THE INTEGRATION OF ECONOMIC MEASURES INTO THE NATIONAL BIODIVERSITY STRATEGIES AND ACTION PLANS OF ZIMBABWE AND SOUTHERN AFRICA

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List of Acronyms

AIDS	Acquired Immuno-Deficiency Syndrome
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resource Management
CIDA	Canadian International Development Agency
CSO	Central Statistical Office
EDI	Economic Development Institute
ESAP	Economic Structural Adjustment Programme
GDP	Gross Domestic Product
GEF	Global Environment Facility
GMAs	Game Management Areas
IUCN	The World Conservation Union
MERP	Millennium Economic Recovery Programme
MET	Ministry of Environment and Tourism
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MET	Ministry for Environment and Tourism
NBSAP	National Biodiversity Strategies and Action Plan
NEPC	National Economic Planning Commission
NGO	Non-Governmental Organisation
PAAP	Poverty Alleviation Action Plan
RDC	Rural District Council
SADC	Southern Africa Development Community
SDA	Social Dimensions of Adjustment
SDF	Social Development Fund
TDR	Transferable Development Right
UDI	Unilateral Declaration of Independence
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VNRMCs	Village Natural Resource Management Committees
ZANU(PF)	Zimbabwe African National Union (Patriotic Front)
ZIMPREST	Zimbabwe Programme for Social and Economic Transformation
ZWD	Zimbabwe Dollar

1. Executive Summary

Based on a national case study of Zimbabwe's National Biodiversity Strategies and Action Plan (NBSAP), one of the main tasks of this paper is to examine in detail how economic measures have been integrated into the NBSAP and suggest ways forward in the use of economic measures in NBSAPs. The study is part of several case studies on the integration of economics into NBSAPs being carried out in other parts of the world, namely South Asia, South East Asia, Eastern Africa, Southern Africa and South America. The study is being co-ordinated by IUCN - The World Conservation Union.

One of the main tasks of the Ministry of Environment and Tourism (MET) in Zimbabwe in 1997 was the formulation of a National Strategy for the Conservation of Biological Diversity (CBD) in Zimbabwe in accordance with Article 6 of the Convention which calls upon all parties to develop national strategies which reflect the measures set out in the Convention. Financial support was provided by the Global Environment Facility (GEF) under the auspices of the United Nations Development Programme (UNDP).

Under the guidance and co-ordination of the MET a team of 15 local consultants representing various sectors were requested to produce strategies and actions for selected sectors and biological areas, namely forestry, wildlife, agriculture and aquatic flora and fauna. For each sector, the following issues were investigated:

- the status and trends of biodiversity at the genetic, species and ecosystem levels;
- the causes of biodiversity changes;
- biodiversity conservation and sustainable use measures;
- pertinent legislative, policy and institutional issues, and
- the economics of biodiversity conservation.

Three of the fifteen consultants were dedicated exclusively to looking at the economics of biodiversity. The first draft document was widely distributed to Government agencies, non-Government Organisations and other agencies in Zimbabwe for comment and discussion. Information was largely gathered through a review of relevant documents that included valuation studies, environmental economics studies and general country economic studies. Interviews and written communication with planners/implementers and researchers was also an important information gathering technique. Broad analysis of major macroeconomic and sectoral economic policies was simultaneously carried out. The emphasis was more on desk-research although in a few cases some original research was undertaken to fill in glaring data gaps. The economics papers were edited and compiled into a single draft strategy document - the first draft National Strategy- together with other researchers' papers.

From an economic perspective, the Zimbabwe NBSAP study is methodologically the most ambitious of the five case studies from the region (Malawi, Mozambique, Swaziland and Zambia). The paper provides the most interesting case study of integrating economic analysis in the NBSAP process. The Southern African case studies generally point at practical difficulties bared by country teams which include data requirements and lack of capacity to integrate economics into the NBSAP. There is generally just not enough integration of economics in the NBSAPs of Southern Africa, with the exception of Zimbabwe. The case studies have, however, produced a wealth of information in concrete situations, which is bound to benefit future work.

The primary net value added of the Zimbabwe study is that it shows how and why economic analysis might be of some value in all aspects of decision making over biodiversity. The paper also presents a brave effort to do empirical economic work in the face of poor data. Unlike all the other

studies, it discusses fully the economic factors surrounding biodiversity in each of the identified sectors of focus. Perhaps a weakness of the report is that from an economic perspective it devotes disproportionately more attention to economic valuation alone. It would have been even better to pay more attention to other economic instruments for and innovative financing mechanisms for biodiversity conservation. The NBSAP would also have benefited from some consideration of the economic (opportunity) costs of biodiversity conservation, and mechanisms to cover these (indirect) costs.

The MET is now in the final phase of submitting the NBSAP report to Cabinet and Parliamentarians for ratification. However, since its launch in June 2000, not much has happened in this direction. Its submission to cabinet and parliament has been indefinitely postponed. The Biodiversity Office which was opened at the MET office for this project was closed as soon as the GEF funding was exhausted, only to recently reopen when the Southern Africa Biodiversity Support Programme started operating. In large part, however, the political agenda in Zimbabwe is focused on other priorities right now, so that these more pressing issues have overtaken the NBSAP process. This raises important policy implementation failures. Of greater concern for biodiversity conservation is that adverse economic conditions have now spilled over into the agriculture sector through a seemingly haphazard "*fast track*" land reform which radically departs from all government pronouncements on biodiversity conservation in the past. There is anecdotal evidence that tree cutting, wildlife-poaching etc has been on the rampant since the reforms were fast tracked. Restoring macroeconomic stability and forging an acceptable way forward for integration of biodiversity concerns in the fast track land reform should be a priority area for biodiversity conservation.

Based on findings in this study, a judgement is reached that the economic recommendations made in the Zimbabwe report (buttressed by more focused work in a number of omitted areas) are still usable and fairly appropriate. It might be useful to put some sense of priority on these, and expand the menu of incentives to include innovative ways of financing biodiversity conservation. More up to date valuation and evaluation work is also a prerequisite. The main challenge is now to get politicians and other stakeholders (especially the Ministry of Finance) actively involved in the NBSAP process again. Once things settle down, there is a better chance to deal with biodiversity economics and incentives in Zimbabwe. The policy recommendations for Zimbabwe this study makes can be grouped into those dealing with macroeconomic stability, land reform, those dealing with institutional capacity building, and others such as issues on which policy research would be desirable.

1. Introduction

The Convention on Biological Diversity (CBD) comprises a set of goals addressing concerns over the problem of biodiversity loss. It requires contracting parties to develop national strategies, programmes or action plans for the conservation and sustainable use of biodiversity. Zimbabwe has since become a signatory to the CBD. With financial assistance from the Global Environment Facility (GEF) through the local office of the United Nations Development Programme (UNDP), the country has already prepared a National Biodiversity Strategies and Action Plan (NBSAP), as required under Article 6 of the CBD.

The NBSAP, already launched in June 2000 assesses from a Zimbabwean perspective the nature of the national biodiversity problem, how it maps into the goals of the CBD and what the elements of a biodiversity policy should be. Based on a national case study of the country's NBSAP process, one of the main tasks of this paper is to examine in detail how economic measures have been integrated into the process and suggest ways forward in the use of economic measures in NBSAPs. The study is part of several case studies on the integration of economics into NBSAPs being carried out in other parts of the world, namely South Asia, South East Asia, Eastern Africa, Southern Africa and South America. The study is being co-ordinated by IUCN - The World Conservation Union.

The necessary data and information used in preparing this study was collected from two sources: relevant documents and stakeholders in the programme. The evaluation started with a study of available documents on the programme and its results. In addition, government policy documents on development and environment were consulted. Stakeholders were interviewed. The emphasis of the interviews was on policy issues, project management issues and project implementation issues.

For the comparative study of the Zimbabwe NBSAP with four other countries in southern Africa (Malawi, Mozambique, Swaziland and Zambia), documentation was obtained from IUCN-ROSA The methodology consisted of a desk study of policy documents, review reports and other relevant documents. Interviews were held with officers knowledgeable about these countries. The time available for the study (15 days) limited the extent to which the programme could be analysed and described.

Some of the major findings of this study are that:

- from an economics perspective, the Zimbabwe NBSAP study is methodologically the most ambitious of the five case studies from the region. There is generally just not enough integration of economics in the NBSAPs of other Southern African countries.
- the primary net value added of the Zimbabwe study compared others rest is that it shows how and why economic analysis might be of some value in all aspects of decision making over biodiversity. The paper also presents an example of how to do policy relevant empirical economic work in the face of poor data.
- unlike all the other studies, it discusses fully the main economic factors surrounding biodiversity in each of the identified sectors of focus.
- however, even in Zimbabwe, too much attention is devoted to economic valuation at the expense of other components of economics. More attention could have been devoted to studying economic instruments and innovative financing mechanisms for biodiversity conservation. Also, the NBSAP would have benefited from some consideration of the economic (opportunity) costs of biodiversity conservation, and mechanisms to cover these (indirect) costs
- the case studies have produced a wealth of information in concrete situations which is bound to benefit future work. The important lessons from the regional studies are the constraints

imposed by data shortages and limited capacity in serious environmental/resource economics research.

