
Biodiversity and Energy Development	Managing the Impacts of the Bio fuels Industry on Biodiversity	<ul style="list-style-type: none"> <li>Information on the potential impact of bio fuels on biodiversity is available to decision makers</li> <li>A well informed group of decision makers</li> <li>Environmental sustainability criteria for bio fuels development</li> </ul>
	Promoting Biodiversity Friendly Charcoal Sector	<ul style="list-style-type: none"> <li>Best practice guidelines for charcoal preparation (i.e. tree selection, harvesting, burning and marketing) available and widely used</li> <li>Community timber plantations (based on indigenous trees)</li> <li>Restored degraded areas</li> </ul>
	Catalysing Sustainable Energy Development	<ul style="list-style-type: none"> <li>Environmental sustainability criteria relate to biodiversity conservation</li> <li>EIAs on energy projects (with a bias of biodiversity and ecosystem services)</li> <li>Integration of biodiversity into the energy development</li> </ul>

Under this strategic area, the SADC BAP will:

#### **4.1.6.1 Explore and Establish the Impact of Bio-fuel Development on Biodiversity**

As highlighted in previous sections, bio fuels have been identified as a priority energy source in the region. There is a very strong lobby for this type of energy and a number of countries have been targeted. Angola is slated to be 'Petrobras' most critical destination for biodiesel production, and Mozambique for ethanol. Mozambique is widely hailed as the most promising hub for biomass production in Africa, with production capacity of up to 6.7 exajoules per year, the equivalent of three million bpd or one billion barrels per year. Angola's befool export potential is estimated at approximately six exajoules of bio-energy per year, the equivalent of 2.7 million barrels of oil per day. South Africa is also taking the lead on ethanol, through Ethanol Africa, a South African company, planning to construct Africa's first ethanol plant in Bothaville, South Africa. The company is also pursuing ethanol opportunities in Zambia, Mozambique, and Angola. Despite the promising potential of bio fuels as a cheaper and cleaner energy substitute, a number of environmental concerns have been raised with regards to the potential impact of this energy source on forests and biodiversity conservation. The potential conflicts between bio energy production and the protection of the environment, biodiversity, ecosystem services and food security of the rural poor need urgent attention. To be sustainable, energy options must be ecosystem sensitive while providing for sustainable livelihoods. Bio fuels policies and practices, including targets for bio fuels in transport energy mixes, may result in ecosystem degradation (e.g. through deforestation, invasive species introductions, use of genetically-modified feedstock and agrochemical pollution).

Within this context, the SADC BAP will generate and disseminate knowledge on bio fuels and their potential impact on biodiversity and ecosystem services. The potential impacts of bio-fuel development on biodiversity and ecosystem services will be assessed and communicated to policy makers, practitioners and the private sector in the SADC region. The action plan will support governments to develop environmental safeguards for bio-fuel programmes. The action plan will support work on identifying and developing the sustainability criteria for bio fuel energy production, and facilitate the incorporation of this into relevant policies and plans, including the SADC energy protocol. The SADC BAP will promote the integration of environmental sustainability in the bio fuels development in order to safeguard existing land use, forests and biodiversity, social equity and benefit sharing. Specifically, potential risks associated with the D1-BP Fuel Crops joint venture to create business in *Jatropha curcas*, the Petrobras ventures on biodiesel and ethanol, and the Ethanol Africa activities on biodiversity conservation will be determined and monitored in the SADC region.

#### **4.1.6.2 Support Biodiversity Friendly Charcoal Production Sector**

Wood and charcoal are very important source of household energy in the SADC region. Wood is generally used in poor households particularly in rural areas to meet thermal energy needs for cooking, space heating and water heating throughout the year. FAO (2003) estimated fuel wood consumption in the region at nearly 90 million cubic metres annually. In Tanzania, Zambia, Zimbabwe, Mozambique and Malawi, more than 90 % of the total population depend on wood for their energy needs. Wood is cut from natural forests and transported by trucks to urban areas.



Charcoal is an important source of energy in urban Tanzania, Zambia, Mozambique and Malawi. Studies have shown that about 85 % of the urban households depend on charcoal for cooking. Charcoal is produced in rural areas, mainly from trees harvested in natural forests. It is widely distributed by middlemen. Charcoal is produced from wood cut from natural forest by rural charcoal producers who use traditional earth mound kilns. In Zimbabwe, South Africa and Namibia, commercial charcoal production and distribution exists but to a limited extent. The charcoal is derived from commercial timber plantations and sold at fuel stations or other supermarkets.

The continued reliance on wood fuel will result widespread deforestation and land degradation in the region. The demand for fuel wood and charcoal is one of the causes of deforestation. It is believed that deforestation in the region is estimated at 2.25 million hectares annually, mainly owing to wood fuel demand and agricultural expansion. While it is accepted that charcoal is a convenient form of energy for domestic use, when it is being produced from forest areas that cannot sustain the current production levels it creates a problem. While it is accepted that charcoal is a convenient form of energy for domestic use, when it is being produced from forest areas that cannot sustain the current production levels it creates a problem. The ultimate result includes degraded forest resources and a damaged environment. Unsustainable charcoal production requiring greater management inputs and awareness raising. The ultimate result includes degraded forest resources and a damaged environment. In addition to causing deforestation, the current charcoal production systems are inefficient, resulting in wastages that eventually necessitate further deforestation.

Despite the industry being regulated by various forest policies and legislation, most practices are characterised by poor harvesting and uncontrolled burning resulting in habitat degradation and loss.

Within this context, the SADC BAP will support the production and promotion of best practice guidelines of fuel wood harvest and charcoal production (inclusive of tree selection, harvesting and burning). In addition, the action plan will support awareness raising on unsustainable charcoal production, restoration of deforested areas and the establishment of community timber plantations for charcoal production.

#### **4.1.6.3 Catalysing Sustainable Energy Development**

While environmental sustainability is an integral part of many national energy policies in some SADC countries the realisation of these requirements on the ground has been a challenge for many national energy agencies and companies. As a result, these provisions have largely remained as policy provisions, which are not implemented or enforced during operations due to capacity constraints, challenges in auditing and monitoring of the implementation of the mitigation and environmental management strategies and weaknesses in stakeholder engagement. A study carried out by the WWF's Trade and Investment Programme highlighted that although some companies in South Africa have clear environmental performance indicators and have attained 66% energy efficiency and 73% recycling as part of their environmental performance targets, the primary constraints they face is lack of clarity on how such improvements should be defined from an environmental perspective. The study also highlighted that companies require greater assistance in defining the contribution they might make to more sustainable business practices. In this context, the SADC BAP will facilitate the development of environmental sustainability criteria relate to biodiversity conservation for the energy sector, encourage EIAs on energy projects (with a bias of biodiversity and ecosystem services) and promote the integration of biodiversity into the energy development.

## **4.2 Implementation Structure**

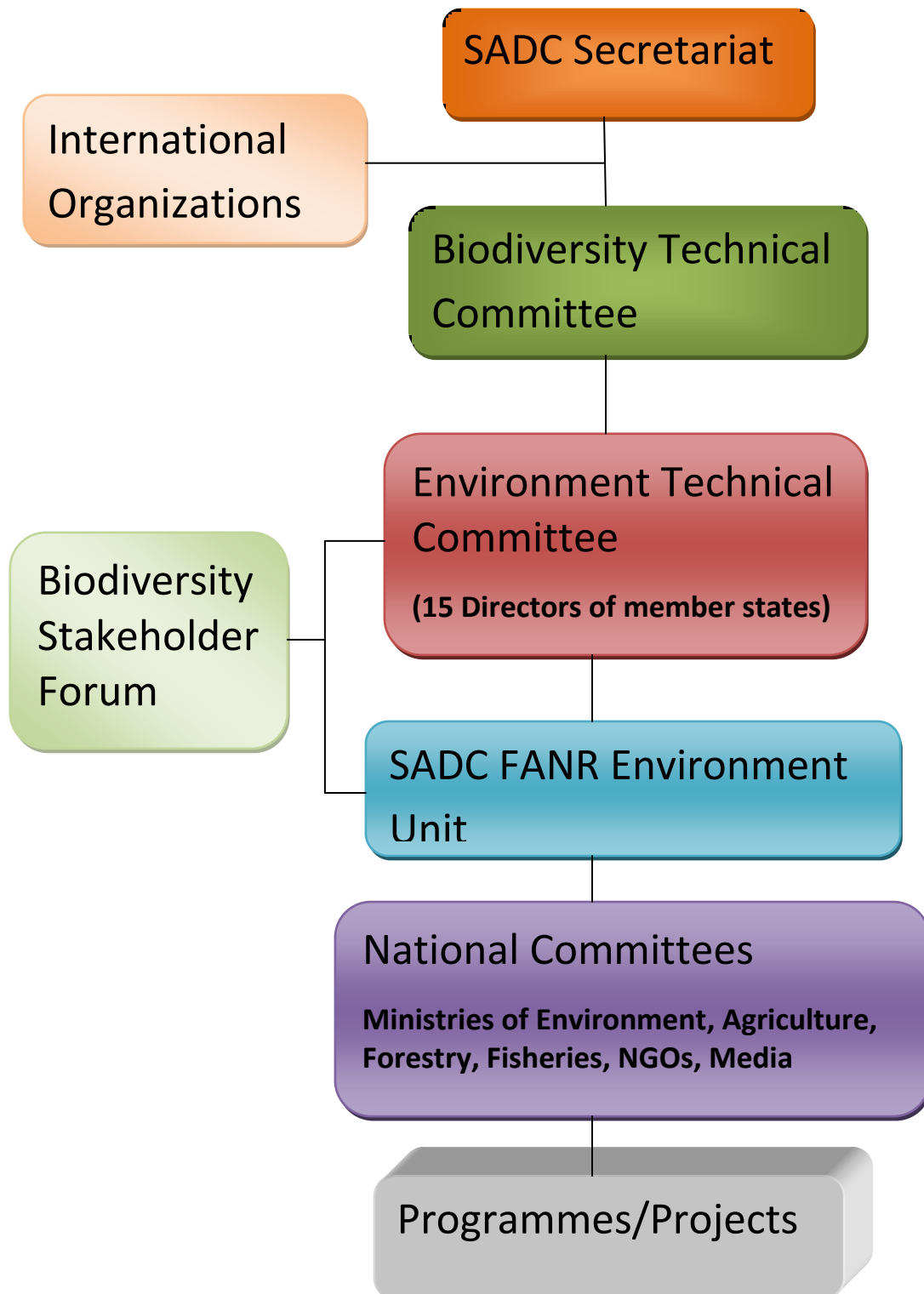
The SADC BAP is a regional plan whose actions will be implemented at the regional, sub-regional (trans-boundary), national and local levels. The implementation of the action plan requires a special structure and arrangements, specific coordination mechanisms and networking system.

