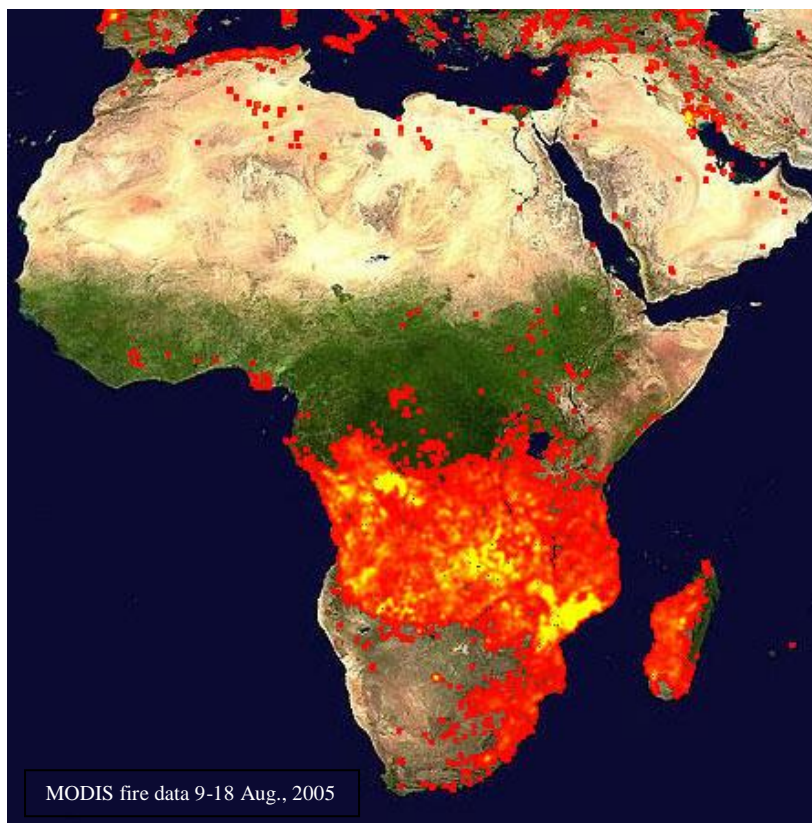




# **SADC Regional Fire Management Programme Document**



Draft proposal June 2010

## **PREFACE**

In the last two decades, vegetation fires have become a major concern in the SADC region with regard to the negative impacts they have on the environment and humans' welfare. Uncontrolled (un-prescribed) wildfires cause forest and vegetation degradation and related biodiversity loss resulting in immediate and long-term impacts on the livelihoods of local communities and upstream impacts on national and regional economies. Fires in the tropical environment are a major contributor to tropical forest degradation, where over time frequent fires lead to savannization in these areas. Vegetation fires play a significant role as a major source of trace gases and aerosols in the atmosphere, contributing to the anticipated climate change, particularly in emissions of CO<sub>2</sub>, fixed in the biomass, as the important "greenhouse" gas.

However, fires are not uniformly bad and not all fires are disasters. They are needed to maintain healthy ecosystems and biodiversity of African savannah and grassland vegetation types, which appear to be highly adapted to regular fire events. Prescribed or controlled burning – the practice of burning deliberately - is used to meet objectives often essential to sustaining livelihoods. Fire is used also for conservation reasons, removal of old growth, suppression of bush encroachment and stimulation of the growth of grazing grass as well as the removal of fuel with the aim of pre-empting dangerous wildfires at the peak of the fire season.

The present SADC regional fire management programme provides a framework for cooperation on fire management issues across national boundaries. Fire management is a technical, socio-cultural and political challenge that requires an effective network of willing partners that include governments, the private sector, local communities and international partners to find the appropriate balance between developing and conserving natural resources and managing unwanted fires while at the same time promoting the safe use of beneficial fires. The programme intends to foster cooperation and collaboration on fire management on a regional basis to move towards integrated environmental policies and fire management practices. The programme pursues a multiple stakeholder approach working closely with regional and international organization to support five areas of fire management: legal and regulatory aspects of fires, community based fire management, institutional strengthening and establishment of a fire management coordination centre, generation and dissemination of relevant fire information for detection and early warning as well as lastly associated capacity building in the respective areas.

## **ACKNOWLEDGEMENTS**

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## **ABBREVIATIONS, ACRONYMS AND TERMINOLOGIES**

ACC	ASEAN Coordinating Centre
AFIS	Advanced Fire Information System
ASEAN	Association of Southeast Asian Nations
BIBEX	Biomass Burning Experiment
CBD	Convention on Biological Diversity
CBFiM	Community Based Fire Management
CBNRM	Community Based Natural Resource Management
CSIR	Council for Scientific and Industrial Research
FAO	Food and Agriculture Organisation of the United Nations
FANR	SADC Food, Agriculture and Natural Resources Directorate
GBA	Global Burned Area after Joint Research Centre (EU) based on Spot images 2000
GFMC	Global Fire Monitoring Center
GHG	Greenhouse Gas
GOFC/GOLD	Global Observation for Forest and Land Cover Dynamics
GTZ	German Technical Cooperation
IGAC	International Global Atmospheric Chemistry
ILO	International Labour Organization
ISDR	UN International Strategy for Disaster Reduction
IUCN	World Conservation Union
IUFRO	International Union of Forestry Research Organizations
SADC	Southern African Development Community
MDG	Millennium Development Goal
Mha	Million hectare
MODIS	Moderate Resolution Imaging Spectroradiometer
MS	Member States
MSG	Meteosat Second Generation
NEPAD	New Partnership for African Development
NTFP	Non-timber Forest Products
OCHA	Office for the Coordination of Humanitarian Affairs
PCC	Project Coordination committee
PMU	Programme Management Unit
PSC	Programme Steering Committee
REED	Reduced Emission from Deforestation and Forest Degradation

**SADC Fire Management Programme**  
**Draft June 2010**

REEP	Regional Environmental Education Programme
RHAP	Regional Haze Action Plan
RISDP	Regional Indicative Strategic Development Plan
RSRU	Remote Sensing Research Unit
SafNet	Southern African Fire Network
SFM	Sustainable Forest Management
SOP	Standard Operating Procedure
TA	Technical Assistance
UNCCCD	UN Convention on Combat of Desertification
UNEP	United Nations Environment Programme
UN-ECE	United Nations Economic Commission for Europe
UNFFF	UN Forum on Forests
UN-OCHA	UN-Office for the Coordination of Humanitarian Affairs
WAMIS	Wide Area Monitoring Information System
WFTC	Wildland Fire Training Center
Wildland fire	Any non-structure fire that occurs in the wildland. Three distinct types of wildland fire have been defined and include wildfire, wildland fire use, and prescribed fire.
Wildfire	An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other Wildland fires.
WoF	Working on Fire
WSSD	World Summit on Sustainable Development

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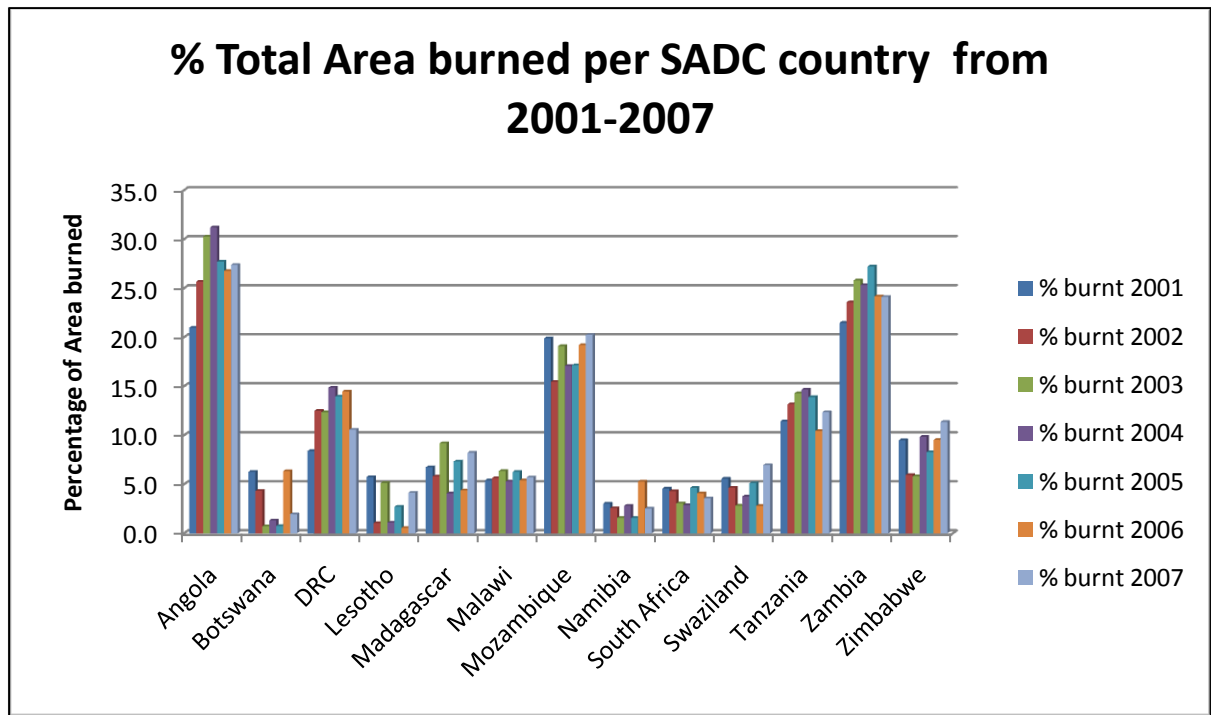
## **1 BACKGROUND**

Recurrent natural and human-induced fire has played a critical role in determining the vegetation and landscapes found in forest and woodland/savannah ecosystems throughout the world. The annual area burned is estimated to be ~366 million hectares globally. Many of these ecosystems are now becoming increasingly vulnerable due to a combination of inadequate land and fire management practices as well as increased human encroachment on formerly remote and unpopulated areas. In tropical regions, these factors are often combined with the conversion of relatively fire resistant tropical rainforests into more fire susceptible vegetation types. Alongside these stresses, extreme weather conditions have amplified the number and intensity of wildfires in most areas of the world.

Africa is the most fire-prone continent in the world and people in the SADC region have been using fire for hundreds of years to prepare the land for agricultural, hunting, and other land management activities. The use of fire by local people has contributed to the diversity of the landscape by creating a mosaic of different vegetation structures and compositions maintaining biodiversity of the savannah woodlands. However, in recent decades this intricate balance between people, fire and the natural environment has been upset in most countries due to population growth, unsustainable land management and a breakdown in traditional management practices. The higher frequency and intensity of fires in the region cause increasing apprehension with regard to the negative impacts on the environment and human welfare. Wildfires can lead to vegetation degradation and related biodiversity loss resulting in immediate and long-term negative impacts on the livelihoods and economies at community and national level.

Based on the detection of fire scars from the SPOT-VEGETATION sensor for 2000 (JRC-GBA) an estimated 230 million ha (Mha) or 7.7 percent of the continent burned in 2000, which is 64 percent of the global total of just over 350 Mha. Figure 1 shows the percentage of area burned in the SADC countries (excluding Mauritius and Seychelles) from 2001-2007 with Angola, Zambia, Mozambique, DRC and Tanzania showing the highest percentage of area affected by fire compared to total country size.

The SADC region of 14 Member States is home to 238 million people of which approximately 75% are rural based. The perceived rise in the number of wildfires negatively affects these rural communities, many living near forests that provide them with their basic needs. The on-going process of climate change has the potential to exacerbate this situation by altering the frequency, intensity, severity and seasonality of fires in the SADC region.



