

# Fundamental issues and the threats to sustainable development in Namibia

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## **Acronyms**

CBD	Global Convention on the Conservation of Biological Diversity
EIA	environmental impact assessment
EIF	environmental investment fund
EPZ	export processing zone
GDP	gross domestic product
GRN	Government of the Republic of Namibia
ICTSs	information and communication technologies and systems
MAWRD	Ministry of Agriculture, Water and Rural Development
MET	Ministry of Environment and Tourism
MLRR	Ministry of Lands, Resettlement and Rehabilitation
MRLGH	Ministry of Regional and Local Government and Housing
NDP1	first National Development Plan (1995-2000)
NICP	national information and communication policy
PJTC	Permanent Joint Technical Commission (Angola and Namibia)
PPP	public–private partnerships
SACU	Southern African Customs Union
SADC	Southern African Development Community
SD	SD

## **1. INTRODUCTION**

The purpose of this paper is to highlight and examine major issues that arise in connection with Namibia's development over the coming years. These issues may be seen as constraints or threats to the country's efforts to embark on a sustainable development (SD) path. But if properly addressed and targeted as areas of prime importance for innovative policy development and implementation, the issues may turn into opportunities for SD.

While each individual issue appears fundamental to SD in its own right, no one issue stands alone – it would be futile to consider and tackle any issue in an isolated fashion. There are many inter-linkages such that the issues must be examined and addressed together as a system. This is reflective of the complex and integrated nature of the SD challenge.

The following set of 12 fundamental but inter-linked issues have been identified as posing significant threats to SD in Namibia:

- i) economic growth and industrialisation – impacts on and constraints imposed by the ecology;
- ii) poverty and inequality – disparities between the rich and poor;
- iii) water – a limited resource for human use and economic growth;
- iv) land – low human carrying capacity and inappropriate distribution, tenure and use;
- v) biodiversity – an endangered foundation of human life and livelihoods;
- vi) population growth and settlement patterns – more people sharing a limited resource pie;
- vii) human resources – a lack of human capital for socio-economic advancement;
- viii) governance – the need for changing institutional approaches to resource management and for safeguarding human rights, democracy, peace and security;
- ix) economic policy and management – the need for a stable macroeconomic environment to unleash private initiative and entrepreneurship;
- x) regionally and globally shared natural resources – the risk of increasing competition for regional resource access and the adverse local impacts of global environment change;
- xi) knowledge for sustainable development – the need for harnessing existing knowledge and generating new knowledge;
- xii) culture, communication, attitudes and lifestyles – the need to develop a shared vision and values for sustainable development.

Below, each of the 12 issues is examined regarding its significance in the evolving Namibian context, its linkages to other issues, and what needs to be done to encourage more SD, in the light of past and present strategies and actions pursued by the Government of the Republic of Namibia (GRN) and other Namibian role players.

## **2. ECONOMIC GROWTH AND INDUSTRIALISATION**

Strong economic growth, one of Namibia's four national development objectives, may pose a threat to SD, because it can lead to over-exploitation of the country's limited and fragile renewable natural resource base – as reflected in processes such as land degradation, water over-consumption, erosion of biodiversity and fish stock depletion. The risk of resource over-exploitation is great in Namibia, since the country's economic activity is concentrated in the natural resources (primary) sector, any further economic growth puts immediate extra pressure on the country's limited and fragile natural resource base.

Strong economic growth and expanded industrial activity will inevitably result in adverse environmental impacts, such as water and air pollution, liquid and solid waste generation and land contamination. These impacts carry significant economic and social costs which threaten to undermine economic growth and SD. Hence, there is a need to limit environmental impacts and associated socio-economic costs, by encouraging pollution prevention and mitigative measures where necessary. Environmental management and environmental impact assessment (EIA) legislation about to be passed by the Namibian parliament will be a useful tool in this endeavour. What is at issue is not economic growth as such, but the nature and patterns of growth that are most conducive to ecologically (and socially) SD. The challenge is to find the right balance between economic, environmental and social objectives and to integrate economic, environmental and social criteria in making appropriate choices.

If, and only if, Namibia's precious renewable resource capital is maintained in quantity and quality through sound management can economic growth be sustained and SD be attained. To maintain renewable resource capital and counteract the risk of resource over-exploitation, there is a need to pursue mechanisms to encourage consumptive resource users to re-invest in the natural resource base and to decouple economic growth from natural resource use, by increasing the value of economic output per unit natural resource input (see Section 2.2 for further discussion).

No-one seriously questions the need for strong and sustained economic growth as an essential pre-requisite for SD in Namibia. Economic growth is needed, inter alia, to reduce widespread and often abject poverty among the majority of the population and achieve a more equitable distribution of income, wealth and access to resources in the country (issue ii). It is also required to generate the necessary economic opportunities and benefits for a fast growing national population (issue vi) and to provide the necessary employment opportunities for a fast expanding labour force, swelled by rapidly rising numbers of young people in search of jobs and livelihoods.<sup>1</sup>

Only in the long-term, with population growth dropping, population size stabilising and poverty and inequality diminishing might it be possible to think of and promote low-growth or no-growth scenarios for SD.

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<sup>1</sup> Achieving sustained economic growth, creating employment, eradicating poverty and reducing (income) inequality have been and remain the four major, and closely inter-twined, development objectives of Namibia's National Development Plans: the Transitional National Development Plan (1991–4); the First National Development Plan (1995–2000); and the Second National Development Plan (2000–5) currently being crafted, into which the present Environmental Review is meant to feed.

There is thus little doubt that in the short and medium term, sustained economic growth is an necessary ingredient of any SD effort in Namibia. What is open to debate is the nature and pattern of economic growth that would be most conducive to SD in the country. Clearly, reducing poverty and putting growth and development on a more equitable footing must be part and parcel of any growth strategy toward SD (issue ii). This important ‘social equity’ dimension is already reflected in the set of four main objectives pursued under Namibia’s National Development Plans (see footnote 1).

Of no less importance to SD is that Namibia’s fragile natural resource base and ecological life support systems be maintained or enhanced. Strong economic growth may pose threats to SD, unless mechanisms are put into place to prevent unsustainable natural resource exploitation and where necessary, restore already over-exploited ecosystems and habitats. It is imperative that the precious renewable natural resource capital be managed judiciously and not used up or degraded irreversibly. Indeed, care should be taken to use available ‘dividends’ accruing from this capital, within natural short-term rates of resource replenishment, for maximum economic productivity and benefits.

Namibia has long been (and to a significant degree, still is) a classical case of a small economy dominated by the exploitation of key mineral resources, increasingly dominated by diamonds (most of which are now recovered from the sea bed). Over the past 100 years, mining activity has fuelled accumulation of wealth in Namibia, which has placed the country within the middle-income category of developing countries (annual per capita GDP of some US\$1,300). However, this figure hides gaping income differentials – the wealth is very unequally distributed (the vast majority of the population subsists on annual incomes of typically less than US\$100.); and as a capital-intensive activity<sup>2</sup>, mining has done relatively little to create jobs and raise the living standards of the majority of the population (issue ii).<sup>3</sup>

Since Independence, the share of mining sector GDP and export earnings has fallen significantly<sup>4</sup>, while the importance of diamond mining has risen sharply in relative terms.<sup>5</sup> Nevertheless, the Namibian economy is still quite dependent on mining. Furthermore, recent innovations in mining technology and attendant shifts of diamond mining activity toward recovering huge, hitherto unexploited, diamond reserves on the offshore sea bed as well as the discovery of additional zinc and copper reserves<sup>6</sup> promise good prospects for the mining sector in the medium term. This should provide a comforting margin of manoeuvre and afford an opportunity to make strategic investments for further economic diversification. Yet there may also be a

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<sup>2</sup> The recent development of small-scale mining activities in the semi-precious stone and dimension stone sectors have opened some possibilities for less capital-intensive and more labour-intensive forms of mining.

<sup>3</sup> This is not to deny that work in the mines by male members of rural households has allowed a number of these households to diversify income streams and have access to cash-cash remittances by migrant mine workers has been an important source of income for some of the poorest female-headed households in rural areas.

<sup>4</sup> The mining share of GDP has dropped from an average of 22.7 per cent (1983–90) to 11.9 per cent (1991–8), and the mining share of export earnings from an average of 65.2 per cent (1983–90) to an average of 44.0 per cent (1991–8) (see Mining Sector Issues and Options Paper, 24 May 2000).

<sup>5</sup> Diamond mining accounted for an average of 44.0 per cent of mining sector GDP and an average of 42.3 per cent of mining export earnings, in the period 1983–90. These percentages have risen to 69.0 per cent and 66.4 per cent, respectively, for the period of 1991–8.

<sup>6</sup> Including additional reserves at the Rosh Pinah Zinc mine, the new Skorpion Zinc Deposit and the potential development of the Haib Copper deposit.

danger that the currently relatively rosy prospects for the mining sector may assuage any sense of urgency to tackle the issue of diversification quickly.

While renewable natural resources can and should be managed sustainably, this is not possible, by definition, for non-renewable mineral resources. While rising market prices for minerals and improved mining technology can (and often do) increase mineral reserves and hence extend the time horizon over which known resource deposits become depleted, the challenge is one of judicious exploitation. In the short- to medium-term, the level of mining activity and investment in new mining ventures is determined by international market prices for key minerals (diamonds, zinc, uranium, gold, etc.) as well as by already operating or firmly planned developments. The long term challenge is to make the rate of exploitation consistent with national macroeconomic needs (foreign exchange, employment, etc.) and to promote economic diversification by providing incentives for investing some mining profits in sectors other than mining.

Other critical resources that require sustainable management and utilisation are renewable resources, including water, land, land based resources (wildlife, forests, pastures, etc.) and biodiversity. These resources are discussed in detail in Sections 4, 5 and 6.

