

RESEARCH DISCUSSION PAPER

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# Environmental Assessment in Southern Africa

## Is there a need for a Regional approach ?

By

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## Abstract

*Most southern African countries depend on primary natural resources to sustain their economies and their people. The environmental issues are remarkably similar in the countries within the region, and the economic, social and political fortunes of the individual countries are intertwined. Furthermore, the ways in which resources are being managed are similar and thus cause for common concern. In general, the ability of countries in the region to achieve sustainable development depends not only on national policies but also on the commitment of neighbours to practice sound environmental management. This is because activities in one country/ can easily cause impacts on a neighbour and possibly result in "downstream" opportunity costs.*

*Environmental Assessment (EA) is a useful tool in planning for sustainable development, especially when applied at the policy, planning and programme level.<sup>5</sup> Even At the project level, EAs ~~can~~ <sup>have been shown to</sup> reduce negative environmental impacts and help to maximise benefits. Unfortunately, individual countries in southern Africa have not made significant progress in adopting EA as a strategic planning tool, and they have not made a collective effort to apply EA at the regional level.*

*This paper hopes to contribute towards the debate on this issue and urges for the establishment of a SADC EA Protocol.*

## Introduction

In order for governments in southern Africa to achieve sustainable development, they need to assess current and future policies, programmes, plans and projects for their environmental impacts so that their natural capital is not eroded. Similarly, they need to ensure that their activities do not negatively affect the development potential of their neighbours.

In spite of the existence of the Southern African Development Community (SADC) and its stated objective of promoting sustainable development through regional co-operation, a number of activities have been, and continue to be, planned and implemented with scant regard for cross-boundary impacts. Many examples exist, including the damming of rivers, the erection of game-proof fences which limit wildlife migrations, agricultural and water transfer schemes that drain rivers, pest control programmes, and others. While these activities do not always result in "irreparable harm", they could cause considerable tension between neighbours and seriously undermine future cross-boundary development.

Similarly, there is a possibility that investors will play one country up against another when negotiating new projects. Using a hypothetical example, a company wishing to establish a sugar plantation in Caprivi (Namibia) may indicate that they will only do so if environmental requirements (e.g. efficient water use, waste management, land clearing) are relaxed. They could argue that Namibia's laws are too strict and that adhering to them is too expensive. Thus, they would threaten to pursue an option in Angola instead, where (hypothetically) environmental laws are more relaxed. If they did this, the impacts they would cause (e.g. pollution) would still enter Namibia via the Okavango river and ultimately concentrate in Botswana's Okavango Swamps. In this hypothetical example, Angola would receive the benefits of the project (jobs, taxes, foreign exchange) while Namibia and Botswana would pay the price of environmental degradation.

The situation becomes even more complex if we consider the issue of emission standards. A mine, for example, can dispose of waste in at least three ways – as effluent into a river, as solid waste into the soil, or as emissions into the air. If a mine locates itself in South Africa (e.g. at the mouth of the Orange River) it will have to comply with South Africa's emission standards. If South Africa (hypothetically) has strict laws regarding water and soil pollution, then the mine is likely to limit pollution to these receiving environments. To compensate, they would probably incinerate most of their waste, and in so doing, create air pollution. The predominant wind at the Orange River mouth is from the south-west, so the pollution will be blown across the border into the town of Oranjemund (in Namibia).

Thus, the application of EA at the strategic level, and the harmonisation of country EA policies and legislation, could help to minimise future opportunity costs and conflicts. While regional or subregional level environmental legislation is necessary in order to address environmental problems that cross frontiers and that involve common management<sup>6</sup>, there is still insufficient progress in regional co-operation in the fields of environmental management, political direction or economic development<sup>7</sup>.

This paper provides an overview of southern Africa's dependence on natural resources and the extent to which countries in the region are mutually-dependent upon each other.

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It examines the link between EA and sustainable development, and proposes that SADC take a more active role in co-ordinating policy development in the region.

### **Southern Africa's dependence on natural resources and ecological production, and the inter-dependency of countries within the region.**

"African countries are more dependent on their capital of natural resources than countries on any other continent" (AFTES 1995).

