

- Household and community safety nets.

This will require a series of policy interventions, ranging from those offering immediate relief to longer-term development initiatives. Given the region's financial and resource constraints, the donor community will have to play a substantive role in the provision of both capital and technical assistance to ensure that the envisaged interventions are both operationalised and sustainable.

The State of the Environment in Southern Africa

Biological resources Southern Africa has rich biological resources in a variety of ecosystems that include moist tropical forests in Angola and Zambia, savannas, coastal and mangrove forests, deserts and semi-deserts, and in South Africa the extraordinary diversity of plants of the Cape Floral Region (AMCEN and UNEP 2002). The subregion boasts an average of 57 mammalian species and 136 breeding bird species per 10 000 km² (AMCEN and UNEP 2002). These biological resources are important as they:

- Ensure long-term food security;
- Provide access to genetic resources for crop and animal-breeding purposes;
- Make available many species of plants and animals for medicinal purposes and traditional healing; and
- Are potentially useful for commercial production.

The subregion is facing various environmental pressures. They include the expansion of human settlement, of agricultural and mining activities, as well as of other commercial and subsistence activities. Furthermore, the region faces pressures generated by poaching and an increased trade in plant and animal products, such as black market trafficking in rhino horn.

Subregional cooperation plays a significant role in the conservation of biological resources in southern Africa, and the Southern African Convention for Wildlife Management has

been successful in regional monitoring, assessment and management of wildlife resources.

Climate A variable climate in southern Africa, resulting in periods of drought and flooding, poses difficulties for the region impacting particularly vegetation systems, biodiversity, freshwater availability and food production. Furthermore, emissions from industry, vehicles and domestic fuels give rise to localised air quality problems (AMCEN and UNEP 2002).

Recent weather patterns have been erratic, with severe droughts recorded in 1967–73, 1981–83, 1986/87, 1991/92 and 1993/94. Floods have also occurred, most notably across most of southern Africa in 1999/2000. The drought of 1991/92 was the severest on record, causing a 54 per cent reduction in cereal harvest, and exposing more than 17 million people to the risk of starvation. Cyclone Eline, which hit south-eastern Africa in 1999/2000, affected 150 000 families and wreaked havoc in Mozambique where it caused physical damage estimated at US\$273 million, lost production estimated at US\$295 million, and US\$31 million in food imports (AMCEN and UNEP 2002). A combination of dry spells, severe floods, and disruption of farming activities between 1999 and 2001 has left southern Africa with meagre food reserves. Several of the subregion's countries have faced food shortages.

SADC has developed a Sub-Regional Action Programme to Combat Desertification in southern Africa, in line with the United Nations Convention to Combat Desertification (UNCCD), which is aimed at dealing with the problems of climate variability. All of the countries in the southern African subregion are party to the UNCCD, and Lesotho, Malawi, Swaziland, Tanzania and Zimbabwe have also produced National Action Plans. Early warning and response strategies for mitigating the impacts of climate variability are relatively well developed in the subregion, and a drought fund is in place to mitigate the effects of poor rainfall. However, monitoring, research, and preparedness strategies need further strengthening.

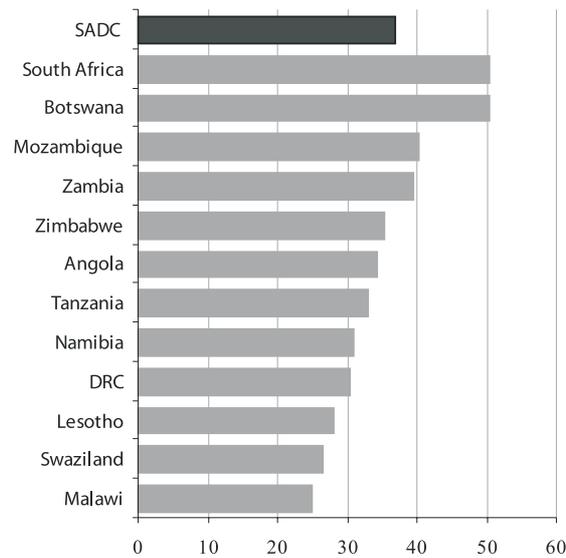
Coastal and marine resources The southern African coastline extends from Angola on the west (Atlantic) coast to Tanzania on the east (Indian Ocean) coast. The major issue for coastal countries of the subregion is the depletion of fish stocks through unsustainable levels of harvesting. Pollution is also increasing as a result of activities on land and oil spills. Furthermore, there is the potential impact of rising sea levels, including inundation of major coastal settlements with associated damage to ecosystems and infrastructure, and displacement of populations. The coast is rich in fish, seafood, mangroves and coral reefs as well as oil, diamonds and other mineral deposits. The long, sandy beaches and warm waters of the Indian Ocean create good opportunities for tourism, and the many deep-water ports along the southern African coast present opportunities for industry and export.

The subregion's coastal resources are important economically, at a subsistence level and commercially. In South Africa, for example, the annual revenue from coastal resources has been estimated at more than US\$17 500 million (approximately 37 per cent of South Africa's GDP). This includes revenues from transport and handling of cargo, tourism and recreation, and commercial fishing industries. All countries of the subregion, with the exception of Angola, have ratified the United Nations Framework Convention on Climate Change (UNFCCC) but, as most of them (with the exception of South Africa) contribute negligible amounts to global carbon dioxide emissions, more immediate mitigating measures are required. As a short-term measure, physical barriers have been constructed, but relocation of human settlements and industry could also be considered.