## ***2.1 Environmental management and reinvesting in the natural resource base***

The environmental impacts from expanding economic activity and industrialisation must be contained and managed in ways compatible with SD. The economic and social costs of environmental impacts must be balanced against the economic and social benefits from the activities generating the impacts. Comprehensive environmental legislation, *The Environment Act*, will shortly be before the Namibian parliament. This legislation, once passed, will enshrine important environmental management principles and mechanisms, including EIAs, prevention and mitigation methods and procedures in law. The relatively low level of industrial activity in Namibia at present provides an excellent opportunity for a well guided and monitored industrialisation process. EIA legislation will be an important tool to monitor the environmental impact of economic activity and to prevent the establishment of polluting industries.<sup>7</sup>

The mining sector already has environmental management regulations in place, which have provided a measure of environmental self-regulation of ongoing mining operations. Yet abandoned mines and mine tailings in different parts of the country – relics from past operations – remain serious local environmental hazards. Use of an Environmental Investment Fund (EIF), a mechanism enabling consumptive resource users to re-invest in the resource base, has been proposed to finance the clean-up.

As stated above, Namibia's formal economy is largely dependent on the country's fragile and limited natural resource base – most exports are primary products, while most manufactured goods are imported (some 60 per cent of GDP is imports). The risk is that further economic growth will put immediate additional pressure on the

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<sup>7</sup> See Trade and Industry Issues and Options Paper, April 2000.



natural resource base. To counteract this, a strategy should be pursued to create mechanisms to enable consumptive resource users to re-invest in the natural resource base and to decouple economic growth from natural resource use by increasing the value of economic output per unit natural resource input. An example of a re-investment mechanism is the mining sector EIF. Various options exist to decouple economic growth from natural resource consumption:

- a) shifting economic activity from the primary to the secondary and tertiary sectors;
- b) encouraging greater value adding by processing primary products domestically and/or substituting for products currently being imported;
- c) encouraging more efficient use of scarce or expensive resources, e.g. water, energy;
- d) increasing sustainable economic output from land, through land use diversification, based on appropriate land use planning and policy incentives on freehold and communal land;
- e) importing products whose production is intensive in scarce natural resources; and
- f) generally emphasising recycling, re-use and waste reduction in production and consumption.

The GRN has pursued the expansion of a fledgling manufacturing sector, through incentives for the establishment of manufacturing enterprises – manufacturing in 1998 accounted for 14 per cent of GDP. An Export Processing Zone (EPZ) has been set up, but the number of jobs created seems to have been relatively modest<sup>8</sup>. In recent years, the tourism industry has been one of the most dynamic and fastest growing sectors in the Namibian economy, but this has more to do with proper land use planning and granting resource use rights over wildlife to landowners and communities than with shifting away from natural resource based economic activity. The fishing industry has invested in domestic processing capacity and pursued exports of canned fish (example for b).

Under c), recent policy initiatives in water demand management have focused on cost recovery and more efficient use of urban bulk water supply (issue iii). The potential for d) is illustrated by the switch from livestock-based agriculture on some commercial farms or from pastoral land use systems in selected communal land areas, to wildlife-based tourism on farms or within conservancies, encouraged by policies of granting exclusive wildlife use to private land owners (in the 1970s) and more recently (in the 1990s) to conservancies (issue iv).

Relating to e), some 40 per cent of all water in Namibia is used for irrigated agriculture; it may make more sense to import water-intensive horticultural products (e.g. tomatoes, onions) than to produce them domestically (issue iii). And finally, much more could be done, at all levels and in all sectors, in re-cycling, re-use and waste reduction, alleviating pressure on the assimilative capacity of the fragile environment to absorb pollution and wastes f).

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<sup>8</sup> By and large, the EPZ has pursued a low-skill low-wage strategy.

### **3. POVERTY AND INEQUALITY**

Poverty and inequality are serious threats to SD. At Independence in 1990, Namibia inherited a highly fragmented, stratified and dualistic society, polity and economy. Poverty eradication and greater equality have been, since then, two of Namibia's four major development objectives, but the problem persists. These factors affect SD because poverty and environmental degradation processes often interact in ways that reinforce each other and poverty and inequality directly contribute to, and result from, the over-utilisation of the natural resource base (recognising that it is not only the poor that put pressure on the environment). Namibia has one of the most inequitable distributions of income, wealth and access to resources in the world, with a Gini coefficient<sup>9</sup> of 0.7 – even worse than South Africa's (0.67) and Sierra Leone's (0.63). Such inequality is an indicator of unsustainable development.

Poverty is concentrated within the populations living on rural communal land (the majority), among farm workers on commercial lands and in the urban informal sector, while the elite is largely based in urban centres. There is also an intra-household (gender) dimension to inequality in Namibia. Gender inequality manifests itself in different forms, including differential access to resources, inheritance structures favouring men, women's exclusion from decision-making processes affecting their lives, etc. As a rule, women have fewer rights and resources than men, while often forced to shoulder greater (productive as well as reproductive) responsibilities – women in the many female-headed households in rural areas are particularly burdened and vulnerable. Such imbalances in rights, resources and responsibilities are often obstacles to sound natural resource management, improved household productivity, socio-economic advancement and thus SD at an aggregate level.

#### ***3.1 Options for addressing poverty and inequality***

Poverty can be addressed directly (through 'gender-sensitive' provision of services such as education, health, water, energy, housing and agricultural extension or transfer payments such as pensions) and indirectly (through 'gender-sensitive' pricing (of services), investment promotion, taxes and subsidies, and other macroeconomic incentives).

Service provision to the poor (low-income markets) can be done in a variety of different ways, involving the public and private sector as well as the end users. This is a field where institutional innovation is needed – exploring different kinds of public-private partnerships (e.g. in water service provision), different forms of intermediation linking consumers, financial institutions and technology suppliers (e.g. in energy service provision), and different levels and mechanisms of cost recovery, depending on ability-to-pay and willingness-to-pay patterns among the consumers.

The issues of (poverty-reducing) investment patterns and how to encourage the right kinds of investment patterns deserve much attention. For example, investment among the wealthier cattle owners in the communal lands often goes back into livestock, increasing pressure on communal rangeland (issue iv) and with negative effects on the

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<sup>9</sup> The Gini coefficient is a measure of the difference in income between the richest and poorest segments of society. It is zero when all people have the same income (totally egalitarian society). At the other extreme, a Gini coefficient of one means that one person alone earns as much as all the rest of society together.

poor. Mechanisms for discouraging this kind of behaviour are needed, including more diversified local investment opportunities and greater access to financial markets for the richer communal farmers and secure exclusive group tenure to give poorer communal dwellers more control over how rangeland is used and by whom (leaving open the possibility of their leasing grazing use rights to outsiders). As well, there is a need for channelling the investments of the urban rich into opportunities that reduce poverty and improve the environment.

For the purposes of promoting SD, probably the best form of poverty reduction consists of stimulating employment-intensive and diversified economic growth in regions and sectors directly affecting the poor, whereby special assistance may be provided to the poor in a gender-sensitive fashion, in terms of agricultural extension services, access to inputs, subsidized credit, technical assistance to build capacity, etc. Other means of poverty alleviation include promoting entrepreneurial drive and small-scale enterprise development; deregulating the business environment to unleash the absorptive potential of the informal sector; and improving the flexibility of the formal labour market to increase employment options and opportunities.

Policies of decentralisation and devolution of authority over natural resource management make sense and should be pursued from a point of view of poverty reduction because they will tend to strengthen local-level institutional capacity, increase the participation of the poor, and stimulate local-level retention of benefits and cash incomes (issue viii). Education, capacity building and skills development are key to improving the standard of living of the poor (issue vii). The combination of greater cash incomes and better education tends to bring enhanced poverty reduction pay-offs, whereby the whole effect is greater than sum of individual effects. Reducing poverty and inequality through resettlement (issue iv) of poor black farmers on white commercial land is often constrained by lack of water, the degraded state of the land, and/or the need for complementary farming inputs. In the longer term, careful introduction and use of modern information and communication technologies and systems (ICTSs) in poor rural areas may help transform these areas, reducing poverty and inequality (issue xi) (See Sections 5 and 12 for more detailed discussion of these issues).

At the same time, there are processes at work within poorer rural areas which are likely to increase social stratification and inequality within these areas. For instance, communal grazing lands are increasingly being subdivided and more landless people created in the process, as influential local people fence off the better parts of the commonly held land. This calls for secure exclusive group tenure rights for the poorer farmers to have more control over their land – as mentioned earlier in this section and discussed further in Section 5 (issue iv).

However, it must be remembered that direct or indirect poverty alleviation measures, if not carried out appropriately, may have some undesirable side effects. For example, they may contribute to natural resource over-use and environmental degradation, as when access to water (issue iii) or fodder (see issue iv) is subsidised or free. Poverty alleviation measures can hold back economic growth (e.g. government transfer payments to the poor which may redistribute income, but run the risk of reducing capital accumulation for necessary investment), or economic growth can be capital-

rather than labour-intensive. Such issues must be considered when developing a comprehensive poverty reduction strategy.

#### **4. WATER**

Namibia is the driest country south of the Sahara. Low to very low mean annual rainfall, high variability in rainfall, and very high evaporation rates combine to severely limit water supplies.<sup>10</sup> All of the country's interior rivers are ephemeral, that is, they don't carry any surface water for much of the year. The only perennial rivers are shared with neighbouring countries<sup>11</sup> (issue x).

Even though population density is very low by international standards, strong population growth and urbanisation (issue vi), economic growth and industrialisation (issue i), are all making increasing demands on Namibia's limited water resources.<sup>12</sup> Policies and actions to reduce poverty and inequality (issue ii) may well add further to these demands. It is not unlikely that water demand, if left unchecked, could double or triple over the coming two to three decades.

Scarcity of water is a key constraint to meeting essential human needs, sustained economic growth and SD in Namibia. Strong population growth, rapid urbanisation and expanding national economic output all place increasing demands on a resource already under stress. Rapidly increasing water demand and growing water scarcity pose both a direct and an indirect threat to human and economic well-being – lack of water for direct human and industrial consumption as well as for essential ecosystem services. Thus, there is a need to reduce future pressure on water resources by managing human and industrial water demand and by promoting high value-added economic uses of water.