Prior to the appearance of farming communities in southern Africa, people commonly referred to as hunter-gatherers who depended entirely on natural resources for their survival, occupied the region. Archaeological evidence from Botswana and Zimbabwe suggests that they did not cause any significant changes to the environment. From long experience, southern African peoples apparently developed locally appropriate and sustainable systems for cultivation and grazing. They were similarly able to deal with environmental limitations such as unreliable rainfall<sup>3</sup>.

In southern Africa many areas have resources to which there is open access. Traditional management systems have been able to protect these "open access" resources, but increased population, coupled with a free market approach, has eroded traditional practises. This has often created disruptions with open access resources such as grazing land, water, fish and trees<sup>3</sup>.

**Water resources** in the region are shared, scarce and crucial for development. With the increasing demand for water, water-poor countries are looking to cross-border sources for future supplies. In most cases, countries in the region try their best to store large quantities of water in dams, thus altering and reducing natural flow regimes of rivers. The future of these dams depends largely on land use patterns in neighbouring countries, since soil erosion in the river catchments will cause siltation, thereby reducing water quality and the viability of dams. Thus, a dam both *receives impacts* from an "upstream" neighbour and, in turn, *causes impacts* on a "downstream" neighbour.

As people realise that **water** is a finite resource the move for co-operative management is growing world-wide<sup>3</sup>. Southern African countries are beginning to establish management agreements and structures for shared water-bodies, the most notable being SADC's Zambezi River Action Plan (ZACPLAN), which involves eight countries, and focuses on ways to guarantee the quantity and quality of water crossing borders. A number of other joint programmes exist, such as the Permanent Okavango River Basin Commission (OKAKOM) between Angola, Namibia and Botswana, and various Permanent Joint Technical Committees (PJTCs) between two or more countries (figure 4). At a 1993 SADC/IUCN conference in Botswana, delegates recommended that ZACPLAN be broadened to take in all river basins in the SADC region. The revised ZACPLAN is now the Protocol on Shared Watercourse Systems in the SADC region<sup>3</sup>.

Approximately two thirds of all southern Africans live in rural areas, deriving their main income from **agriculture** with grazing the most extensive form of land-use<sup>3</sup>. The combating of stock disease, especially foot and mouth and bovine lungsickness, is a major issue in the region, since both diseases spread quickly and need constant