- the NBSAP submission to cabinet and parliament for Zimbabwe has been indefinitely postponed. The Biodiversity Office which had been opened at the MET headquarters for this project was closed as soon as the GEF funding was exhausted, only to recently reopen when the Southern Africa Biodiversity Support Programme started operating. This raises important sustainability questions related to availability of financing. In large part, however, the political agenda in Zimbabwe is focused on other priorities right now. Pressing macroeconomic and political problems have overtaken the NBSAP process. It is this which raises even more fundamental policy implementation failures. Of greater concern for biodiversity conservation is that adverse economic conditions have now spilled over into the agriculture sector through a seemingly haphazard "*fast-track*" land reform which radically departs from all government pronouncements on the issue of biodiversity conservation in the past.
- based on findings in this study, a judgement is reached that the economic recommendations made in the Zimbabwe report (buttressed by more focused work in a number of omitted areas) are still usable and fairly appropriate. The main challenge is now to get politicians and other stakeholders (especially the Ministry of Finance) actively involved in the NBSAP process. Once things settle down, there is a better chance to deal with biodiversity economics and incentives in Zimbabwe.
- the policy recommendations for Zimbabwe this study makes can be grouped into those dealing with macroeconomic stability, land reform, those dealing with institutional capacity building, and others such as issues on which policy research would be desirable.

The remainder of this report is structured as follows. Section 2 gives an overview of Zimbabwe in terms of geography and economic conditions. Section 3 discusses the underlying causes of biodiversity loss in Zimbabwe while the next section looks at the history of the NBSAP process in the country. Section 5 discusses how far economics is integrated in the country's NBSAP and also points at some gaps still remaining. Section 6 assesses how far government has adopted economic recommendations made in the study. Section 7 gives a broad comparative review of the integration of economics in the NBSAPs process of other countries in the sub-region. Section 8 gives a summary and recommendations on the way forward for Zimbabwe.

2. Country profile

2.1 Geography, climate, population and land tenure

Zimbabwe is a land-locked country of 39 million hectares. The country lies between 15° 40′ and 22° 30′ south latitudes and 25° 15′ and 33° 05′ east latitudes and is bounded by the Zambezi River in the north and the Limpopo River in the south. Although well within the tropics, Zimbabwe's climate is sub-tropical from altitudinal influences. About 70 percent of Zimbabwe's soils are derived from granite and are often sandy, light textured and of limited agricultural potential. Zimbabwe's natural vegetation cover is characterised by savannah woodlands interspersed with open grassed drainage lines or dambos. Impeded drainage gives rise to limited areas of open grassland. A few patches of sub-tropical forests occur in the eastern districts. Zimbabwe has few perennial rivers and no natural lakes. Storage development is therefore dependent on run-off water accumulated during the rainy season. There are over 8,000 dams in the country with a storage capacity of about 4,900 million cubic metres.

Rainfall is the major climatic factor influencing the performance of renewable natural resource sectors such as agriculture, forestry and wildlife in the country. The rainy season stretches from November to March while the dry cool season is between May and August. Frost is not uncommon during the cool season while October and November are the hottest months. Annual rainfall varies from an average of 400mm in the low-lying areas to 900mm over the central watershed and 1,500mm in parts of the Eastern Highlands where most of the commercial pine plantations are located.

Zimbabwe's population from the 1992 Census was 10.4 million and is now estimated at almost 14 million. A declining infant mortality rate has been largely credited for the rapid increase in the country's population over the years although the effect of the AIDS pandemic on population growth still remains to be seen. Almost 50 percent of the total population are under 15 years of age, which poses long-term challenges to biodiversity conservation. HIV- infection rates are about 26%, slightly higher than in some neighbouring States (South Africa 25%, Mozambique 15% and Malawi 23%).

An estimated 69 percent of Zimbabweans live in rural areas. Raising the productivity of peasant farmers is considered critical to combating poverty, and securing their land occupancy rights is seen as the essential first step. In these areas, characterised by low investment, poverty and lack of economic alternatives, people tend to rely on natural resources for subsistence and income generation.

Four land tenure systems are generally recognised in Zimbabwe. These are the freehold (private), state land, communal and leasehold (resettlement) tenure systems. The land tenure system in the country is extremely complex. However in a strict legal sense, there are only two tenure categories; freehold and state land. Communal and resettlement tenure systems are a subset of the state land category.

The freehold tenure system is prevalent in the commercial farming sector which, consists of large scale and small-scale commercial farmers, and covers about 32 percent of the country. This sector is characterised by individual ownership of land by virtue of a title deed. The registered landowner has exclusive property rights and full control and responsibility over the land and everything attached to it with some exceptions.

The communal land tenure system is applicable to 42 percent of Zimbabwe's land area where the majority of the country's population resides. Rural District Councils have a dispensation to allocate land to qualified persons on behalf of the state. It is often argued that the communal land tenure

system is a disincentive to long term investment in agriculture and other natural resources such as forests. In some situations, communal land tenure does not conflict with goals of sustainable development. However, factors such as high population growth, a limited land base, and a shift from subsistence to an income-based economy have contributed to a general failure of communal tenure and subsequent environmental degradation.

2.2 Macroeconomic policies and social development

Zimbabwe attained independence from Britain on April 18 1980, after almost 90 years of colonial rule. Between 1965 and the attainment of independence, the country was under international economic sanctions after the Unilateral Declaration of Independence (UDI). The evolution of the economy since 1965 can be easily divided into two major economic policy episodes; (a) the control regime from 1965 to 1990 and (b) the structural adjustment reform period beginning in1991 to the present.

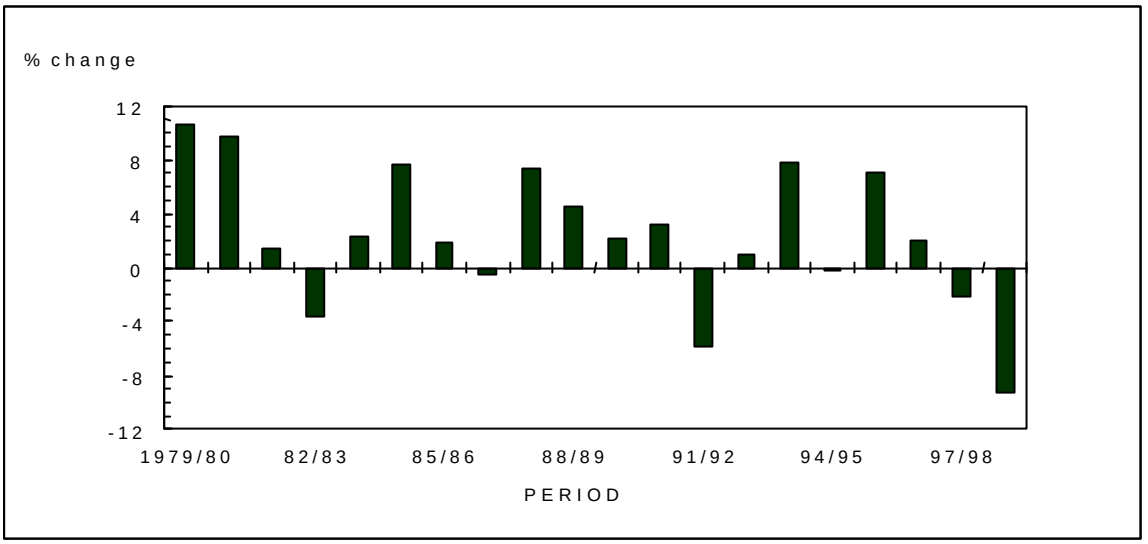
Authorities proceeded with many parts of macroeconomic reforms. They succeeded in so far as trade and capital account liberalisation is concerned, but failed with respect to stabilisation, as government has not managed to reduce the budget deficit. This has had important knock-on effects on inflation and exchange rate depreciation as would be expected. By 2000, inflation had reached over 58 per cent per annum (compared to only 5% a decade earlier); the Zimbabwean dollar is trading at 55 to 1 against the US dollar (compared to 38 a year earlier, 18 two years earlier and 2.5 when the country embarked on economic reforms). Total external debt more than doubled between 1985 and 1996.

In 1996, just before the outset of the recent economic crisis, Zimbabwe was a developing country with a per capita income of $718 USD, based on total Gross Domestic Product (in nominal terms) of $85.5 billion ZD, total population of approximately 11.9 million, and an average exchange rate of $10.00 ZD per USD in 1996. However, in real terms, the GDP per capita has declined from $271 USD in 1980 to $201 USD in 1996 largely due to high inflation and the depreciation of the Zimbabwe dollar. In local currency, real GDP per capita is largely unchanged from 1985. The economy is heavily dependent upon the natural resource base for generating employment, income and foreign exchange. In particular, the economy is dominated by manufacturing, agriculture/forestry/fishing, tourism and mining. Forestry mainly reflects logging of commercial forestry plantations of exotic pines in the eastern part of the country. The consensus is that primary commercial forest production might contribute at most 2 to 3 percent of total GDP with primary agriculture accounting for 11 to 12 percent. Fishing accounts for the remainder. Tourism is captured by the GDP category of Distribution, hotels and restaurants. The category "other" includes finance and insurance, electricity and water, construction, real estate, education and health, and domestic services. The principal exports are tobacco, gold, and other minerals. Tourism is becoming a significant source of foreign exchange. Although no official statistics are collected specifically on tourism GDP and foreign exchange earnings, the sector could now be as big an economic player as mining and quarrying. In 1996, total formal employment is approximately 1.2 million and informal employment is estimated at 1.7 million.

Economic growth is highly dependent upon macro-economic policies and weather patterns (see Figure 1). GDP grew in real terms by just over 37% between 1980 and 1990, a compounded annual rate of growth of about 2.9% but with marked year-to-year changes, largely due to weather and policy effects). The drought in 1992/93 had a serious impact on agricultural production in subsequent years, dropping ten percent in 1994 from the previous year and a further 19 percent in 1995. A bumper harvest and production increases of more than 40 percent from the previous year were experienced in 1996 due to excellent rains. For most of the 1990s, mining production has shown steady growth due to firm international commodity prices in minerals although recent

declines in gold prices have caused some mines to curtail production. The manufacturing sector, largely based on agricultural inputs, has struggled with the transition to a more open economy. Tourism has shown consistent growth. In 1996, Zimbabwe surpassed the 1 million-visitor mark for the first time. In 1997, visitors were estimated at 1.7 million.