Water use among domestic households is highly skewed, both between urban and rural areas and within urban areas. This is a reflection of inequalities in income and access to services. High-income urban households may use 25 times more water than rural households with easy access to water, despite the latter usually supporting a higher number of dependents.<sup>13</sup> Despite efforts to improve rural water supplies, perhaps half of rural households still do not have adequate access to water (and even fewer to basic sanitation).<sup>14</sup>

Equity considerations call for a continuation of government efforts to provide greater access to safe and reliable water supplies for the rural poor, while encouraging greater user participation and local water management by water committees. The stated goal is to reach 80 per cent of the rural population by the year 2010, though care must be taken that increasing supply does not turn out to counterproductive (e.g. extra rural

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<sup>10</sup> Rainfall ranges between 15–700mm, with only eight per cent of the country receiving more than 500mm per year (the minimum considered necessary for rain-fed agriculture). Generally, the lower mean precipitation levels are, the more variable rainfall becomes. In addition, evaporation rates from open water are five to 18 times higher than mean annual rainfall (MWCT, 1992).

<sup>11</sup> The Cunene, Kwando, Zambezi and Chobe Rivers on the northern border, and the Orange River on the southern border.

<sup>12</sup> Most water is currently consumed in crop irrigation (some 40 per cent) and livestock watering (about 25 per cent), but the fastest growing demand for water occurs among urban domestic households (currently using approximately 20 per cent).

<sup>13</sup> NEPRU, 1997.

<sup>14</sup> Adequate access is defined as a water source being available within 2.5km of the homestead.

water supplies result in overstocking and overgrazing around new water points, or when expanded but inappropriate irrigation causes water logging and soil salinisation). Non-conflictual water access and use in communal areas also depends on legitimate and secure tenure arrangements being in place, whereby water rights are inextricably bound up within broader multi-resource tenure systems (issue iv). The establishment of local water committees to manage water use reflect government efforts toward greater decentralisation of decision-making power and devolution of rights and responsibilities over natural resources management (issue viii).

An essential basic additional ‘use’ of water, often not accounted for in water consumption breakdowns, is the ecological use of water to sustain critical ecosystems and habitats in Namibia. Examples of essential ecosystem use of water are rivers and wetlands such as the Kuiseb River and the Cuvelai Wetland system (the latter requires water to sustain fish, recharge, Etosha Pan and soil moisture and humidity for crop production). Water flow and recharge in the Kuiseb catchment are threatened by a myriad of small upstream farm dams.

In contrast, irrigated crop production in Namibia is recognised as being a very profligate (as much as 40 per cent of total water consumption is used by irrigation) and low value-added water use, because water is ‘free’ and most current irrigation methods used are wasteful of water. Furthermore, small-scale irrigation has resulted in adverse environmental impact, such as water-logging and soil salinisation where undertaken on unsuitable land. Charging for irrigation water to discourage domestic production of products that might more efficiently be imported, incentives for more efficient irrigation technology (e.g. drip irrigation) and careful selection of land and soils to be irrigated would go a long way to reduce water consumption growth and land degradation.

#### ***4.1 Water demand management***

Unreliability of supply from rainfall has motivated efforts to draw upon groundwater and river water. More than half of all water consumed comes from underground, and groundwater reserves are now either fully committed or over-exploited. For example, a combination of water abstraction and upstream dam construction caused the water table at the mouth of the Kuiseb River to drop from one to eight metres below the surface between 1974–88, a process which threatened biota and people relying on the ephemeral river aquifer.

The traditional supply-side approaches and practices (i.e. expanding water supply to meet rising demand rather than managing that demand) leads to over-exploitation and presents a threat to economic growth and SD. Linked to this, the long-standing policy of subsidising water consumption encourages profligate and wasteful water use. From an economic point of view, it can be shown that saving one litre of water is almost invariably less costly to society than supplying an additional litre of water. Thus it makes economic and ecological sense to seize upon water saving opportunities, and move toward demand management practices. In addition, water users should be more directly involved in the management of water service provision. A variety of mechanisms and methods may be used to achieve these objectives, including:

- phasing out subsidies (or cross-subsidising to improve social equity, only where appropriate);

- recovering the cost of water supply;
- creating price and other incentives for reduced consumption;
- improving water end-use technology;
- developing alternatives to water-intensive development options and practices (e.g. importing food whose domestic production requires irrigated cultivation);
- encouraging the active participation of beneficiaries in regulating water access and managing use (particularly in communal rural areas); and
- improving legal and institutional regimes for sustainable exploitation of water resources.

The GRN has started to take steps in this direction. It has already privatised bulk water supply, creating NamWater, who are implementing a policy of removing subsidies for high-income urban households toward full cost recovery (1996–2001). It has also put in place an innovative municipal sewage water recycling plant in Windhoek, stretching water supplies to the fast-growing capital as well as promoting waste recycling. A new institutional framework for community participation in rural water supply and sanitation, encouraging the creation of regional-level Central Water Committees, Local Water Committees and Water Point Committees (Rural Water and Sanitation Policy, 1993) has been developed and is currently being implemented. GRN also emphasises capacity building and training at national and local levels to fully implement these policies and programmes.

Beyond these initial steps, longer-term demand management options should be actively pursued, including raising urban bulk water prices high enough to achieve demand reductions, while keeping progressive tariff structures in place to (cross-)subsidise low-income consumers to ensure equity. Demand-driven approaches and cost recovery principles in rural areas (commercial and communal) should be implemented (already, new government policy expects elected local water point (management) committees to pay 100 per cent of the water supply costs within ten years (Blackie and Tarr, 1999:13)), and the economic and ecological costs and benefits of irrigation versus importing water-intensive food products should also be assessed. A policy on water quality should be developed and implemented, as it is important to conserve water quality as well as quantity. Demand-side approaches in shared water management should be pursued, as part of a proper national cross-sectoral strategy for cooperation with other riparian countries on joint transboundary water management.

It is expected that the recent Namibia Water Resources Management Review (1999–2000) will recommend some of the incentives and mechanisms required to move forward on these and other options.

In addition to water demand management and greater water use efficiency, the third tier of government strategy remains the increase of water supply by developing new sources, coupled with expensive inter-regional water transfer to water deficit areas, as necessary. Several large-scale projects are on the drawing board or at planning stage, such as tapping the extensive Karstveld limestone aquifer 400km northeast of Windhoek; constructing a pipeline connecting the capital to the perennial Okavango River far in the north; and deploying a sea water desalination plant near Swakopmund–Walvis Bay. These projects are capital-intensive, may have significant unpredictable ecological impacts, and are hence controversial (particularly the

Okavango pipeline). Such large new supply initiatives should arguably be considered a last resort, after all feasible demand-side options have been exhausted.

## **5. LAND**

Land, the basis for existence and survival for the great majority of Namibians, is very unevenly distributed – some 65 per cent of the population live in the communal areas making up 40 per cent of the land, while less than 10 per cent of the people live and work on freehold farm land (some 6,300 farms) comprising 45 per cent of the land (the remaining 15 per cent is state land). Such inequality in access to land is not compatible with SD and also carries considerable conflict potential. Thus, there is an urgent need for an expanded, accelerated and comprehensive land redistribution and resettlement programme that avoids confrontation and conflict, promotes cooperation among stakeholders. In addition, new land tenure forms are needed in both communal and freehold land to help address threats to SD.

Long-standing land use patterns on both freehold and communal land, predominantly extensive livestock husbandry, have contributed to environmental degradation and unsustainable development. Economically and ecologically inappropriate incentives (e.g. subsidised water provision) to privileged white freehold farmers under the previous regime led to poor land management and over-stocking on private farms. Likewise, subsidies to communal livestock keepers (e.g. free water provision, drought subsidies, etc.), among various other factors, have put pressure on communal pasture resources and encouraged over-stocking in the communal areas. As a result of the current land distribution and land use patterns, the need for land tenure reform and redistribution, as well as comprehensive land use planning and management is obvious.

Even though overall agricultural production is relatively small (less than 10 per cent of GDP), freehold farms are important sources of exports (to South Africa and the European Union) – mainly meat, meat products, live cattle and small stock – accounting for 15 per cent of foreign exchange earnings (issue i).

Freehold farmers have enjoyed privileges and subsidies (e.g. water subsidies, drought aid, etc.) which in many cases, contributed to poor land management and overstocking. Many freehold farms, particularly in the northern commercial areas, have been afflicted by increasing bush encroachment.<sup>15</sup> Such habitat degradation has significantly reduced the carrying capacity for grazing stock, but conversely augmented fodder resources for browsers. In recent years, declining subsidies in combination with this degradation have led to diversification into game farming and tourism activities – about seven per cent of all freehold farms now offer game hunting safaris and many more offer basic (eco-)tourism services. Increasing economic benefits from wildlife has given freehold farmers a stake in wildlife conservation and sustainable use.

In the communal lands, a variety of factors have combined to put increasing pressure on pasture resources in many areas over the past years and decades including reduced

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<sup>15</sup> There is no direct relationship between bush encroachment and grazing pressure. Several other factors may play a role as well (MWCT, 1992).

herd mobility, water supply, subsidies, fencing, absentee herd owners, lack of tenure security as well as an absence of alternative saving and investment opportunities.

Over the years, traditional nomadic and transhumance pastoralism has given way in many areas to (more) sedentary forms of pastoral land use. The resulting sedentarisation process has meant increasing inability of herds to track shifting grazing resources, following spatial and temporal variations in rainfall. The reduced herd mobility puts pressure on pastures and risks overstocking and overgrazing in those areas where animals and people end up settling permanently. Increased water availability through GRN provision of water supply and sanitation infrastructure often had the effect of causing or exacerbating degradation of limited pasture resources around the water points. Livestock husbandry in communal areas has also been subsidised in many other ways.<sup>16</sup> In particular, drought aid has provided fodder, transport and grazing subsidies, without requiring herders to de-stock. These subsidies provide incentives to keep larger herds than otherwise possible and thus lead more easily to overstocking.