### **4.2.1 Implementation Structure and Arrangements**

Being a regional action plan, the scope covers 15 SADC member states. The implementation of the will be is coordinated and managed through a four-tier structure comprising of coordination and management, oversight and strategic advice, technical backstopping and sounding board, and implementation. The SADC BAP will be implemented through a structure illustrated in figure 9.

#### **Figure 9: SADC BAP Implementation Structure**





## **4.2.2 Roles and Responsibilities**

### **4.2.2.1 SADC Secretariat**

The SADC Secretariat, established by the Treaty of Heads of State and Government in 1992, is committed to promoting economic development and growth for the betterment of the livelihoods of its citizens, based on the sound and sustainable utilization of natural resources and effective protection of the environment. Considering that biodiversity is one of the engines for economic development in the SADC region, this SADC BAP falls under the leadership of the SADC secretariat whose main responsibility is to facilitate the enabling environment for the effective implementation of the action plan. In addition to creating an enabling environment, the SADC secretariat will nature synergies and collaboration between and among the various directorates with a bearing on biodiversity. The secretariat will also facilitate the creation of a special biodiversity technical committee.

### **4.2.2.2 SADC Biodiversity Technical Committee**

Considering the fact that biodiversity is cross cutting and the multi-stakeholder nature of the proposed actions, a special technical committee comprising of representatives of the national directors of Environment, Wildlife, Forestry, Fisheries, Tourism, Agriculture, Water and Energy should be established to provide strategic direction and advice, and publicize and market the SADC BAP.

### **4.2.2.3 SADC Environment Technical Committee**

The SADC Environment Technical Committee will provide oversight supervision, review progress on the implementation of the action plan, and publicize and market the products produced through the action plan.

### **4.2.2.4 SADC FANR – Environment Unit**

The SADC FANR – Environment Unit has a wide experience of coordinating and managing large natural resources programmes. The SADC FANR – Environment Unit will facilitate the coordination and management of the action plan. The SADC FANR – Environment Unit will be responsible for pulling together the development, management and administration of the various components of the action plan. Specifically the Unit will play the role of programming, planning, budgeting, coordination, facilitation, reporting and routine monitoring of the action progress towards achieving the intended targets. In addition, the SADC FANR – Environment Unit will coordinate and mobilize resources to facilitate implementation of the action plan

### **4.2.2.5 SADC National Committees**

The overall responsibility and accountability on the delivery of this action plan rests with the national governments in the SADC region. The Treaty provides for the establishment of these national level SADC institutions in each SADC Member State, to be comprised of key stakeholders notably government, private sector and civil society in each Member State. The implementation of the action plan within the member states will be spearheaded by the National Committees working with other implementing institutions.

### **4.2.2.6 Programme/Project Teams**

The programme/project teams will provide on-the ground planning, administration, management and supervision of the action plan implementation. Implementing institutions (inclusive of international organizations, national government departments, NGOs, private sector and other civil

society groups) will deliver the action plan activities on the ground under the guidance and supervision of the SADC FANR – Environment Unit. The competencies of the relevant stakeholders will be harnessed and applied in the implementation of this action plan.

#### **4.2.2.7 International Organizations**

Considering the multi-stakeholder nature of the activities, implementation at various levels, and the complex nature of biodiversity issues, technical backstopping from international and regional experts is critical. International organizations such as IUCN, World Wide Fund for Nature; African Wildlife Foundation; UNEP; Food and Agriculture Organization (FAO); TRAFFIC; ICRAF; CIFOR; Conservation International, to name a few will provide technical backstopping to the implementation of the action plan.

#### **4.2.2.8 Biodiversity Stakeholder Forum**

The Biodiversity Stakeholder Forum, once established will serve as a sounding board and ensure that the action is continuously addressing pertinent issues. This forum will also assist in monitoring the performance of the action plan against the set targets as stakeholders will report and share their experiences and progress at stakeholder meetings. This will also act as a platform that links science, private sector and politics in order to raise the profile of biodiversity and ecosystems management and conservation.

#### **4.2.3 Coordination Mechanisms**

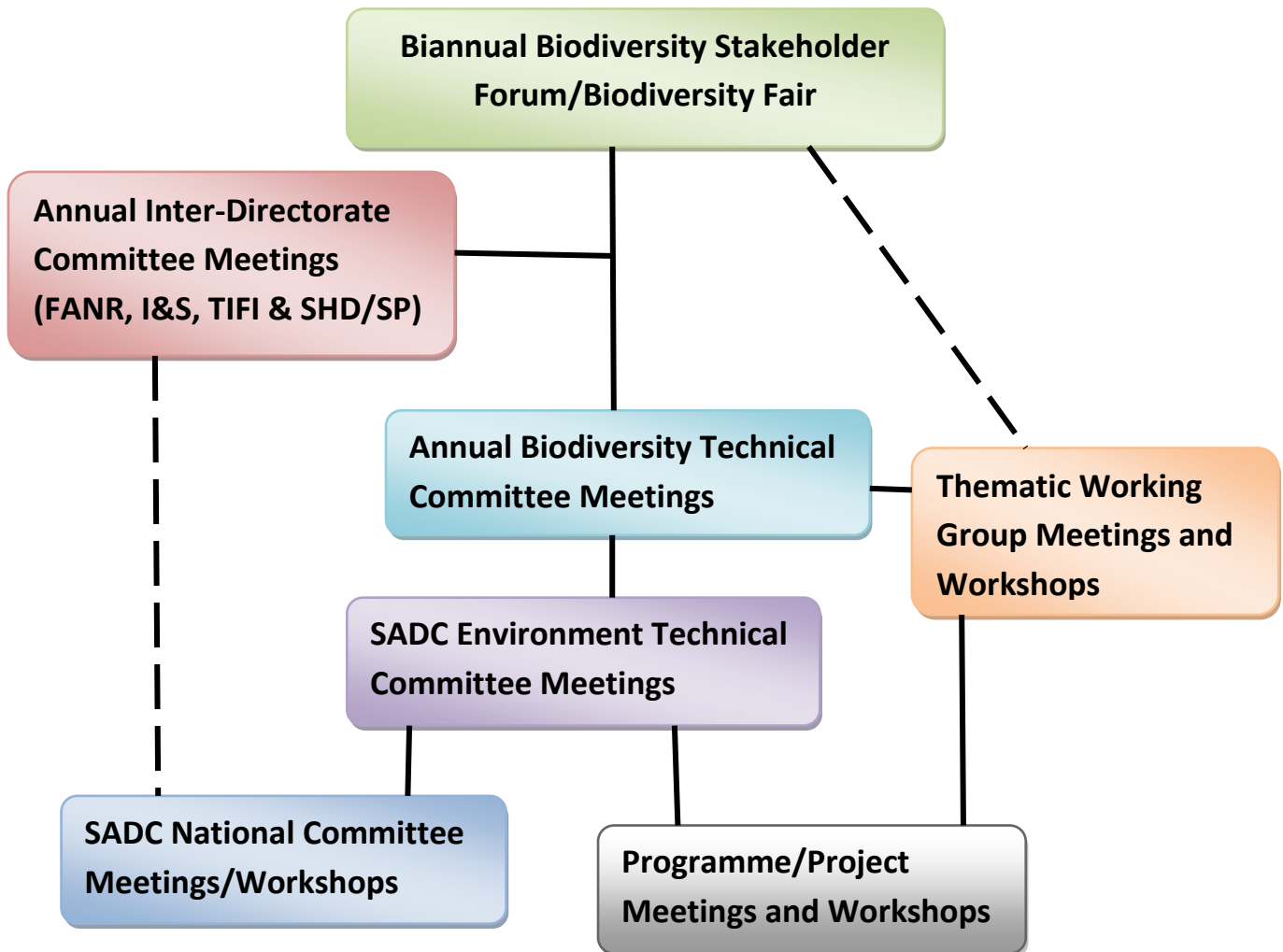
Within the SADC region there is a rich institutional landscape and numerous stakeholders, with a variety of different interests, which together creates an intrinsically complex web of relations. This rich institutional landscape, with numerous stakeholders with a variety of different interests, creates an intrinsically complex web of relations and effective networking at the regional, national and ecosystem levels is critical. Effective cooperation and cross-sectoral coordination is an important prerequisite for sustainable biodiversity management. The platforms for effective cooperation, cross-sectoral coordination and networking both vertically and horizontally are required. Cross-sectoral coordination poses a serious challenge where data and information sharing, and consultation mechanisms required for the development of management policies and strategies are absent.