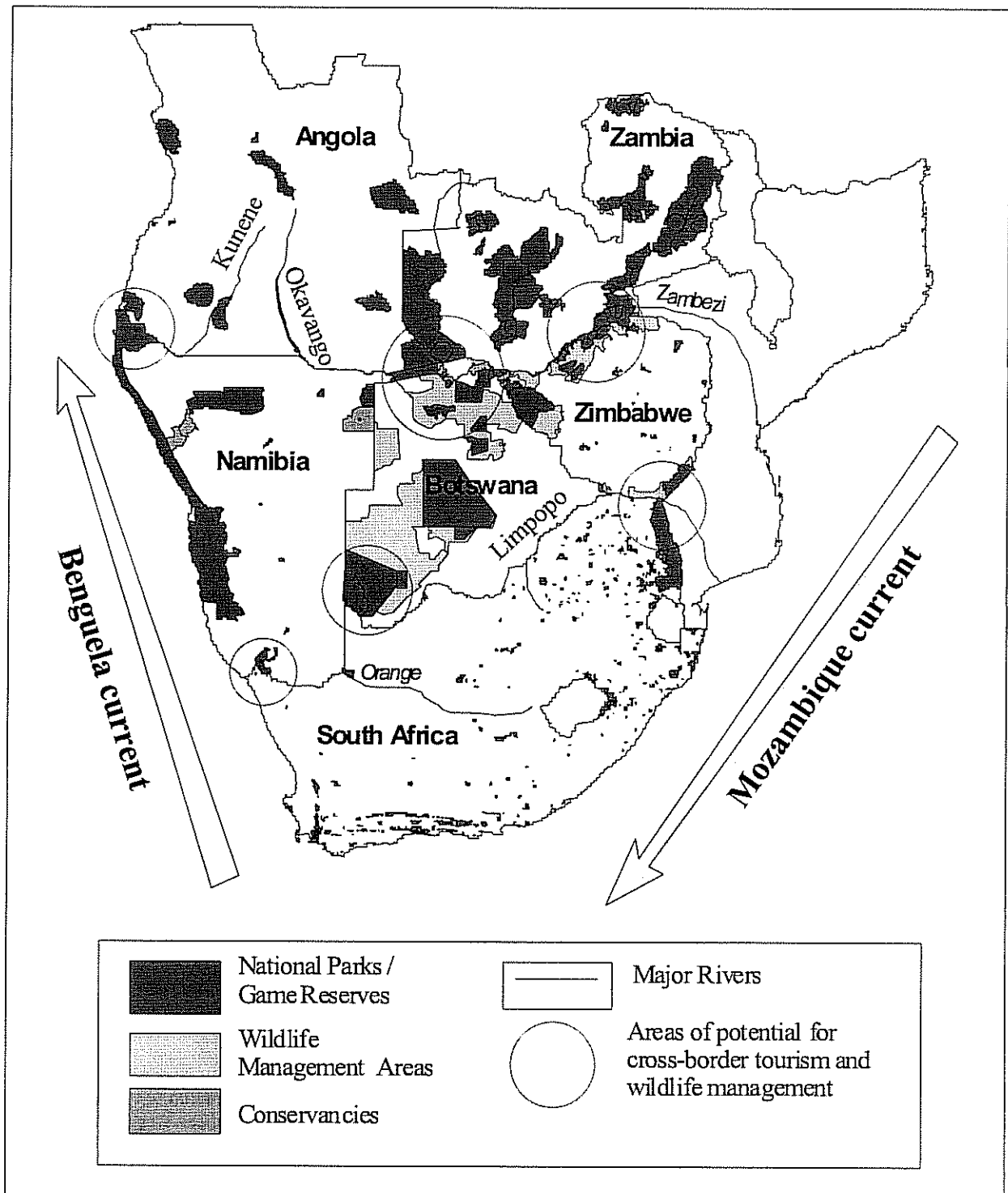
vigilance to control. Outbreaks sometimes require drastic measures such as the recent destruction of 250 000 infected cattle in northern Botswana<sup>14</sup> & <sup>4</sup>. Most SADC countries rely on lucrative EU beef exporting contracts to earn foreign exchange, so it is vital that neighbours cooperate in the field of veterinary control. Similarly, pests such as locusts, flies and other insects regularly cross borders and affect the health of livestock in the region. There is little point in one country implementing a comprehensive pest management programme if nothing is done by the neighbour.

In spite of the paucity of open water and major rivers, freshwater **fish** form an important source of protein in some areas. While fish are harvested regularly in rivers, dams and lakes, production will have to increase by 550 000 tonnes by the turn of the century to meet the increasing demands of the growing population<sup>3</sup>. Thus, the continuing health of the sub-continent's waterways and impoundments must be maintained if rural people will continue to have access to this important source of protein. To protect fish habitats, appropriate land use must be practised in catchment areas while pesticides and agrochemicals must be applied with caution. Furthermore, inter-basin transfer schemes often result in the accidental introduction of fish species and other aquatic organisms from one river, into another where they never occurred before. This can cause genetic pollution and seriously undermine biodiversity since local species may become extinct as a result of the "invasion".

Five countries in the region (Angola, Mozambique, Namibia, South Africa and Tanzania) have direct access to the sea. The sheer length of the coastline renders effective protection and management by individual countries almost impossible. At least three SADC countries (South Africa, Namibia and Angola) have significant marine fisheries industries based primarily on a shared resource. The subcontinent's marine system is dominated by two major features, namely the Mozambique and Benguela currents (figure 1). The three countries mentioned, recently established the Benguela Environment Fisheries Interaction and Training programme (BENEFIT) which requires regional co-operation in research, monitoring and management<sup>8</sup>. Since fish migrate to and fro within the broader Benguela system, the viability of the respective national fisheries rely on the commitment of neighbours to adhere to agreements.

The **wildlife management and tourism** sector has great potential in SADC since the region has a number of world-class game reserves and national parks, many of which occur on the border of member countries (figure 1). It is logical therefore, that their management be integrated and that tourists can travel between parks on a circuit which crosses country borders. Unfortunately, none of these parks are self-sustaining ecological units, and wildlife move in and out in search of food, water or breeding habitat. This is especially the case with large mammals such as elephant, buffalo, predators and other migratory game. Because of this, it is vital that neighbouring countries practice compatible land use and management. If they do not, wildlife will be trapped in "island parks" and they will destroy the habitat in these small areas. Moves are afoot within SADC to do this through the Protocol on Wildlife Conservation and Law Enforcement, which is currently in draft form.