**Figure 1: Percentage of total area burned per SADC country from 2001-2007 modified after and with courtesy S. Archibald<sup>1</sup>**

Uncontrolled fires respect no boundaries, hence uniform policies and programs are essential to strengthen fire management cooperation among SADC member states to reduce uncontrolled fire and related negative impacts. Holistic fire management is an integral part of sustainable land and forest management thus there is need to develop a comprehensive and integrated regional fire management programme. Various SADC policies and legal frameworks, which provide the policy framework for sustainable land and environmental management including community based natural resource management, calls for the protection and conservation of forests and land from uncontrolled fires including transboundary wildfires through well designed and integrated strategies among Member States.

The present programme aims to improve the cooperation between SADC Member States to prevent, suppress, detect and monitor wildfires in the region. It intends to support SADC Member States in developing capacities to reduce the occurrence of uncontrolled wildfires and their negative consequences while at the same time promoting the safe use of beneficial fires.

<sup>1</sup> Archibald, S.; Scholes, R.; Roy, D.; Roberts, G. & Boschetti, L. Southern African fire regimes as revealed by remote sensing International Journal of Wildland Fire, in press, Roy, D.; Boschetti, L.; Justice, C. & Ju, J. The collection 5 MODIS burned area product - Global evaluation by comparison with the MODIS active fire product Remote Sens. Env, 2008, 112, 3690-3707

## **2 FIRE AND FIRE MANAGEMENT WITHIN SADC**

### **2.1 DEFINITION OF FIRE MANAGEMENT**

Fire management activities are concerned with the protection of people, property, range and forest areas from unwanted fires. It is also concerned with the use of fire as a land management tool. Holistic or integrated fire management, involving various stakeholders to implement the necessary technical, logistical, operational and social programmes, is supported by five principal components: analysis of fire related data, prevention of fires, preparedness i.e. early warning, actual fire suppression and restoration of fire affected areas. Continues and supporting information is the glue that links each element and makes them interdependent.

As a result integrated fire management is a continuous cycle of efforts that initially requires a comprehensive and balanced land use strategy, secure land tenure rights, clearly defined enforcement mechanisms and understanding of the underlying causes of forest and land fires. Successful fire management is founded on the cooperation and coordination amongst the several related governmental agencies, local communities and the private sector under a coordinating institution. A fire management organization that spans multiple government levels in order to regulate, implement and enforce fire management policies would be a model gaining support from all involved stakeholders to clearly and effectively develop and implement the technical, logistical, operational and social programmes that are essential for successful fire management.

### **2.2 UNDERLYING CAUSES OF FIRE**

In southern Africa, the vast majority of fires are the result of human activity. Intentional burning has been practiced in the tropical savannahs of Africa for at least 60,000 years. Prescribed or controlled burning—the practice of burning deliberately—is often used by rural populations to support livelihoods derived from agricultural, pastoral and hunting activities. People use fire in the preparation of land for cultivation; to clear and suppress bush and undergrowth; to remove old growth and stimulate the growth of grasses on grazing lands for both livestock and wildlife; to improve visibility around settlements and foot paths; to keep away dangerous animals; to clear roadside areas in road maintenance operations; to remove fuel with the aim of pre-empting dangerous wildfires, especially in forested areas; as well as for charcoal production, honey collection and hunting.

In addition, fire can effectively be used in forest and woodland management to reduce and manipulate woody vegetation and to favour regeneration and growth of selected timber and grass species. However, many of these fires are not controlled either because of the inadequate knowledge of the appropriate technique or the fear of reprimands and prosecution. While prescribed burning can provide a number of land management benefits, these fires can destroy crops and houses and kill livestock and even people, when they get out of control. In addition, many fires also originate accidentally when campsite and cooking fires are left alight and unattended. There are also a number of

indirect underlying factors influencing the number and timing of fires set by rural communities such as:

- inadequate or lack of a clear sense of land ownership and consequent responsibility for protecting the land;
- insufficient knowledge on the safe use of fire as a management tool;
- inadequate knowledge on fire and consequent negligence of the impacts of fires;
- inadequate awareness on fire related legislation and policies; and
- poor enforcement of both traditional and government rules regarding fires.

Moreover, many fires are symptoms for the underlying problems of inadequate, unclear or weak land use and other environmental policies and laws as well as enforcement mechanisms. This often results in conflicting and overlapping institutional arrangements for fire management, where mandates, roles and functions as well as interactions within the politico-administrative framework and related key stakeholders are vague.

The ability of the SADC countries to minimize the negative impacts and augment the beneficial consequences of fires is in part determined by the policy and organisational systems put in place to manage fires in the countries and region. The strength of the policy framework and institutional arrangements that guide management systems influence the ability of the countries to manage fires and respond to the changes in fire patterns brought about by the on-going process of climate change.

### **2.3 IMPACTS OF FIRE ON FORESTS**

Forest cover in the region is estimated at 357 million hectares or about 33% of the land area. The effects of fire in forests and woodlands are widely variable. As fire is, on the one hand, regarded as an ecological change agent in fire-dependent ecosystems, i.e. the African Miombo woodlands; it is on the other hand a negative disturbance in fire-sensitive ecosystems, i.e. African tropical rainforests. As a broad categorization, low severity surface fires affect mainly the understory vegetation rather than the trees, while high severity crown fires directly affect the trees. Consequently, overall, ground fires generally do not alter the equilibrium of the ecosystem (i.e. do not result in a conversion from forest to non forest cover), but increased fire frequency and intensity can lead to forest transition, starting with degradation before complete conversion. Crown fires can lead to a forest-non forest temporary transition followed by regrowth (i.e. fire is a disturbance) or in some cases to a permanent land cover change. In addition, the extent to which fire affects forested lands such as the Miombo woodlands depends on its timing and severity as well as on the amount of flammable biomass available.

## **2.4 ECONOMIC IMPACT OF FIRES**

Forest and woodland resources assume an important economic role in the SADC region. They supply many products and services essential for the well-being of rural communities, as well as service functions, including fostering spiritual and cultural values. While most of the subsistence needs of rural households are met through agricultural activities, forest and woodland products provide at least 20 percent of disposable income used by African families to meet basic needs and sustain informal economic activities. The commercialization of forest products plays a major role in local economies a large part of rural household income is derived from the sale of forest products such as firewood, charcoal, building materials. Other products such as wild foods (including fruits, leaves, meat and honey) are commercialized in local markets in the cities or by the roadsides. As a result, uncontrolled wildfires evoke concern about their direct and indirect impact on rural livelihoods and on the affected countries' prospects for successful, long-term socio-economic development. However, circumstances such as population growth and the associated need for greater access to agricultural land and income, combined with modification of traditional management practices are leading to increasingly unsustainable use of these forest products. As a consequence the perceived increase in fire frequency is linked to the increasingly unsustainable use of SADC' forested lands.

Fire also directly affects rural livelihoods by causing damage to crops, infrastructure and buildings. Indirectly, fire affects the livelihoods and economic well-being of rural populations through its impacts on recreation, spiritual values, biodiversity and the provision of forest services and ecological functions (such as erosion control, soil formation, nutrient cycling, water supply and regulation, waste treatment and storage of carbon). Based on the high reliance of the rural population on resources derived from forest and woodlands and on the potential for uncontrolled wildfires to damage and destroy agricultural crops, property, livestock and human lives, it can be assumed that the economic cost of these fires is substantial — and that a climate change induced increase in the frequency and intensity of fires would cause further economic damage to communities and the country. For governments, fires also lead to costs such as those associated with fire fighting, adverse health impacts, and emergency and disaster relief. Fire can also lead to revenue loss in the tourism sector and to general production losses due to increased sickness and transportation problems.

## **2.5 FIRE AND CLIMATE CHANGE**

Climate change has the potential to influence the number of natural and human factors that could significantly affect the fire regimes within the savannah woodlands and forests of the SADC region. Climate change could lead to an additional increase in the frequency and intensity of fires by creating ignition sources through increased lightning; lead to longer dry periods; promote more biomass production due to wetter rainy seasons; and generate hotter, drier and windier yet extremer weather conditions able to fan the spread of fires and fire disasters.

As the climate changes, so too will the conditions suitable for the growth of particular trees and grasses, some of which could be more fire tolerant than others. An altered climate will also influence the type of agricultural crops grown by farmers, and therefore the livelihood opportunities available to them. This change in crop selection could lead to the changes in land management practices, such as the timing of prescribed burning to prepare land for planting; encouraging a transition from crop production to grazing, accompanied by a potential increase in the use of fire to stimulate the production of new grass; or greater dependence on non-timber products such as honey, in which fire is used to smoke hives. The linkages between climate, vegetation cover, fuel conditions, land use practices and fire frequency is made more complex by the likely generation of feedback loops. Fires release a variety of greenhouse gases (GHGs) contributing on average between 25-35% of total CO<sub>2</sub> net emission, including nitrogen oxides (NO<sub>x</sub>), sulphur dioxide, hydrocarbons, oxygenated organic compounds and particle. More fires arising from more frequent and extreme weather and changed vegetation patterns may produce additional greenhouse gases, thereby creating a positive feedback loop for global warming.

## **2.6 FIRE AND REDD**

Today's forests cover of about 30% of the earth's surface and account for almost half of the terrestrial carbon pool providing capacity to sequester 33% of human caused GHG emissions. 56% of these forests are located in tropical and subtropical regions and roughly the same size tropical forest can store about 50% more carbon than boreal forests. Deforestation and forest degradation of tropical forests caused by large scale land use change, illegal and/or unsustainable logging, fire, fuel and subsistence farming as well as infrastructure development in developing countries account for almost 20% of global green house gas emissions. The global deforestation rate is estimated to be about 13 million ha per year, whereby four SADC countries are out of the top ten countries with the highest deforestation rate. Forest degradation, the decrease of forest canopy that does not qualify as deforestation globally accounts for about 5-25% of forest emission.

The Copenhagen Accord 2009 recognized that reducing emission from deforestation and degradation and at the same time enhancing removals of greenhouse gas emissions by forests has a crucial role in mitigating climate change (REDD+). REDD+ is a mechanism whereby countries that are successful in reducing their rates of emission through improved forest protection, sustainable forest management and enhancement of carbon stock methods would be eligible to receive benefits on the basis of carbon credits saved to mitigate climate change, support adaption efforts and improve the livelihood of local impoverished people.

Uncontrolled fire is a source and driver of forest degradation diminishing forest carbon storage capabilities thus serving as a direct threat to forests and thwarting REDD strategies to abate this threat. Fire endangers the ecological health and subsequent sequestration ability of many tropical and subtropical forests. This is of particular concern in many SADC countries, where most forests are considered to be fire-dependent, however where increased fire frequency and intensity threatened and alter these forest

ecosystems and their sustainability and at the same time reducing livelihood opportunities for local communities. Therefore increased fire frequency and intensity is not only an important precursor of deforestation negatively affecting the carbon density and sequestration capabilities of forest but diminish income derived from timber and non-timber forest products.

Fire management strategies should be implemented in both fire-sensitive and fire-dependent systems to reduce the risk of unexpected fire emissions threatening permanence of forest carbon emissions reductions. Integrated Fire Management offers a comprehensive framework for planning fire management strategies to reduce CO<sub>2</sub> emissions and reduce the risk of non-permanence. Fire management should be an integral part of national scale REDD programs and local scale REDD initiatives, given the magnitude of emissions in both fire-dependant and fire-sensitive systems, and the range of co-benefits associated with good fire management practices.