Considering the multiplicity of stakeholders within the biodiversity sector, coordination is extremely important in order to sustainably utilize and reduce biodiversity loss. Coordination mechanisms for integration of private sector, local communities, NGOs and academia are therefore necessary. There is need for horizontal and vertical coordination, in order to address the current dispersed sector-specific policy orientations, fragmentation of concerns and responsibilities. In this regard, there is need for new forms of dialogue in order to achieve better integration among regional, national and local institutions.

Effective institutional frameworks should therefore have open stakeholder consultation mechanisms that are able to draw up an agreement to cooperate in managing biodiversity. As far as biodiversity is concerned, the various institutions and key role players have mandates and roles that are sometimes conflicting and overlapping. The rationalisation of responsibilities between these institutions is necessary in order to encourage proper and sustainable biodiversity management and

planning. In order to ensure the effective implementation of the SADC BAP, the coordination framework illustrated in figure 10 is recommended.

**Figure 10: SADC BAP Coordination Mechanism Framework**



- *Biannual Biodiversity Stakeholder Forum/Biodiversity Fair*

The Biodiversity Stakeholder forum will provide a platform for sharing information and collaboration among the diverse group of stakeholders working in the biodiversity sector. The Biodiversity Stakeholder forum or Biodiversity fair will be held every two years during the implementation of the SADC BAP. This forum/fair will attract local, national regional and international stakeholders (inclusive of governments, SADC secretariat, CBD secretariat, International organization, NGOs, private sector, academia, youth and women’s groups) who will present and share their experiences in biodiversity conservation, use and management. At this forum/fair, the progress of the SADC BAP will be reviewed against the set targets. Innovative approaches to the sustainable use of biodiversity will also be shared and new research areas will be established.

- *Annual Inter-Directorate Committee Meetings*

Effective cooperation and cross-directorate coordination is an important prerequisite for sustainable management of biodiversity in the SADC region. Within the SADC secretariat, the operations of the directorates of Infrastructure and Services [I&S] (especially its energy, tourism, meteorology and water programmes); Social and Human Development and Special Programmes [SHD/SP] (its health and pharmaceuticals programme); Trade, Industry, Finance and Investment [TIFI] (especially the regional and multilateral trade policies, and customs cooperation and modernization activities); and Food, Agriculture and Natural Resources [FANR] have a bearing on the region's biodiversity. A platform for effective cooperation and cross-directorate coordination, in form of an Inter-Directorate Committee is recommended and this committee should meet annually to discuss, rationalize and coordinate biodiversity related activities.

- *Annual Biodiversity Technical Committee Meetings*

Due to the cross sectoral nature of biodiversity, a special biodiversity technical committee is an important element of the structure. In order to effect coordination between and among the various sector departments, annual technical committee meetings will be held. The meetings will comprise of directors of the various sector departments who will share the respective biodiversity conservation efforts within their department, establish and build programme synergies for improved biodiversity conservation and sustainable use.

- *Semi Annual Thematic Working Group Meeting/Workshops*

Thematic working group /workshop will be used to provide vertical and horizontal coordination between and among the various experts within a specific biodiversity theme. Semi annual thematic working group meetings/workshops will be used as a coordination mechanism and as an instrument to rally experts and the academia around biodiversity conservation and sustainable use. These meetings/workshops will be used as an information sharing platform for biodiversity experts.

- *SADC Environment Technical Committee Meetings*

The environment technical committee is a formal SADC structure established to promote coordination among member states on issues of environment. The environment technical committee meetings will continue to be used as a vehicle for fostering coordination among the 15 SADC member states in the delivery of the SADC BAP.

- *SADC National Committee Meetings/Workshops*

Within countries, SADC national committees will be used as a mechanism for coordinating the various sectors and stakeholders within a specific country. The committee meetings and/or workshops will be organised to effect coordination between and among the various stakeholders.

- *Programme/Project Meetings/Workshops*

Depending on the number of programmes/projects developed and implemented under the SADC BAP, programme/project meetings/workshops will be used as a vehicle for coordinating

stakeholders working under those programmes/projects. The frequency of these meetings and workshops will be determined based on the situation the programme/project is operating under.

#### **4.2.4 Networking**

There is plethora of biodiversity related networks in the SADC region. Cooperation and interaction between the various players and biodiversity management sectors in order to achieve sustainable use and maintain biodiversity is critical. Networks have been built around institutions with similar values and interests, around subject matter as well as around geographical perspectives of biodiversity and these are used as coordination mechanism within these specific areas. The networks that exist can be grouped under public sector, NGOs, private sector, and academic/research sector.

At the regional level, the SADC Food, Agriculture and Natural Resources Directorate is a key intergovernmental network whose mandate to coordinate environmental and natural resources management issues in the region. A number of biodiversity networks and working groups have been established under the SADC umbrella and these are effective instruments for coordination. These include networks such as the Regional Biodiversity Expertise Network (ReBEN), viewed as the gateway to the most comprehensive human resources biodiversity expertise in the SADC region. In addition to these networks, SADC has also established Centres of Excellence on access and benefit sharing, invasive alien species, drylands and environmental education. In addition, the SADC Food, Agriculture and Natural Resources Directorate have produced a roster of experts on invasive alien species and regional databases on access and benefit sharing in the region. In response to the growing interest on TFCA, relevant governments have developed joint management structures for this purpose. There are proposals to establish a learning network for TFCAs. A number of key networks also exist at the national biodiversity networks carrying important work in the field of biodiversity conservation and sustainable use.

Numerous networks exist within the NGO sector. A lot of these are linked to the IUCN network in Southern Africa. IUCN The World Conservation Union (an international organization) is an umbrella network that brings together governments, NGOs and affiliate organizations working in the field of environment and biodiversity conservation. This is a very useful network that can be used to effect coordination between and among various stakeholders. A number of IUCN affiliated networks such as Southern Africa Botanical Diversity Network (SABONET), SSC – Southern Africa, Commission on Ecosystems (Southern Africa), WCPA – Southern Africa, CEESP – Southern Africa, Southern Africa Sustainable Use Specialist Group (SASUSG), Conservation Breeding Specialist Group (CBSG) – Southern Africa, Traffic East and Southern Africa, IUCN/WCPA Task Force on Cities and Protected Areas, and the World Conservation Learning Network are very active in the region. Other important networks that are not directly linked to IUCN are the Bat Conservation Group, Southern Africa Fire Network (SAFNet), Zoological Society of Southern Africa, to name a few. With the increasing attention to biodiversity issues in recent years, especially in transfrontier conservation areas, a number of civil society and research institutions (such as Transfrontier Protected Areas Initiative – TPARI) have been established.

The SADC Biodiversity Stakeholder forum, once established, will constitute a unique network for bringing together a wide range of stakeholders. The SADC BAP should nature and use these networks to improve the implementation of the action plan. These networks can also be used as an instrument for coordinating the various stakeholders working on biodiversity.

### **4.3 Supporting Measures**

In order to effectively implement the actions prescribed under this regional biodiversity action plan, a number of supporting measures should be put in place at the regional national and local levels. The following sections describe some of the critical supporting measures required by the region to implement the SADC BAP.

#### **4.3.1 Financing the Action Plan**

Financing biodiversity has been a topical issue in the SADC region. Indeed, limited financial resources have been identified as one of the major constraints facing the biodiversity sector in the region. In an effort to address this concern, the SADC BSP developed guidelines on innovative financing mechanisms (IFM) for biodiversity and these guidelines will come in handy in the implementation of the regional biodiversity action plan.