**Figure 1: Southern Africa showing the regions' major rivers, protected areas and dominant ocean currents.**



## **What is Environmental Assessment and how does it relate to sustainable development ?**

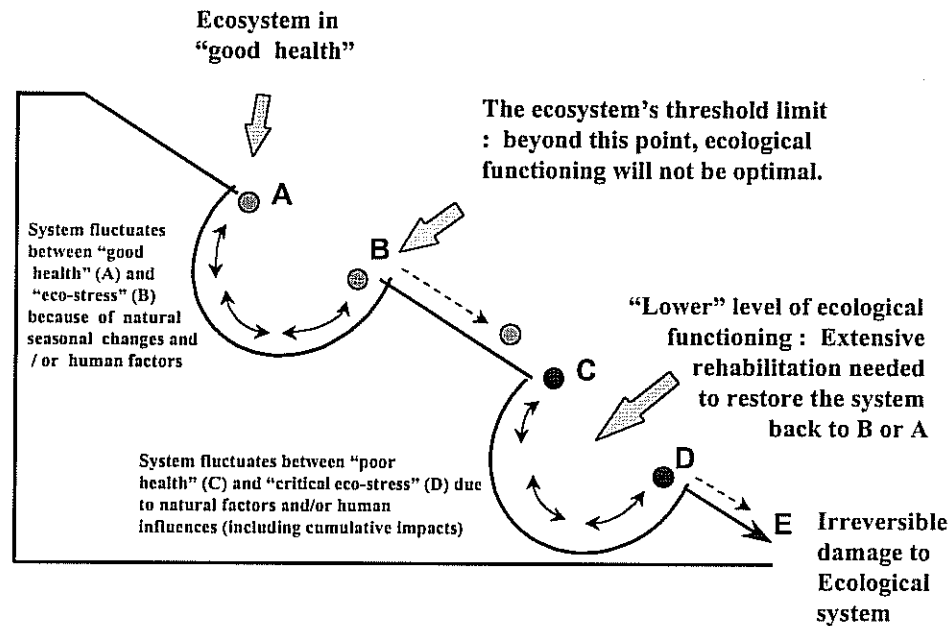
There are numerous definitions and variations of EA. For the purpose of this paper, three are recognised, namely Project EA, Strategic EA and Regional EA.

Traditionally, planning has always considered the costs and benefits of a project or activity. This has usually required some form of feasibility study, in which the return on investment was generally the basis for a decision on whether to proceed or not. In the past, a projects' impacts on the environment were ignored, meaning that the environment supposedly had no value. In recent years, people have recognised that the environment has an enormous value, and that environmental costs and benefits must be part of a feasibility study . The main tool for predicting the impacts an activity may have on the environment, is an EA (sometimes referred to as EIA).

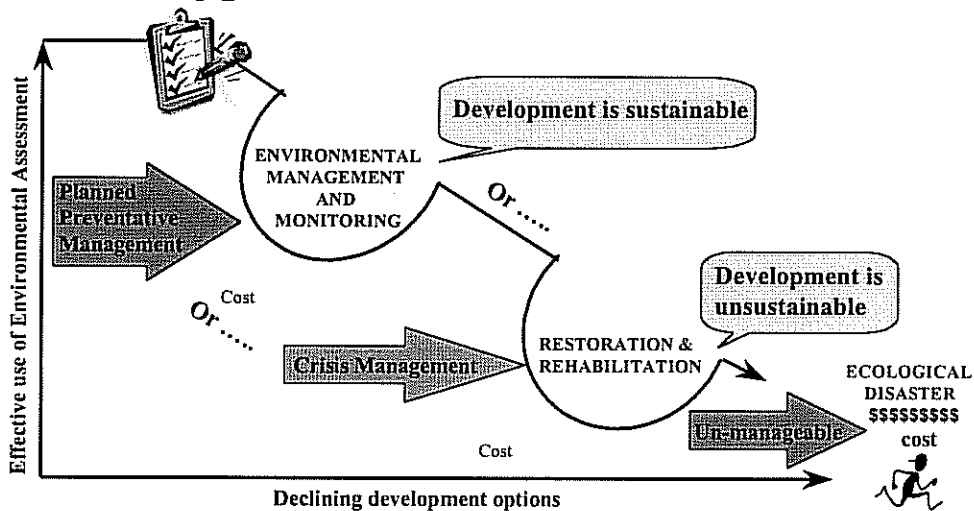
The African Development Bank (ADB) points out that the main purpose of an EIA is not to justify the appraisal of a project, per se, but rather to "*provide alternative scenarios, which fully reflect environmental costs and benefits. This would in turn facilitate decision-making whether or not to undertake the proposed investment*"<sup>1</sup>.