## **2.7 Fire and Local Communities**

People in the SADC region have been using fire for hundreds of years to clear the forest and prepare the land for agricultural purposes. Local communities with their traditional knowledge are in the best position to manage or prevent fires in their neighbourhood when they are included in management and action plans. Traditional agriculture fires are usually small, and longstanding customs and local knowledge normally prevent such fires from becoming uncontrolled. However, changes in local culture and practices have led to uncontrolled fires in the past and today. The breakdown of traditional local structures, loss of traditional knowledge of safe fire use and loss of land tenure ship have led to increasingly indiscriminate use of fire by local populations. During the colonial period, new fire legislations and no-burn policies modelled on those in Europe were introduced and local control mechanisms were revoked. From the beginning of the twentieth century, lack of supervision and no-burn policy, particularly in remote areas, led to a high frequency of secretly set “late dry season” fires that are more destructive to the environment as well as to humans and their properties than the “early dry season” fires that are low intensity fires (or “cold” fires).

Fire remains even today the only economical viable management tool for impoverished people to clear land for agricultural or other land management purposes. For communities to play a role in fire management they need to have control over natural resources and their management. In many SADC countries Community Based Natural Resource Management (CBNRM) programmes exist to create ownership over and derive income from natural resources for local communities. Community based fire management (CBFiM) must be part of those community based resource management programmes and strategies. CBFiM encourages the responsible management of beneficial fires and the prevention of harmful ones. However, communities are only one part of a holistic approach to fire management, which needs to involve all parties managing land, particularly the government and the private sector. Therefore CBFiM approaches need to

be integrated into government supported fire and natural resources management programmes and policies.

### **3 SADC POLICY AND LEGAL IMPLEMENTATION FRAMEWORK**

SADC recognizes the fact that the priority for any SADC programme is that the issues being addressed in the programme must be truly regional in their scale and impact. At its meeting in Luanda, Angola in 2003, the SADC Council of Ministers approved the following criteria for the selection of regional programmes and projects:

- Have direct economic and social benefits to at least two countries;
- Contribute to eradication of poverty and human development;
- Have economies of scale gains where regionally coordinated investments or operations will result in substantial cost saving and employment;
- Unlock the economic potential of less developed areas and countries to promote balanced and equitable development;
- Contribute to SADC's integration into the regional, continental and global economy;
- Contribute to market integration especially facilitating free movement of goods, services and factors of production; and
- Contribute to sustainable development and gender equality.

In addition there are a range of SADC policy and legal frameworks that will guide and complement the development of a SADC regional fire management programme. Most importantly there are the SADC Treaty, the SADC Regional Indicative Strategic Development Plan (RISDP), the Food, Agriculture, the SADC Forestry Protocol and Strategy, and the Dares Salaam Declaration on Agriculture and Food Security. Fire management activities, as an integral part of sound and sustainable land and forest management strategies, will build upon these existing regional frameworks and sources as well as upon a range of international frameworks, processes and existing codes and guidelines.

#### **3.1 SADC TREATY**

The Declaration and Treaty of SADC (1992) recognizes the dependence of SADC communities on agriculture and natural resources for their livelihoods and identifies food security, sustainable utilization of natural resources and effective protection of the environment as some of the key objectives of SADC in sustaining its development process. Furthermore, it emphasizes that the exploitation and utilization of natural resources requires good management and conservation to ensure that development does not reduce or impair the biological diversity and richness of the region's natural resource base and the environment. Therefore, the Treaty recognizes forestry as a key natural resource and a major component of the environment, which should be sustainably managed for the benefit of SADC communities.

### **3.2 THE SADC REGIONAL INDICATIVE STRATEGIC DEVELOPMENT PLAN (RISDP)**

The SADC Council of Ministers approved the SADC Regional Indicative Strategic Development Plan (RISDP) in August 2003. The RISDP is a blue print for deeper regional integration and poverty reduction, providing strategic direction to SADC programmes, projects and activities. It embraces the Millennium Development Goals (MDGs) and the New Partnership for African Development (NEPAD) which is considered as a credible and relevant continental framework. The RISDP lists the conservation, management and use of natural resources as a major component to “*Ensure Food Availability*”. Furthermore, among its challenges in current Policies and Strategies for the forestry sector, the RISDP recognizes the need to create public awareness and education to address agro-forestry practices, afforestation, fire control and overgrazing.

The RISDP considers environment and sustainable development as a vehicle to ensure equitable and sustainable use of the environment and natural resources for the benefit of present and future generations. As a cross-sectoral intervention, environment and sustainable development will present opportunities for the region to advance its programme of action in environment and natural resources management and forge harmonization of and compliance to environmental policies, standards and guidelines by pursuing the strategic objectives outlined in the RISDP.

### **3.3 SADC PROTOCOL ON FORESTRY**

In 2002, the SADC member countries recognized the intrinsic values of forests to humans and their vital role in the functioning of the earth’s ecological and climate systems. Forests play an important role in controlling floods and erosion, providing water, food as well as having spiritual and cultural values to humans. Timber and non-timber forest products are vital to local communities providing them with basic needs and income.

The Protocol on Forestry forms the policy framework for sustainable forest management in the SADC member states. One of its objectives is to achieve effective protection of the environment, and safeguard the interests of both the present and future generations. The Protocol contains specific provisions on national and SADC-level obligations for example “Article 15 – Protection of Forests” requires Member States to develop early warning systems and to protect forests against human-induced threats including cross border forest resource exploitation, fires, pests and diseases and invasive alien species. The Protocol emphasizes the Member States need for sovereign right over their forest resources; to utilize them sustainably; to take appropriate measures to minimize deforestation and adverse impacts in other states; and to cooperate in good faith. With regard to fire, the Protocol (Article 15 subsection 2(c)) calls upon member states to prevent and suppress uncontrolled fires, and facilitate transboundary assistance in emergency situations;

### **3.4 SADC FORESTRY STRATEGY (DRAFT)**

The Forestry Strategy from 2010 is based on the vision is to “develop and maintain a vibrant and evolving forest sector that contributes to rural development, poverty reduction and, industrial progress, while retaining the vital ecosystem services of forests such as, water supply, climate change mitigation, and protecting biological diversity and thereby providing the motivation for countries to co-operate for their protection, management, and sustainable use”. The purpose of the strategy is to provide a framework for both regional cooperation and international engagement on forest issues; paying special attention to issues that transcend national boundaries and to encourage concerted action by SADC Member States in the management, conservation and sustainable use of their forests. The strategies mission aims to facilitate co-operation among member states to “promote the active protection, management and sustainable use of forest resources, through, sound policy guidance and the application of requisite skills and the best available technology, in order to enjoy the multiple benefits of forests in perpetuity”.

The mission is supported by five objectives, namely regional cooperation and the creation of enabling policy environments, increased levels of production and trade in forest products, enhanced capacity of forests to provide ecosystem services for climate change mitigation and adaptation, including the protection of key catchments; the empowerment of rural communities and the cooperation among countries to assess and monitor key forests of strategic importance to the region.

The forestry strategy foresees eight strategic programme areas of which one is fire management and related cross-border cooperation. It calls for joint efforts in fire management from the forestry, agriculture and livestock sectors working with communities with regard to safe and sustainable fire use. It further calls on regional cooperation with regard to the negative effects of uncontrolled fires while promoting its safe use in pastures, forest and wildlife management areas, starting in border regions.

### **3.5 THE DAR ES SALAAM DECLARATION ON AGRICULTURE AND FOOD SECURITY**

The extra-ordinary Summit on Agriculture and Food Security produced a short and a medium to long term Plan of Action in which forestry has a role to play in enhancing agricultural productivity, creating wealth to improve access to food through Non-Timber Forest Products (NTFPs) and providing food and medicines which mitigate impacts of HIV/AIDS. The long term plan of action was aligned to the RISDP, focusing particularly on sustainable utilization of natural resources, reducing vulnerability to natural disasters, strengthening private sector participation in agricultural and rural development, increasing access of agricultural products into high value markets, strengthening human resource development, research and technology development and dissemination, mainstreaming gender and policies to combat HIV/AIDS in the agriculture sector. The potential of forestry and related fire management activities to contribute to all these activities is manifold.

### **3.6 INTERNATIONAL CONVENTIONS**

All SADC member states signed and ratified the UN Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol, Convention on Biological Diversity (CBD), UN Convention on Combating Desertification (UNCCD) and are regular participants to the sessions of the UN Forum on Forests (UNFF) and the Committee on Forestry (COFO). In response, member states have initiated policy and legislative reviews, national action plans and programmes to address challenges of climate change, the loss of forest cover and land degradation, loss of biodiversity and the means of implementation for Sustainable Forest Management (SFM).

A SADC regional fire management programme will support the international commitments and contribute to the international fire and forestry dialogues of UNFF. Findings and experiences from a fire management programme will inform policy processes at regional and global level but also field activities.

## **4 EXISTING INSTITUTIONS, NETWORKS AND INFRASTRUCTURE**

There is a wide array of existing fire related institutions, networks and other important infrastructures within the SADC region and at international level. This suggests that a SADC regional fire management programme can greatly benefit from the readily available information and knowledge that can be shared and exchanged, to address the fire related issues in the region.

A SADC regional fire management programme can enhance existing capacities and promote exchange of information and knowledge within the SADC region and internationally. Consequently, it will be able to provide and share readily available information and knowledge; generate new and further refine products to address the fire problem; and complement and harmonize the work of various agencies, institutions and donor-supported projects in both forestry and agriculture fire management programmes. Connection with other regional and international networks, institutions and structures will ensure maximum benefits and synergies to achieve targeted results.

### **4.1 SADC REGION**

Following is a brief description of some of the existing regional stakeholders providing fire information and management expertise. In a SADC regional fire management programme these institutions are considered key stakeholders playing an important role to achieve the proposed results.

#### **4.1.1 Meraka Institute – Remote Sensing Research Unit**

The Meraka Institute's Remote Sensing Research Unit (RSRU) is part of the Council for Scientific & Industrial Research (CSIR) in South Africa. The mission of the RSRU is to conduct basic and applied remote sensing research for the advancement of scientific knowledge about the environment. RSRU collaborates with various other CSIR business units and centres on multiple research projects, such as amongst others regional active fire mapping and land degradation monitoring.

The Wide Area Monitoring Information System (WAMIS), an initiative of RSRU, consists of a collection of satellite-based information services providing near real-time monitoring and mapping capabilities of natural events such as fires, floods, and droughts occurring within Southern Africa. WAMIS offers a range of fire related products and services such as the Advanced Fire Information System" (AFIS).

AFIS is a web based operation alert and mapping system providing near real-time information related to the detection, monitoring and assessment of fires in Southern Africa based on satellite data derived from the Terra and Aqua MODIS and Meteosat Second Generation (MSG) satellites. WAMIS also provides based on weather data information on fire danger levels in region.

#### **4.1.2 Working on Fire**

Working on Fire (WoF) is a South African, government-funded, multi-partner organisation focused on Integrated Fire Management. Adopting a strategy which could be practically applied in South Africa's unique landscape, Working on Fire was officially launched in 2003. Embedded in the Expanded Public Works Programme, the project combined sound land management principles and best practice veld and wild firefighting expertise with the need to create jobs and develop skills.

Given the impact of annual fires across the country and in the urban areas, there was a need for an agency that could train a hand-crew firefighting resource where teams were based locally but could be deployed nationally. The overall strategy would be to apply the principles of integrated fire management to reduce the frequency and impact of uncontrolled veld fires. Perhaps one of the most successful job creation programmes, when measured against the long term benefits to the individuals concerned, their immediate communities and the increase in skills and social benefits for the country as a whole, has been the Working on Fire initiative. Working on Fire is regarded as a best practice model and one of the most effective poverty relief and skills development programmes.