##### **4.3.1.1 Investment Requirements**

Financing the SADC BAP action plan is one of the critical supporting measures required by the region. Without finance, very little or no actions can be implemented. The SADC BAP requires a total investment of **US\$40 million (Forty Million United States dollars)** over a period of 15 years. This amount is in addition to the national budgetary allocation by the member states to their NBSAPs. A number of funding options exist in the region and these should be explored in order to ensure that the SADC BAP is well funded.

##### **4.3.1.2 Financing Options**

There are a number of financing options that SADC can use to finance the SADC BAP. These financing sources can be grouped under national financial resources, external financing and innovative financing mechanisms. These options are described in the sections below.

- **National Financial Resources**

National budgetary allocation is the most commonly used option to finance biodiversity work. These allocations are from the respective governments of the member states. Through the budgetary allocations to the ministries on Environment; ministries/or departments of wildlife, forests, fisheries and tourism; local government budgets; and medium-term expenditure frameworks, a lot of biodiversity conservation and management work is supported. However, due to the low profile given to biodiversity, the allocations are not adequate, resulting in serious financial constraints in the region's effort to conserve and sustainably use biodiversity. There is an urgent need to raise the profile of biodiversity in order to increase national budget allocations for biodiversity.

In addition to budgetary allocation, other national financing sources include economic incentives such as income tax deductions, land tax exemptions, value added tax exemptions, custom duty exemptions, tax exemptions on international organizations as well as charitable organizations and foundations, and subsidies. The SADC BAP has to explore the possibility of supporting the implementation of the action through economic incentives. At the national level, biodiversity work can also be funded through voluntary contributions by non-governmental organizations, corporate

sector (philanthropic programs), foundations, and individuals. This is an area that the SADC BAP should explore to support the action plan.

In a number of countries, the Private sector is becoming a key financing source for biodiversity work. In this case, the target is on businesses having impact on biodiversity, businesses relying on biodiversity and the financial sector. Tourism can be an effective tool for biodiversity financing in the SADC region. In South Africa for example, the Private sector is a key source of biodiversity financing through various programmes such as Green Funds. In South Africa, the Nedbank Group provides support to biodiversity work through the Nedbank Green Affinity Programme – A partnership for a Better Environment.

- **External Financing**

External financing constitute the bulk of the support to biodiversity conservation work in the SADC region. Quite a number of programme/projects are supported through grants from the donor community. Within the SADC structure, an ICP group lead by FAO facilitates the provision of financial support to natural resources management, inclusive of biodiversity. In addition to these bilateral grants, financing for biodiversity is also secured through UNFF facilitation programme, UNCCD global mechanism, UNFCCC funds, CBD, etc. For example, the REDD+ provides a window of opportunity for biodiversity finance.

The UN-REDD Programme or "United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries" is a collaborative partnership between the UN Environment Programme [UNEP], the UN Development Programme [UNDP] and the Food and Agriculture Organisation of the United Nations [FAO]. The Reduced Emissions from Deforestation and Degradation plus Conservation (REDD+) is the reduction in the conversion of native or natural forests to non-forest land, that would be deforested in the absence of the REDD project activity. Deforestation is the direct, human-induced conversion of forest land to non-forest land. The estimation of deforestation is affected by how 'forest' and 'non-forest' are defined. Carbon pools defined under the REDD programme include dry forest land, savannah grassland, montane forest, agricultural encroachment, aboveground biomass (trees, shrubs and grasses), belowground biomass (trees, shrubs and grasses), and soil carbon. Biodiversity conservation activities that conserves and enhances these carbon pools are eligible for REDD financial support. Guided by principles of country ownership and leadership, the Programme provides technical advice on ways to address deforestation and forest degradation, methods and tools for measuring and monitoring greenhouse gas emissions and forest carbon flows. The SADC BAP need to explore all these options in order to secure adequate resources to implement the action plan.

Financing for biodiversity can also secured through external environmental funds; private sector investments (biodiversity conservation is a central pillar World Bank assistance); and debt relief and conversion initiatives. One example is the African World Heritage Fund established to support the management and conservation of World Heritage sites in Africa comprise of the Endowment and Programme funding stream whose target is US\$25million by 2015. At the moment, the fund has secured US\$4.6million. The eligible areas of support under this fund include capacity building and knowledge management, economic growth and infrastructure through WH Sites, and building



African World Heritage Capacity, all areas that can contribute to biodiversity conservation in the region.

- **Innovative Financing Mechanisms**

The SADC region has been exploring innovative financing mechanisms for biodiversity for quite some time. This was one of the areas covered under the SADC BAP. A menu of options exists and some of these are being tried at the local and national levels. The main options being explored include payment for ecosystem services, green development mechanism (GDM), biodiversity offset mechanisms, environmental fiscal reforms, markets for green products, business-biodiversity partnership, charity, new sources of development finances (such as international finance facility, carbon taxes, etc.), and climate change funding. In South Africa, the Ecosystem Services Trading Model is being tried in the Drakensburg case study, linking highland protection to downstream water management and agriculture. The experience of this case study has shown that the ecosystem service has to be of value that beneficial communities are willing to pay for. The most promising PES market schemes in the SADC region need to be identified, and trading models including legal mandate to be developed.

- ***Regional Biodiversity Research Fund***

There is no doubt that the various aspects of biodiversity are experiencing financial constraints. However, a critical financing gap is being experienced in biodiversity research. Due to financial constraints, very little biodiversity research is being carried out at the national and regional level. This means that decisions being made on biodiversity conservation and sustainable use are not based on sound, technical information. An area of serious concern is the absence of research on biodiversity conservation indicators, important instruments that is required to measure the region's progress is biodiversity conservation and management. There is also limited research on the possibilities and effectiveness of the financing options. The SADC BAP should establish the Regional Biodiversity Research Fund to support SADC Member States in carrying the necessary research on biodiversity. Once established, this Fund will be used as a financing option for biodiversity research at the local, nation and regional level.

#### **4.3.2 Decision-making (Governance)**

The SADC BAP is an initiative of the 15 SADC member states, and these member states have a key role to play in the decision making process. The implementation of the SADC BAP will therefore be governed by the SADC structures. The council/committee of Environment Ministers will be the highest decision making body, with a focus on policy and strategic direction of the SADC BAP implementation. The Biodiversity Technical Committee to be established under this SADC BAP will direct the implementation of the action plan and report to the council/committee of Environment Ministers. The Environmental Technical Committee will supervise the implementation of the SADC, supported by the SADC FANR – Environment Unit. The SADC National Committees will make in country decisions and supervise the national implementation of activities. The programme/project steering committees will make decisions and supervise the implementation of specific programme/projects and either report to the Environmental Technical Committee or SADC National Committees, depending on the geographical scope of the actions.

### **4.3.3 Public Education and Awareness**

Institutional performance is usually measured in terms of effectiveness, efficiency and accountability to stakeholders. In order to build accountability, the SADC BAP institutional structure will develop and implement supporting measures that will empower and enable stakeholders to participate in the implementation of the regional biodiversity action plan.

- *Public Education and Awareness Plan*

The SADC BAP is consolidating current efforts and pioneering on new ground and is designed to deal with key issues whose solutions require a considerable change of stakeholder mind set. Public education, awareness and stakeholder participation platforms are required to support the effective implementation of the SADC BAP. Using the existing SADC FANR networks on environmental education and awareness, a public education and awareness plan focused on biodiversity education and awareness will be developed and implemented as a supporting measure to this SADC BAP. The plan will specifically target special interest groups such youth, women parliamentarians, economic planning decision makers, etc.

- *SADC BAP Communication Strategy*

Based on regional and national experience of implementing regional programmes, information flow and communication arrangements between and among the various stakeholders working within the biodiversity sector is not very effective. As a result, there is very little communication and synergy between various agencies, e.g. there is no effective communication between agencies operating on the ground and those agencies with regional and country level responsibilities, resulting in most cases in the duplication of effort. Communication is an important management tool in a sector like biodiversity where there are a number of these stakeholder interests which are potentially conflicting in nature. Effective communication, dialogue and information exchange between among the various components of the SADC BAP and the various stakeholders directly supports the implementation of the SADC BAP.

Effective communication and knowledge sharing are therefore needed within and among a diverse group of stakeholders such as community based organizations, NGOs, scientists, biodiversity and protected areas managers and decision-makers from the public and private sectors. Considering the fact that information flow and communication arrangements are essential, a specific communication strategy for the SADC BAP will be developed and implemented as a supporting measure to the SADC BAP. To reach the various groups, communication materials in the form of networking conferences, symposia and workshops; regional biodiversity newsletter; publications; policy briefs; working papers; exchange visits and websites are needed for exposure. Communications will also focus on raising awareness on the application of the ecosystem approach to biodiversity use and conservation. In addition, the communication strategy will be used to communicate the progress and results, as well as marketing the SADC BAP to a broader audience.