Figure 1: Year-on-year change in Real GDP (Z$, 1980 Base) 1979-1999



The negative economic impact of the 1982/83, 1986/87 and 1991/92 droughts are clearly evident. The declines in recent years are a result of other factors. Source: adopted from Frost (2001)

Recent internal political, social and economic pressures have forced a sharp downturn in the economy, particularly in agriculture and manufacturing. Real GDP shrunk by more than 20% from 1998 to 1999. A further decline of at least 5% is projected for 2000 and 7.2% for 2001. Levels of unemployment and poverty, already unacceptably high before the crisis, are rising further. The situation is not expected to improve until after the Presidential elections, scheduled for 2002.

Despite lack of a comprehensive study in the recent past on poverty, there is a general agreement that poverty has grown worse since liberalization. Central Statistical Office (CSO) (1998) notes that extreme poverty is concentrated mainly in rural areas where over 50 per cent of the households cannot meet the minimum food requirements. In urban areas poverty is much less acute, with only about 10 per cent of the households below the poverty line. The headcount ratios of poverty between 1990-91 and 1995, however, show that poverty increase was more significant in urban areas compared to the rural; also the increase was greater for males than for females Although no concrete evidence is available, there is a general consensus that this pattern has persisted in the ZIMPREST period (1996-2000).

The non-income aspects of poverty are captured by such human development indicators as infant mortality rates, life expectancy, literacy, school enrolments, and so on (see

Table 1 (for a detailed discussion of human development, see UNDP, 1999). Many of these social indicators have also deteriorated or stayed almost constant during the 1980s and 1990s. While infant mortality rate declined from 82 per 1,000 in 1980 to 56 per 1,000 in 1995, maternal mortality rate shot up from 145 (per 100, 000 live births) to 570 in 1990. Life expectancy at birth remained almost constant between 1990 and 1995, whereas access to safe water declined for the rural population.

Table 1: Zimbabwe: Social Indicators (1980-1995)

	1980	1985	1990	1995
Infant mortality rate (per 000)	82.4	-	59.0	56.0
Maternal mortality rate (per 100, 000 live births)	145.0	480.0	570.0	-
Crude death rate (per 000)	13.0	-	11.0	10.8
Crude birth rate (per 000)	49.3	-	40.6	37.6
Life expectancy at birth (years)	55.9	56.9	53.7	52.0
- Male	53.2	55.5	54.4	51.0
- Female	56.8	-	57.3	53.5
Access to health services (% of population)	-	71.0	-	85.0
Access to safe water (%)	-	71.0	84.0	74.0*
- Urban	-	-	95.0	99.0*
- Rural	-	-	80.0	65.0*
Illiteracy rate (%)	-	37.7	33.1	14.9
- Female	-	45.0	39.7	20.1
Primary school enrolment ratio (%)	85.0	136.0	116.0	115.0*
- Female	-	131.0	115.0	111.0
Secondary school enrolment ratio (%)	8.0	41.0	49.0	44.0
- Female	-	33.0	46.0	39.0

(Source: African Development Bank (1998) *Selected Statistics on African Countries*. * - 1993)

The situation has been worsened by the AIDS epidemic (over 3,000 AIDS victims die every week), which has important implications for both the health sector and the economy as a whole by lowering worker productivity, raising dependency ratio in rural areas (where patients end up in the absence of hospital care facilities), and raising the cost of health services (World Bank, 1996). By 2000 AIDS is estimated to result in 1 million deaths of adults and children and to 600,000 orphans putting additional burden on already strained social services (Loewenson and Chisvo, 1997, p.188).

Finally, the fact that the economy is more macroeconomically unsustainable now than in 1990 clearly makes biodiversity conservation more difficult (see Box 1). The higher level of interest rate payments in the government budget make it much more difficult to tackle the budget deficit now than it was in 1990. Similarly the domestic debt burden makes government financing much more problematic. These have important implications for conservation measures financing. Indeed, biodiversity conservation or the broader environmental conservation has not been prioritised and has lost out to other government expenditures thought to be more pressing.

Box 1: Deindustrialisation of Zimbabwe and biodiversity loss

A study of the textile sector notes that the industry employs about 13,000 workers although it has the potential to employ 20,000 workers, suggesting decline in its profitability and competitiveness (Zimbabwe Investment Centre, 1997). A more recent USAID survey (1998) of micro and small enterprises suggests that closure of these enterprises has been increasing. A regression analysis estimates that between 1988 to 1997, for every 1 per cent increase in GDP growth rate the birth rate of these enterprises decreases by 0.6 per cent. From time to time the media reports the closure of enterprises in various sectors particularly in the clothing and footwear industries. Some data on these closures is presented below.

Closure of Enterprises in Clothing and Footwear Industries, 1996

Name of enterprise	Date of closure	No. of workers	Comment
G and D Shoes	January 1996	2000	Largest local shoe company, applied for liquidation
Bulawayo Clothing	March 1996	1200	Closed
WS Craster Clothing	June 1996	950	Closed
Fashion Industrial Holding	July 1996	2000	Second largest clothing company; closed

In December 1994 the largest textile producer in Southern Africa - Cone Textiles - closed with the loss of 6,000 jobs. It is estimated that widespread closures and retrenchments in the textile sector alone led to decline in textile industry from 25,320 in

1991 at the beginning of ESAP to 12, 427 at the end of 1995. The decline in the output and employment in clothing and footwear industries was less drastic however since output contracted by only 20 per cent in 1995. But the process of deindustrialization that began earlier started accelerating in 1996 as is reported in the table above. Employment in clothing is estimated to have declined from 21, 265 at the end of 1995 to about 17,000 in July 1996 (Carmody, 1997). Other estimates suggest nearly 40 per cent loss of jobs in the industry (interview with Professor Sachikonye, Institute of Development Studies, Harare, March 1999).

It is estimated that on average 250 000 people will seek employment annually. Under the best case scenario of 5% economic growth rate as targeted in the ZIMPREST and MREP plans, only 50 000 people can get into formal employment, leaving the rest to enter the informal sector or seek livelihoods in agriculture as the employer of last resort. This implies migration of population to communal areas, resettlement areas and small-scale commercial farms were population pressures are already placing a heavy burden on the fragile ecosystem and scarce natural resources. In the medium to long run, therefore, the population percent share on agriculture is bound to increase. The need for off-season income, or need to supplement income from agriculture, will mean an increase in the dependence on income from exploiting natural resources contributing to severe biodiversity loss and degradation. Within the rural sector itself, rural incomes have fallen by between 40 and 90 % in real terms. This means that the rural folk have less and less available disposable incomes. This would imply that there may have been increased reliance on natural resources and margin frontier extension, both with harmful effects on the status of biodiversity.

(Source: Carmody (1997) and Chitiga and Mabugu (2000))

3. Underlying (economic) causes of biodiversity loss in Zimbabwe

It is now generally accepted in the economics profession that the problem of biodiversity loss stems from the fact that biological resources are used without regard for the interests of other members of society. Given the widely accepted virtues of the free market system, an important question is why there should arise a need for government intervention? This has partly to do with the public good nature of biodiversity, partly to do with the structure of property rights in resources, and partly to do with the effect of the policy regime. From an economics perspective, a problem of market failure is said to exist, and some form of corrective government action involving regulation, incentives or other measures are required to overcome these failures.

In addition to missing markets, many existing markets have been prevented from operating efficiently by agricultural policies and institutions. This is an instance of policy failure and institutional failure. Policy failure can contribute to biodiversity degradation when government policy is set without considering the biodiversity implications. During the 1980s, this was argued to have led to the degradation of the agro-ecosystems by increasing pressure on grazing, arable and forest resources. Bhalla et al (2000) argue that fiscal, price and incomes policies directly increased the pressure on soils, vegetation, and water in Zimbabwe. Administered prices were also argued to have reduced producer income and so discouraged investment in land conservation (Chitiga and Mabugu, 1999).

Institutional failure can contribute to increased biodiversity loss where there are ineffective legal and regulatory frameworks. Without effective laws, regulations and standards to govern natural resource use, there is virtually no control over biodiversity degradation and loss. An absence of penalties (or penalties that are too low) may not effectively be a deterrent.

Box 2: Economic aspects contributing to biodiversity loss

Market failure
This exists when markets fail to fully reflect the real value of an environmental resource. This can happen because of one or more of the following:

The existence of public goods
Many environmental resources can be defined as public goods. The problem arises that the cost of producing these goods nearly always exceeds the benefits to an individual so that the market tends to under-supply public goods.

Imperfect information
For the price system to perform perfectly, all individuals must costlessly share information. Imperfect information increases uncertainty leading to short planning horizons and preferences. If all agents do not share the same information, the clearing price will not be the most efficient.

Externalities
Externalities are those benefits and costs that arise through the production or consumption of goods and services but are not reflected in the market price. Stated differently, externalities involve all actions of an individual or organisation that affect the welfare of someone else. This is a major cause of market failure.

Policy failure
This is where inappropriate government policies, or an absence of required policy results in market distortions for natural resource use, aggravated market failures and natural resource degradation.

Institutional failure
This is where a country lacks the necessary government structures, environmental legislation and regulations, or where a decline in traditional land-use management processes occurs, resulting in natural resource degradation.

Implementation failure
This is where a country lacks the technical capacity and/or financial resources to properly implement and enforce sustainable development policies, programmes and legislation, resulting in natural resource degradation.