**Working on Fire** develops and implements integrated fire management practices in accordance with applicable legislation and the needs of stakeholders through:

- The development of capabilities, the contribution of resources and provision of services to Fire Protection Associations, land-management and jurisdictional agencies.
- The empowerment of communities affected by fire; in order for them to understand the benefits of, and potential harm caused by fire.
- Advocating and assisting with the implementation of appropriate land-management strategies.
- Strategic approaches underpinned by the principles of the Expanded Public Works Programme and broad based black economic empowerment.

#### **4.1.3 Wildland Fire Training Center**

The Wildland Fire Training Centre Africa (WFTCA) was founded as a joint venture project between the Global Fire Monitoring Centre (GFMC) and local capacities (Working on Fire) in the Republic of South Africa. The WFTCA is located at Nelspruit, Mpumalanga Province, South Africa. The WFTCA is a unique facility on the African continent for capacity building, training and education of a wide range of people, from a basic fire fighter to national and international policy makers.

The WFTCA offers training- and education opportunities for a wide range of fire managers, fire management trainers and extension officers from all African countries south of the Sahara and for international guests, with exposure to large scale prescribed

burning operations and fire fighting. The various training modules have strong practically orientated approaches, as there are big areas with different vegetation types available for practical training (farmland, savannah, bush, commercial forestry plantations, National Parks). Several thousand hectares of wildland and plantations are available for large-scale practical training execution of prescribed burning and fire fighting.

A major aspect of the Centre is its interactive knowledge- and technology-transfer within Africa and on an international scale. The Training Centre closely cooperates with the FAO. Since 2010 the WFTCA is incorporated in the WoF Wildland Fire Training Academy, which is allowing the WFTCA to offer an even wider training and education expertise

#### **4.1.4 SAFNet**

The Southern African Fire Network (SAFNet) is a regional network that fosters collaborative efforts in fire monitoring and management in southern Africa. SAFNet is a Global Observation for Forest and Land Cover Dynamics (GOFC/GOLD) regional fire network and contributes to meeting the goals of the GOFC/GOLD programme. SAFNet's goal is to achieve more effective and appropriate fire management policies and practices in southern Africa through the use of remote sensing and other geospatial information technology. SAFNet's purpose is to enhance the use of information from field observations and remote sensing of fires for natural resource management in southern Africa.

SAFNet's specific objectives are to:

- Promote the use of validated remote sensing and geospatial information in southern Africa
- Facilitate fire-related natural resource management at national, regional and community levels
- Provide a forum for informed communication on fire-related issues within the region
- Communicate regional fire needs at the international level
- Collate and disseminate regional fire information, data and best practices for field observations
- Link with existing fire and other appropriate networks

Current membership of SAFNet is drawn from managers of national parks, government forest fire sectors, regional NGOs, community based organizations, independent consultants, university and research bodies in southern Africa. A strong international link, for instance through GOFC-GOLD provides exposure to existing international data archives, new technologies and external expertise in fire issues.

SAFNet generates data that is useful for:

- The early detection of fires in situations that could endanger livelihoods or destroy precious natural resources,
- mapping and quantifying areas affected by fires as inputs to fire management policy,
- Integrating research on community land use practices with fire information to reduce the negative impact of anthropogenic fires,
- providing data for validation of satellite sensors,
- contributing to National Environmental Action Plans,
- facilitating proactive fire management in community organizations, forested areas and wildlife reserves, and
- improving the quality of estimates of greenhouse gas emissions from vegetation fires.

#### **4.1.5 AfrifireNet**

The Regional Sub-Saharan Wildland Fire Network, Afrifirenet is one of the regional activities initiated to build a global network of regional network under the Working Group of the UN- International Strategy for Disaster Reduction (ISDR) Task Force. The Regional Sub-Sahara Wildland Fire Network intends to facilitate the enhancement of local, national and regional fire management capabilities by creating synergies of participating scientists, managers and policy makers. Particular emphasis is given to reduce the devastating effects of wildland fires on property, resources, health, and the environment. The Regional Network initiates processes and systems of information management and dissemination and facilitates technology transfer with the aim to help prevent and mitigate these effects. The working group contributes to strengthen institutional fire management capabilities and to bring the world's knowledge and technical expertise to communities suffering the devastating unnatural and unwanted impacts of wildland fires.

The main objectives amongst others are to support the establishment or improvement of Integrated Fire Management Systems with an emphasis on community participation, to facilitate transnational synergies in wildland fire research and technology development with regard to fire science, and to streamline technology transfer and to assist in wildland disaster management and mitigation.

AfrifireNet facilitates the implementation of the recommendations of the International Wildland Fire Summit in developing international wildfire management exchange agreements in Southern Africa. AfriFireNet's core objective is to facilitate regional fire management cooperation through a coordinating function within Sub-Sahara Africa.

## **4.2 INTERNATIONAL LEVEL**

At the international level there are various players involved in fire management providing information and knowledge on fire related issues. A SADC regional fire management programme will collaborate and join forces in association with international partners to significantly add value through a regional approach of advocacy for integrated fire management and related policy reforms. The following organizations described and listed are only a selection providing international frameworks and guidance with regard to fire management policy and international cooperation.

Experiences can be shared with the “The Association of Southeast Asian Nations” (ASEAN) and its ASEAN Coordinating Centre for Transboundary Haze Pollution Control and Response Strategy to fire, smoke and haze in region. The ASEAN centre and strategy may possibly serve as an example of and lessons learnt from a regional approach to tackle the fire problem and to foster South-South cooperation.

### **4.2.1 Global Fire Monitoring Center (GFMC)**

The Global Fire Monitoring Centre (GFMC) – established in 1998 as a contribution to the UN International Strategy for Disaster Reduction (UNISDR) (and its predecessor arrangement, the IDNDR) – is a Subdivision of the Max Planck Institute for Chemistry, Max Planck Society for the Advancement of Science, and an Associate Institute of United Nations University (UNU), located on the campus of Freiburg University, Germany. GFMC provides policy advice, and science and technology transfer to enable nations to reduce the negative impacts of wildland fires on the environment and humanity, and to manage fires for the benefit of ecosystem functioning, vegetation protection and in sustainable use of fire in land-use systems. Following a proposal of the Global Fire Monitoring Centre (GFMC) and the World Conservation Union (IUCN), the UNISDR Inter-Agency Task Force for Disaster Reduction in 2001 established a Working Group on Wildland Fire. This Working Group was coordinated by the GFMC and transitioned to the UNISDR Wildland Fire Advisory Group and the UNISDR Global Wildland Fire Network, which is a “Thematic Platform” within the UNISDR Global Platform for Disaster Risk Reduction.

The GFMC global portal for wildland fire documentation, information and monitoring is publicly accessible through the Internet.<sup>2</sup> The regularly updated national to global wildland fire products of the GFMC are generated by a worldwide network of cooperating institutions. Web-based information and GFMC services include:

- Early warning of fire danger and near-real time monitoring of fire events
- Interpretation, synthesis and archive of global fire information
- Support of local, national and international entities to develop long-term strategies or policies for wildland fire management, including community-

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<sup>2</sup> <http://www.fire.uni-freiburg.de>

based fire management approaches and advanced wildland fire management training for decision makers

- Serve as advisory body to the UN system through the coordination of the UN-ISDR Wildland Fire Advisory Group and the ISDR Global Wildland Fire Network Emergency hotline and liaison capabilities for providing assistance for rapid assessment and decision support in response to wildland fire emergencies under cooperative agreements with UN-Office for the Coordination of Humanitarian Affairs (UN-OCHA), Emergency Services Branch, and the World Summit on Sustainable Development (WSSD) Environmental Emergencies Partnership.

In its function as a UNU Associated Institute the GFMC is working at the interface between the science community and the user community. The research and development work of the GFMC is targeted at providing capacity building in wildland fire management and delivering problem-oriented products and solutions. Most recently the GFMC work is focusing on reducing threats to human health and security caused by vegetation fire smoke and by fires burning on terrain contaminated by unexploded ordnance, land mines and radioactivity, as well as on fires occurring as collateral damage during armed conflicts. In this regard the GFMC is meeting the UNU core mandates by addressing poverty alleviation, peace and development, and post-crisis humanitarian and environmental problems. Since 2008 the GFMC is also serving as Secretariat of the Fire Aviation Working Group, a consortium of countries with major aerial firefighting assets working under the umbrella of the UNISDR Wildland Fire Advisory Group.

The expertise of GFMC's work in Sub-Sahara Africa goes back to the late 1980s. Major past achievements include:

- Preparation and facilitation of implementation of the international research campaign "Southern Africa Fire-Atmosphere Research Initiative (SAFARI-92) in 1992
- Advisory support to the government of South Africa in the "Review of the veld fires that occurred in the Western Cape between 15 and 25 January 2000", aimed at improving veld fire management in South Africa (2000)
- Conducting national Round Table on Fire Management in various countries, e.g. Namibia (1999) and Ethiopia (2000)
- Development of National Guidelines on Forest Fire Management for Namibia
- Fire emergency crisis management in Ethiopia by coordinating international assistance (2000)
- Kick-off of the UNISDR Regional Sub-Sahara Wildland Fire Network (AfriFireNet) (2002)
- Editor of the Wildland Fire Management Handbook for Sub-Sahara Africa (with C. De Ronde, 2004)

Currently the GFMC is working with the Joint Environment Unit of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) and UNEP in developing a proposal to set up an Environmental Emergencies Centre (EEC), under which a regional mechanism in cooperative fire management in the SADC region could possibly be established. Furthermore the GFMC is assisting other international donors in devising concepts for multinational projects in fire management in Sub-Saharan Africa. Together with Natural Resources Canada the GFMC is currently providing a prototype Wildland Fire Early Warning System for Sub-Saharan Africa.

#### **4.2.2 Food and Agriculture Organisation (FAO)**

FAO has for many years provided information and technical assistance to its member countries and to the international community in the area of fires. In its role as a neutral forum, FAO brings countries together to discuss technical and policy issues related to medium- to long-term fire management plans. FAO describes its three different roles in fire management as:

- Facilitating the development and implementation of global and regional strategies and guidelines and access to international agreements that promote international collaboration and review policies, plans and practices to adopt more integrated and holistic approaches to fire management.
- Producing and facilitating global access to fire management data, information and terminology
- Capacity building at national and regional level through publications, training, meetings, field projects in developing countries and other activities, with focus on participatory approaches, particularly with communities.

FAO collaborates with other organizations and bodies within and outside the United Nations system, including the Office for the Coordination of Humanitarian Affairs (OCHA) and the United Nations Environment Programme (UNEP), which coordinate emergency inputs of international agencies or donors during crisis situations. FAO also works closely with many governmental and non-governmental agencies, organizations and mechanisms. FAO is an active member of the International Strategy for Disaster Reduction (UN-ISDR) Wildland Fire Advisory Group and is a founding member of the FAO/Economic Commission for Europe (ECE)/International Labour Organization (ILO) Team of Specialists on Forest Fire.

FAO, in collaboration with member countries and other international partners, including the UNISDR, developed a strategy to enhance international cooperation in fire management that advanced knowledge, increased access to information and resources and explored new approaches for cooperation at all levels. An international expert consultation in wildland fires agreed that the non-legally binding Strategy to Enhance

International Cooperation in Fire Management include the overarching framework for component parts:

- Fire Management Voluntary Guidelines;
- Implementation Partnership;
- Global Assessment of Fire Management; and
- Review of International Cooperation in Fire Management. These tools have been tailored primarily for land-use policy makers, planners and managers in fire management, including the Governments, the private sector and non-governmental organizations to assist in the formulation of policy, legal, regulatory and other enabling conditions and strategic actions for more holistic approaches to fire management.