Like any planning process, EA requires expertise, time and money. In spite of criticisms by many decision makers, international experience has shown that the costs seldom exceed more than 1% of total project costs. Furthermore, the cost of *avoiding* impacts in the first place are much less than the cost of rectifying an environmental disaster later on. Generally, the sooner an EA is done, the better, so that environmental considerations can be incorporated early in the planning process (figure 2).

Figure 2 : Illustration of how a simplified ecological system fluctuates (top diagram) and when an EA should be done in order for the tool to be used most effectively (bottom diagram).



**EA is done as part of the planning process**



**Project EA (PEA)** is the assessment of a single project, such as a factory or mine. **Strategic Environmental Assessment (SEA)** is a more recent concept that is defined as "The formalised, systematic and comprehensive process of evaluating the environmental impacts of a policy, plan or program and its alternatives, the preparation of a written report on the findings, and the use of the findings in publicly-accountable decision-making"<sup>12</sup>. Thus, SEA does more than PEA, since it provides a broader framework within which smaller, more detailed site-specific PEAs can be done. The World Bank defines **Regional EAs (REAs)** as a process which "examines the cumulative impacts of several ongoing, planned or expected activities in a given geographic area"<sup>15</sup>. Most



authors and development agencies now recognise that EA, and especially SEA and REA are vital tools in helping to achieve sustainable development. But, few people really understand the meaning of the term sustainable development, even though the concept is not new to Africans.

The most widely used definition of sustainable development is “*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*”<sup>11</sup>.

Striving for sustainable development thus places a great responsibility on politicians who must now think beyond their own term of office or their Party's future, and on business people who must think beyond the value of their companies' shares and profits.

### **EA in southern Africa**

The history of EIA in Africa dates back to the late 1970's when their *ad hoc* use was promoted by various bilateral donors and multilateral agencies<sup>6</sup>. In the absence of local policies and legislation, donors and agencies generally followed their own procedures and criteria, in determining which projects should be subject to EIA and how the EIAs should be conducted<sup>6</sup>. Since 1975, the US Agency for International Development (USAID) has required an EIA for projects, which might have significant environmental impacts. The attitude of the World Bank also played a crucial role in the development of EIA legislation in Africa, since most countries on the continent relied on the World Bank for loans<sup>7</sup>.

In 1980, a declaration was signed by funding agencies such as the World Bank, regional development banks, UNDP and UNEP, which stressed the importance of EIA for development projects<sup>10</sup>. In 1990, the ADB declared that EIAs should be incorporated within the project planning cycle and that environmental considerations wherever essential, will become an integral part of loan agreements and bidding documents. This policy statement was strengthened in 1992, when the ADB published a guideline document to assist its members in preparing loan applications.

The 1992 Rio Earth Summit provided a further stimulus when it adopted the Convention on Biological Diversity, which was signed by most southern African countries. Article 14(1) of this convention states that: “Each contracting party, as far as possible and as appropriate, shall;

- introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimising such effects, and where appropriate, allow for public participation in such procedures;
- introduce appropriate arrangements to ensure that the environmental consequences of its programmes and policies that are likely to have significant adverse impacts on biological diversity are duly taken into account”

In spite of growing international pressure, it was only when African politicians themselves began warning of the dangers of environmental degradation, that countries on the continent began developing environmental policies. The turning point seems to have come in the 1980's, when it became clear to local decision-makers that natural resources needed protection in order for Africans to survive in the long-term. This led to

the holding of the first African Ministerial Conference on the Environment (AMCEN) in December 1985<sup>13</sup>. At the Fifth session of the AMCEN conference held in 1993, African leaders recognised that “there is an imperative need for African countries to look at emergency and disaster issues from a new perspective and shift from *ad hoc* short-term approaches to medium and long-term planned policies and strategies”.