Population growth
This is where a country's population growth results in pressure on the land base in excess of its carrying capacity, resulting in natural resource degradation.

Poverty
This is where people struggling to survive tend to follow unsustainable short-term resource utilisation practices in return for short-term consumption gains.

Other factors
Things such as drought, war, skewed economic asset distribution can act as a catalyst towards natural resource degradation.

Implementation failure is a significant contributor to biodiversity loss. Even when the country has effective laws, regulations and standards governing resource use, a failure to monitor and enforce these institutions can render them meaningless. Government cutbacks under economic reform programmes can seriously hinder monitoring and enforcement capability. Box 3 below presents a case where this can be interpreted as a *time consistency* problem in streambank cultivation in Zimbabwe.

Box 3: Stream-bank cultivation as a problem of time consistency

The various sequencing debates are usually restricted to the components of economic reforms. However, there is the issue in this study of the sequencing of economic reforms and environmental protection measures. In principle, since environmental protection is concerned with longer run issues there is no real need to delay them; the presumption would be that simultaneity is appropriate. One of the consequences for Zimbabwe of globalization is tourism growth. It is likely that measures to protect the environment from tour operators are necessary before it is too late to do so. There is a question of credibility. If environmental activities are legislated but, because of the short-run economic consequences, are not implemented or enforced, then their credibility suffers. This means that they may become ineffective even in the long run when they matter. A climate of ignoring regulations builds up a culture which disregards them and it may be difficult for it to be changed. Thus there may be a case for delaying environmental actions until it is known that there is both the moral and technical and legal capacity to enforce them. For example, have practices over the years led to a complete disregard for legislation preventing streambank cultivation? Whether or not you get away with it is a random event. Once you have planted there is a good chance that you will be allowed to harvest. The policies are, in economic terms, time inconsistent.

(Source: Bhalla et al (2000))

A third of the driving forces behind biodiversity loss in Zimbabwe is growing rural poverty. The poverty-population-distribution nexus is a key contributor to biodiversity loss. The root causes of the decline in affluence in this period included the declining productivity associated with the degradation of the natural resource base, the increasing level of dependence on food imports, and the sharp fall in those non-food imports - spare parts, fuels and fertilizers - on which agricultural intensification depends.

An additional cause of biodiversity loss in Zimbabwe is the distribution of assets, whether marketed or unmarketed. Farmers with uneconomic holdings of land and other natural resources, and who have no other source of income, have tended to overexploit those holdings. It is of some concern, therefore, that there has been a marked and continuing tendency for the distribution of both assets and income to widen, reflecting macroeconomic and increasing human population pressure. It turns out that gender is an important factor in this trend. Female headed households typically have access to a much smaller asset base than male headed households, and it is not coincidental that relative poverty in the sense of relative deprivation is reckoned to bear most heavily on women.

4. History of the NBSAP process in Zimbabwe and current status

The Government of Zimbabwe through the Ministry of Environment and Tourism (MET) was the chief executor of the NBSAP project in Zimbabwe. To make the project operational, a three tier operational framework was put in place consisting of a Project Secretariat (3 persons), a Steering Committee (8 members) and a Consulting Group (15 members). The consulting group was tasked with conducting the stocktaking of biodiversity information and to assist the co-ordinator in the preparation of the NBSAP. This group included 3 specialist economists, all with a resource economics background.

The project went through an extensive stakeholder consultation process prior to completion of the final document. This was done mainly through national and provincial workshops and media presentations. The first formal workshop done was a planning national workshop in April 1997. It brought together the consulting group, local and international experts. At this workshop, a foreign expert was invited to present a paper on financing mechanisms for the NBSAP (Emerton, 1998). The group was tasked with:

- identifying issues to be considered in the NBSAP
- identifying potential consultants
- discussing terms of reference for consultants
- identifying specific project outputs
- outlining a methodology on stakeholder involvement
- mapping how the rest of the work will be done.

On top of achieving these objectives, more importantly the workshop participants adopted the sector approach to analysis of biodiversity. Two main reasons influenced this choice. First, since the government is structured along sectoral lines and the formulation and implementation of policies that affect biodiversity is done within a sector context, it appeared natural to also adopt a sector approach. Secondly, it was felt that because international conventions are generally formulated and implemented along sectoral lines, it makes sense to do the same. Four sectors, namely forestry, wildlife, agriculture and aquatic flora and fauna were chosen. For each sector, the following issues were investigated:

- the status and trends of biodiversity at the genetic, species and ecosystem levels;
- the causes of biodiversity changes;
- biodiversity conservation and sustainable use measures;
- pertinent legislative, policy and institutional issues, and
- the economics of biodiversity conservation.

For the economics team, information was largely gathered through a review of relevant documents that included valuation studies, environmental economics studies and general country economic studies. Interviews and written communication with planners/implementers and researchers was an important information gathering technique used. On top of this, broad analysis of major macroeconomic and sectoral economic policies was also carried out. The emphasis was more on desk-research although in a few cases some original research was undertaken to fill in glaring data gaps. The three economists produced one report which formed the overall background research paper for economics. Together with other background documents, all the background documents were synthesised into a single comprehensive document referred to as the Biodiversity Status Report by a consultancy team. The leader of the economics team was part of this consultancy.

A number of workshops on issues related to the NBSAP were held at both national and sub-national level. In December 1997 the first national workshop was done to introduce and review the draft report. The participants were also tasked with considering and prioritizing unmet needs for biodiversity conservation as well as suggest strategies to address the unmet needs. This was followed by four provincial workshops (each covering two of the country's eight provinces) between February and March 1998 aimed at presenting the outcome of the first national workshop for consideration by local government, traditional leaders and NGOs at district and provincial level. Another aim of the provincial workshops was to solicit members to contribute local perspectives to the final outcome. A second national workshop to present a revised version of the NBSAP was held in April 1998. The workshop was also used to discuss the unmet needs and suggest mechanisms for funding and implementation of the NBSAP.

Almost at the same time that the workshops were taking place, an innovative media strategy was put in place. It kicked off with a media workshop in September 1997 where twenty journalists attended. These were drawn from the radio, television and print media and were drawn from all around the country. It was these journalists that assisted with communication in their respective provinces when the provincial workshops were embarked upon. Three issues of a newsletter detailing what the NBSAP was all about and the progress made to date were compiled and distributed to stakeholders so as to raise their awareness of the NBSAP programme. Finally, a workshop for Parliamentarians was done in December 1998 with the assistance of the World Bank (EDI), the European Union and the Government of Netherlands.

A wide range of stakeholder groups were involved in these consultations. In addition to officials from various government departments (*e.g.* the departments of Natural Resources, National Parks and Wild Life Management, Agricultural Technical and Extension Services, Energy) and parastatal organisations (*e.g.* Zimbabwe Forestry Commission), participants included representatives from industry, environmental NGOs, and universities. Regional workshops also included local government officials and private individuals. All these sessions went over very well. In the report and in the various workshops, the economics team always talked about the macro-level importance of biodiversity, sectoral contributions, and incentives that would help provide for better sustainability. There was always good support for these sessions and a lot of interest. Since then, however, there has been little activity, largely because there has been no particular pressing issue or activity to form a focus for such meetings, and because of the lack of resources to fund them. Current consultations and workshops are largely project-related and therefore involve a smaller number of more specialised stakeholders.

5. Analysis of economics integration in the NBSAP

From an economic perspective, the Zimbabwe NBSAP study is methodologically the most ambitious of the five case studies from the region (see discussion below). The paper provides the most interesting case study of integrating economic analysis in the NBSAP process. Its primary net value added is that it shows how and why economic analysis might be of some value in all aspects of decision making over biodiversity. The paper also presents a brave effort to do empirical economic work in the face of poor data. Unlike all the other studies, it goes out of its way to discuss some of the key aspects of the economics of biodiversity in each of the identified sectors of focus.

There are essentially four broad areas that the Zimbabwean team attempts to use economics as a tool for decision making about biodiversity use. These are:

- biodiversity valuation
- underlying causes of biodiversity loss
- winners and losers from biodiversity loss
- incentive structure to encourage sustainable biodiversity use

By valuation is meant the assignment of a monetary value to economic goods and services and in particular to environmental resources. It is a tool for organising information in an efficient way. For most conventional goods and services this valuation is done by the market, pricing boards, trade unions or by central banks. However, for most biodiversity resources , an economic value is not assessed at all. The purpose of valuation techniques is to identify the "correct" prices for these goods and services. The team finds that most biodiversity values in Zimbabwe are not known. This is because of a combination of too little research on the subject and also generally poor quality research. Further, the few studies that are there are largely of a local nature, which makes extrapolation to the macro-level very difficult (and perhaps dangerous). However, this does not deter the team. Using few of the better studies and mindful of many caveats and with some genuine innovation, an attempt is made to come up with a value or ranges of values for most sectors. Where it was not possible to come with any value, suggestions were made on the route future research should follow. This is very important and needs to be encouraged. The reason why such rudimentary valuation is important is simply that unless a resource is assessed a value, it tends to be mismanaged, and in particular overexploited. One could, of course argue that political decisions on the use of the resource, without any explicit valuation, can lead to efficient management of the resource. This may be true, but it overlooks that the political decision reflects at least implicitly, a value assessment of the resource and that it should be preferable in a democracy that these value assessments are made explicit and be based on the consequences for those concerned. This is really the starting point for all modern valuation.