#### **4.2.3 Association of South East Asian Nations (ASEAN)**

Fires hit the Association of Southeast Asian Nations (ASEAN) member states, especially Indonesia, almost every year. The environmental, economic, and social dimensions and impact of these partly catastrophic fires, and the associated transboundary atmospheric haze pollution, are profound. As a partnership for sharing experiences, information, responsibilities, and benefits, and working toward common good through joint efforts and approach, ASEAN is in a strong position to address its fire problem at the regional level.

In 1997/98, more than 10 million hectares of forest and other vegetation burned in Indonesia and the haze from these fires covered the South East Asian region for weeks, causing health problems, disruption to shipping and aviation, and culminating in the closure of international airports. Economic losses were estimated to exceed US\$ 3-9 billion Indonesian wide.

Major initiatives in response to the disastrous fires from 1997-1998 fires included national strategies for coordinated action and collaborative regional efforts. At the ASEAN level, a Regional Haze Action Plan (RHAP) was formulated and endorsed by ASEAN Environment Ministers in 1997. The primary objectives of the RHAP are to:

- prevent forest fires through better management policies and enforcement,
- establish operational mechanisms to monitor land and forest fires, and
- strengthen regional land and forest firefighting capability and other mitigation measures.

The RHAP has three major programme components: prevention, mitigation, and monitoring. Different countries have been designated to spearhead the activities that fall under each of the three RHAP programme components.

In 2002 all ASEAN Member States (MS) signed the ASEAN Agreement on Transboundary Haze Pollution which has been ratified so far by eight MS. The objective of this agreement is to prevent and monitor transboundary haze pollution as a result of

land and/or forest fires which should be mitigated concerted national efforts and international cooperation. Specific institutional arrangements were set up to develop, implement and monitor an operational work programme as well as to review and evaluate the programme. The ASEAN Haze fund receives contributions from the parties and other sources.

Within the framework of the ASEAN Agreement on Transboundary Haze Pollution Standard Operating Procedure (SOP) have been developed providing procedures and guidelines for the implementation of monitoring and assessment of fires as well as on joint emergency response. An ASEAN Coordinating Centre for Transboundary Haze Pollution Control (ACC) was established to facilitate cooperation and coordination among the Parties. A Committee comprising representatives of the national authorities of the Parties oversees the operation of the ACC. The Agreement also requires each Party to designate national focal points, national monitoring centre and competent authorities to ensure effective implementation of the Agreement.

Several projects have been carried out that include amongst others the development of guidelines for controlled burning practises, community based fire management through pilot projects in fire prone areas and public and community awareness activities. The ASEAN Specialised Meteorological Centre (ASMC) based in Singapore provides information on the occurrence of fire and haze in the region. The Malaysian Meteorological Service provides early warning information on the basis of the South East Asian Fire Danger Rating system (SEAFDRS). This and further information can be found at the ASEAN Haze Action Online homepage<sup>3</sup>.

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<sup>3</sup> <http://haze.asean.org>

## **5 PROGRAMME OUTLINE**

### **5.1 PROGRAMME AREA AND BENEFICIARIES**

The programme will work at the regional SADC level to introduce and promote balanced and integrated fire management systems in association with national, regional and international partners. The programme elements and related activities are based on the “Consultative workshop on the Development of a SADC Regional Fire Management Programme”, in January 2010 in Maputo. The project area includes the SADC secretariat for regional activities and the 14 Member states for country specific activities as required.

The primary beneficiaries of the programme will be the national governments and its fire mandated institutions and services that are responsible for monitoring and managing wildland fires within the SADC Member States. These institutions that are involved in fire information, prevention, preparedness, suppression and rehabilitation activities and efforts will benefit from improved fire policies and management frameworks, procedures and guidelines as well as international and bilateral agreements on sharing fire suppression resources and management knowledge through improved regional and international stakeholder cooperation as well as standardized fire information. The secondary beneficiaries will be the rural communities in the SADC Region who will benefit from improved natural and agriculture resources through safe use of fire as a management tool and at the same time minimizing the negative impacts on properties and human and animals’ life. Fire is used as a management tool in all countries of the region for agriculture, range land and natural resource and other land management reasons. The tertiary beneficiary will be the national economies and regional integration since effective prevention and control of harmful fires will contribute to improved and sustained livelihoods as well as protection and management of transnational assets such as transboundary national parks and other shared resources.

### **5.2 PROGRAMME GOAL AND PURPOSE**

**The overall goal** of the SADC Regional Fire Management Programme is to promote balanced and integrated fire management in the SADC region that involves the national governments, local communities, the private sector and other relevant stakeholders of the SADC region in association with national and international partners.

**The programme purpose** is to enhance the knowledge and skills of key stakeholders in the region with regard to integrated fire management (prevention, information, preparedness, suppression and rehabilitation) and where necessary, to facilitate the adoption of new and/or improved fire management strategies and concepts.

### **5.3 PROGRAMME COMPONENTS AND OBJECTIVES**

The programme will concentrate its efforts on the realization on four programme components and their objectives with activities carried out at the regional and sub-

regional level as well as supported national level. A fifth component will comprise the associated capacity development measures. Apart from policy harmonization processes, development of technical modules, guidelines and procedures, core activities of the programme will be the facilitation of a variety of multi-stakeholder and public consultation processes to build up a common understanding of fire management and its related elements such as CBFiM, the inherent challenges to be tackled and solutions to be provided in the region. Strong political commitment of the MS for the processes involved in such a regional fire management programme will be prerequisite. This is especially crucial for the envisaged establishment of a regional fire management coordination centre. Thus an important activity will be to inform, involve and ensure the commitment of political decision makers throughout all programme components and their related activities and processes. These processes should be backed up by broad scaled capacity building measures at regional level as well as capacity building measures for key stakeholders and policy-decision makers at national level.

The programme will consist of four plus one components (projects) and their respective objectives. The fifth component comprises necessary capacity building measures accompanying component 1 to 4.

**Component 1: Regional Fire Management Coordination Centre**

- To promote the establishment a regional fire management coordination centre for improved stakeholder cooperation and collaboration

**Component 2: Reform and Harmonisation of Policies and Procedures**

- To secure essential policy harmonisation at national & regional level to provide the basis for controlling harmful fires and promoting the safe use of beneficial fires within SADC

**Component 3: Community Based Fire Management (CBFiM)**

- To promote integration of CBFiM into Member States' fire and natural resources management systems/programmes

**Component 4: Fire Information**

- To improve production, access, dissemination and application of fire information within the region

**Component 5: Capacity Building**

- To increase awareness of and knowledge in balanced and integrated fire management and its elements

## **5.4 EXPECTED PROGRAMME RESULTS AND ACTIVITIES**

### **5.4.1 Regional Fire Management Coordination Centre**

There is increased willingness by SADC member states to cooperate on fire management on a regional and international basis. There is also recognition that a regional framework, based on cross border, regional and international cooperation is required to address issues of national, regional and transboundary fire management. MS have expressed the need for a regional agency or centre to foster and coordinate such cooperation and information exchange in fire management. Establishing a regional agency or centre responsible for collection and analysis of fire related data and formulating standardised rules, guidelines and procedures will ensure reliability and coordinated dissemination of relevant information as well as guide policy processes and development. Furthermore it would spearhead the promotion of integration of CBFiM into national policies and fire management strategies.

The establishment of a regional fire management centre will also facilitate and coordinate international and regional cooperation in fire management providing a framework within one country may request and receive Wildfire Suppression Resources from another country and to encourage cooperation and exchanges on other fire management activities such as training and lessons learnt. A SADC fire management programme will facilitate the development of a SADC Memorandum of Understanding (MoU) outlining cross border cooperation to combat transboundary fires by fire teams from different Member States as well as operational guidelines for the regional coordination centre.

Although sound management of land, forest and forest plantation by the private sector require fire management strategies, the private sector plays currently only a minor role in fire management in the region (except South Africa). A SADC regional fire management programme will foster involvement of relevant stakeholders of the private sector in activities of fire management capacity building and cross-national resource sharing.

Ideally such a regional centre is participated and jointly managed by people and institutions concerned with fire and fire management issues in the SADC region. These institutions would provide necessary prerequisites such as technical and human resources as well as knowledge with regard to fire information and management.

#### **Expected key results of programme component 1 are:**

1. Improved coordination and exchange of techniques, resources, science and other capacity building measures related to fire and fire management amongst MS and other partners
2. Improved donor collaboration and partnership arrangements
3. Facilitated cross-border fire management agreements including sharing of resource

4. Coordinated joint emergency response to cross-border fires and fire disasters

**Key activities of programme component 1 are:**

1. Lobby SADC governments to establish a regional fire management centre
2. Develop Vision, mission, objectives and operational plan for regional fire management centre
3. Facilitate the establishment of national focal points for fire management in MS
4. Facilitate the establishment of a collaborative framework for coordinated interventions among regional and international partners to support national fire management actions

**5.4.2 Reform and Harmonisation of Policy and Procedures**

Despite numerous laws and regulations at the local and national levels as well as agreements, protocols, resolutions and other non-binding environmental accords at the regional level, implementation of fire management remains difficult due to various constraints and problems. For example many of the SADC member states do not have specific fire laws and most environmental laws do not clearly allocate responsibility for fire management. Furthermore existing laws might be conflicting, have weak law enforcement mechanism and unclear responsibilities, thereby supporting the suggestion that fire management is equal to fire suppression. This hinders the development of an adequate institutional framework to formulate holistic and balanced fire management that includes CBFiM at national and regional level.

A SADC Regional Fire Management programme will advocate policy and legislation reforms, facilitating the development of regional standards, procedures and guidelines to resolve confusion and conflicts within and between policies and laws as well as objectives in environmental, agricultural and forest management. Improved fire policies and legislation are the basis for institutional strengthening of fire management as well as to increase bureaucratic capacities and support for the rule of law within MS.

Findings of the reviews and analysis of the legal and regulatory aspects of fire shall be integrated into areas such as sustainable forest and protected area management, community based natural resource management as well as into land and agricultural practices.

**Expected key results of programme component 2 are:**

1. Established legislative and regulatory basis/framework for controlling harmful fires while promoting the use of beneficial fires
2. Additional resourcing by SADC member states to establish and implement integrated fire management systems

3. Increased MS support for policies and organizational structures that promote sustainable natural resources management through effective fire management

**Key activities of programme component 2 are:**

1. Commission review of policies, laws and regulations in MSs
2. Compile results with recommendations and policy options for policymakers of MS
3. Present and disseminate findings to relevant fora for awareness creation and decision making processes

**5.4.3 Community Based Fire Management**

Despite the longstanding customs, traditions and profound knowledge of local communities in using and preventing fire, governments and other actors are just beginning to recognise the possible benefits of applied CBFiM. Changes in local culture and customs lead to knowledge gaps and mix-up of ethnical groups go ahead with new behaviour and attitudes in how natural resources are being managed. However some communities in the SADC region have extensive knowledge about fire management, regulated and enforced through the communities themselves. Integrating local communities into overall national fire management strategies is especially crucial considering the limited government capacities at local level. CBFiM must be part of an overall community based resources management (CBNRM) strategy and should be included in related government programmes including National Development Plans.