### **4.3.4 Capacity Building**

It is important that the implementation of the SADC BAP is effectively managed and coordinated. Although the SADC FANR and member states focal points are quite exposed to biodiversity issues, there are still some challenges with regards to coordination and monitoring. Strengthening of capacity at SADC Secretariat as well as member states to effectively implement the SADC BAP is essential. A

capacity building plan, targeting the SADC FANR, the Biodiversity technical committee, environment technical committee, SADC national committees, and programme/project personnel is an important supporting measure which will facilitate the effective delivery of the action plan.

## **CHAPTER 5: IMPLEMENTATING THE ACTION PLAN**

The SADC experience has shown that strategies and action plans are relatively easy to write up. Without their implementation, however, these plans are of little value. Implementation of strategies has often fallen behind the target. The main reasons given for this were: unusually high targets; lack of cooperation between institutions; lack of participation by local resource users; lack of political will and/or political instability; inadequate financing; lack of regional and international collaboration and support. The following sections highlight aspects of the SADC BAP implementation, prioritised project list and what is required to effect the successful implementation of the action plan (i.e. stakeholder engagement plan, the need to establish and nature partnership and the monitoring and evaluation of performance).

### **5.1 Actions, Targets and Activities Implementation Plan**

In order to achieve the vision, goal and objectives of the SADC BAP, the region has to implement the key actions, and activities listed in table 15 (annex 3). While the stakeholders did make a contribution in determining the strategic areas, key actions and to some extent the activities, there is need for further stakeholder input on establishing the targets, timelines, lead agency and collaborating institutions. The detailed actions are listed in table 15 in annex 3

### **5.2 Prioritised List of Projects**

The SADC Biodiversity Focal points at the SADC Regional Biodiversity Action Plan Workshop (26 – 27<sup>th</sup> November, 2009) meeting in Johannesburg) identified and recommended the following prioritised project list.

#### **5.2.1 Short Term Projects**

##### **Capacity Building and Networking for Improved Biodiversity Management**

This should include:

- Strengthening the capacity of the SADC FANR
- Support to regional and national networks, management Regional Thematic Working Groups, Facilitate the Regional Centres of Excellency, Strengthen Existing Regional Biodiversity Networks
- Enhance the Capacity of National Institutional Frameworks
- Capacity Enhancement for Improved Inventory and Monitoring. This may comprise of workshop and seminars at three levels targeting politicians, technical staff and local communities. The focus of the training will be on biodiversity mapping, valuation, indicators, COP participation and contribution and on the impact of agro fuels
- Improve TFCA Learning and Networking

##### **Generating Biodiversity Knowledge Base and Wisdom**

This should include

- Biodiversity Awareness and Outreach
- Advocacy for biodiversity (especially targeting politicians, parliamentarians, economic planners, etc)
- Biodiversity Inventory and Monitoring
- Biodiversity Knowledge Management
- Communicating biodiversity

### **SADC Biodiversity Stakeholder forum - A Platform for Biodiversity**

This should include

- Countdown 2010 initiatives, etc.

### **Enabling Policy and Legislative Environment for Improved Biodiversity Conservation**

This should include

- Reviews, harmonization, enforcement and development of new policies and legislation (Biodiversity Act).
- Develop and Implement CBNRM Policy Guidance
- Develop Supportive Policy Framework for Bio Trade
- GMOs (GMO guidelines)

### **Access and Benefit Sharing Regimes and Mechanisms in the SADC region**

This should include

- Promoting the use of the SADC tools and guidelines for Access and Benefit sharing
- The creation of the Policy and Legal Environment for ABS
- Developing and demonstrating access and benefit sharing regimes
- Building capacity for improved ABS
- Facilitating Resource Tenure and Rights, including gender disparities

### **Sustainable use of Medicinal Plants for Socio-economic Development in the SADC Region**

This project concept was endorsed by SADC, with potential funding source from GEF. The approved concept note is with the SADC FANR Directorate.

### **Vulnerability Assessment of Key Biodiversity Habitats and Species to Climate Change**

This should include

- Commissioning of studies to assess the vulnerability of key biodiversity habitats and species to climate change
- Support policy discussions on the impact of climate change on biodiversity

### **Communicating the Potential Impacts of Bio-fuel Development on Biodiversity and Ecosystem Services**

This should include

- The assessment of the potential impacts (positive and negative) of bio-fuel development on biodiversity and ecosystem services, and communicating this to policy makers, practitioners and the private sector in the SADC region.

#### **5.2.2 Medium Term Projects**

The following medium term projects were suggested.

#### **MEAs and Regional Protocols Domestication and Implementation**

This should include

- Capacity building for domestication
- Mainstreaming MEAs and regional protocols into national policies and strategies
- Synergist implementation

#### **Improving TFCA Governance Frameworks**

This should include

- Harmonize National Policies and Legislation
- Establish and Implement Effective TFCA Structures

#### **Diversifying Biodiversity Based Community Livelihood Options**

This should include

- The Consolidation of CBNRM
- Promotion of CBNRM as a Biodiversity Conservation Tool
- Climate Change Resilient Biodiversity Based Livelihoods
- Biodiversity Based Community Businesses (Cottage industries – value addition)

#### **The SADC Region Natural Products Enterprise**

This should include

- The consolidation of the existing natural products initiatives.
- Promotion of Bio Trade
- Diversification of biodiversity based Economic Activities

### **Biodiversity Conservation and Ecotourism in TFCA**

- Exploring the business opportunities within the existing and planned TFCAs
- Establishing private-public-community partnerships around tourism
- No of conservation based tourism ventures
- Increased income and revenue
- No. of jobs created

### **SADC Biodiversity Research Fund**

In order to facilitate sustainable applied research that addresses the key challenges faced by the region's biodiversity sector, it is recommended that a SADC Biodiversity Research be established to support the generation of scientific information that could be used to improve decision making and biodiversity conservation actions on the ground.

### **Protected Area Management System Effectiveness**

This should include

- Management Capacity Enhancement
- Achieve Financial Sustainability of Protected Area Systems
- Development and Updating of PA Management Plans
- Management of Human – Wildlife Conflicts
- Support to the expansion of PA system and representativeness (i.e. establishment of protected areas in neglected biomes)
- Vulnerability assessment of Protected Areas to Climate Change
- Establishing the role of TFCAs as an Effective Conservation Approach.

### **Biodiversity Valuation and Natural Resources Accounts**

This should include

- Building Skills for Biodiversity Valuation and Accounting, EIA and SEA, and Ecosystem Approach

- Developing and promoting biodiversity mainstreaming guidelines
- Establishment and use of Natural Resources Accounts as a decision making tool

### **SADC Biodiversity Products Certification Scheme**

This should include

- Consolidate and Expand the Biodiversity Products Certification Schemes
- Developing and implementing new schemes, covering a wide array of products
- Seed certification system

### **Prevention, Control and Management of Invasive Alien Species**

This should include

- Promoting the Use of the Regional IAS Guidelines
- Implementing the Aquatic Invasive Species proposal
- Building capacity for IAS detection and management
- Managing priority alien species invasions in pilot sites to improve conservation and sustainable use of biodiversity.
- Controlling pathways for major potential alien invasive species

#### **5.2.3 Long Term Projects**

The following medium term projects were suggested.

### **Rehabilitation and Restoration of Degraded Ecosystems and Biodiversity**

This should include

- Urban Biodiversity Conservation and Restoration
- Community Driven Restoration of and Rehabilitation of Biodiversity

### **Conserving Agro-Biodiversity**

This should include

- Promoting agro biodiversity conservation approaches that demonstrate the positive impacts of agricultural biodiversity on production, sustainability and resilience
- Genetic diversity of crops, livestock, and of harvested species of trees, fish and wildlife and other valuable species conserved, and associated indigenous and local knowledge maintained

### **Ecosystems and Biodiversity Restoration for Climate Change Mitigation**

This should include

- Explore the role of plant biodiversity in climate change mitigation
- Promote restoration activities for climate change mitigation
- Carbon sequestration activities and carbon trade

### **Biodiversity Adaptation to Climate Change**

This should include

- Capacity Building for Climate Change Adaptation
- Development and implementation of adaptation strategies for selected habitats & species

### **Monitoring the Impact of Energy Development on Biodiversity**

This should include

- Supporting governments to develop environmental safeguards for bio-fuel programmes
- Promoting the integration of environmental sustainability in the bio fuels development
- Supporting biodiversity friendly charcoal industry
- Integration of biodiversity into the energy development

### **SADC Biodiversity Business Facility (BBF)**

Building on the work carried out under the IUCN Business and Biodiversity program, the proposed project will focus on explore the feasibility of establishing a Biodiversity Business Facility (BBF), for the SADC region.