AMCEN, also known as the Cairo Programme for African Co-operation, adopted the following main aim:

“Strengthening co-operation among African Governments in economic, technical and scientific activities, with the primary objective of halting and reversing the degradation of the African environment in order to satisfy the food and energy needs of the people of the continent”.

Donor and development agencies, multinational and bi-national partners, major lending institutions and local decision makers thus all contributed significantly towards the fostering of environmental awareness in Africa, and especially towards promoting the use of tools such as EA.

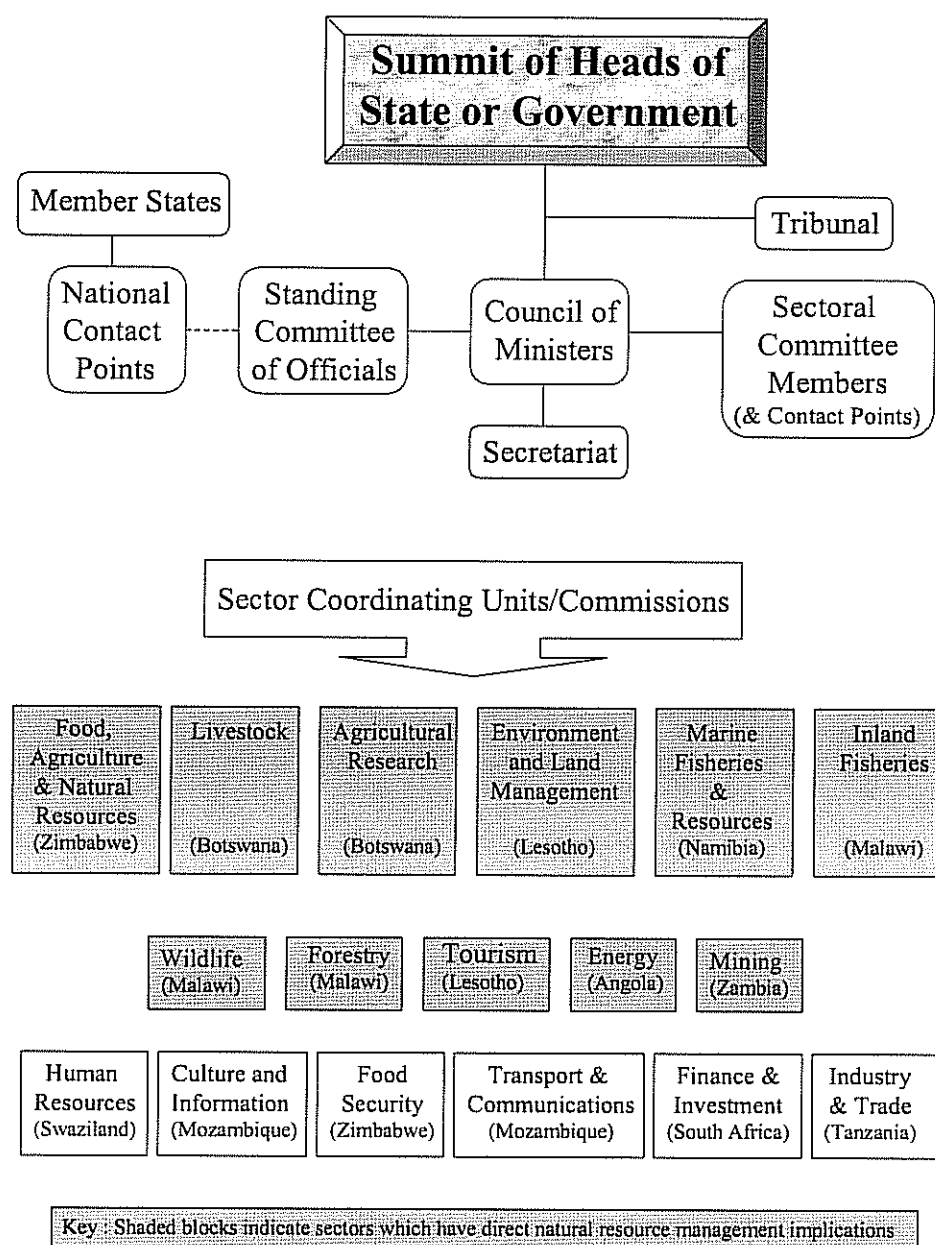
Since public participation (and hence pressure) has clearly been the principle catalyst in the growth of environmentalism world-wide, it is not surprising that concepts such as EA only gained currency once colonialism and apartheid had ceased to dominate societies in southern Africa. The oppressive nature of these respective systems discouraged public debate and action, especially when the public strayed into the apparently exclusive domain of decision making. Although the NEAP process was the first real attempt to involve the public in the strategic planning of natural resource use, African governments were initially not ready to promote public participation<sup>5</sup>. The World Bank suggests that effective environmental management (including EA) requires public participation and that this can only be achieved in an open society where people are empowered<sup>15</sup>.