A SADC regional fire management programme intends to lay foundation for recognising, nationally financing and utilising communities as critical stakeholders and key component of national fire management and natural resource management strategies. There is need to raise awareness of fire management issues and the effectiveness of CBFiM to key stakeholders and policy-decision makers. A conceptual framework that identifies common principles for successful CBFiM for the SADC region will provide guidance to MS to implement CBFiM pilot projects in their areas.

**Expected key results of programme component 3 are:**

1. Documented community-based fire management strategies in the SADC region, along with the conditions necessary for their successful implementation
2. Developed regional guidelines for CBFiM implementation & assessment framework/tool
3. Initiated public and community awareness programs in MS to prevent uncontrolled fires and introduce safe use of fire to sustain livelihoods

**Key activities of programme component 3 are:**

1. Commission review and assessment to identify and document successful and implemented CBFiM strategies in the SADC region through a set of workshops
2. Compile and syntheses results into regional guidelines' and implementation framework
3. Produce recommendations and policy options for policymakers of MS
4. Present findings at relevant fora

**5.4.4 Fire Information**

The impact of fires on the landscape and environment depends on the extent, frequency, distribution and patchiness, intensity and seasonality of the fires. These elements combine to produce a distinct fire regime; and varying any of these elements will alter it. Comprehending how these elements influence fire regimes thus biodiversity and ecosystem functions helps to define appropriate fire management strategies.

For preparedness and suppression efforts it is important to know where and when most fires start. To prevent fires, those concerned must know who or what starts the fires and why. Analysis of data is essential to define the problem in order to then clearly address it effectively and using resources most efficiently thereby allowing better management of fire by concentrating resources for prevention, suppression and recovery. Well-collected simple data can identify the geographic focus, the major land uses affected by fire and the key fire users and the timing of fires. This supports the development of focused options to manage and prevent unwanted fires.

Furthermore analysing the historical fire data in relation to land mark features and boundaries gives information on the origin of the fires and subsequently current and future fire risk. It also raises the level of awareness regarding fire occurrence and the likely ecological and economic impacts. Such information can be a major stepping stone in seeking political will and funding for the necessary development of operational fire management organizations that not only focuses on ad hoc- fire suppression but equally on substantive prevention efforts that involve community participation.

Many countries in Southern Africa lack data bases on fire events and often have no means of regular aerial or ground surveillance in place to collect consistent data over time hence fire management efforts are inadequately guided and implemented. However much of the data and fire information needed are already existing and readily available (section 4) but many SADC member states are either not aware of it or lacking the institutional capacities and knowledge to acquire the information to improve fire management efforts.

A SADC wide fire management programme seeks to facilitate the development of communication and dissemination strategy for existing fire information and identify gaps of knowledge and initiate additional research to complement or enhance current knowledge and studies.

**Expected key results of programme component 4 are:**

1. Increased access of fire information (detection, early warning, burned area etc.) in timely manner to inform policy processes and operational fire management in MS
2. Established fire early warning system and measures to prevent disastrous fires in MS
3. Improved availability of targeted information available for management, lobbying and advocacy to key stakeholders to implement fire management principles and policy reforms

**Key activities of programme component 4 are:**

1. Facilitate the establishment of a “clearing house” for fire information
2. Facilitate the design of a communication and dissemination strategy of fire information within the region
3. Identify, design and implement targeted awareness raising, information dissemination and advocacy strategies
4. Produce target group specific regional fire and fire management info-briefs that explain and clarify fire management topics

**5.4.5 Cross Cutting Theme - Capacity Development**

All four programme components and their related activities will support capacity building and development in the area of fire management at both regional and national level. In general all capacity development measures have to take place on three levels to be effective and sustainable. These areas are:

1. The **systems level** – including regulatory frameworks, policies and framework conditions that support or discourage the achievement of certain policy objectives
2. The **institutional level** - including the structure of organizations, the decision-making processes within the organization, procedures, management instruments, the relationships and networks between organizations
3. The **individual level** - including individual skills and qualifications, knowledge, attitudes, work ethic and motivations of the employees in organisations.

When discussing capacity development within the framework of a regional fire management programme it must be emphasized that only the systems level and to a limited extent the institutional level can be effectively addressed considering the regional nature of the programme.

The individual level that is training of individual skills (e.g. fire fighting) can only be addressed in national or regional training sessions. Fire fighting trainings for targeted national participants could be carried out by the regional fire management coordination centre once it is established and provided that funding by national governments for such activities (see section 6 Responsibilities and Roles of SADC Member States).

In the context of Programme component 1, the establishment of the regional fire management coordination centre, it is suggested to conduct a study tour to enable key stakeholders of selected Member States (MS) and the SADC Secretariat to view and learn about the institutional arrangements of the ASEAN Coordination Centre for Transboundary Haze Pollution Control currently hosted by the ASEAN Secretariat in Jakarta, Indonesia. The study tour will provide the opportunity to view an existing regional fire management coordination centre and expose the delegates to concepts and models for such a centre.

Furthermore study tours should be conducted to existing regional institutions such as the Meraka Institute hosted by CSIR, South Africa and the Regional Wildland Training Fire Centre hosted by “Working on Fire”, South Africa to view and learn about the existing capacities with regard to fire information and concepts on cooperation between fire management organisations and stakeholder groups. This will support an understanding of the needs to establish functional fire management systems and organisations at national level. In addition in the context of the establishment of a regional fire management coordination centre the programme should seek to strengthen such existing institutions rather to build new ones and to define their roles and tasks in the future coordination centre.

Programme component 1 (Fire Management Coordination Centre) and 2 (Policy reforms) will enhance regional and national policy frameworks and procedures to achieve fire management goals at national level. Furthermore programme component 1 will provide the basis for improved national fire management with regard to training and equipment standards and will create a platform for information exchange and lessons learned supporting policy development and national fire management programmes in MS.

In each component capacity building measures at group level will be addressed through regional or sub-regional workshops, seminar and trainings in order to enhance key stakeholders’ knowledge and technical expertise in the various fields of fire management such as seminar/training on the application of fire information such as Fire Danger Rating. Additionally each programme component will contribute to enhanced capacities and knowledge with regard to fire management through workshops on regional and sub-regional level carried out during the assessments and reviews of policies or CBFiM strategies in the region.

To strengthen the role of the FARN directorate of the SADC Secretariat for the overall technical, administrative and financial management of the programme (see section 6) technical support should be provided in form of programme management staff and

technical experts to assist with the coordination and implementation of the regional fire management programme.

**Expected key results of programme component 5 are:**

1. Increased knowledge of regional fire management centre concepts
2. Enhanced knowledge for the development of policies and legal aspects for improved fire management
3. Increased knowledge of CBFiM strategies within national fire and natural resource management programmes
4. Increased knowledge and technical expertise of the application of fire information

**Key activities of programme component 5 are:**

1. International Study tour to view and learn about the ASEAN regional fire coordination centre
2. Regional study tours to view existing institutions of fire information and fire management
3. Regional education workshops, seminars and training for senior managers and decision makers about fire and fire management systems including its merits
4. Regional education workshops, seminars and training for senior managers and decision makers about fire and fire management systems including CBFiM and natural resources management
5. Regional education workshops, seminars and training for senior managers and decision makers about fire and fire management systems in particular fire information and related data management

## **5.5 PROGRAMME PLANNING FRAMEWORK**

Table 1 shows the programme planning framework including results, activities, involved stakeholders, indicators as well as assumptions. Activities of component 5, capacity development measures are directly associated to the respective projects.

**Table 1: Planning Framework Programme component 1**

<b>No</b>	<b>Objective</b>	<b>Expected results</b>	<b>Key activities</b>	<b>Institutional Partners</b>	<b>Indicators</b>	<b>Assumptions</b>
<b>1</b>	To promote the establishment of a regional fire management coordination centre	<ol style="list-style-type: none"> <li>1. Improved coordination and exchange of techniques, resources, science and other capacity building measures related to fire and fire management amongst MS and other partners</li> <li>2. Improved donor collaboration and partnership arrangements</li> <li>3. Facilitated cross-border fire management agreements including sharing of resources</li> <li>4. Coordinated joint emergency response to cross-border fires and fire disasters</li> </ol>	<ol style="list-style-type: none"> <li>1. Lobby SADC governments to establish a regional fire management centre</li> <li>2. Develop Vision, mission, objectives and operational plan for regional fire management centre</li> <li>3. Facilitate the establishment of national focal points for fire management in MS</li> <li>4. Facilitate the establishment of a collaborative framework for coordinated interventions among regional and international partners to support national fire management actions</li> </ol>	<ul style="list-style-type: none"> <li>• SADC Sec</li> <li>• Member States (MS)</li> <li>• Regional and international organisations donors</li> <li>• Private sector</li> <li>• Communities</li> </ul>	<ol style="list-style-type: none"> <li>1. SADC agreement for joint fire management centre in place</li> <li>2. Strength of MS institutional capacity for fire management increased.</li> <li>3. Fire management national focal points (agency, department) nominated.</li> </ol>	<ul style="list-style-type: none"> <li>• Multilateral and bilateral agencies working in SADC will commit themselves to provide technical cooperation support for the establishment of an regional centre</li> <li>• The centre will (jointly) be managed by institutions concerned with fire issues in SADC providing necessary technical prerequisites i.e. for data acquisition and management, training facilities</li> </ul>

**Table 2: Planning Framework Programme component 2**

<b>No</b>	<b>Objective</b>	<b>Expected results</b>	<b>Key activities</b>	<b>Institutional Partners</b>	<b>Indicators</b>	<b>Assumptions</b>
2	To secure essential policy reform and/or harmonisation at national & regional level within SADC	1. Established legislative and regulatory basis/framework for controlling harmful fires while promoting the use of beneficial fires  2. Additional resourcing by SADC member states to establish and implement integrated fire management systems  3. Increased MS support for policies and organizational structures that promote sustainable natural resources management through effective fire management	1. Commission review of policies, laws and regulations in MSs  2. Compile results with recommendations and policy options for policymakers of MS  3. Present and disseminate findings to relevant fora for awareness creation and decision making processes	<ul style="list-style-type: none"> <li>• SADC sec</li> <li>• MS</li> <li>• Regional and International organisations donors</li> <li>• Communities</li> </ul>	1. Guidelines for policy/institutional reforms are available for SADC MS  2. MS review their polices and legislations following recommended guidelines and procedures  3. Streamlined Institutional structures of MS for fire management according to fire management functions	Multilateral and bilateral agencies working in SADC will commit themselves to support necessary policy reform

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**Table 3: Planning Framework Programme Component 3**

<b>No</b>	<b>Objective</b>	<b>Expected results</b>	<b>Key activities</b>	<b>Institutional partners</b>	<b>Indicators</b>	<b>Assumptions</b>
3	To promote integration of CBFiM into MS fire and natural resources management systems/programmes .	<ol style="list-style-type: none"> <li>1. Documented community-based fire management strategies in the SADC region, along with the conditions necessary for their successful implementation</li> <li>2. Developed regional guidelines for CBFiM implementation &amp; assessment framework/tool</li> <li>3. Initiated public and community awareness programs in MS to prevent uncontrolled fires and introduce safe use of fire to sustain livelihoods</li> </ol>	<ol style="list-style-type: none"> <li>1. Commission review and assessment to identify and document successful and implemented CBFiM strategies in the SADC region through a set of workshops</li> <li>2. Compile and syntheses results into regional guidelines' and implementation framework</li> <li>3. Produce recommendations and policy options for policymakers of MS</li> <li>4. Present findings at relevant fora</li> </ol>	<ul style="list-style-type: none"> <li>• SADC Sec</li> <li>• MS</li> <li>• Regional and international organisations and donor</li> <li>• Private sector</li> <li>• Communities</li> </ul>	<ol style="list-style-type: none"> <li>1. Guidelines for the engagement of local communities in the design and implementation of fire management strategies in place</li> <li>2. Local community-based approaches to fire prevention and management documented</li> <li>3. CBFiM in the SADC region officially recognised and funded in MS</li> </ol>	Multilateral and bilateral agencies working in SADC will commit themselves to support integration of CBFiM into MS fire and natural resources management systems/programmes