In recent years, the creation of enclosures through fences erected on common grazing land areas has become widespread in the communal areas, with little if any government response. The process obstructs herd mobility even further and may leave increasing numbers of poorer families effectively landless. Increased concentration of land 'ownership', herd concentration and social stratification within the communal areas, if unchecked, will handicap efforts to reduce inequality and poverty (issue ii) and contribute to environmental degradation. Large herd owners, many of them absentee, often hire people to tend their herds, paying wages corresponding to herd size. Such contracting arrangements may contribute to resource pressure and degradation, as they provide short-term incentives for the hired herders to maximize herd size.

Exclusive use rights (and duties) over selected pieces of land are conferred upon households by the tribal authorities for cultivation only, while grazing areas were kept as open-access common land. Open access to grazing land is a recipe for resource degradation, as there is no incentive to anyone to invest in maintaining the resource.

### ***5.1 Land redistribution and resettlement***

One of the stated post-Independence policies to redress unequal land allocation has been the resettlement of black communal farmers on commercial farmland acquired by the state. *The Agricultural (Commercial) Land Reform Act, 1995* allows the government to expropriate land where the owner has multiple holdings or 'excessive' amounts of land, where the owner under-utilises or abandons land, or where land is required for resettlement. The same Act also makes provisions for a land tax on commercial land (to be introduced in the near future) aimed at discouraging under-utilisation of commercial land and sale of such land for resettlement.

Some 34,000 Namibians have been resettled since Independence, out of a total of 243,000 who are in need of resettlement (27,200 people on freehold land and 7,200 on

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<sup>16</sup> In terms of veterinary and quarantine services, price support, income tax breaks, rent-free land, free water and fodder provision during drought.



communal land)<sup>17</sup>. To date, it appears that relatively few people have been successfully resettled; problems have included lack of capacity and skills to manage the newly acquired land adequately, physical constraints on the new land (e.g. unavailability of water, lack of complementary government support such as proper extension service, subsidised credit and provision of inputs). Only half of the funds allocated for land acquisition over the past five years (N\$100 million) have actually been spent<sup>18</sup>.

There is an urgent need to accelerate and expand land redistribution, in a non-confrontational way by involving all stakeholder groups more closely in the process, using sound criteria and adopting transparent procedures. The land redistribution and resettlement programme should use market-based mechanisms, government intervention, private initiative and donor support, or a combination thereof, to acquire and transfer land. The programme should also encourage the identification and development of sufficiently large contiguous resettlement areas in different parts of the country, to avoid atomisation of resettlement areas and socio-cultural isolation among resettled people and to exploit economies of scale in infrastructure provision. Allowing resettled families to establish appropriate land tenure structures (including group tenure) on former freehold land transferred to them is necessary, as is equipping resettlement land with the necessary physical and social infrastructure (at least initially financed by government and from external sources) and providing resettlers with the necessary support (inputs, extension services, credit, etc.). Potentially interested communities and selecting candidates for resettlement should be targeted on the basis of need and equity considerations, and with a view to a more representative cross-section of Namibian society establishing themselves on former freehold land.

## ***5.2 Land resource tenure reform***

New land tenure forms are needed on both communal and freehold land to help address problems of inequity and land degradation. In particular, land tenure reform should introduce new forms of group tenure rights. On communal and resettlement lands (current and future), well-defined local group tenure rights could give poor local farmers and the landless a basis for greater security of tenure (by being able to exclude others), incentives to invest, livelihood options and locally driven decision-making (with development funds being accessed locally, rather than through higher-level intermediaries).

Land tenure reform in the communal lands is being pursued by the GRN through *The Communal Land Bill* which has been debated for years, but is still not ready to be passed. While this Bill has welcome elements, such as the strengthening of women's rights to manage and inherit land, it has serious shortcomings in its present form. These include the failure to address the fencing of common grazing lands by influential communal farmers and the absence of group tenure rights.<sup>19</sup>

However, tenure reform must go beyond any single resource such as land, particularly in communal areas, where different resource tenures (over water, grazing resources,

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<sup>17</sup> *The Namibian*, 19 May, 2000, p.3.

<sup>18</sup> *The Namibian*, 5 April, 2000, 'Land Bill article irks Ithana'. p.3

<sup>19</sup> The Bill was recently (May 2000) sent back as unacceptable to Parliament by the National Council.

trees, wildlife and land) and related benefit streams, livelihood systems and relevant formal and informal local and external institutions, are inextricably linked. Without comprehensive tenure reform, it will be difficult if not impossible to address problems of poverty and inequality (issue ii), access to land, and land resource degradation.

### ***5.3 Land use patterns and planning***

There is a need to promote land use planning, to determine most appropriate land uses, based on sound economic and ecological criteria. To date, economically and ecologically inappropriate uses have been promoted (e.g. through subsidies to these uses) while superior land uses may face disincentives (e.g. taxes). Namibia is no exception – as is evidenced by long-standing subsidies for livestock keeping and disincentives for wildlife and tourism (often the superior land use in arid environments). Nevertheless, wildlife-based tourism has become one of the fastest growing sectors in Namibia. Wildlife tenure reform to grant exclusive wildlife use rights on private land, declining farm subsidies (especially since Independence), and diminishing farm productivity (in part due to bush encroachment) have combined to usher in this form of land diversification, even though wildlife-based tourism is still far from enjoying level playing field with livestock keeping.

Because of the multi-faceted nature of land, it is not surprising to find several government line ministries dealing with the land issue from different perspectives – Ministry of Lands, Resettlement and Rehabilitation (MLRR), Ministry of Regional and Local Government and Housing (MRLGH), Ministry of Agriculture, Water and Rural Development (MAWRD), and Ministry of Environment and Tourism (MET). These ministries have different but overlapping jurisdictions with respect to land, which makes it indispensable to harmonise land-related development objectives, policies and targets and carefully coordinate actions to achieve agreed objectives (issue viii).

Ideally, different government services and ministerial activities relating to land should be coordinated through local institutions which have an integrated local development vision and can access development funds directly, not through intermediaries. Community-based approaches to land management and the management of other sectors should be based on a common institutional framework and pro-active cooperation between sectors in extension, so as to avoid a proliferation of sector-based community committees and institutions.

## **6. BIODIVERSITY**

Biodiversity – variety at genetic, species and ecosystem level – is a foundation of human existence and livelihoods. Sustainable use of biodiversity in different sectors and ecosystems (drylands, wetlands, woodlands, marine fisheries, crop cultivation, etc.) is therefore indispensable to quality of life. However, increasing human pressure is causing widespread genetic erosion and loss of diversity at species, ecosystem and sectoral levels in Namibia and around the world. This is a serious long-term threat to SD.

Maintaining biodiversity in all of these sectors contributes to long-term ecosystem stability and resource productivity. Inappropriate policies and market pressures may

maximise short-term productivity at the expense of diversity and hence longer-term productivity (e.g. over-fishing one species in the short run because of the higher prices received for it).

## ***6.1 Wildlife***

The traditional approach to biodiversity conservation was to set up protected areas. But in Namibia, protected areas, even though they cover some 13 per cent of the country's land area, are not representative of the country's biodiversity. Increasing emphasis has been placed on biodiversity conservation through sustainable use outside the protected areas. This is consistent with a philosophy of integrating conservation with the basic development needs of local people. The greatest success story of this new approach in Namibia has been wildlife conservation through sustainable use by granting exclusive use rights over wildlife to freehold and communal farming communities, which was essential to establishing the value of wildlife to the farmers and has greatly contributed to the conservation and sustainable use of wildlife.

Legal provisions were made in the mid 1970s to grant exclusive rights of wildlife use to commercial farmers and, with this legislation, wildlife became an asset from which farmers could realise resource value and potential benefits. A thriving game hunting and tourism industry started to develop. Today, 90 per cent of large game is found on commercial farms, some 450 out of 6,300 commercial farms have acquired game hunting licenses and many more are offering eco-tourism services. Wildlife-based tourism has become the most dynamic and fastest growing economic sector in Namibia (see also issue iv on land use diversification).

The success of wildlife conservation and use on commercial land spawned efforts to introduce a similar approach on communal lands. In the mid 1990s, legislation was introduced to grant suitable agglomerates of communal 'communities' (called conservancies) exclusive use rights over wildlife use and over the benefits from wildlife utilisation, under the conditions that a representative local management committee had to be established and an acceptable management plan had to be developed. The government undertook to provide necessary technical assistance. To date, nearly 30 conservancies have been established or in the process of application, most of them interested in eco-tourism and wildlife resources permitting, game hunting. Some of the established conservancies already have accumulated significant cash revenues.

## ***6.2 Wetlands***

A surprisingly large proportion of Namibia's habitats – four per cent of the country's total land area – are wetlands within drylands. These wetlands include floodplains (like the Etosha Pan or the Cuvelai drainage system in the north-central), the 'linear oases' of ephemeral rivers out in the coastal desert band, riverine forest ecosystems and river estuaries. Because of the permanent or temporary presence of water, wetland ecosystems tend to be rich in biodiversity, but at the same time are under pressure and in some cases over-exploited from relatively dense and fast growing human populations (issue vi) that have settled in close proximity. The importance of these

wetlands is that many people's food security and livelihoods depend in significant part on small-scale artisanal freshwater fisheries.

### ***6.3 Access to genetic resources and sharing of benefits***

According to the Global Convention on Conservation of Biological Diversity (CBD), States have jurisdiction over genetic resources within their borders. There is a need for carefully regulating access to genetic resources, balancing related interests among different stakeholders (local groups, private sector, researchers, etc.) and promoting the equitable sharing of benefits from the use of genetic resources. These principles are anchored in the CBD and will be prominent in Namibian legislation on access to genetic resources, which is currently being developed.

It is critical, in particular, for legislation to help ensure continued access by local people to natural products (fruits, medicinal plants, essential oils, etc.) because these natural products are essential for food security and to livelihoods. The commercialisation of such natural products, though still in its infancy in Namibia, has great potential for large cash benefits, in addition to the use benefits already enjoyed by the local people (one of the few examples of an established international trade in natural products is that of Devil's Claw, a medicinal plant). However, there is a risk that local knowledge will be exploited by outsiders or otherwise lost, and that downstream actors in the marketing chain appropriate the lion's share of the benefits. It is therefore critical that the legislation ensures a fair share of the benefits accrue to the local people.