Individual countries or groups of countries affected by common problems (e.g. SADC) have taken important environmental initiatives<sup>3</sup>. However, change has been slow in southern Africa because governments have had a virtual monopoly on policy-making<sup>3</sup>. Although environmental regulations exist in all countries within the region, their quality and implementation varies - many exist on paper only as the countries have neither the political will nor the resources to implement effectively<sup>3</sup>.

### **SADC and its role in environmental issues and EA**

SADC was established in the 1980s by countries in southern Africa to reduce dependence, particularly, but not only, on South Africa, and to promote regional economic co-operation. When SADC was formed, Apartheid South Africa was both a dominating and destabilising force due to her economic and military power. While post-Apartheid South Africa has increased its power and influence in the region, it is now a full member of a transformed SADC. SADC's new role is to promote development, peace and stability in the region. Indeed, SADC appears to have responded positively to the challenge of achieving “equity-led growth and sustainable development in Southern Africa”<sup>9</sup>. SADC is structurally organised into several development sectors, whose respective co-ordination is entrusted to the government of a specific member state (figure 3).

**Figure 3 : SADC Decision-Making Structure and Sectors**



According to the SADC Policy and Strategy for Environment and Sustainable Development, current thinking within the organisation calls for “a break away from fragmented sectoral approaches to environmental management”. With the recent addition of South Africa to SADC, the policy anticipates “a new basis and more opportunities for the SADC countries to better manage their multiple transitions and together move toward sustainable development”. The most encouraging sign within SADC is the apparent realisation by the organisations’ policy-makers that the region’s development over the last decade has been unsustainable, and that sustainable development and environmental health are inextricably linked. However, it is not clear how widespread this view is amongst decision-makers, who may not even be aware of the implications of SADC’s environmental policies.

Since 1981 the Government of Lesotho has been responsible for co-ordinating activities within the SADC Environment and Land Management Sector (ELMS) and, to that effect, has established a Co-ordination Unit within its Ministry of Agriculture<sup>3</sup>. SADC-ELMS has so far identified seven areas of concern, namely:

- Securing sustainable water supply and quality;
- Preventing and reversing desertification;
- Combating coastal erosion and pollution;
- Ensuring sustainable industrial development;
- Making efficient use of energy resources;
- Maintaining forests and wildlife resources; and
- Managing demographic change and pressures.

SADC-ELMS recognises the fragmented nature of EA policies and legislation within the region and calls for “a single agenda and strategy” and the consistent integration of EIA in decision making. In one of its stronger statements, SADC-ELMS argues that at least one absolute policy should prevail in the region, namely that “If an EIA review of a proposed policy or programme indicates that it will not lead to at least some improvement in the living conditions and prospects of the poor majority, then a sustainable alternative must be found that does”<sup>9</sup>. This policy is consistent with the principal clause of the SADC Treaty of 1992 which is “to achieve development and economic growth, alleviate poverty, enhance the standard and quality of life of the peoples of Southern Africa and support the socially disadvantaged through regional integration”. The policy is, however, inconsistent with current reality, namely that of the few SADC members who have an EIA policy or legislation, hardly any require EIA at the strategic level.