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**Table 4: Planning Framework Programme Component 4**

No	Objective	Expected results	Key activities	Institutional Partners	Indicators	Assumptions
4	To improve production, access and dissemination of fire information	<ol style="list-style-type: none"> <li>1. Increased access of fire information (detection, early warning, burned area etc.) in timely manner to inform policy processes and operational fire management in MS</li> <li>2. Established fire early warning system and measures to prevent disastrous fires in MS</li> <li>3. Improved availability of targeted information available for management, lobbying and advocacy to key stakeholders to implement fire management principles and policy reforms.</li> </ol>	<ol style="list-style-type: none"> <li>1. Facilitate the establishment of a “clearing house” for fire information</li> <li>2. Facilitate the design of a communication and dissemination strategy of fire information within the region</li> <li>3. Identify, design and implement targeted awareness raising, information dissemination and advocacy strategies</li> <li>4. Produce target group specific regional fire and fire management info-briefs that explain and clarify fire management topics</li> </ol>	<ul style="list-style-type: none"> <li>• SADC sec</li> <li>• MS</li> <li>• Regional and international organisations and donor</li> <li>• Private sector</li> </ul>	<ol style="list-style-type: none"> <li>1. SADC MS appoint key stakeholders for receiving, disseminating and applying fire information</li> <li>2. SADC MS use Fire information to report to international fora</li> <li>3. Increased awareness of fire of negative and positive fire impacts by SADC MS Policy-makers and civil society</li> <li>4. MS policy makers recognize benefit of regional fire management and science network</li> </ol>	Multilateral and bilateral agencies working in SADC will commit themselves to improve production, access and dissemination of fire information

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**Table 5: Planning Framework Programme Component 5**

<b>No</b>	<b>Objective</b>	<b>Expected results</b>	<b>Key activities</b>	<b>Institutional partners</b>	<b>Indicators</b>	<b>Assumptions</b>
5	To increase awareness of and knowledge in balanced and integrated fire management and its elements.	<ol style="list-style-type: none"> <li>1. Increased knowledge of regional fire management centre concepts</li> <li>2. Enhanced knowledge for the development of policies and legal aspects for improved fire management</li> <li>3. Increased knowledge of CBFiM strategies within national fire and natural resource management programs</li> <li>4. Increased knowledge and technical expertise of the application of fire information</li> </ol>	<ol style="list-style-type: none"> <li>1. International Study tour to view and learn about the ASEAN regional fire coordination centre</li> <li>2. Regional study tours to view existing institutions of fire information and fire management</li> <li>3. Regional education workshops, seminars and training for senior managers and decision makers about fire and fire management systems including its merits</li> <li>4. Regional education workshops, seminars and training for senior managers and decision makers about fire and fire management systems including CBFiM and natural resources management</li> <li>5. Regional education workshops, seminars and training for senior managers and decision makers about fire and fire management systems in particular fire information and related data management</li> </ol>	<ul style="list-style-type: none"> <li>• SADC Sec</li> <li>• MS</li> <li>• Regional and international organisations and donor</li> <li>• Private sector</li> <li>• Communities</li> </ul>	<ol style="list-style-type: none"> <li>1. SADC agreement for joint fire management centre in place</li> <li>2. MS review their polices and legislations following recommended guidelines and procedures</li> <li>3. CBFiM in the SADC region officially recognised and funded in MS</li> <li>4. SADC MS appoint key stakeholders for receiving, disseminating and applying fire information</li> </ol>	Multilateral and bilateral agencies working in SADC will commit themselves to support Capacity development measures for improved fire management in SADC member states

## **5.6 PROGRAMME APPROACH AND METHODS**

As the challenges of fire and fire management lie beyond the capacity of national governments and international organisations to handle alone, the programme pursues a multiple stakeholder approach. Operating at the regional SADC secretariat level means that programme components and activities cannot directly involve in singular national projects and actions. The programme will respect the principle of subsidiarity<sup>4</sup> whilst initiating, facilitating and coordinating action at different sub-regional and national levels. Therefore strong cooperation and collaboration with other regional, national and international level actors (section 4) will be pursued to access data, information, knowledge and expertise creating synergies and maximum benefits to support participation, public awareness, policy outreach and programmatic impact in connection with fire-related issues.

Using the existing networks and contacts in fire management the programme will facilitate a variety of multi-stakeholder dialogue and on-going public consultation processes, attend and organise several workshops and meetings to maximise synergies complementing the work of various agencies, institutions and donor-supported projects in forestry and fire management. Through intensive networking duplication and/ or unnecessary data collection shall be forestalled whilst providing the opportunity to compile information and share knowledge through ongoing consultation amongst concerned policy makers and other key actors.

Regional and sub-regional workshops, meetings and conferences shall facilitate the discussion of specific topics. Workshops are a chance to focus on specific elements and identify key activities of the programme with a select group of people in order to formulate concepts and strategies to set the basis for regional fire management frameworks or guidelines.

Information compiled and analysed shall be jointly published in partnership with other organisations to assist stakeholders and national governments to identify appropriate regulatory and institutional mechanisms that can positively influence integrated fire management approaches.

Moreover the programme shall produce a significant range of refined and accessible information materials i.e. reports, newsletters and documentaries to address specific needs and situations identified during the programme's ongoing involvement with policy makers and other important stakeholders in the region. These products are intended to be a platform from which lessons and advice can be framed and made accessible to the wider public by means of a homepage and other appropriate awareness raising media.

Furthermore through the SADC Regional Environmental Education Programme (REEP) environmental education related to fire, fire awareness and training modules can be channelled into forestry and agricultural training and curricula. Scholarships for student exchange, South-South cooperation (e.g. with ASEAN countries) with regard to fire management and ecology should be promoted.

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<sup>4</sup> The principle of *subsidiarity* defines the idea that the SADC secretary should have a subsidiary function, performing only those tasks which cannot be performed effectively at a more immediate or national or local level.

## **5.7 PROGRAMME BENEFITS**

Applying an integrated and holistic fire management programme in the SADC region can be used to address:

- national, regional and global direct fire impacts on biodiversity, forest resources and economic resources as well as related indirect impacts such as watershed protection, erosion, water quality and quantity,
- the negative impacts fires have on human health and properties,
- the threat that fires pose to REDD as a strategy for reducing global carbon emissions and at the same time deriving benefit for local people,
- negative impacts of harmful fires in the agriculture sector (direct crop loss, cost for seeds for future crops, increased prices for food and consumables),
- the negative impacts fires have on the regional tourism sector (smoke-haze, burned wildlife areas),
- the safe use of fire as a management tool in the agricultural, forestry and wildlife management sector,
- to enable local communities to participate in community based natural resource and fire management programmes,
- to strengthen regional and international collaboration,
- regional and national policy harmonisation,
- avoidance of duplication and redundancy of fire information
- reduction of costs due to economies of scale,
- exchange of cross-border fire fighting resources and efforts
- strengthening of SADC regional integration

## **6 ROLE AND RESPONSIBILITIES OF SADC MEMBER STATES**

The programme intends to foster regional level interaction by developing guiding policy frameworks and procedures for several aspects of fire management. However, to achieve targeted goals of the programme, the SADC member states have to set the stage for successful implementation of the programme. As the programme cannot directly involve in field-level and national activities, the SADC national committees are required to establish technical committees and national focal points on fire management comprising key stakeholders from government, private sector and civil society providing input at regional and sub-regional workshops and meetings conducted in the course of programme component implementation.

Furthermore these technical committees have to initiate various capacity development processes at their respective national levels to respond to the underlying causes of fires and promote the institutionalisation of integrated and balanced fire management as part of sustainable land management into their government structure. Many common aspects of the underlying fire problems are cross-cutting sectoral and policies as well as educational aspects that are also significant in many endeavours to improve social, economic and environmental conditions in SADC member states. These aspects include land allocation policies and processes thus clarity of ownership and use rights, legal and regulatory structures and institutional arrangements for fire management, community capacity building as well as education and awareness raising at various administrative and society levels. SADC member states need to engage in a process to institutionalize fire management in their government system by building and developing capacities at various levels that are the system, institutional and individual level (see also section 5.45 Capacity Development).

During the “Consultative workshop on the Development of a SADC Regional Fire Management Programme”, in January 2010 in Maputo, participants from all SADC member states identified and compiled capacity development measures to be carried out by all SADC member states to ensure success of a regional fire management program.

Table 6 shows these measures structured according to various levels.

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**Table 6: Capacity Development measures to be carried out by SADC member states**

Action to be carried out by	Organizations responsible	Organizations involved	Timing	Existing initiatives for synergies	Key partners	Source of funds
<b>Parliamentarians / legislators</b>						
Sensitize them on: the importance of fire management issues, country's obligation under SADC Protocol on Forestry Regional initiatives	Ministries responsible for Forestry	Relevant Government Institutions, Parliamentarians, Institute Higher Learning,	January 2011	Newly developed Fire Policies, Legislations, Programmes in some member countries, SADC RIP	SAFNET, FAO, Private Sector	Government, SAFNET, FAO, GTZ, Finland, Private Sector
<b>Governments Departments/Agencies/</b>						
Training /refresher courses/tours for Extension Officers, Technical staff, Security forces Firefighting equipment & tools Develop fire management plans for respective forest areas	Government Departments, Agencies, Parastatals	Relevant Departments, Agencies, NGOs, Institutions of Higher Learning	Dec 2010	Fire Policies, Fire Management Programmes (in some member states)	Member States, Donor Agencies, Private Sector, NGOs, Institutions of Higher Learning, SAFNET, AfriFireNet	Member States, GTZ, FAO, Donor Agencies
<b>Traditional leaders</b>						
Training on importance of fire management Provide communication tools + technology, logistics Firefighting equipment Storage for equipments	Government Agencies, NGOs  To be coordinated by SADC	Government Institutions, Private Sector, Traditional Leaders, Training Institutions	March 2011	Fire Management Strategies (in some member states)	Member States, Donor Agencies	Member States, Donor Agencies

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Action to be carried out by	Organizations responsible	Organizations involved	Timing	Existing initiatives for synergies	Key partners	Source of funds
<b>Communities</b>						
<p>Awareness raising on the importance of fire management</p> <p>Establish and train fire prevention Associations (FPAs)</p> <p>Acquire firefighting equipment, communication tools</p> <p>Legal framework to capacitate people dealing with fire</p> <p>Introduce fire management in school curricula</p>	Government, NGOs, Training Institutions,	Government Institutions, Private Sector, Traditional Leaders, Training Institutions Communities,	June 2011	Fire Management Programmes, Strategies, (in some Member States)	Member States, Donor Agencies, Private Sector, NGOs	Member States, GTZ, FAO,
<b>Private Sector</b>						
Training at national level Information & technology exchange with governments agencies	Government Departments, Agencies, Parastatals, Private Sector,	Private Sector, NGOs, Institution of Higher Learning, Research Institutes	Dec 2011	Fire Management Plans, Programmes, Policies, Strategies (in some member states)	Member States, Donor Agencies, Private Sector, NGOs, Institutions of Higher Learning, SAFNET, AfriNet	Member States, GTZ, FAO, Donor Agencies
<b>Research institutions</b>						
<p>Generate knowledge on fire management at national level</p> <p>Training on policies and fire legislation,</p> <p>Acquire equipments and other relevant resources.</p>	Research Institutions, Institutes of Higher Learning, Private Sector, Government	Private Sector, NGOs, Institution of Higher Learning, Research Institutes Government	June 2011	Fire Management Plans, Programmes, Policies, Strategies (in some member states)	Member States, Donor Agencies, Private Sector, NGOs, Institutions of Higher Learning, SAFNET, AfrifireNet	Member States, GTZ, FAO, Donor Agencies