## **7. POPULATION GROWTH AND SETTLEMENT PATTERNS**

Namibia's population (approximately 1.8 million) is very small in relation to the country's physical size and the country is one of the least densely populated in the world (an average of less than two people per kilometre). Despite this, problems of population pressure remain – a high fertility rate<sup>20</sup> (around 5.5 children per women), causes high overall population growth and a very youthful population structure creating momentum for further population growth.<sup>21</sup> Such issues pose a major problem to SD and threaten the natural resource base. Improved resource management may help sustain a larger population in any given area, but ultimately limits in human carrying capacity will be reached. Hence, in order to move toward SD, it is necessary (but not sufficient) to stabilise population growth, nationally and regionally.

Population growth drives, and is driven by, factors including poverty, lack of education (especially of girls and women), poor health and nutrition, lack of access to fertile land and to water and sanitation. This suggests clear entry points for bringing population growth down. There is considerable evidence that improvements in the standard of living bring about reductions in family size. Likewise, better education (particularly better basic education for girls and women) goes a long way in reducing fertility (the average number of children that women has during her reproductive

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<sup>20</sup> The fertility rate is defined as the average number of live births to women of reproductive age.

<sup>21</sup> The national population growth rate is estimated to be just above three per cent each year, but this figure does not seem to take adequate account of the fast growing numbers of AIDS-related deaths. There are indications that the AIDS epidemic is already cutting national population growth down to around two per cent yearly.

years). Improved maternal and child care can also be of help in reducing perceived needs for larger families.

Of the country's population, 60 per cent of the people are amassed in the northern communal areas, two thirds thereof in the four north-central regions (the former Owamboland) (a legacy of colonial and apartheid policies). Within this particular region, half of the people (nearly 30 per cent of the entire Namibian population) are squeezed into the Cuvelai drainage zone, an area less than one per cent of the country's land area. This extreme population concentration in one area, coupled with poverty (issue ii), has already led to widespread and visible deforestation, soil erosion and over-exploitation of water in this area.

A third dimension of the population issue relates to large internal migration, specifically rural-urban migration, often motivated by the lack of resources and poor quality of life in rural areas and perceived opportunities in urban areas. Most migrants end up in poorly serviced 'informal settlements', often swelling the ranks of the urban unemployed and adding to urban poverty (issue ii). This process is reflected in rapid expansion of urban centres.<sup>22</sup> Current average urban population growth rates are in the range of five to six per cent.<sup>23</sup>

### ***7.1 Implications for national policies***

In order to tackle the rural-urban migration issue and problems of regional disparities and uneven development, empirical evidence suggests that economic planning, social service delivery and government administration policy should move away from centralized control along traditional sectoral lines toward more decentralised approaches. This entails devolution of state powers, functions and resources to the regional and local level, and emphasis on area-based planning and integrated regional and local development (issue viii).

Recent GRN policy initiatives (the National Report on Population, 1993 and the National Population Policy for Sustainable Human Development, 1996) go broadly in this direction. But there are concerns that targets for the reduction of fertility and population growth and other demographic objectives may not go far enough to adequately address the population threat to SD. Furthermore, declared government policies of decentralisation and integrated regional and local development are widely viewed to have not gone much beyond intention to implementation yet. In the final analysis, it will arguably be issues of governance (issue viii), poverty (issue ii) and economic progress (issue i) that will determine the success or failure of Namibia's population policy.

## **8. HUMAN RESOURCES**

At Independence, Namibia inherited a fragmented, profoundly inequitable and discriminatory education and training system, a largely unskilled labour force and a population whose vast majority lacked even basic education. Over decades, colonial and apartheid policies had developed and perfected a system which concentrated

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<sup>22</sup> Between 1981 and 1991, Windhoek's population grew by 46 per cent, Rundu's by 911 per cent and Katima Mulilo's by 3,000 per cent (Byers, 1997).

<sup>23</sup> NEPRU, 1997

education and employment opportunities on the white minority, while denying these opportunities to the black majority. Access to health care and other social services was similarly stratified and inequitable.

Since Independence, the GRN has made substantial efforts to redress this untenable situation. Around one quarter of the government budget has been destined for the education sector, aimed at enhancing education infrastructure, enrolment rates and the number of qualified teachers, and reducing out-of-school rates for children (particularly high among some groups like the San), drop-out rates of enrolled children and teacher absenteeism. Approximately half the resource allocation to education has been rightly focused on primary and basic adult education, and has been attentive to gender aspects. Despite considerable efforts since Independence to redress past inequities in education and training, Namibia still lags behind neighbouring countries in educational output and level of education, and strong social, gender and regional disparities in educational outputs and levels remain.

Along with education and training, health and nutrition are essential to human capital formation. The prevention of diseases (malaria, gastro-intestinal problems, respiratory diseases, AIDS, etc.) and adequate access to primary health care are critical aspects for human resource development.

Namibia suffers from one of the highest HIV infection rates in the world, and it is still rising. AIDS-related deaths are rapidly increasing overall mortality rates and reducing average life expectancy in the country, and importantly those most at risk from HIV infection tend to be in the economically active age range. Given this fact, each AIDS-related death in that age class eliminates an actual or potential income earner and thus (part of) a household livelihood source, wipes out past investments in education and training, reduces the quantity and quality of the country's labour force, taxes the country's health care system, and puts pressure on the resources of a particular household and community to care for the person and then adapt to her loss. Clearly, this represents an enormous drain on human and economic capital and resources at both local and national levels.

### ***8.1 Options for addressing human resource development***

Lack of skilled labour continues to severely hinder private sector business expansion and the limited human resource base still significantly constrains public sector capacity. Education, training and capacity building needs to be further intensified at all levels. It must be emphasised, however, that human resource development is a long-term process, which is likely to continue to require outside expertise in the short to medium term. The GRN should openly acknowledge this and support efforts to attract the right kinds of foreign advisors.

Human resource development policies and strategies should also be attentive to the following needs:

- a professional and economic environment in which local human capacity is retained and utilised in the country, rather than going abroad (brain drain);
- economic development that builds on people's existing skills, both in the formal and informal sectors;
- skill development that matches the needs of the economy;

- opportunities for sharing regional educational facilities and centres of excellence with other countries, rather than doing it all domestically;
- special management and technical training and capacity building needs arising at the local and regional level to meet the needs of the process of decentralisation and devolution of authority; and
- affirmative action policies designed in such a way that they contribute to lasting human resource development and genuine empowerment, rather than serving extraneous purposes. Such a policy must be coherent, transparent and forward looking.

Achieving adequate individual and household nutrition levels is closely linked to the capacity of households to ensure food security, through agricultural production and/or food purchase. Obviously, access to income-earning opportunities (issue i), education and skills, as well as access to land (issue iv) are central.

The prevention of environmental vector diseases (notably malaria, gastro-intestinal and respiratory diseases) and other diseases (most importantly HIV/AIDS) as well as ensuring access to adequate primary health care are critical aspects for human resource development. While environmentally mediated diseases like malaria and dysentery still dominate mortality in many poor rural areas, in recent years, nationwide the single most important health factor and a major threat to economic prosperity and SD has been the scourge of HIV/AIDS.

There is little doubt that HIV/AIDS is currently one of the major threats to SD. Concerted efforts in awareness building and education are therefore required to inform the general population (youth in particular) and effect changes in those interpersonal attitudes and practices which have encouraged the spread of HIV/AIDS.

## **9. GOVERNANCE**

Good governance and effective policy development require the active participation of key stakeholders in civil society and within the private sector. There is a need for a stronger, more pro-active and articulate civil society actively seeking to influence the state's legislative and policy agendas and outcomes.

In policy implementation and programme management, various forms of public-private partnerships (PPP) (joint ventures, outsourcing, franchises, build-operate-transfer, etc.) hold great promise for more efficient and effective models of resource management and service provision.

The decentralisation and democratisation of government decision-making and administrative functions and processes is widely seen as a necessary condition for more effective regional and local development. But such decentralisation is being pursued rather cautiously in Namibia, as decisions on local-level issues are all too often still handed down by respective line ministries. Devolution of rights and responsibilities over natural resource management to the local level (e.g. wildlife conservancies or water point committees) is part and parcel of the general decentralisation trend.

Upholding principles of human rights, civil liberties and multi-party democracy is also part of good governance. Namibia's Constitution – one of the most progressive in the world – constitutes a crucial anchor for these important principles. SD requires, inter alia, the strengthening of the institutional framework for their fair and equitable implementation of the above principles; the creation of an enabling environment for better representation and greater participation of stakeholder groups in governance and policy development and implementation; and the provision of incentives for policies to build on informal as well as formal institutions

Regional conflicts, crime and domestic violence currently are sources of human insecurity in Namibia and constitute a drain on the country's resources. Whatever the historical and structural causes for these sources of insecurity, peace and security must be ultimately attained, as a pre-requisite for SD.

### ***9.1 Partnership approaches***

Government's readiness and capacity to engage with a variety of stakeholders within the private sector (issue ix) and civil society is essential to good governance and improved policy development. The development of relevant and realistic policies requires input from all potentially affected parties. Different mechanisms and fora e.g. review committees, task forces and public debate, may be used to achieve broader input and feedback. There is a need for a stronger, more pro-active and articulate civil society actively seeking to influence the state's legislative and policy agendas and outcomes.

In policy implementation and programme management, various forms of PPP hold great promise for more efficient and effective models of resource management and service provision. For instance, arrangements where government outsources (sub-contracts) specific management tasks to private organisations, like the management of particular public assets (e.g. national parks) or essential social service provision (e.g. water, energy and waste management). Outsourcing may involve performance clauses in contracts, defining measurable performance indicators and targets and making continuing contractual partnership dependent on what is agreed to be satisfactory performance.<sup>24</sup>

PPP also provide scope for harnessing ideas and resources from a wider range of institutional actors, such outsourcing enables the government to clearly divide up potentially conflicting responsibilities (e.g. programme management and programme control) assigning them to different institutional actors. Such a separation of responsibilities improves overall programme effectiveness and allows the government to streamline (and downsize) the public service, cutting down on public expenditures, while focusing on a more clearly defined duty.