### **5.3 Stakeholder Engagement Plan**

The plethora of biodiversity related stakeholders (institutions) implies the need for a formalised engagement and participation framework. A stakeholder participation framework is required in order to foster orderly engagement and to ensure that important stakeholders are not excluded. It is important that the biodiversity stakeholders are identified in terms of type, name, role, interest, category, importance, effect on biodiversity, preferred mode of engagement, and required level of engagement. This information will be used to produce the SADC BAP stakeholder engagement framework/plan.



## **5.4 Building Partnerships for Biodiversity**

The SADC BAP is a collaborative effort of SADC and organisations that range from regional intergovernmental bodies, national governments, local national and regional institutions and agencies, and multilateral agencies. The effective implementation of the SADC BAP can only be achieved through partnership arrangements. Investing in strategic partnerships to biodiversity conservation and sustainable use is a more cost effective way to attain sustainable biodiversity use. Building partnerships within and across sectors is essential to establish cost-effective interventions to sustainable biodiversity conservation and management. Strategic partnerships, coalitions and consortiums will be the driving force behind the delivery of the SADC BAP. The inclusive nature built in the SADC BAP is expected to nurture the development of a large number of partnerships at local, national, regional and international levels. To allow for successful development of partnerships, information on participating institutions will be made available on the SADC FANR website. At the local and national level, the SADC BAP will contribute to the development of collaboration between local and national partners by bringing together institutions from the private sector, NGOs, government agencies, and research institutions.

The SADC BAP will give priority to working with IUCN; World Wide Fund for Nature; African Wildlife Foundation; UNEP; Food and Agriculture Organization (FAO); TRAFFIC; ICRAF; CIFOR; Conservation International, Endangered Wildlife Trust, SARDC IMERCSA and Desert Research Foundation of Namibia to name a few.

## **5.5 Monitoring and Evaluating Performance**

If the SADC region is to be successful in achieving its conservation vision and outcomes under the SADC BAP, a sound monitoring and reporting framework is critical. A framework for reporting, communicating and verifying the progress and outcomes of the SADC BAP internally and to relevant or interested parties externally is important. While reporting sometimes has a formal regulatory or official nature, for example through government or independent certification schemes, communication may be a more informal way to share progress. Both reporting and communication can help to build support among both internal and external stakeholders and increase the probability of success for current and future biodiversity-related activities. In order to assess the region's progress towards the implementation of the SADC BAP, a monitoring and reporting framework is required. This will comprise of a performance measurement matrix, internal monitoring and external monitoring and evaluation.

### **5.5.1 Performance Measurement Matrix (Framework)**

Under the leadership of the SADC FANR – Environment Unit, a performance measurement framework matrix based on the SADC BAP strategic areas, actions and targets will be developed to monitor performance and guide the reporting. This matrix provides the details on the targets, indicators of success, baseline information requirements, methods to be used, sources of data, the frequency, who will do it and resource requirements.

### **5.5.2 Internal Monitoring**

The SADC FANR – Environment Unit will develop and implement a compliance and reflective monitoring and evaluation system that will make monitoring and evaluation an integral part of the SADC BAP implementation and management. As part of the monitoring process, the SADC FANR – Environment Unit will continuously assess the progress on the SADC BAP implementation against the

agreed targets, capture the lessons and use them to improve the SADC BAP performance, monitor stakeholder participation at all levels. National and regional annual reports will be produced and these will also constitute annual reports to the CBD and the globally agreed biodiversity targets. The programme/project annual and semi-annual reports will constitute a key input into the consolidated annual reports

### **5.5.3 External Monitoring and Evaluation**

In order to critically assess the performance of the SADC BAP, external monitoring and evaluation is required. In order to feed into the update and review of the SADC BAP, this external monitoring and evaluation will be carried out every five years.

## **5.6 SADC BAP Update**

While the SADC BAP has a 15 -year scope, it will be reviewed on an annual basis. The outputs of all Management Review Reports generated throughout the year by all relevant branches will be considered comprehensively and the results will, in turn, inform an update of the strategies and actions identified in the Action Plan.

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## ANNEXES

### Annex 1: SADC Biodiversity Focal Points Declaration [November 2009]

#### SADC BIODIVERSITY FOCAL POINTS DECLARATION ON COMMITMENTS TOWARDS 2010 AND BEYOND

BIRCHWOOD HOTEL AND CONFERENCE CENTRE, JOHANNESBURG, SOUTH AFRICA

27<sup>TH</sup> NOVEMBER 2009

We the National Biodiversity Focal Points of the SADC Countries; Angola, Democratic Republic of the Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Seychelles, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe.

*Realizing the important role that biodiversity plays in providing ecosystem services and the maintenance of lives*

*Noting the high level of poverty in the region as a result of the inability to convert biodiversity and related ecosystem goods and services into wealth*

*Realising that poverty is also a result of unsustainable development initiatives that have led to poor biodiversity management and governance.*

*Noting the underperformance of protected areas which include transboundary and national protected areas*

*Realising the low profile and priority being given to biodiversity in the SADC region despite its significant contribution to the region's economy and sustainable development.*

*Noting the inequalities in access and benefit sharing due to inadequate implementation of national as well as regional instruments to facilitate equitable benefit sharing.*

*Realising that climate change and IAS will lead to poverty and loss of biodiversity*

We hereby declare the need to strengthen the Regional Biodiversity conservation initiatives and poverty reduction. We therefore call for support to the realization of the commitments of the 2010 Biodiversity Targets, Countdown 2010 initiative and beyond 2010 and therefore resolve and recommend as follows:

1. Full implementation of the SADC Regional Biodiversity Action Plan once it is finalized

2. Establishment of a SADC Biodiversity Stakeholder forum: a unique network bringing together a wide range of stakeholders to build momentum for the 10<sup>th</sup> COP of the CBD and the post 2010 commitments to further the commitments of the countdown 2010 initiatives.
3. Strengthening of capacity at SADC Secretariat as well as Member State level to effectively implement the SADC Biodiversity Strategy and Action Plan. Capacity building activities will target politicians, technical staff and local communities and other stakeholders. The focus areas should include biodiversity mapping, biodiversity valuation, development of biodiversity indicators, resource mobilisation and preparation for and participation at COP meetings.
4. Implementation of Transboundary Conservation Projects on biodiversity, ecosystem services and Eco-Tourism initiatives,
5. Promotion of the use of the SADC tools and guidelines for Access and Benefit sharing
6. Implementation of Climate Change projects on carbon trade, Reducing Emission from Deforestation and Forest Degradation (REDD) including other adaptation activities.
7. Creation of employment through mechanisms such as green jobs and value addition of biodiversity and other natural resources
8. Supporting the management and expansion of protected areas system and ecological representativeness
9. Promotion of and advocacy for the importance of biodiversity to socio-economic well-being of Member States
10. Make an economic case for biodiversity by promoting research on the valuation of biodiversity resources and associated ecosystems and further integrating these into national accounts
11. Development of programmes for the prevention and management of Invasive Alien Species (IAS) and the implementation of the regional guidelines on IAS.
12. Development of programmes for the management and control of Genetically Modified Organisms (GMO) and Living Modified Organisms (LMOs) and the implementation of the Regional guidelines on GMO and LMOs.
13. Updating and harmonization of legal and policy instruments for the management of biodiversity in the region.

**Annex 2: Major Feature of National Biodiversity Strategies and Action Plans**

**Table 6: MAJOR FEATURES OF NATIONAL BIODIVERSITY STRATEGIES AND ACTION**

	Angola	Botswana	DRC	Lesotho	Madagascar	Malawi	Mauritius	Mozambique	Namibia	Seychelles	South Africa	Swaziland	Tanzania	Zambia	Zimbabwe
Biodiversity Research & Scientific Information	Present	Present		Present		Present		Present		Present		Present	Present		Present
Education & Awareness	Present			Present		Present		Present	Present	Present		Present	Present		Present
Improvement and Expansion of Protected Areas	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Conservation of vulnerable areas/Restoration of Degraded Areas	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Sustainable use of biodiversity components	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present			Present	Present	Present
Capacity building	Present	Present	Present	Present	Present	Present		Present	Present	Present	Present	Present	Present	Present	Present
Stakeholder Participation and Coordination	Present			Present	Present	Present		Present	Present	Present	Present	Present	Present		Present
Improving Policies and legislation	Present			Present		Present			Present	Present	Present	Present	Present	Present	Present
Access & benefit sharing		Present		Present	Present	Present	Present		Present	Present	Present	Present		Present	
Sustainable financing mechanism				Present	Present	Present	Present			Present					Present
Protection of agricultural biodiversity (Biotechnology)	Present		Present			Present	Present					Present		Present	Present
Impact Assessment								Present							
Biodiversity valuation for Improved Policy Making									Present		Present	Present	Present		Present
Invasive species							Present		Present		Present	Present			
Managing the Impacts of Climate Change		Present					Present		Present		Present				