With respect to the underlying causes of biodiversity loss, the economics team correctly argues that the main drivers of biodiversity loss in Zimbabwe are the growth in demand induced by population expansion and economic growth; the lack of markets for many of the environmental consequences of economic activity (externality and market failure); the adverse effects of inappropriate economic and social policies (public goods and policy failure); and a distribution of assets that often leaves people with little choice but to overexploit the natural resources they use (poverty). These drivers are not independent of each other. Identifying underlying causes of biodiversity loss is important because it implies that part of the solution lies with using economic instruments. There are four main elements in a policy for biodiversity conservation: a regulatory regime to protect key species, habitats and ecological services - including a system of protected areas; an appropriate set of

property rights in natural resources; a compensation mechanism; and a supporting structure of incentives and disincentives to induce the desired response. The economics team discusses these at some length. In line with Article 11 of the CBD, the economics team goes on to suggest an incentive structure that will conserve resources for which markets either do not exist or are incomplete by providing users with the right signals[1]. This is where most of our comments are focused on.

With respect to forestry, the study points out that the issue of incentives can be addressed at two levels: macro-economic level and micro-level. At the macroeconomic level, disincentive to miombo forest conservation that need redress include:

- tight fiscal control over government expenditures. This reduced budgets for monitoring and controlling forest utilisation by appropriate authorities.
- Macroeconomic policies such as a huge devaluation that may encourage exports of miombo products. Such policies may also promote land clearing for cash crops and increased harvesting of indigenous export timber species such as teak and mukwa.
- Insecure land tenure policies over communal forests and woodlots resulting in poor management
- Unclear lines of authority within government over forest management in state forests, communal lands and national parks.

At the micro-level, economic disincentives such as low stumpage price may contribute to poor conservation practices for miombo woodlands. It is difficult to assess the appropriateness of the proper rates due to lack of data on final product revenue, elasticities and other economic data.

Economic incentives can be used as instruments for improved miombo woodland management. One advantage of such instruments is that they are cost effective and are often enforced by the users themselves. Direct incentives include cash incentives, such as fines to deter timber poaching or improper harvesting methods; compensation for damage to community forests from wildlife or development projects; compensation to people living adjacent to state forests who are excluded from using the woodlands; and subsidies for forest management.

In Zimbabwe, communal area inhabitants are already allowed to exploit timber for personal use within certain limits (free of charge), while licences are issued for commercial exploitation of the forest resource. Where forest damage occurs, usually the costs of ameliorating the damage are imposed by the State. Such provisions, however, are fairly broad and neither deters poor conservation practices nor encourages sound resource management in communal areas.

The same analysis is carried out for wildlife biodiversity, aquatic flora and fauna and agriculture. With respect to wildlife valuation, the economics team acknowledges the data limitations but makes recommendations on how such values should in future be estimated. It highlights that Zimbabwe has direct and indirect incentives for wildlife biodiversity conservation. The direct incentives mentioned include tax concessions, subsidies, grants and compensation for animal damage to crops, low interest rates or free loans, sales of wildlife below market prices to stock private or communal conservation area, reduced lease fees and the sharing of conservation proceeds and/or park entry fees with communities. The indirect incentives mentioned include developing community level conservation institutions, building capacities for community involvement in management and decision making for resource, conserving and promoting traditional knowledge and providing

[1] Note that in line with Article 8 of the CBD, the study could have attempted to solve the same problem by finding the right composition and level of public investment in biodiversity protection. Presumably because of the pressing budgetary position the country finds itself in, this route is not fully explored.

appropriate education to local people. Community Based Natural Resource Management (CBNRM) in the form of Communal Areas Management Programme For Indigenous Resources (CAMPFIRE) type programmes is recommended as an incentive while drought relief programmes, though not specific for wildlife conservation, are mentioned as a potential incentive.

For aquatic fauna and flora, direct, indirect and non-use values are identified, though not fully quantified, presumably due to data deficiencies. Various economic incentives and perverse incentives are discussed. Lack of clarity over property rights in the case of aquatic biodiversity is mentioned as a clear disincentive. The issue of the cost of various government permits relative to potential values generated is flagged as an issue requiring further investigation.

Finally for agriculture the study identifies incentives and disincentives to biodiversity conservation. Striking a balance between the quest for economic development and the conservation of natural resources is seen as a major issue. Perverse incentives include an array of colonial socio-economic and political policies that affect farmers in a variety of ways. Among the positive incentives for agro-diversity are land redistribution programmes aimed at allocating more productive land to communal farmers, credit subsidisation by government through the Agricultural Finance Corporation and pumping of money for irrigation development. The study mentions the possible destabilising repercussions on the rest of the economy this can have (e.g., adverse effects on the low value but traditionally important food crops). Perhaps to this could also be added that these measures of a subsidy nature have budgetary repercussions which the government is unable to meet.

Having attempted to identify all the values, the economics team then makes an attempt at comparing all benefits and costs deriving from biodiversity conservation. The authors sought to aggregate estimates obtained from various local valuation exercises to yield a single global figure that would capture the importance or lack thereof of biodiversity conservation. They list a range of alternative uses for biodiversity which are then used to estimate values for biodiversity in each sector. No attempt is made to convert the values to comparable scales, e.g., on a per hectare basis. These values are subsequently summed across the different sectors. Many economists (and ecologists) question the wisdom of estimating a single value for biodiversity services on the basis of a series of ad hoc, partial studies of particular resources and particular uses. The argument is that since the exercise is based on non-market valuation studies it has a tendency to ignore some ecosystem functions that support conventional agriculture on the assumption that this is reflected in land prices. Such cost benefit analysis exercises are in many cases misleading.

However, the important point of the economists' work is to underscore the fact that the value of biodiversity conservation reflects the range of benefits flowing from those resources. This should not just be private use, but include the full value spectrum: option, quasi-option, bequest and scientific values. The value, however, also includes the indirect use value of the ecological functions supported by those resources. There are also costs to long term biodiversity conservation. It is these that may be traded off against the production of economically valued goods and services. This is a key area that policy should address in order to determine the appropriate trade-offs.

The NBSAP paper does contain some original material in as far as economic integration in policy in Zimbabwe is concerned. It makes the important point that biodiversity valuation helps to clarify the importance of biodiversity to people's livelihood strategies. Also, the hierarchy of values that people derive/supply can help to explain why biodiversity is coming under increasing pressure from rural people. The major thrust towards economic valuation revealed two important points: emergence of an understanding of the monetary values of biodiversity as well as exposing data limitations. In this regard, a full spectrum of economic methods is needed to capture the diverse values of biodiversity and hence fill in this data gap.

Another important gap in the economic analysis is the oversight it apparently makes on the point that it is not only the way that people value biodiversity that explains its deterioration. There are certain broader contextual factors that help to understand the constraints on practices at the local level. Indeed, the report mentions some of these, but only in a cursory manner. However, it omits, with hindsight, what has proved to be the most important constraint for Zimbabwe. The main macro level problem - the scarcity of arable land available to small-scale farmers - has recently taken centre-stage. The inequality and social conflicts prevailing in Zimbabwe are in many ways a result of an unequal distribution of the developing world's prime asset: land. In Zimbabwe about 60% of the arable land is owned by 4,500 white farmers while 8 million black peasants are sharing the remaining land. Beginning in February 2000, over 1,500 farms have been invaded/occupied. Up to now, Government has not yet decisively resolved this matter. The farm occupations have had implications for the rest of the economy since agriculture affects production, purchasing power, migration, and the distribution of political power. To understand the politics of land reforms it is important to identify winners and losers of land-redistribution throughout the whole society. Moreover, there have also been significant economic and social consequences not only of the 'occupations' themselves, but also of uncertainty about whether a land reform will be implemented or not. The land reform has been highly erratic and unpredictable. This uncertainty is likely to be highly damaging not only to investment and growth, but also to the environment and biodiversity. It weakens the credibility of government and undermines confidence. Under these circumstances, enforcing environmental legislation and paving the way for a biodiversity conservation strategy implementation are very difficult to achieve.

Along similar lines, some lucid discussion of the political economy of policy implementation would have fitted in quite well with the general thrust of the paper. Perhaps such a discussion could have helped us to anticipate that close to a year since its launch, not much in implementation has subsequently taken place. The NBSAP has not even been presented to parliamentarians or to the cabinet for approval. The interesting question is why this failure? This is an important question to ask. Ultimately political solutions are a matter not of laws and constitutions, nor of external pressures, but of social customs and norms. A new policy framework that provides the legal framework for biodiversity conservation may be a necessary step towards more effective policy implementation but it will not be a sufficient one. There is also a need for a national consensus, not on the specifics of policies, but on the ground rules which condition interactions not only between governors and governed, but also amongst the governed themselves.

Although the NBSAP is fairly comprehensive in the listing of incentives for biodiversity conservation, there are some gaps that have been identified. All these incentives should first be subjected to some form of economic appraisal to ensure that social welfare will be the same or better off with the incentive than without. If they are found to stimulate appropriate conservation behaviour at a favourable cost-benefit ratio, then they should be applied. Possible omitted candidates are briefly discussed below:

Tradeable quota

This allows individual resource users to trade use rights within the limits imposed by the quota. They offer a potentially efficient allocation mechanism behind an environmentally protective barrier. Formally, there is as yet no working examples of a tradeable quota in Zimbabwe, although there is obvious potential in fisheries and in the harvesting of other wild living resources.

Transferable Development Right (TDR)

This is another instrument for biodiversity conservation. It proposes the setting aside of habitats for biodiversity conservation, each being divided into a number of TDRs. Each TDR would state the location, condition, diversity and a degree of protection of the habitat and any rights that are

attached. The price would have to exceed the local opportunity cost for the community having ownership of the land to be interested. The mechanism provides a vehicle for the beneficiaries of conservation to pay the local opportunity cost. Debt for nature swaps may be seen as one application of the TDR principle, but without the efficiency that tradability offers.