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<sup>24</sup> A well-known example of a PPP is the contract between the MRLGH and Northern Utilities under which the latter manages electricity service provision within northern communal areas on behalf of the former.



## ***9.2 Decentralisation***

Throughout Africa over the past few decades, it has become abundantly clear that states have not been successful in centrally managing local resources, using different forms of command-and-control procedures. Specifically in the management of natural resources, lack of local involvement, lack of government attention to local community perspectives and interests, and elite attitudes of ‘saving nature from the people’ have often meant disrespect for management rules set by the state and resulting natural resource degradation<sup>25</sup>.

In the past two decades, ubiquitous macroeconomic adjustment programmes and widespread political and administrative reform on the continent have combined to emphasise ‘lean government’ and a ‘hands-off’ role for the state; promote greater democratisation and decentralisation of government; and promote private enterprise as a motor behind economic growth and development (issue ix). A stronger role for civil society has been advocated and civil society organisations (non government organisations and community based organisations) have been encouraged to become more outspoken in articulating their constituencies’ concerns and needs.

Such economic, political and administrative reforms have also been initiated in Namibia, but cautiously. In particular, the process of decentralisation and democratisation of decision-making processes has not gone very far yet – few central government functions have been effectively devolved to regional or local levels. The notions of integrated regional development and area planning, while being supported in principle, have yet to be implemented in practice. Patterns of public investment and decision-making authority are not yet in line with the policy objectives of regional development (levelling regional disparities) (issue ii); and the urban centres and the central (Khomas) region continue to receive a disproportionately high level of attention and public funds, in areas like education and health.

In part, the slow speed of decentralisation and development in the regions is a problem of lack of administrative capacity and technical expertise at the lower government tiers. But central government also seems to have been somewhat reluctant to devolve central power in earnest. Nevertheless, in the area of resource management and services provision, some ministries have introduced innovative mechanisms to devolve authority to the local level (e.g. community rights over wildlife and water resources).

The role of regional government should be one of contributing to an enabling policy environment for local action, complementing the role of national government. It is very important to avoid creating and entrenching a(nother) level of bureaucracy, which would hinder, rather than help, local entrepreneurial and management initiative. It is crucial therefore that authority over local resource management be devolved to the lowest level possible and that the organisation of managerial and technical capacity building processes and necessary support services be driven from the lowest level.

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<sup>25</sup> For example, proclaimed state forests reserves may be invaded by local people in search for food and other resources.

There is a tendency at present for each line ministry to create its own local level institutional structure for resource management, service provision and related capacity building. Thus there is a risk of local institutional fragmentation and a corresponding need for integrating sectoral institutional frameworks, or at least developing mechanisms for local-level integration of sector-based systems. Ideally, the integration process should be driven from below, by local institutions, but given extremely limited local human resources, this bottom-up vision can only be realised in the long-term. For now, the same few local people with greater skills and capacity will be called upon to help develop and manage local-level sectoral structures, thus providing some level of coordination and integration by default rather than by design.

Most environmental and SD issues concern more than one sector and ministerial portfolio. The question of 'land' is a case in point (issue iv). As mentioned in Section 7, land is a central issue to at least four different ministries – MLRR, MRLGH, MAWRD and MET. Policy development and implementation affecting land (re-)distribution, tenure reform and use (viz. the forthcoming *Communal Land Bill*) no doubt concerns all four ministries and requires active collaboration on defining an appropriate policy framework and coordinated monitoring in the implementation phase. Inter-ministerial cooperation in policy development and implementation has been variable and the capacity for coordination of policy and programme implementation is still limited<sup>26</sup>.

### ***9.3 Human rights, civil liberties and democracy***

Namibia's Constitution constitutes a crucial anchor for important principles of human rights, civil liberties and multi-party democracy. Upholding these principles and ensuring their proper implementation requires strong and independent legislative and judiciary branches of the State as well as a vibrant and dynamic civil society. Safeguarding the above-noted fundamental principles, strengthening the institutional framework for their fair and equitable implementation, creating an enabling environment for better representation and greater participation of stakeholder groups in governance and policy development and implementation, and providing incentives for policies to build on informal as well as formal institutions, are all indispensable to SD.

### ***9.4 Peace and security***

While the southern African region as a whole has had its share of liberation struggles and civil strife within newly Independent countries, Namibia (since Independence) has enjoyed relative peace and stability. However, the country's recent military involvement in two major inter-linked regional conflicts in the region (in the Democratic Republic of Congo and in Angola) has brought peace and security issues back onto the national political and policy agenda and at the same time highlighted some difficult security trade-offs.

Any benefits in national (as well as regional) military and economic security that Namibia might reap in the longer term as a result of its participation in the conflicts

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<sup>26</sup> A mid-term review of the First National Development Plan (NDP1, 1995–2000) in 1997 highlighted the lack of inter-sectoral coordination as one of its weaknesses.

come at the expense of significant economic and human security losses already accruing locally and nationally. Involvement in the two conflicts is responsible for increased military expenditures, putting pressure on government finances and contributing to increased budget deficits<sup>27</sup> (issue ix). In addition, the Angolan conflict is causing substantial social and economic costs in Namibia's Kavango and Caprivi Regions – loss of human security and life, health care costs, damaged social and physical infrastructure, foregone tourism and transport revenue and reduced economic output. Whatever the evolution of the regional conflicts and cost–benefit trade-offs over time, ultimately peace and security are pre-requisites for long-term SD.

Other threats to equitable and sustainable development in Namibia lie in rising levels of community- or neighbourhood-level crime and household-level domestic violence, mainly against women and children. They cause substantial human insecurity and social and economic costs-in terms of lost income, health care costs, heightened fear, more gender inequality (issue ii) and reduced quality of life. Crime and domestic violence also remain an obstacle to greater re-conciliation, social and cultural integration, and to the development of a shared vision and values toward SD (issue xii).

## **10. ECONOMIC POLICY AND MANAGEMENT**

A stable macro-economic environment is vital to economic growth, poverty reduction and SD. A sound economic policy and management framework needs to be put in place for the purpose of achieving and maintaining such a stable macro-economic environment. Growing government budget deficits and trade imbalances and uncertainties regarding foreign direct investment are indicators that such a stable framework is not in place.

There is a need to counteract these adverse trends in order to maintain macro-economic stability by cutting 'non-essential' government expenditures and increasing exports, seizing on opportunities for import substitution and attracting direct foreign investment.

Private sector development is also crucial to economic growth, poverty reduction and SD. Fiscal and monetary incentives (such as tax breaks, subsidies and low interest rates) may be created to encourage private enterprise development – in particular, small and medium enterprises which create more employment per unit economic output. There is also a need to promote entrepreneurial activity by de-regulating the business environment and encouraging informal sector activity (issue ii).

Currently, one of the main reasons behind growing budget deficits is increasing military expenditure in connection with military engagement in two regional conflicts (see issue viii). On the revenue side, there is the threat that the tax revenue coming in via the Southern African Customs Union (SACU) – currently about 15 per cent of total tax revenue – will drop significantly, as a result of the recent trade deal between South Africa and the European Union under which levels of import duties are to fall. A growing budget deficit and rising government debt (domestic and foreign) could

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<sup>27</sup> Early in 2000, the GRN submitted to parliament a supplementary budget which mostly covered increased military expenditures and raised the overall budget by some 30 per cent.

mean higher tax rates, inflationary pressures and reduced ability to financially sustain social and economic service and development expenditures.

Namibia's trade imbalance is significant and is worsening rapidly (from 10.6 per cent of GDP in 1999 to an estimated 15.3 per cent in 2000). Dominance of primary commodities (minerals, fish, meat, live animals, etc.) in total exports and high incidence of consumer and capital goods in imports indicate the low level of industrialisation in Namibia.

Foreign investors tend to be very concerned about macro-economic stability and peace, so the growing government deficit and trade imbalance and regional conflicts spilling into Namibia pose a threat to direct foreign investment. Along with the growing trade balance deficits, this puts pressure on the balance of trade. There is a need to stabilise the macro-economic environment by reducing budget deficits (primarily by cutting government expenditure) and trade imbalances (increasing exports through domestic value adding and seizing on opportunities for import substitution) and by attracting foreign direct investment by improving the macro-economic environment and the security situation.

## **11. REGIONALLY AND GLOBALLY SHARED NATURAL RESOURCES**

A large proportion of the Namibia's natural resources are shared with neighbouring countries – including river basins, wetlands, wildlife, marine ecosystems and fisheries resources. Local human livelihoods and national economic growth in Namibia are substantially dependent on national and local access to these transboundary natural resources as well as on their continuing integrity, yet Namibia cannot manage them in isolation. In a regional context of growing populations, expanding economies and increasing resource pressure, there is a clear risk of increasing competition and resulting conflict among neighbouring countries over key transboundary resources. This highlights the need for evolving cooperative approaches to the management of shared natural resources. Such cooperation should include all of the following:

- information exchange (e.g. sharing data on shared ecosystems like the Benguela system);
- joint research (e.g. joint studies on the Benguela system by Namibia, Angola and South Africa, which is already occurring);
- harmonisation of policies (e.g. in the case of shared rivers: downstream user rent payments for upstream management services coupled with upstream fines for upstream mismanagement) and harmonised water demand management policies; and
- coordinated policy implementation (e.g. joint monitoring of shared downstream–upstream river water use) and coordinated monitoring and adjustments to water demand management regulations.

Political will as well as technical and managerial capacity among all countries involved are pre-requisites for successful cooperation. Problems arise where there are significant differences between some of the countries in the extent of political will and/or the level of technical and managerial capacity available. Successful management of shared natural resources may catalyse stronger ties between neighbouring communities and countries and contribute to broader regional integration.

Two major phenomena of global environmental change – the depletion of ozone in the stratosphere and climate change resulting from global warming – are likely to produce considerable local impact in Namibia, whereas the country's ozone-depleting and greenhouse gas emissions are too small to contribute appreciably to global emissions which drive these phenomena. The most visible initial regional climate effects of global warming in southern Africa are likely to be more frequently extreme weather patterns as well as progressive sea level rise. In the longer term, climate change is expected to render Namibia's climate (even) hotter, drier and more variable.