SADC claims to have the best record in Africa for regional co-operation on economic and environmental issues, since it has established a broad-based, decentralised network of co-ordinating units for various sectors (figure 3) and through this, it has fostered a feeling of ownership amongst its members. However there is little evidence that the organisation has had a significant impact on integrated decision making in the region. Instead, individual governments have usually initiated and driven joint activities. Namibia, for example, has a number of joint programmes with its neighbours on issues such as shared water management (figure 4) and marine systems management.

However, it must be recognised that consensus-building in this politically fragmented region requires patience and persistence. Perhaps SADC is gradually influencing its member states and the excellent principles contained in its Policy and Strategy for Environment and Sustainable Development will attain the level of prominence they deserve.

**Figure 4: Water co-ordinating committees between Namibia and her neighbours**

Title of Agreement, signatories and date	Primary objectives
<p><b>Permanent Joint Technical Commission on the Kunene River (PJTC) between Angola and Namibia.</b></p> <p>Signed : 18/09/1990</p>	<p>a) Ensure maximum beneficial regulation of water flow at Gove Dam for optimal power generation at Ruacana and to control water abstraction in the middle-Kunene River.</p> <p>b) Ensure continuous operation &amp; adequate maintenance of water pumping works at Calueque and Ruacana.</p> <p>c) To allow the PJTC to evaluate future schemes on the river for electricity needs of both countries.</p>
<p><b>Joint Permanent Water Commission (JPWC) Between Namibia and Botswana.</b></p> <p>(Signed : 13/11/1990)</p>	<p><b>Advise both Parties on the following:</b></p> <p>a) measures &amp; arrangements to determine the potential of water resources from rivers of common interest;</p> <p>b) reasonable demand for water from common resources;</p> <p>c) establishing the criteria for allocation &amp; utilisation of common water;</p> <p>d) prevention &amp; control of aquatic weeds and pollution.</p>
<p><b>Permanent Water Commission (PWC) between Namibia and South Africa.</b></p> <p>(and a specific agreement on The Vioolsdrift and Noordoewer Joint Irrigation Scheme)</p> <p>(Signed : 14/09/1992)</p>	<p><b>Advise both Parties on the following:</b></p> <p>a) measures &amp; arrangements to determine the potential of water resources from rivers of common interest;</p> <p>b) reasonable demand for water from common resources;</p> <p>c) establishing the criteria for allocation &amp; utilisation of common water;</p> <p>d) investigations relating to the development of waters, including construction, operation &amp; maintenance of works;</p> <p>e) prevention &amp; control of aquatic weeds and pollution;</p> <p>f) measures to alleviate short-term problems from water shortages during droughts, taking into account stored water and requirements in respective territories at the time</p>
<p><b>Permanent Okavango River Basin Water Commission (OKAKOM) between Angola, Botswana and Namibia.</b></p> <p>(Signed : 15/09/1994)</p>	<p><b>Advise all Parties on the following:</b></p> <p>a) Measures and arrangements to determine the long term safe yield of the water available from all potential resources in the Okavango River</p> <p>b) the reasonable demand for water from consumers in the Okavango R.</p> <p>c) criteria for conservation, equitable allocation and sustainable utilisation of water in the Okavango River</p> <p>d) investigations relating to development of waters, including construction, operation &amp; maintenance of works;</p> <p>e) prevention &amp; control of aquatic weeds and pollution;</p> <p>f) measures to alleviate short-term problems from water shortages during droughts, taking into account stored water and requirements in respective territories at the time</p>

Two more commissions are currently being negotiated, namely the Senqu-Orange River Commission (SORACOM) between Lesotho, Namibia and South Africa, and the Zambezi River Basin Commission (ZAMCOM) between Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe.

### Conclusion

In spite of the clear need for regional co-operation on environmental issues, the efforts to achieve this are fragmented and inadequate. Where joint decision-making exists, the results have been positive. SADC has been created to facilitate integration and its policies reflect this mandate. Similarly, it has established the necessary institutional structures to fulfil this mandate. The next step should be the development and implementation of a SADC protocol on Environmental Assessment, which binds its members to assessing the impacts of all their major policies and development activities, including those that may affect neighbours. In this way, countries in the region could move closer to achieving the elusive goal of sustainable development.

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