Environmental taxes, subsidies and charges

These have been much more widely used in Zimbabwe than tradeable permits. They can be an effective way of confronting resource users with the social costs of their actions. The main problem with existing taxes, subsidies and charges is, however, that they do not reflect the social opportunity cost of the activity to which they apply. Also, as the NBSAP argues, incentives offered by stumpage fees/royalties in forestry bear little relation to the social opportunity cost of deforestation. Other examples include fishing permit fees, land clearing subsidies. In some cases, fees have been negotiated through the political process with a view to raise revenue without reference to the environmental issue. The case of the recently introduced carbon tax by the Ministry of Finance is a case in point. Such actions which are not carefully thought out act as a disincentive to biodiversity conservation.

Differential land use tax

This instrument is not recommended in the NBSAP but it should be readily adaptable to Zimbabwean conditions. It works by raising the costs of conversion. Forest uses (or any land uses) are classified according to the environmental damage they involve. Conservation of natural forest might be classified as environmentally benign, whilst conversion of forests for industrial production might be classified as environmentally destructive. Land that is converted from one use to another attracts an additional charge if the land use is more damaging, or a refund if the land use is less damaging.

Forest compacts and carbon offsets

Compacts are agreements between developed and developing countries to conserve forests for their role in carbon sequestration. Carbon offsets are simply a particular kind of forest compact involving joint implementation of a commitment to reduce CO2 emissions. They may involve a developing country commitment to forest conservation on the one side, and credit for carbon saved or sequestered on the other side. The potential benefits stem from differential costs of CO2 reduction in developing and developed countries.

Finally, it must be pointed out that the Zimbabwe NBSAP economics report devotes disproportionately more attention to economic valuation alone. It would have been even better to pay greater attention to economic instruments and innovative financing mechanisms for biodiversity conservation. The NBSAP would also have benefited from some consideration of the economic (opportunity) costs of biodiversity conservation, and mechanisms to cover these (indirect) costs. Admittedly, some attempt on the latter is made in the cost benefit analysis.

6 Implementation of economic aspects after the NBSAP launch

It is noteworthy that while the NBSAP covered macro and sectoral level linkages with biodiversity and the economy, and also made incentives a major part of the report, particularly at the sectoral level (agriculture, forestry, etc) and while it provided lots of ideas for policy-makers to think about, nothing of substance has happened since the NBSAP launch in June 2000. In large part the political agenda is focused on other priorities right now, so that the NBSAP process has been taken away from centre stage. One development however, was the change in legislation governing intellectual property rights for biodiversity. There was much debate in Parliament on this topic after the workshop for Parliamentarians and it actually led to legislative change. Another is the sustainable use of forest biodiversity in traditional medicines which has been approved for funding. As far as other ideas relating to tenure, resource pricing, etc. are concerned, not much has happened.

This raises important policy implementation failures but perhaps we should focus on some of the reasons that have resulted in this apparent impasse. The adverse economic conditions have now spilled over into the political arena. Of even more concern is that they have spilled into the agriculture sector through a seemingly haphazard "*fast track*" land reform which radically departs from all government pronouncements on biodiversity conservation in the past. These negative developments, set in motion by adverse economic conditions have some very serious potential implications for biodiversity conservation. Most importantly they affect land use especially in the rural areas, where most of the biodiversity is located. This operates as follows. Declining real incomes and increasing formal sector unemployment have exacerbated demand for land in communal areas to act as a secure home base. To economic migrants, land designated as wildlife is increasingly been seen as underutilised and is being settled and converted to land for agriculture. Current economic conditions make it difficult for anyone to prevent this process (Bond 2000). There is anecdotal evidence that tree cutting, wildlife poaching etc has been on the rampant since invasions.

Adverse economic conditions noted above have most likely led the government to reverse and postpone some of the important environmental policies enshrined in the NBSAP. For example, although the National Biodiversity Strategy Action Programme was ready last year, its passage to parliament and cabinet has been halted by the turmoil in the country. The last stakeholder workshop conference involving parliamentarians that had been planned has been indefinitely postponed because of this, and as a result nothing has materialised. Similarly, in the broad environmental sector, the long awaited environmental management bill has been in the attorney general's office going through drafting phase for the past couple of years, with significant negative impacts on the environment and biodiversity in particular.

Obstacles to implementation of the NBSAP, at least in the short run, have most likely come from domestic macroeconomic instability and the resultant spillover into the land arena. Although many current economic/environmental problems are related to recent political developments, it is important as far as the NBSAP is concerned to realise that even in a stable political climate, many of the problems would remain and it is not clear how they should be tackled. Central amongst these problems is the worsening of income distribution and the deepening of poverty that has occurred. Since these trends were evident before current political developments, there are *a priori* grounds for believing that they reflect deep-seated structural features of the Zimbabwean economy. A primary aim of future work in Zimbabwe is to develop an understanding of the interactions between macroeconomic policies, poverty and the environment/biodiversity with a view to understand better the policies required for sustainable and equitable development in Zimbabwe.

7 Broad comparative review of the NBSAP process in Southern Africa

This section is based on a comparison of the NBSAPs of five countries in Southern Africa, namely, Malawi, Mozambique, Swaziland, Zambia and Zimbabwe. Where material contained in the NBSAPs is insufficient for our purposes, reliance is made on information provided by key informants' interviews and other published reports (see, for example, Arntzen, 1999 and Hachileka and Mupimpila 1999) on the countries.

7.1 Context of the countries

It is important to understand human social, economic and political issues in developing policies and approaches to management of biodiversity. For purposes of this section, socio-economic data on four of the countries (Zimbabwe, Zambia, Malawi and Mozambique) has been accumulated, analysed and interpreted. According to UNDP/UNEP/World Bank/WRI (2000), the total population within the four countries as of 2000 is approximately. All the countries have high population growth rates of about 2.5% per annum. AIDS has spread across all the countries. Its effects, coupled with declining fertility means that population growth is on the decline. While population decline helps to reduce pressure on natural resources, HIV/AIDS reduces labour supply and productivity and reduces disposable national income (which may divert resources away from environmental protection). All countries except Zambia are essentially rural economies. Until recently, the countries had been characterised by rapid urbanisation. However, due to mounting economic difficulties, a number of the countries are currently experiencing increased reverse migration (e.g., Zimbabwe). Increased pressure in the rural areas puts a huge strain on biodiversity. Similarly, all countries have high unemployment. The official rates are in excess of 20% of the population although unofficial estimates are much higher than this. The high unemployment forces more and more people to rely on agriculture and other natural resources.

Table 2: Land area, population and density of Southern African countries

Country	Total Area of Country (km-2)	Total Population (1997)	Total Rural population as % of total	Population densities in rural areas (people per km-2)
Malawi	94,080	10,200,000	7,752,000	82.4
Mozambique	801,590	16,350,000	9,973,500	12.4
Zambia	752,614	9,350,000	5,236,000	7
Zimbabwe	390,580	11,350,000	7,377,500	18.9
Total	**2,038,864**	**47,250,000**	**30,339,000**	**30.175**

The total population within the area is about 47.3 million, with about 64% residing in rural areas. This is an important consideration in managing biodiversity in the region. The region's economic structure is characterised by the production and export of a small range of commodities. Zimbabwe has the most diversified economy. According to UNDP/SADC/SAREPS (1998), the industrial and agricultural sectors in these countries still bear the hallmarks of the colonial era and post-independence policies have failed to reconstruct or transform these countries. Apart from Zimbabwe, each country is largely dependent upon the export of a single export, for example, Zambia's exports are dominated by copper and cobalt (90%), Malawi relies on its export of tobacco (76%) and Mozambique's sale of shrimps and other fish accounts for 47% of total exports. Economic growth has been slow in most countries in the past decade. Zimbabwe has shown negative growth since 1999. All of the countries are heavily dependent upon external aid (Malawi (120%); Mozambique (74%); Zambia (170%); Zimbabwe (52%)). In terms of GDP per capita, Zimbabwe is the most developed of the four countries (US$600). The rest have less than US$599

per capita GDP. Human poverty is an inherent part of the Southern African countries. Zambia, Malawi and Mozambique are amongst five of the most poverty rated countries and significant proportions of the populations in these countries have low expectations to live to over the age of 40. Given the current situation the countries find themselves in, perhaps it comes as no shock that restoring economic growth is accorded highest priority in all countries. The challenge is to combine this with equity and sustainable biodiversity use.

An interesting comparison which will also have a bearing on the use of economic instruments is environmental management in the respective countries. All the countries have the government having overall responsibility for environmental management. In all cases, each government has a single institution in charge of environmental management. Most of the countries are in the process of reforming environmental legislation to ensure adequate co-ordination. All the countries are seeking an enhanced environmental presence in the institution responsible for finance and development planning. Currently this is achieved through an EIA policy. The absence of an environmental presence in each sector and resource ministry appears to be the weakest link in the current institutional set-up in the countries (Arntzen 1999). There are important policy gaps, which often result in open abuse of natural resources. A most notable gap (perhaps with the exception of Zambia) is with respect to pollution control where policies are either absent or in preparation. Most countries possess general environmental policies and a large number of resource policies as well as sectoral policies. All the countries being SADC members are striving for more intensive use of economic instruments in environmental management as called for by the SADC policy.

7.2 The NBSAP process compared

The NBSAP comparison of the countries has been hampered by several factors. The nature and detail of the country NBSAP documents differed on the way they address economic issues. Except for Zimbabwe, all other NBSAPs are very casual, general and mostly qualitative in nature as far as the economic aspects are concerned. No serious attempt is made to integrate economics into these NBSAPs. Zimbabwe is the only one that is more detailed and includes quantitative information. Consequently, the economic information and data presented varied, further complicating the comparison. Generally, for all countries (and to a lesser extent Zimbabwe) it proved difficult to collect baseline information such as figures on biodiversity values.