### ***11.1 Transboundary resource management***

Natural resources being shared by one or more countries cannot be optimally and sustainably managed, unless these countries actively cooperate in their management. At a minimum, there should be information exchange between involved countries, including the sharing of data and information on ecosystem properties, monitoring efforts and the effectiveness of resource management systems. Beyond that, the respective countries should coordinate policies and actions relating to the shared resources. The feasibility and prospects of coordinated efforts and joint action depends on the political will and institutional capacity of all involved countries.<sup>28</sup> These ingredients are often not there, or at least not equally present among those countries involved.

A major proportion of Namibia's natural resources, and the ecosystems associated with them, are shared with neighbouring countries. These include perhaps most notably marine fisheries, fresh water resources and fisheries. These include the Benguela Ocean Current Ecosystem (shared with South Africa and Angola); the Cunene, Kwando, Chobe and Zambezi Rivers in the north and the Orange River in the south; and the Cuvelai Drainage Basin supplying the Oshanas in the north-central (whose headwaters originate in Angola).

An issue of key importance to the whole southern African region is transboundary water resources – most water resources in the region are shared between countries and water is fast becoming a crucial regional security issue, given its increasing strategic value. Recognising the degree of water inter-dependency in the region and the potentially explosive nature of the water issue, the Southern African Development Community (SADC) has embarked upon a strategy of regional cooperation. A Regional Protocol on Shared Watercourse Systems was signed in 1995 to cooperate on the management, development and utilisation of shared water basins and to ensure food security. The Protocol provides for the establishment of regional institutional mechanisms to deal with the issue. SADC's own institutional limitations so far have limited the effectiveness and clout of the Protocol. For instance, SADC could not resolve a dispute between Namibia and Botswana over access to Okavango Basin water, a case which was subsequently referred to the International Court of Justice. Nevertheless, the SADC water initiative is valuable as a framework for addressing shared management issues in the region and could gain strength in the future.<sup>29</sup>

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<sup>28</sup> Problems can arise when the involved countries' are not all equally committed politically or do not have comparable institutional research, monitoring and management capacities.

<sup>29</sup> See Krugmann, 1998, particularly the section on transboundary water and regional security.

Successful joint management of shared natural resources may have a variety of positive side benefits which can contribute to closer ties between individual countries and broader regional integration. For example, successful local management of a shared river basin and watershed involving members of the same ethnic group living on either side of a national border cutting across the area, may strengthen ties within the ethnic group as well as between the respective countries. Or, transboundary conservation areas which enhance ecological processes across larger systems may spawn regional economic markets in tourism.

As a result of the large number of shared resources and in recognition of their importance, Namibia has become a party or signatory to various bilateral, multilateral and international agreements on transboundary water which have led to the establishment of different institutional mechanisms tasked with developing and implementing principles and procedures for coordinated action. These include:

- The Permanent Joint Technical Commission (PJTC) between Angola and Namibia on the Cunene River – established in connection with a bilateral agreement reached in 1990. The major priority of PJTC is the development of the Epupa Dam.
- The Joint Operating Authority between Angola and Namibia reinstated in 1990, dealing specifically with the Gove and Ruacana hydropower stations on the Cunene.
- The Joint Permanent Water Commission between Botswana and Namibia. Established in 1990, it has dealt with the Okavango River and the Kwando–Linyanti–Chobe river system in the Zambezi River basin.
- The Permanent Okavango River Basin Water Commission between Angola, Botswana and Namibia, set up in 1994 to oversee development in the Okavango basin.
- The Permanent Water Commission between Namibia and South Africa, established in 1992. Since 1994 it has concentrated on the Orange River Basin (though the establishment of the Orange River Basin Commission to be composed of all riparian states is at an advanced stage).
- The Joint Irrigation Authority (a parastatal) involving Namibia and South Africa, set up 1992 as a result of Treaty of Vioolsdrift and Noordoewer to operate irrigation project located on both sides of Orange River.
- The SADC Protocol on Shared Watercourses, signed in 1995.
- The Zambezi Action Plan (involving Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe).
- The UN Convention on the Law of Non-Navigational Use of International Watercourses.

Despite participation in these agreements, Namibia does not currently have a proper national cross-sectoral strategy in place to enable it to participate in shared watercourse negotiations in an effective and efficient manner. This must be remedied.

Namibia is also party to a variety of regional and international conventions which govern (or at least deal with) transboundary movement of other natural resources and waste associated with ecological processes or economic trade. These include:

- the Global Convention on the Protection of Migratory Species;
- the Convention on International Trade of Endangered Wildlife;

- the Basel Global Convention and Bamako Regional Convention to ban the export or import of hazardous or toxic substances;
- the Montreal Protocol on Ozone Depletion;
- the Global Framework Convention on Climate Change (see below);
- the Global Convention on the Conservation of Biological Diversity (issue v): and
- the Global Convention to Combat Desertification and Manage the Effects of Drought (issue iv).

As a party to these and other conventions, Namibia undertakes to expand or adjust its national policies to reflect the national and international commitments entered into under these conventions.

## ***11.2 Global warming and ozone depletion***

Global climate change is a major long-term threat to SD everywhere in the world. Carbon dioxide and other ‘greenhouse gases’<sup>30</sup>, predominantly from industrial activity (mainly burning of fossil fuels) and to a lesser extent from agricultural activity (livestock and crops) have been accumulating in the atmosphere. This change in gaseous composition of the atmosphere has been giving rise to the ‘greenhouse effect’ (increased absorption by the atmosphere of the earth’s infra-red radiation and consequently an increase in the average surface temperature of the earth, both on land and in the ocean).

This greenhouse effect, in turn, is likely to change the global climate in the long term unless drastic reductions in global greenhouse gas emissions are achieved very soon<sup>31</sup>. The initial effects of global warming will consist of a progressive rise in the sea level and in greater and more frequent instabilities and extreme fluctuations in regional and local weather patterns.

Namibia’s contribution to global greenhouse gas emissions will remain negligible (less than 0.1 per cent of global emissions, if a world average per capita emission rate is assumed). There is little if anything that Namibia can do alone to influence the rate of global emissions. It is nevertheless important for Namibia as a party to the Global Framework Convention on Climate Change to demonstrate political commitment to greenhouse gas emission reductions. At present Namibia is not a greenhouse gas source but a sink, because of the carbon being trapped as bush encroachment on northern freehold land progresses.<sup>32</sup>

The uncertainties of what will happen as a result of global warming and climate change remain great, thus making it very difficult to decide at this point precisely what policies to develop and what action to take, sector by sector<sup>33</sup>. However, it can

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<sup>30</sup> ‘Greenhouse gases’ are gases that absorb light in the infra-red range (much of the earth’s ‘low-temperature’ radiation), while being transparent to light at higher frequencies (virtually all of the sun’s ‘high-temperature’ radiation).

<sup>31</sup> Opinions differ as to the necessary emission reductions and the time frames within which to stabilise greenhouse gas emissions at the required lower emission levels. Agreement on mandatory emission reductions and time frames has yet to be achieved under the Framework Convention on Climate Change.

<sup>32</sup> du Plessis *et al.*, 1999.

<sup>33</sup> A number of more detailed but still rather hypothetical suggestions (on the basis of plausible ‘what if’ climate scenarios) are made for some of Namibia’s critical sectors – water resources, marine resources, agriculture, biodiversity and ecosystems, coastal zones and systems, health and energy in du Plessis *et al.*, 1999.

be assumed that those approaches, strategies, policies and actions that would take the country closer to a SD path in the absence of the global warming threat, are also likely to better equip the country to deal with climate change under global warming. The spectre of climate change can thus be turned into an additional strong incentive for positive change, by giving Namibia one more powerful reason to do what is required to achieve SD. Additionally, whenever there are choices between development approaches, strategies, policies and actions, it is wise to try and go for those options which enhance, as much as possible, the diversity, flexibility and adaptability of economic, ecological, social, institutional and political systems. Diverse, flexible and adaptable systems increase the capacity to manage the effects of global warming and climate change.

The other major global environmental problem – ozone depletion and resulting increases in UV exposure – constitutes a much less pervasive, complex and uncertain threat to SD than global warming. Nevertheless, the consequences for Namibia are significant in terms of the human health effects and ecological impacts. Because significant links and overlaps occur between the effects of climate change and ozone depletion, national strategies and actions should be integrated and coordinated.

Following ratification of the Montreal Protocol on Ozone Depletion, the GRN established an Ozone Office in the Ministry of Trade and Industry to regulate the emission of ozone-depleting substances from industry. However, it is not clear how effective this measure has been, since there has been no monitoring of compliance.<sup>34</sup>

The country's capacity to cope with the expected impacts of global warming and climate change will be largely determined by its capacity to make progress toward SD. Capabilities to check population growth, sustain equitable and poverty reducing economic growth, manage natural resources (particularly water) sustainably, implement appropriate institutional arrangements nationally and regionally, improve access to information and develop a shared vision and values for SD will all become even more crucial with an increasing need for adapting to the local and regional effects of global warming.

## **12. KNOWLEDGE FOR SUSTAINABLE DEVELOPMENT**

Knowledge is essential for SD. A great deal of relevant knowledge already exists, but there is a risk that existing knowledge is not accessible, shared widely or managed well and hence does not optimally contribute to SD.

It is important, however, to recognise that there are distinct systems of knowledge which must be handled differently to contribute to SD. At least three knowledge systems can be distinguished – knowledge in the public domain; intellectual property in the private sector; and local 'informal' knowledge (often called indigenous knowledge) at the local community level. Each of them must be harnessed in a distinct fashion for Namibia to move toward SD.

Worldwide, modern computer-based information and communication technologies and systems (ICTSs) are transforming the way people and organisations access, use

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<sup>34</sup> MTI, 2000.



and share information, communicate and network with each other, and do business locally and globally. ICTSs are also a fundamental driving force behind rapidly globalising financial markets and economic trade, as well as behind improvements in the efficiency and productivity of entire national and international industries.