Urbanisation Southern Africa's urbanisation levels are currently just under the average for the Africa region, with 36 per cent of the subregion's population living in urban areas. South Africa and Botswana are the most urbanised countries, with urban populations of 50 per cent each. Malawi is the least urbanized, with just 24 per cent of its population living in

urban centres. This is considerably different from the situation 30 years ago, when just 11.2 per cent of the southern African population lived in towns and cities.

Figure 7: Urbanisation (% population 2000)



Source: UNDP (2002)

The current rate of urbanisation is also high, and is predicted to average around 3.5 per cent over the next 15 years, although there are wide differences between countries. For example, South Africa, one of the most urbanised countries in the subregion, has the lowest rate of urbanisation at 1.2 per cent, whereas Malawi, currently the least urbanised, has estimated urban growth rates of over six per cent. South Africa has the biggest and most populous urban areas in the subregion, including southern Africa's largest urban agglomeration, Johannesburg (with an estimated population of four million, 791 000 households, 720 suburbs and an area of 1 384 km²).

The rapid growth and expansion of urban areas in southern Africa is causing an unprecedented level of localised depletion of natural resources, discharge of unprocessed wastes into the environment and massive demands for urban services. Most southern African municipalities have not been able to keep pace with the demand for basic services such as housing, roads, piped water, sanitation and waste disposal. Provision of health and education services and facilities has also lagged far behind urban population growth. The overall result is that the environment has become hazardous to human health through the rapid spread of water-borne and respiratory diseases, and this situation is compounded by a lack of health facilities, low levels of education and employment opportunities and, hence, a reduced ability to afford improvements to living conditions.

Forests and woodlands Southern Africa has a range of forest and woodland types that follow the rainfall distribution of the subregion. The wetter, more northern parts of the subregion support more closed canopy forests, whilst the drier countries in the south have predominantly woodlands and savannas. The total forest and woodland area of southern Africa amounts to 32.7 per cent of the subregion's total area, and constitutes 34 per cent of all of Africa's forests. Angola has the highest forest cover, with 56 per cent of the land area under forests; Lesotho has the lowest, with less than one per cent. The major issues of concern regarding the forests of southern Africa are degradation of forests and woodlands, and overexploitation of certain species, resulting in loss of ecosystem goods and services.

Forest products are a valuable source of export earnings and revenue throughout the subregion, and the communities living in forest or woodland areas are highly dependent on forest products for meeting everyday food and energy needs. Forests and woodlands are important to local communities, mainly as a source of domestic fuel, either wood or charcoal. For example, about 80 per cent of Mozambique's population lives

in rural areas and depends on wood for cooking and for heating of water for domestic use, space heating and drying of foodstuffs. The charcoal industry generates about US\$30 million annually, and is the sole source of income for about 60 000 people.

Fresh water Southern Africa is mostly semi-arid and experiences variation in rainfall, both over time and between countries. This subregion is also expected to experience further variability in rainfall, reduced precipitation and increased evaporation, as a result of climate change. With a rapidly growing population and demands from the domestic, agricultural and industrial sectors for water, fresh water availability is a priority concern for the subregion. Discriminatory access policies and pricing systems have skewed the distribution of access to water resources across population groups. An additional concern is declining water quality through domestic and industrial pollution, and eutrophication and salinisation as a result of agricultural pollution.

Southern Africa's annual average surface water resources are approximately 534 km³/yr, but they are distributed unevenly owing to frequently low and variable rainfall, terrain, evaporation rates, and vegetation and soil cover. For example, Angola, the wettest country in the subregion, has average annual internal water resources of 184 km³/yr (14 000 m³/capita/yr), and Mozambique and Zambia have 100 km³/yr and 80 km³/yr respectively (5 000 m³/capita/yr and 8 700 m³/capita/yr). By contrast, the driest countries, Botswana and Namibia, have just 2.9 km³/yr and 6.2 km³/yr respectively (1 700 m³/capita/yr and 3 500 m³/capita/yr respectively).

Land Southern Africa has a total land area of 6.8 million km², of which almost 33 per cent is covered by forest, 21 per cent is desert, and the remaining natural habitat is largely savannas and grasslands. Rainfall in the subregion ranges from 50 mm/yr in the arid deserts of Botswana, Namibia and South Africa, to more than 1 000 mm/yr in the equatorial forests of Angola,

Malawi, Mozambique and northern Zambia. In most areas, rainfall is largely seasonal, falling over a period of just a few months, often in the form of intense thunderstorms or showers. Where vegetation cover is reduced, this can lead to higher rates of soil erosion. Likewise, most of the subregion experiences high variability in rainfall, and frequent or prolonged periods of flooding and drought. Grazing lands currently constitute 49 per cent of the area, predominantly in the form of savannas and grasslands, especially in the drier countries where forest cover is lower. Permanent crops and arable lands cover slightly less than six per cent of the land area and are predominantly rain-fed, except in South Africa where irrigation potential is relatively well developed.

Regional Integration in Southern Africa

Regional integration is aimed at promoting the transformation of African economies. The resultant effect of integrating countries would be the achievement of comparative advantage, which would lead to efficiency in production and ultimately an increase in the quality and quantity of factors of production. Regional integration brings about convergence in addressing common political and social problems and consolidating peace, and in achieving economic and social development through joint initiatives. Southern African countries have become involved in various regional integration initiatives. To date, the following initiatives have gained prominence in the SADC region:

Common Market for Eastern and Southern Africa (COMESA)
Comprising 21 member states, COMESA is a large economic and trading unit capable of overcoming some of the barriers faced by individual states. COMESA's strategy is trade liberalisation through market integration. COMESA offers a range of benefits to its members including a wider, harmonised and more competitive market, greater industrial productivity and