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Action to be carried out by	Organizations responsible	Organizations involved	Timing	Existing initiatives for synergies	Key partners	Source of funds
<b>Institutions of higher learning</b>						
Acquire equipments and tools Training on fire management at national levels Promote exchange programmes Develop standard training modules and manuals	Institutes of Higher Learning Research Institutions,	Institutes of Higher Learning Research Institutions Private Sector, Government, Parastatals, NGOs	June 2011	Fire Management Plans, Programmes, Policies, Strategies (in some member states)	Member States, Donor Agencies, Private Sector, NGOs, Institutions of Higher Learning, SAFNET, AfrifireNet	Member States, GTZ, FAO, Donor Agencies
<b>NGOs</b>						
Training on integrated fire management initiatives and approaches Exchange and sharing of technical information	NGOs, Government	Institutes of Higher Learning Research Institutions Private Sector, Government, Parastatals, NGOs	June 2011	Fire Policies, Fire Management Programmes, Strategies, Fire Management Plans (in some member states)	Member States, Donor Agencies, Private Sector, NGOs, Institutions of Higher Learning, SAFNET, AfriFireNet	Member States, GTZ, FAO, Donor Agencies

## **7 PROGRAMME IMPLEMENTATION**

### **7.1 EXECUTING AGENCY SADC SECRETARIAT**

The SADC secretariat with its executive secretary is the principal executive institution of SADC, and is responsible for the strategic planning and management of the programme. The FARN directorate will be responsible for the overall management and implementation of the programme. It will organise and manage the proposed meetings and consultations processes for policy reforms and harmonisation with member state stakeholders. It will spearhead the process of establishing a regional fire management coordination through consultation and coordination with governments, regional and international institutions. The SADC secretariat will organise regional and sub-regional workshops and meetings for the review and assessment of CBFiM practise in the region to lay foundation for recognising, financing and utilising communities as a critical component of national fire management and natural resource management strategies. The SADC secretariat will promote cooperation within SADC and internationally to ensure that fire information such as number, place, size and location of fires and the influence of weather on fire hazard is made available and accessible to MS to guide rationale and effective decision-making for policy formulation and fire management implementation as well as for continued scientific advancement. The tasks of the FARN Directorate shall include also accounting and financial management of the programme and its components. Technical support for overall management and financial administration of the programme should be considered. Furthermore technical support and input should be provided to assist in the regional and sub-regional meetings and workshops and to guide processes and expected outcomes.

### **7.2 PROGRAMME ORGANISATION**

The overall counterpart institution and executing agency is the SADC Secretariat. The Programme will be physically hosted by and operating from the SADC Secretariat under direct responsibility and coordination of the FANR Directorate. The programme will be guided by a Programme Steering Committee (PSC) comprising members from SADC MS, funding organisations, and relevant partners. The Steering Committee will be chaired by a SADC MS on a rotational and annual basis and will ensure wide participation and representation of each SADC MS as well as involvement and coordination of key stakeholders from the region and internationally. The PSC will be responsible for formulation and implementation of policies, procedures and guidelines based on the advice and input from project component results and experiences.

A Project (component) Coordination Committee (PCC) will ensure coordination and participation of respective key stakeholders for the given component and its respective theme (coordination centre, policy, CBFiM, fire information). The PCC will consist of members from the SADC technical committees, representatives from SADC Secretariat and other partners, expert in the relevant theme. The PCC will be chaired by a SADC technical

committee member on rotational basis. The PCC ensures, supported by the long term technical advisor, coordination between stakeholders at the ground level in order to facilitate information gathering and dissemination relevant for policy reform, CBFiM framework and fire information as well to ensure participation and understanding, development and implementation of project activities. The PCC will ensure that results and products of the programme will be delivered to the target groups.

The programme will be supported by a long term technical advisor as programme leader with overall responsibility for steering, planning, financing, implementation and control of the programme (programme management unit-PMU) as well as overall lead and execution of consulting services.

A vice programme leader will guide technical implementation of the components, set up a system for programme monitoring and reporting and assists the PMU. The PMU is further assisted by a personal assistant and a programme and communication officer that will support in information management, communications, publications, partner point person on fire management and general project support

Short term expertise in several aspects towards specific activities and results will support programme component implementation in the field of legal and policy aspects, bi- and multilateral cooperative agreements development, communication and media strategy for programme and project results messages and as well as fire information and programme monitoring and evaluation system. Further short term expertise will be identified during programme implementation and need to be executed in a flexible manner.

### **7.3 ESTIMATED PROGRAMME DURATION AND BUDGET**

Past experiences have shown that only long term approaches have sustained impact considering the complex fire history and inherent management challenges in the SADC region. Focusing on long-term fire management intervention at a regional level takes especially into account time that is needed to carry out and implement activities and processes involving SADC member states and respective steering and technical committees on a regular basis.

- **Phase 1:** Inception 6 months: Considering each programme component as an individual project, detailed project schedules and operational annual work plan for 2010/11 that include specific actions and activities, milestones and time sequencing as well as technical and human resources required need to be developed by key stakeholders of the SADC secretariat and MS supported by technical assistance expertise.
- **Phase 2:** 48 months: Implementation process of programme components/projects (establishment of regional fire management coordination centre, policy reforms and harmonisation, regional community based fire management framework and fire information). The overall programme management and implementation will be supported by a long term technical advisor as programme leader and vice programme leader.

Each programme component requires costs for project management and support staff as well as technical assistance expertise in the form of short term input. Each component entails a set of regional, sub-regional, national and finally international meetings and workshops resulting in travel, accommodation and additional subsistence costs for representatives of the SADC secretariat, MS and additional resource persons. Furthermore some components are complemented by study tours within and outside the SADC region with selected participants. Results and products such as reports, documents or other print and mass media need to be produced and disseminated.

Table 5 shows estimated budgets of the entire programme including, long and short term technical expertise costs, project support staff, travel expenses, office equipment, consumables, vehicle, regular meetings of committees, planning workshops, backstopping services as required, others and contingencies.

Table 6 shows estimated costs for inception phase. Table 7-10 shows additional costs for each component per year not covered in table 5.

Proposed workshops and meetings are estimated for up to three days and on basis of at least two participants from each SADC MS including travel expenses and lumpsum, meals accommodation, facilitation, venue and contingency.

Study tours are estimated for one representative per SADC MS, two representatives from SADC secretariat and a resource person, including travel expenses, accommodation and lumpsum.

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**Table 7: Summary of estimated budget in \$US**

Category	Year				
	2010/11	2011/12	2012/13	2013/14	2014/15
Inception Phase	135,000	-	-	-	-
Component 1	-	108,000	156,000	106,000	75,000
Component 2	-	88,000	116,000	91,000	75,000
Component 3	-	48,000	131,000	116,000	75,000
Component 4	-	53,000	94,000	44,000	85,000
Long Term Technical Advisor (TA) Programme Management (48 months)	-	220,000	220,000	220,000	220,000
Long Term Technical Advisors Project Management (48 months)	-	220,000	220,000	220,000	220,000
Personal Assistance (48 months)	-	36,000	36,000	36,000	36,000
Programme and Communication Officer (48 months)	-	36,000	36,000	36,000	36,000
Additional Short Term (15 months)	-	80,000	80,000	80,000	40,000
International Travel expenses	-	40,000	30,000	30,000	40,000
Office equipment	-	20,000	10,000	7,000	5,000
Consumables/supplies (paper, printing, phone cost, office supply)	-	12,000	12,000	12,000	15,000
Vehicle and related recurrent	-	50,000	10,000	10,000	5,000
Programme Steering Committee meetings (annually)	-	30,000	30,000	30,000	30,000
Project Coordination Committee (biannually)	-	40,000	40,000	40,000	40,000
Programme Planning Workshops	-	40,000	40,000	40,000	40,000
Backstopping	-	8,000	8,000	8,000	8,000
Others (e.g. training course for staff)	-	10,000	10,000	10,000	5,000
Contingency	-	11,390	12,790	11,360	10,500
<b>Total in \$US</b>	<b>135,000</b>	<b>1,150,390</b>	<b>1,291,790</b>	<b>1,147,360</b>	<b>1,060,500</b>
<b>Grand total in \$US</b>	<b>4,785,040</b>				

**Table 8: Budget Inception Phase itemised in \$US**

Item	Inception Phase	Year
		2010/11
1	Short Term Technical Advisor	80.000
2	Project Planning Workshop	40.000
3	Programme/Project documentation and advocacy material	8000
4	Miscellaneous	7000
	<b>Total in \$US</b>	<b>135000</b>

**Table 9: Budget Component 1: Establishment of Regional Fire Management Coordination Center**

Item	Year			
	2011/12	2012/13	2013/14	2014/15
<b>Capacity Development Measure</b> Study Tour ASEAN	60.000	-	-	-
<b>Capacity Development Measure</b> Study Tour CSIR/WoF	-	40.000	-	-
<b>Short Term TA</b> Bi- and multilateral agreements and Standard operating, Procedures for cross border cooperation and joint emergency response	-	25.000	15.000	-
<b>Workshops, International Fora, meetings</b>	40.000	80.000	80.000	40000
<b>Consumables</b>	5.000	10.000	10.000	5000
<b>Others</b>	3.000	3.000	3.000	30000
<b>Total in \$US</b>	<b>108.000</b>	<b>166.000</b>	<b>108.000</b>	<b>75.000</b>

**Table 10: Budget Component 2: Policy Reform and Harmonisation**

Item	Year			
	2011/12	2012/13	2013/14	2014/15
<b>Short term TA</b> Policy and Legal Advisor	40000	25000	-	-
<b>Capacity Development Measures</b> Workshops, Seminars, International Fora, meetings	40.000	80000	80000	40000
<b>Consumables</b>	5000	8000	8000	5000
<b>Others</b>	3000	3000	3000	30000
<b>Total in \$US</b>	<b>88000</b>	<b>116000</b>	<b>91000</b>	75000

**Table 11: Budget Component 3: Community Based Fire Management**

Item	Year			
	2011/12	2012/13	2013/14	2014/15
<b>Short term TA</b> Community development specialist	-	40000	25000	-
<b>Capacity Development Measures</b> Workshops, Seminars, International Fora, meetings	40.000	80000	80000	40000
<b>Consumables</b>	5000	8000	8000	5000
<b>Others</b>	3000	3000	3000	30000
<b>Total in \$US</b>	<b>48000</b>	<b>131000</b>	<b>116000</b>	<b>75000</b>

**Table 12: Budget Component 4: Fire Information**

Item	Year			
	2011/12	2012/13	2013/14	2014/15
<b>Short term TA</b> IT and web-design specialist Communication and media specialist	45000	35000	25000	10000
<b>Capacity Development Measures</b> Workshops, Seminars, International Fora, meetings	-	40000	-	40000
<b>Consumables</b>	5000	16000	16000	5000
<b>Others</b>	3000	3000	3000	30000
<b>Total in \$US</b>	<b>53000</b>	<b>94000</b>	<b>44000</b>	<b>85000</b>