Source: Compiled from the member states NBSAPS



Annex 3: Table 15: Actions, Targets and Activities Implementation Plan

Strategic Area	Intervention Areas	Key Actions	Targets	Action Schedule	Lead Agency	Collaborating Institutions
<b>Biodiversity Management Governance</b>	<b>Biodiversity management policies and legislation</b>	Develop national biodiversity policies and legislation	Specific biodiversity policies and supporting legislation developed in all 15 member states	Yr 1 - 5	Members states	SADC Secretariat, IUCN and others
		Improve implementation (including harmonization) and enforcement of biodiversity policies and legislation	At least 4 policies and their supporting legislation effectively enforced in each member state	Yr 1 - 15	Members state & SADC Secretariat	IUCN & others
		Support policy guidance on CBNRM	SADC CBNRM Policy	Yr 1 - 5	SADC Secretariat	IUCN & others
		Strengthen Regional Bio Trade policy	Enabling Bio Trade policy framework exist in all the 15 member states	Yr 5 - 10	SADC Secretariat	SADC Secretariat, CBD Secretariat, IUCN and others
		Develop national biotechnology policies and strategies	Operational national bio-safety decision making system in conformity with the Cartagena protocol	Yr 5 - 10	Members states	SADC Secretariat, IUCN and others
		Facilitate Policy Advocacy on biodiversity	Key policy makers in all the 15 member stated aware of the importance of biodiversity	Yr 1 - 5	Members states & SADC Secretariat	IUCN & others
	<b>MEA and Regional Environmental Protocols Synergies and Implementation</b>	Facilitate Synergy of MEA Implementation	UN biodiversity MEAs and regional protocols implemented in a coordinated manner in all 15 member states	Yr 1 - 15	Members states & SADC Secretariat	IUCN , CBD Secretariat & others
		Domesticate MEAs and Regional Protocols into National Policy and Legislation	UN biodiversity MEAs and regional protocols mainstreamed into national policies in all 15 member states	Yr 1 - 5	Members states	SADC Secretariat, IUCN & CBD Secretariat
		Enhance National and Regional Capacity for the Implementation of MEAs	SADC FANR & all 15 members states trained in effective MEA implementation	Yr 1 - 5	SADC secretariat	Members states, IUCN CBD Secretariat & others
	<b>Institutional</b>	Establish and Facilitate the SADC Biodiversity Forum	A functional forum	Yr 1 - 5	SADC secretariat	Members states, IUCN and others

<b>B</b> <b>i</b> <b>c</b>	<b>frameworks for biodiversity management</b>	Enhance the Capacity of National Institutional Frameworks	No. of functional frameworks in all the 15 member states	Yr 1 - 10	Members states	SADC secretariat	
		Facilitate the Regional Centres of Excellency	No. of operational centres of excellency	Yr 1 - 5	SADC secretariat	SADC approved Centres of excellence	
		Strengthen Existing Regional Biodiversity Networks	Number of operational networks	Yr 1 - 5	SADC secretariat	IUCN and others	
		Establish and Manage Regional Thematic Working Groups	Number of operational thematic groups.	Yr 1 - 10	SADC secretariat	IUCN, CBD Secretariat & others	
	<b>TFCA Governance Frameworks</b>	Harmonize National Policies and Legislation	Harmonized policy framework in at least 6 TFCAs	Yr 5 - 15	Members states & SADC Secretariat	IUCN & others	
		Establish and Implement Effective TFCA Structures	Number of TFCA multi-stakeholder fora	Yr 1 - 10	Members states & SADC Secretariat	IUCN & others	
		Improve TFCA Learning and Networking	A regional functional TFCA Learning Network	Yr 1 - 5	SADC Secretariat	Member states, IUCN & others	
	<b>Equity and Benefit Sharing from Biodiversity</b>	Create the Policy and Legal Environment for ABS	Number of legal frameworks on ABS	Yr 1 - 5	Members states & SADC Secretariat	IUCN & others	
		Develop and Demonstrate Access and Benefit Sharing Regimes	Number of regional, national and local level benefit sharing mechanisms demonstrated in all 15 member states	Yr 5 - 15	Members states & SADC Secretariat	IUCN & others	
		Build Capacity for Improved ABS	All 15 member states and SADC FANR have capacity to apply ABS principles	Yr 1 - 5	SADC Secretariat	Member states, IUCN & others	
		Facilitate Resource Tenure and Rights	Resource tenure and rights observed in all 15 member states	Yr 1 - 15	Member states	SADC Secretariat, IUCN and others	
		Address Gender Disparities in Resource Tenure and Rights	Gender Disparities in Resource Tenure and Rights being addressed all 15 member states	Yr 1 - 15	Member states	SADC Secretariat, IUCN and others	
	<b>B i c</b>	<b>Consolidation of</b>	Documentation and Dissemination of	CBNRM tools, approaches and	Yr 1 - 5	SADC Secretariat	Member states, IUCN, Regional CBNRM Forum

<b>B</b>	<b>CBNRM</b>	CBNRM Experiences	guidelines are available to all 15 member states			& others	
		Facilitate the Upscaling CBNRM based Livelihoods	At least one community within each member state deriving benefits from CBNRM based livelihoods	Yr 1 - 15	Member states	SADC secretariat, IUCN, Regional CBNRM Forum & others	
		Capacity Building of the Poor within CBNRM Context	At least one community within each member state empowered on CBNRM	Yr 1 - 15	Member states	SADC secretariat, IUCN, Regional CBNRM Forum & others	
	<b>Diversification of Community Biodiversity Based Livelihood Options</b>	Develop strategies geared towards diversifying community livelihood strategies.	Livelihood diversification strategies availed to all 15 member states	Yr 1 - 10	Member states	SADC secretariat, IUCN, Regional CBNRM Forum & others	
		Carry out Research on appropriate technologies	Appropriate technologies availed to all 15 member states	Yr - 5	Member states	SADC secretariat, IUCN, Regional CBNRM Forum & others	
		Promote biodiversity based community enterprises	At least 3 biodiversity based community enterprises in each member state	Yr 5 – 15	Member states	SADC secretariat, IUCN, Regional CBNRM Forum & others	
	<b>Development of the Medicinal Plants sector</b>	Promote the conservation, sustainable use of endangered medicinal plants	At least one habitat conserved in each member state	Yr 1 - 15	Member states	SADC secretariat	
		Support the cultivation of endangered medicinal plants	??? hectares cultivated in each member state	Yr 1 - 15	Member states	SADC secretariat	
		Support the organised trade in selective medicinal plant products	A regional medical plants trade structure	Yr 10 - 15	SADC secretariat	Other stakeholders	
	<b>Climate Change Resilient Biodiversity Based Livelihoods</b>	Facilitate community livelihoods vulnerability assessments	Knowledge available to all 15 member states	Yr 10 - 15	Member states	SADC secretariat, IUCN, WWF, and others	
		Design and implement coping and adaptation strategies	At least 1 initiative in each member state	Yr 10 - 15	Member states	SADC secretariat, IUCN, WWF, and others	
	<b>B</b>	<b>Development of</b>	Consolidate and expand the natural	Number of enterprises developed in	Yr 1 - 5	Member states	SADC secretariat, IUCN,

	<b>natural products and enterprise</b>	products enterprise development	each member state			WWF, and others
		Promote a Pro-Poor Natural Product Sector	Number of products promoted in each member state	Yr 10 - 15	Member states	SADC secretariat, IUCN, WWF, and others
		Community Capacity enhancement in natural products and enterprise management	At least 3 communities empowered in each member state	Yr 5 - 10	Member states	SADC secretariat, IUCN, WWF, and others
		Develop Markets and Facilitate the Marketing of Biodiversity Products	Number of established markets accessed by the member states	Yr 5 - 10	Member states	SADC secretariat, IUCN, WWF, and others
	<b>Biodiversity Based Tourism</b>	Support Biodiversity Based Tourism Development (focus on TFCAs)	Number of ventures	Yr 1 - 15	Member states & SADC secretariat	IUCN, WWF, Peace Parks, CI AWF and others
		Promote Community Based Ecotourism	Number of ventures	Yr 1 - 15	Member states & SADC secretariat	IUCN, WWF, Peace Parks, CI AWF and others
	<b>Bio Trade and Diversification of Economic Activities</b>	Explore and establish bio trade opportunities	All 15 member states are aware of opportunities	Yr 5 - 10	Member states & SADC secretariat	IUCN, WWF, Peace Parks, CI AWF and others
		Design and implement a regional bio-trade programme and strategy	Bio trade monitoring system in all 15 member states	Yr 10 - 15	Member states & SADC secretariat	IUCN & others
		Explore and Support the Establishment of a Biodiversity Business Facility (BBF)	SADC BBF operational by 2015	Yr 10 - 15	SADC secretariat	Member states, IUCN & other
		Develop and Apply a SADC Brand for Biodiversity Products	SADC brand available by 2025	Yr 1 - 15	SADC secretariat	Member states, IUCN & other
	<b>Biodiversity Certification Scheme</b>	Consolidate and Expand the Biodiversity Products Certification Schemes	Number of schemes	Yr 1 - 15	SADC secretariat	Member states, IUCN & other
		Capacity building of biodiversity user sectors and certifiers	Biodiversity products certification capacity available in all member states	Yr 5 - 10	SADC secretariat	Member states, IUCN & other
		Strengthen Market Outreach	Number of markets reached by 2025	Yr 1 - 15	SADC secretariat	Member states, IUCN & other