Even though much useful knowledge exists, there are significant knowledge gaps which need to be addressed through appropriate new biophysical, socio-economic and policy research. Sound SD planning and implementation is not possible without appropriate monitoring efforts. There is a need for more systematic and comprehensive routine gathering of background data to compile regular statistics (e.g. climate and weather data, population census); and monitoring of impacts of policies, programmes and projects using performance indicators.

Much information and knowledge is, or should be, in the public domain, including results of research supported from public funds or public policy related information. Information and knowledge in the public domain should flow freely and everybody (individual members of the public and stakeholder groups) should have ready access to it. The government should uphold the right of free and ready access to public information and ensure that information associated with legislative processes, policy development and decision making is not unnecessarily restricted. Civil society should have access to information in the public domain to properly participate in decision-making.

Some of the knowledge generated in the private sector may be protected by systems guaranteeing intellectual property rights to stimulate investment, innovation, private sector development (issue ix) and economic growth (issue i) – driving forces behind SD. Unless innovators know that appropriate intellectual property rights protection systems (patents, copyright, trademarks, plant breeder rights, certification and labelling, etc.) exist they may not make the necessary investments in the first place.

Some of the local knowledge held by rural communities about their own local environment and natural resource base (including a wide range of indigenous plants and animals) is a result of centuries-long processes of incremental ‘informal’ local innovations in land resource management and crop cultivation. These processes have been crucial to the conservation and sustainable use of the local natural resource base. Local knowledge must be protected so that the local people can derive benefits from that knowledge, and continue their role as guardians and sustainable users of the local environment. In the absence of such protection, the local knowledge may be – and has often been – exploited by outsiders (e.g. transnational corporations in the commercial development of medical drugs, pharmaceutical products, etc.).

The need to protect local knowledge about biodiversity in particular is being addressed in legislation currently being developed in Namibia to regulate access to genetic resources and the equitable sharing of benefits from the use of these resources, as discussed in Section 6.4 (issue v). Commercial systems of intellectual property rights protection tend to be inaccessible (financially and otherwise) to local communities. For this reason, there are ongoing international efforts to define more appropriate systems of local community rights-collectively known as ‘traditional resource rights’ – and develop mechanisms for their protection.

## ***12.1 The need for research***

While a great deal of relevant information is already available in Namibia which could be used and shared more effectively, there are significant gaps in knowledge required to manage resources sustainably and move toward SD. These gaps call for more applied research (ecological, socio-economic and policy research) on a variety of topics relating to one or more of the SDs issues discussed in this paper. Any attempt to draw up a list of research topics would be beyond the scope of this paper.

If research is to be most effective, the government should provide an enabling environment in which research and inquiry is generally encouraged at all levels. In addition, research priorities should be determined and incentives should be provided for the kind of research that the country needs to be carried out. In all research activities supported in Namibia or on Namibian issues, links to Namibian institutions and research capacity building among Namibians should be promoted though there should be no rigid controls on the participation of outside researchers.

A lot of data and information on the environment and on SD issues and options already exists in Namibia, but this information may not be easily accessible, or available in the right form, to those who need it for planning and decision-making. Conversely, those who generate and/or process data and information (researchers in a broad sense) may not share it widely enough with all those who could use it.

There is a need to promote a culture of communication and information sharing, focusing especially on the youth, to ensure that existing information and available knowledge reaches those who need it. Efforts to nurture such a culture could also contribute more generally to shaping a more cohesive civil society (issue xii). Modern computer-based ICTSs, increasingly widespread and especially popular among the youth, could play an important role in this connection.

## ***12.2 The role and impact of information and communication technologies and systems***

ICTSs can be very important catalysts for making knowledge available and putting people and institutions in contact with each other. Computer-based networking creates new horizons for fast and efficient ways of information sharing and partnership building for improved coordination, planning and decision-making.

The rapidly expanding Internet allows easy access to an ever greater array of information sites to all those who have access to it.<sup>35</sup> Africa south of the Sahara generally lags far behind the industrial countries in participating in the global information and communication revolution. Poor or non-existing telecommunications infrastructure, insufficient incomes amongst the vast majority of the population, and widespread poverty and inequality are severely limiting access to and benefits from ICTSs for most African countries. It has also been argued that ICTSs nurture a culture information sharing; contribute to the democratisation of political structures and a

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<sup>35</sup> Computer networking and Internet access requires a computer, a modem, a telephone connection and a dial-up account with a local internet service provider – very affordable to high and medium-income earners, but prohibitively expensive and out of reach in terms of missing basic telecommunications infrastructure to the vast majority of low-income households.

stronger civil society by providing a greater range of people with equal access to information; and allow poorer countries, at least in principle, to ‘leapfrog’ in their development efforts, allowing them to catch up with more advanced countries.

As a middle-income country with comparatively good infrastructure, Namibia is perhaps in a better than average position, even though the country is a relative newcomer to ICTSs. In recent years, the country has established reasonably good access to the Internet and by now is able to rely on a reasonably efficient set of internet service providers. As access to and the capacity of ICTSs are enhanced further in the country, these modern information and communication resources could, if used strategically and wisely, make a very important contribution to economic growth and SD. The GRN should prioritise ICTSs development and related infrastructure investments in the country and carefully examine policy options that encourage strategic use of ICTSs in efforts to foster economic growth and SD, and develop a comprehensive and integrated national information and communication policy (NICP).

One great challenge for such a policy would be to prevent ICTSs from contributing to further marginalisation of the vast poor rural populations who have no access to these new technologies, and are usually cut off from information and communications flows. A cornerstone of any NICP would have to be the promotion of access to ICTSs in low-income rural areas through strategic infrastructure development and innovative schemes to provide rural populations with access to ICTS and foster related learning and capacity building processes. In the longer-term, ICTSs development in the regions could strengthen efforts to decentralise and devolve authority to regional and local levels (issue viii), by connecting government units at all levels and by building the capacity of local government structures and local communities to access relevant information and actively contribute to higher-level policy and decision-making processes. At the rural community level, ICTSs could be introduced and used to strengthen local institutional capacity for local-level sustainable resource management and income generation by providing easy means of communication with, and ready access to relevant information in, the outside world, and to exchange experiences.

### ***12.3 Monitoring the impacts of development policies, programmes and projects***

Natural resource management, development planning and related decision-making can not be done without proper monitoring of the impacts of policies, programmes and projects being implemented.<sup>36</sup> Monitoring techniques and data gathering efforts should be commensurate (in accuracy and cost) with the nature and objectives of the planning and evaluation purposes which they are meant to serve. Generally, this means that monitoring methods should be as simple, robust and cost-effective as possible, particularly where planning and management responsibilities are devolved to the local level. Careful consideration should be given to opportunities of involving local communities in monitoring efforts – and in building the necessary local capacity for this purpose.

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<sup>36</sup> Monitoring will comprise the routine collection of biophysical and socio-economic data relating to a basic set of variables – such as rainfall, water use in households, wildlife populations, fish stocks, human population numbers distribution, school enrolment levels, disease incidence, land use, gender roles in rural households and in the labour market, employment patterns and economic output of goods and services.

In conclusion, in order to ensure that all types of knowledge are shared widely, and using diverse means, several factors need to be considered:

- The government must ensure free and ready access to knowledge in the public domain, as a fundamental right and resource.
- This implies that civil society should have access to public-domain information to participate in decision-making.
- Some information and knowledge in the private sector must be protected as intellectual property – through systems including patents, copyright, trademarks, plant breeders rights, certification and labelling – so as to stimulate investment (ensuring adequate returns), innovation, private sector development and economic growth. The government should facilitate intellectual property protection through appropriate domestic legislation and enforcement of rights as well as in international negotiations and agreements.
- Local (indigenous) knowledge held by rural communities about their environment should be protected – through systems protecting indigenous resource rights – to ensure continuing community access to and benefits from this knowledge, community development, environmental conservation and sustainable use of natural resources (this issue is addressed, for instance, in legislation on access to genetic resources being developed in Namibia).
- There is a need to promote a culture of communication and information sharing in Namibia, to which increasingly widespread use of modern information and communication technologies could contribute and which might also help make Namibian society more cohesive.

### **13. CULTURE, COMMUNICATION, ATTITUDES AND LIFESTYLES**

SD is fundamentally about shared values and a shared vision. Yet despite undeniable progress in achieving reconciliation and moulding a more unified nation, Namibia is still quite segmented culturally, socially and economically.

Cultural segmentation, social stratification and economic disparities generally tend to weaken civil society and the economy and have implications for conservation and natural resource use and management. The challenge is to build a culture of (inter-)communication and stronger bridges of mutual understanding and common interest, so as to overcome cultural, social and economic fragmentation and shape a more cohesive society. Accepting this challenge will start to lay the basis for SD.

In the past, the environmental concerns of the rich and the poor were as disparate as their incomes. This contributed to elite-dominated environmental decision-making and often to environmental degradation. In recent years, significant advances have been made in linking the nature conservation interests of the rich and powerful with the economic interests of the rural poor. By granting rural conservancies rights of exclusive use of and benefits from wildlife, for instance, the wildlife resource is conserved for hunting, tourism and other interests of the rich. This way, rural people become the custodians of precious natural resources. By linking different interests it is possible to build bridges and develop shared economic and environmental interests and objectives, allowing better conservation and sustainable use of the environment and better economic prospects for the poor, and moving away from conflict to cooperation.

Going beyond common business interests, a shared vision for SD will ultimately require general agreement on common core values and attitudes regarding equity and environment. These shared values may include (but not be restricted to):

- respect for other people and cultures;
- open-mindedness, trying to understand other points of view, avoiding preconceived notions and prejudices, as much as possible;
- working toward social and gender equality and justice;
- maintaining biological as well as cultural diversity;
- avoiding wasteful use of natural resources;
- avoiding resource-intensive lifestyles;
- promoting waste recycling, reduction and reuse and keeping the environment clean of waste and pollution.

Such core values and attitudes must be imbued in the young people, through education and awareness building at home and in school. The means of reaching a point where parents and schools throughout the country pass on the right kinds of shared core values and attitudes is perhaps the greatest challenge of all.

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