With the exception of Zimbabwe, the reports are largely devoid of a discussion of actual incentives that are in place in their respective countries for biodiversity conservation. There is no attempt at assessing the costs and benefits of biodiversity conservation. In all cases (including Zimbabwe), innovative ways of financing biodiversity conservation are not discussed. With the exception of Swaziland, CBNRM is commonly mentioned as an incentive mechanism in the country NBSAPs. Although we do not have evidence for this, we think the reason for the lack of serious economic analysis in these NBSAPs (with the exception of Zimbabwe) is because too few trained/practising economists were assigned this duty. Probably physical scientists at the expense of economists dominated the whole process. To their credit, though, all the country teams produced detailed NBSAP reports on other non-economic baseline data. These reports formed the foundation of this comparative study.

Mozambique presents a rather interesting case. In the preparation of its Strategy and Action Plan for Biodiversity Conservation, there was very little (or no) consideration given to economic values/factors in relation to biodiversity when drawing it up. There was little or no involvement of economists in the process. This was not an oversight - quite simply there were no resource economists in Mozambique at the moment (although some are being trained) that the team was aware of (*personal communication*). There are good natural resource scientists and good economists but very few individuals (if any) who can bring the two together. Following from this, there was no attempt whatsoever to quantify (in monetary terms) the value of the components of biodiversity.

The Action Plan, however, recognizes the need to do so. In the case of Mozambique, one of the major constraints in integration of economics then was the lack of trained personnel. An enabling factor for future work is that Mozambique at least has a final draft Action Plan that recognizes the need to place a value on biodiversity. There is an increasing awareness/acceptance to incorporate environmental considerations (including economics) into sectoral polices and programmes. The country has, for example, a new Environmental Law (1997) and a National Environmental Management Programme (1995). This has been a long process and is continuing ("the need to overcome sectoral intransigence" - as is the case in the other countries is key (*personal communication*)).

The Zambian study contains a wealth of information on the physical aspects of biodiversity, but is generally lacking in any serious attempt to integrate economics into the process. This is very surprising because in the first task force seminar an elaborate stand alone economic analysis was clearly spelt out. The framework for the country study paper (IUCN- The World Conservation Union 1997) on page 10 has a section on issues to be addressed which identifies the following:

vii) Economics of Biodiversity

- Value of biodiversity
- Costs and benefits of present conservation efforts
- Incentives
- Ethical issues
- Other socio-economic issues

Thus, the intention to do economics was there but the final document does not reflect this intent whatsoever, nor an explanation given as to why the intent was not carried through. This begs the question of what went wrong during the process? The NBSAP process in Zambia involved two team leaders: one for socio-economic aspects and another for the natural sciences component. However, the socio-economic team did not perform very well and some members including the team leader had to be replaced by new members which affected the quality of the overall input of the socio-economic component. As in the other case studies, there is paucity of data relevant for an economic evaluation nor is this mentioned as a constraint. There is generally omission of discussion of the underlying causes of biodiversity loss, which in essence rules out any meaningful economic contribution the paper may have made on the role of economic tools in biodiversity conservation. There is a token recommendation towards the end on the use of CBNRM but this is not motivated at all in the paper nor are we given reasons why the NBSAP suspect this will solve Zambia's biodiversity loss problems.

The Malawi and Swaziland studies contain some valuable facts about the economy and the role of biodiversity in it. However, economic integration is rather minimal and there is no elaborate discussion of economic policy incentives and disincentives to biodiversity conservation, to biodiversity economic valuation and to the presentation of the recommendations for the use of economic instruments for biodiversity conservation. Again unlike the Zimbabwe case but similar to the Zambian case, no attempt whatsoever is made to attach monetary values to biodiversity. There is really no evidence that an economist was dedicated any economic tasks in these projects. What is more, this is not even mentioned in the gaps as a critical constraint. Again as in the Zambian study, CBNRM is recommended although this does not follow from any elaborate economic analysis in the paper. To its credit, however, the Malawi study does mention albeit briefly and without elaboration, the types of values to expect from biodiversity. However, no attempt is made to build this into a formal economic analysis.

7.3 Composition of instruments and experience with the use of economic instruments

There is no elaborate discussion on the use of economic instruments in environmental management in the different countries NBSAPs, yet this is an important initial condition in biodiversity conservation using economic instruments. To close this gap, what this study did was to carry out a quick desktop research on the extent of the use of economic instruments in these countries. As in most other countries the world over, the four countries have a strong tradition of command control (regulations) that persists until today. Common forms of regulation are licenses, quotas, restrictions, prohibitions and standards (Arntzen 1999). Consultative instruments are frequently used in the form of education, awareness raising and consultative meetings. With the exception of Swaziland, the only single binding consultative instrument appears to be CBNRM. The use of environmental economic instruments is so far mostly confined to resource utilisation. Universally applied economic instruments are:

- Property rights. The most common forms are privatisation and CBNRM.
- User charges for water, land, wildlife and fish are common. These have largely been employed as finance charges but their function as behavioural charges is on the increase.
- Penalties for non-compliance
- Deposit and refund schemes for bottles.

What most of the NBSAP case studies have in common is a recommendation on the use of CBNRM in biodiversity conservation. As a result, it is interesting to compare the countries on this front, realising of-course that CBNRM has been in existence in these countries long before the NBSAP process.

In all the countries devolution policies are in place, but generally the identified lower level organisations are state structures. In Zimbabwe the Rural District Councils Act of 1988 (and its precursors) effectively concentrated local power over natural resource management at the district level, rather than at the community level. Control over wildlife is devolved to local government through the granting of "appropriate authority" under the Parks and Wildlife Act (1975). In Zambia, wildlife is state property (National Parks and Wildlife Services Act No. 10 of 1991), but the Wildlife Policy of 1993 bestows user rights to land holders. Thus local people who reside in Game Management Areas (GMAs) are eligible to a share of revenues generated from wildlife utilisation. The institutional framework for wildlife management does not allow local communities to derive much control and decision-making power from these rights, and all authority still ultimately lies with the state. The situation is thus similar to Zimbabwe and the same problems and constraints apply, although with the recent restructuring of wildlife management in Zambia, there is a proposal to transfer the ownership of GMAs to the villages in the corresponding areas.

Malawi has progressive legislation for forest management (National Forestry Policy of 1997, Forestry Act of 1997) that removes restrictions to the access and use of woodlands and promotes community participation. The policy also promotes co-ordination between the Forestry Department and other government departments. But unlike in Namibia, Botswana and South Africa, it does not include providing village-level organisations with statutory authority. *De jure* tenure rights over communal resources remain vested in the state.

The countries display dissimilarities in benefit sharing which is important for the future effectiveness of this instrument (see Box 4)

Box 4: Benefit distribution and attitudes towards CBNRM

In Zimbabwe's CAMPFIRE programme, the Rural District Councils (RDCs) retain a large portion of the revenue from hunting leases at their discretion. The remainder is channelled to the community, often after inordinate delays. In Sengwe the RDC retained 50% of the total revenue, 15% as a levy and 35% as a fee for managing CAMPFIRE. The communities who feel they should receive a larger proportion of the funds generated, especially since they must bear the costs of wildlife damage resent this. A similar situation prevails in Zambia. In Mumbwa Game Management Area (GMA) 35% of the income returns to the community for development projects. Local leaders are primarily responsible for determining how these funds are spent, and the development activities have tended to cluster around chief's palaces. Previously only 40% of the income from Lupande GMA reached the community, but recent restructuring now sees about 80% go direct to Village Action Groups, whilst the remainder is shared by the Area Development Committees (4%), chiefs (6%) and the Local Leaders Committee (10%). At village level the Village Action Group decided how funds will be dispersed and which development projects will be supported.

Sentiments of community members towards CBNRM in the Zambian and Zimbabwean cases are largely negative. There is discontent due to crop losses and other damage by wildlife, lack of compensation mechanisms, the high proportion of revenue retained by the district, the lack of consultation on issues such as fencing, the lack of communication with the private sector operator and the operation of law enforcement agents (e.g. village scouts). In many areas, local people perceive the wildlife programme as a donor and wildlife department initiative, rather than a community-based programme.

The Malawi case is different from the two cases above. Here, Village Natural Resource Management Committees (VNRMCs) are responsible for assisting village heads in the management of Village Forest Areas, woodlots, reforestation programmes and state forests close the village. Section 33 of the Forest Act (1997) empowers VNRMCs to formulate by-laws for managing Village Forest Areas. In Mangweru the VNRMC, under the supervision of the village head, has full control of revenue (mainly from the sales of poles, firewood and timber). The initiative and success shown by the community in Mangweru has resulted in the Forestry Department maintaining a low profile and not demanding any share in the benefits. There are very positive attitudes towards CBNRM in Malawi. The free technical and material assistance provided has been widely appreciated. There was, however, a general perception that some influential members of the community received more than a fair share of the benefits.

(Source: Campbell and Shackelton (2000))

7.4 Some Gaps identified

The presentation that comes across in the NBSAP papers of Zimbabwe, Zambia, Malawi, Mozambique and Swaziland generally reflects unexpected similarities. With the exception of Zimbabwe, there has not been any serious attempt to integrate economics into the NBSAP in any of the other countries. A clear conclusion is apparent and has been highlighted in all the case studies: the data are not available to satisfy the requirements of carrying out a full economic analysis of biodiversity conservation. The main gap appears to lie in valuation data. Another important gap is the lack of capacity to carry out environmental economics research in some of the countries at the moment. A final gap, but one for which we do not have firm evidence on, is the apparent low prioritization of the role of economics of biodiversity among the research teams. Apart from Zimbabwe, there is no evidence that a serious attempt was made to integrate economics into the reports.