	<b>Mainstream biodiversity into regional and national development plans</b>	Develop and Promote the Use of Generic Guidelines for Mainstreaming Biodiversity	Guidelines applied in all member states	Yrs 5 - 15	SADC secretariat	Member states, IUCN & other
		Facilitate Biodiversity Valuation and Natural Resources Accounts	Natural Resources Accounts in all member states	Yr 5 - 10	SADC secretariat	Member states, IUCN & other
		Build Skills for Biodiversity Valuation and Accounting; EIA and SEA; and Ecosystem Approach	All 15 member states have capacity by 2015	Yr 1 - 5	SADC secretariat	Member states, IUCN & other
<b>Enhancing Biodiversity Management Systems</b>	<b>Biodiversity Inventory and Monitoring</b>	Generate the Knowledge Base and Wisdom	Biodiversity information readily available in all 15 member states	Yr 1 - 5	SADC secretariat	Member states, IUCN & other
		Biodiversity Knowledge Management	An operational regional biodiversity management system	Yr 1 - 15	SADC secretariat	Member states, IUCN & other
		Capacity Enhancement for Improved Monitoring	Capacity for monitoring available in all 15 member states	Yr 1 - 5	SADC secretariat	Member states, IUCN & other
	<b>Effective Protected Areas Management System</b>	Facilitate the Enhancement of Protected Area Management Capacity	Number of protected areas with enhanced capacity in each member state	Yr 1 - 10	Member states	SADC secretariat, IUCN, WWF, Peace Parks, CI AWF and others
		Achieve Financial Sustainability of Protected Area Systems	Number of resourced and properly managed protected areas in each member state	Yr 5 - 15	Member states	SADC secretariat, IUCN, WWF, Peace Parks, CI AWF and others
		Develop and Updating of PA Management Plans	Number of plans developed and updated in each member state	Yr 1 - 5	Member states	SADC secretariat, IUCN, WWF, Peace Parks, CI AWF and others
		Manage Human – Wildlife Conflicts	Number of conflicts managed in each member state	Yr 1 - 15	Member states	SADC secretariat, IUCN, WWF, Peace Parks, CI AWF and others
		Facilitate the Establishment of Protected Areas in Neglected Biomes	Areas of particular importance to biodiversity protected	Yr 5 - 15	Member states	SADC secretariat, IUCN, WWF, Peace Parks, CI AWF and others
		Establish the Role of TFCAs as an Effective Conservation Approach	Number of TFCAs delivering biodiversity conservation	Yr 5 - 15	SADC secretariat	Member states, IUCN, WWF, Peace Parks, CI AWF and others
		Generating Knowledge on the Vulnerability of Protected Areas to	Knowledge widely available in all 15 member states	Yr 1 - 5	SADC secretariat	Member states, IUCN, WWF, Peace Parks, CI

		Climate Change				AWF and others
<b>Promotion of CBNRM as a Biodiversity Conservation Tool</b>	Generate Knowledge and Produce Guidelines for CBNRM use as a Biodiversity Conservation Tool	Knowledge widely available in all 15 member states	Yr 5 - 10	SADC secretariat	Member states, IUCN, WWF, CBNRM Forum and others	
	Support CBNRM Based Biodiversity Conservation	Number of CBNRM Based Biodiversity Conservation initiatives by 2025	Yr 5 - 15	SADC secretariat	Member states, IUCN, WWF, CBNRM Forum and others	
<b>Rehabilitation and Restoration of degraded ecosystems and biodiversity</b>	Promote Urban Biodiversity Conservation	Number of initiatives in each member state	Yr 5 - 15	Member states	SADC secretariat, IUCN, Municipalities, & others	
	Facilitate Community Driven Restoration of and Rehabilitation of Biodiversity	Number of restores/rehabilitated habitats in each member state.	Yr 5 - 15	Member states	SADC secretariat, IUCN, & others	
<b>Conserving Agro-Biodiversity</b>	Conserving Crop and Animal Genetic Resources	Genetic diversity in each member state	Yr 1 - 15	Member states	SADC secretariat, SADC Gene Bank, IUCN, & others	
	GMO Detection and Control	Functional systems in each member state	Yr 1 - 10	Member states	SADC secretariat, SADC Gene Bank, IUCN, & others	
<b>Prevention, Control and Management of Invasive Alien Species</b>	Promote the Use of the Regional IAS Guidelines	Regional IAS Guidelines used in all 15 member states	Yr 1 - 5	SADC secretariat	Member states, IUCN, and others	
	Build Capacity for IAS Detection and Management	Capacity available in all 15 member states	Yr 1 - 5	SADC secretariat	Member states, IUCN, and others	
	Manage Invasions	Pathways for major potential alien invasive species controlled by 2025	Yr 5 - 15	SADC secretariat	Member states, IUCN, and others	

<b>Managing Climate Change Impacts on Biodiversity</b>	<b>Biodiversity and Ecosystems Vulnerability Assessment</b>	Generate Knowledge and Dissemination	Knowledge widely available in all 15 member states	Yr 1 - 5	SADC secretariat	Member states, IUCN, and others
		Policy Dialogues on the Impact of Climate Change on Biodiversity	Number of policy makers aware and appreciating CC – biodiversity issues	Yr 5 - 15	SADC secretariat	Member states, IUCN, and others
	<b>Managing biodiversity for climate change adaptation and mitigation</b>	Develop and implement adaptation strategies for selected habitats & species	Number of habitats and species with adaptation strategies	Yr 5 - 15	Member states, SADC secretariat	Southern Africa Climate Change Network (SACCNET), IUCN & others
		Restore Ecosystems and Biodiversity for Climate Change Mitigation	Number of ecosystems and habitats restored for mitigation	Yr 5 - 15	Member states, SADC secretariat	REDD, Change Network (SACCNET), IUCN & others
	<b>Capacity Building for Climate Change Adaptation</b>	Promote awareness and understanding of the impacts of climate change	Awareness of CC impacts in all 15 member states	Yr 1 - 5	SADC secretariat	Member states, Southern Africa Climate Change Network (SACCNET), IUCN & others
		Support capacity development in vulnerability and adaptation	Capacity available in all 15 member states	Yr 1 - 5	SADC secretariat	Member states, Southern Africa Climate Change Network (SACCNET), IUCN & others
<b>Energy Development on Biodiversity</b>	<b>Managing the Impacts of the Bio fuels Industry on Biodiversity</b>	Explore and Establish the Impact of Bio-fuel Development on Biodiversity	Number of policy makers aware and appreciating the potential impact of bio-fuels on biodiversity	Yr 5 - 10	SADC secretariat & member states	The Southern African Bio fuels Association (SABA), The African Sustainable Fuels Centre (ASFC)
		Promote the integration of environmental sustainability in the bio fuels development	Number of bio-fuels policies and project that have integrated environmental sustainability	Yr 5 - 10	SADC secretariat & member states	The Southern African Bio fuels Association (SABA), The African Sustainable Fuels Centre (ASFC)
		Monitor and report the potential risk farming for energy on biodiversity	Knowledge widely available in all 15 member states	Yr 5 - 15	SADC secretariat & member states	The Southern African Bio fuels Association (SABA), The African Sustainable Fuels Centre (ASFC)

	<b>Promoting Biodiversity Friendly Charcoal Sector</b>	Support the production and promotion of best practice guidelines of fuel wood harvest and charcoal production	Best practice guidelines of fuel wood harvest and charcoal production availed to member states	Yr 1 - 5	SADC secretariat & member states	IUCN, WWF and others Southern Africa Fire Network (SAFNet)
		Restoration of deforested areas	Acreage restored by 2025	Yr 5 - 15	Member states	SADC secretariat, IUCN, WWF and others
		Facilitate the establishment of community timber plantations for charcoal production	Acreage established by 2025	Yr 10 - 15	Member states	SADC secretariat, IUCN, WWF and others
	<b>Catalysing Sustainable Energy Development</b>	Develop environmental sustainability criteria relate to biodiversity conservation for the energy sector	Environmental sustainability criteria for the energy sector availed to all member states	Yr 5 - 10	SADC secretariat & member states	IUCN, WWF and others
		Encourage EIAs on energy projects (with a bias of biodiversity and ecosystem services)	Number of projects where biodiversity/ecosystem services biased EIA exist	Yr 1 - 15	SADC secretariat & member states	IUCN, WWF and others
		Promote the integration of biodiversity into the energy development	Number of energy policies and strategies that have integrated biodiversity	Yr 5 - 15	SADC secretariat & member states	IUCN, WWF and others