From this cursory review of instruments above, certain important remaining gaps were further identified. These include that:

- environmental subsidies are rare, and restricted to re-afforestation (Zimbabwe)
- fiscal instruments, subsidies and product charges are rarely used
- tradable permits are not used at all (?)
- no moves as yet towards market creation (and other innovative financing mechanisms) as an environmental economic instrument
- product charges are not used

Finally, there are certain gaps in instrument selection and design. Typical to many other countries, there is overutilisation of regulations as an environmental management tool in all the five countries.

There is no evidence that in any of the countries any systematic evaluation of instruments to gauge their feasibility was undertaken. Furthermore, the dominance of regulations and non-binding instruments suggests that capacity to design and enforce environmental economic instrument and binding consultative instruments may be weak. In cases where charges are used, levels are often haphazard and very low to elicit meaningful positive behavioural response. Economic and environmental justifications appear to be ranked well below "social reasons" in deciding natural resource prices (e.g. water).

7.5 Recommendations for future actions in Southern Africa

All in all, only in Zimbabwe has progress been made to integrate economic analysis in the NBSAPs. The case studies point at practical difficulties bared, which include data requirements and lack of capacity to integrate economics into the NBSAP. There is just not enough integration of economics in the NBSAPs of Southern Africa, perhaps with the exception of Zimbabwe. Even in Zimbabwe though, too much attention is devoted to valuation at the expense of other components of economics. To their credit, however, the case studies have produced a wealth of information in concrete situations which is bound to benefit future work. The following specific recommendations arise from the comparative review.

- There appears to be too much consultative work on environmental economics in the region but not sufficient serious economic research. There is a need to embark on locally driven research, perhaps with backstopping from international centres of excellence. There is need to commission serious research addressing important data gaps in the region.
- Related to this, there is need (especially in Mozambique but also in all the other countries) to expand expertise in environmental economics within respective countries.
- As the NBSAP reports currently stand, there is an urgent need to beef up the integration of economics into the NBSAPs for Mozambique, Malawi and Swaziland. For Zambia, the issue appears to be that it should recommit itself to executing the economics tasks that it laid down for itself in the task force workshop while for Zimbabwe the focus should be to build up on the economics work that is already in the NBSAP (the key issues are discussed above).
- There is need in all countries to have a strong presence of environmental co-ordinating agency in all ministries. This should be intertwined with the ongoing work in the region on improvement of supporting legislation for economic instruments implementation
- Through SADC, there is need for a conscious regional approach to integrate economics in biodiversity conservation. This will also serve as an enforcement technology and a strategy for pooling of scarce expertise and data.

In addition to these, there are certain policy constraints that may need to be addressed before wholesale reforms are instituted. These include some or all of the following:

- **Vested interests**

Vested interests often lead to the formation of pressure groups with the sole purpose of resisting change. These can be substantial as a vast number of present activity impact on biodiversity use and changing the rules of the game is likely to be resisted. Consumers will resist a change that will decrease their purchasing power due to the shifting forward of possible taxes. Producers will resist development and implementation of technology and/or processes that are needed to make better use of natural resources. Conservationists may resist sharing revenue from conservation areas with local communities. Government departments may resist a move towards more market oriented measures.

- **Changing of relative prices**

A major impact of a market-oriented policy approach may be an adjustment of relative prices. By internalising externalities, redefining property rights and utilising various mechanisms to correct for market failure, it can be expected that the present structure of relative prices might be altered. The price of certain products where production costs have not reflected the full cost to society may increase, while others may decrease. These changes in relative prices could be fairly dramatic but will eventually lead to a more effective allocation of resources benefiting society as a whole.

- **Distributional concerns**

The implementation of policy changes will not be effective if the policy has adverse distributional implications that are not addressed. These distributional concerns vary from income differences where a certain policy may affect the poor differently to the rich or geographical differences, where a policy may affect people living in cities differently to those living in rural areas. The distributional consequences of policy alternatives need to be evaluated carefully and to be addressed coherently.

8 Conclusions and recommendations for Zimbabwe

Over the past four years, Zimbabwe has embarked on a process of developing a NBSAP. It embarked on this course so as to help in biodiversity conservation. Zimbabwe is a commendable example of a brave attempt at integration of economics into the NBSAP. Economic planners and implementers have been adequately involved in the process and have made contributions to the process. Zimbabwe has developed one of the most convincing NBSAP in terms of economic integration in the Southern African region.

It is our judgement that the economic recommendations made in the report buttressed by more focused work in a number of omitted areas are still usable and fairly appropriate. With any sector, there were a number of economic issues and incentives to deal with. It might be useful to put some sense of priority on these, and expand the menu of incentives to include innovative ways of financing biodiversity conservation. More up to date valuation and evaluation work is also a prerequisite.

One idea is to look at the pending Environmental Management Bill to see if such incentive measures can be included. The recommendations gleaned from the Environmental Management Bill are in broad agreement with the NBSAP. In fact, most Zimbabwean economists will be in agreement with many of these recommendations for biodiversity conservation. This observation raises some fundamental issues about policy making in Zimbabwe. It re-confirms the perception that many people have that the 'policy' problem in Zimbabwe is not the lack of reasonable proposals, but rather implementation failure. There is not only a great degree of consensus on what needs to be done, but this consensus has existed for some time. The question is why hasn't more been done?

It has become clear over the years that the failure is a political failure: its roots have to be sought in the political process in Zimbabwe, not the economic (Bhalla et al 2000). The problem is not the lack of sensible policies but rather the failure to ***implement*** them. Our broad conclusion is not as much need for more policy proposals at the moment than there is for the tackling of the reasons for implementation failure. Such an issue has been discussed widely in both the theoretical and the policy-oriented literature. A number of alternative explanations have been given for this phenomenon. These centre around issues of lack of local ownership, commitment strategy, political structures, and capacity. These considerations suggest that the focus now for Zimbabwe should be on implementation strategies. This is inevitably tied to the complex of issues falling under the rubric of good governance.

In our opinion, the challenge is now to get politicians and other stakeholders actively involved in the NBSAP process. Once things settle down, there is a better chance to deal with biodiversity economics and incentives in Zimbabwe. The policy recommendations for Zimbabwe this study makes can be grouped into those dealing with macroeconomic stability, land reform, those dealing with institutional capacity building, and others such as co-ordination and issues on which policy research would be desirable.

8.1 Macroeconomic Policies

The central thrust of macroeconomic policy management has to be on controlling the budget deficit. The government is aware of the measures needed to bring the budget process under control: proper construction of budget targets, adherence to agreed budget allocations, reduced domestic borrowing. In the past high budget deficits have been due to the failure of various ministries to remain within the authorized expenditure ceilings. But the debt service burden also

adds a large non-discretionary element to expenditures. Short-term measures are necessary to reduce this burden. The possibility of swapping domestic debt for foreign as some kind of a *debt-for-nature swap deal* should be explored properly.

8.2 "Greening" the fast track land reform

If the present fast track land reform continues in its current form, then an environmental disaster is unfolding in terms of the loss of biodiversity and changes in species composition that come with unplanned deforestation and land use change of the type and scale we are now witnessing. There is need to put a better structure, and considerations for the environment that this government previously has espoused at international meetings needs to be brought back into their current mission. This is where Parliament needs to be non-partisan. The MDC and ZANU (PF) environmental minded parliamentarians will need to be vociferous in voicing their concern for the environment.

8.3 Institutional Capacity Building

Insufficient capacity is likely to be the main constraint to more effective implementation of economic instruments in environmental management. The shortage of capacity is reflected primarily in the relatively few people involved in environmental/resource economics issues on a continuing basis. Within the Ministry of Environment and Tourism only the Deputy Secretary for Environment and the NBSAP Co-ordinator (currently functioning part time) are regularly involved. Others in the Ministry are engaged much less regularly and then usually only on specific matters.

There are also limitations in the amount of technical expertise on environmental/resource economics and related issues within Zimbabwe, although the country is perhaps less constrained in this respect than many other developing countries. Much of the momentum that developed during the production of Zimbabwe's NBSAP has been lost, largely due to the delay in follow-up funding. People involved in the process have moved on to other things, so that that much of the expertise will have to be rebuilt.

Although the Ministry of Environment and Tourism maintains an NBSAP Office, funding for staff and activities has to be obtained through projects. As a result, the Co-ordinator and Administrator only work part-time, much of it on trying to secure funds to maintain the office. Under these circumstances, there is not much scope for any long-term planning. The NBSAP Office needs to be put on a more secure footing. Adequately staffed and supported, it could help to address some of the other key needs: drawing up an appropriate policy framework; ensuring stronger intra-governmental co-ordination; promoting more effective linkages and trust between public and private sector institutions; improving the flow of information; and providing for greater continuity.

Finalisation of the NBSAP process is not yet seen as a sufficient priority by the Zimbabwe Government for it to commit the resources needed to fully support the NBSAP Office. Given other more pressing domestic concerns, as well as pressure from international financial institutions to reduce government expenditure, it is difficult to see the Government at this juncture being willing or able to institutionalise and fund the NBSAP Office beyond its present limited extent

A substantial and wide-ranging initiative is clearly required to address the many shortcomings identified above. More broadly, there is a need to encourage and empower people in government and industry to create the enabling environments required for such initiatives to succeed. Unfortunately, too many capacity-building initiatives are undertaken in isolation, often as one-off events, and seldom with provision for follow-up training and support. A more integrated and sustained approach is required. In this respect, building on existing initiatives both nationally and regionally, including some that are not focused primarily on resource economic issues, would be

advantageous. The many original contributions on environmental/resource economics issues in government made by CIDA (Canada) in Zimbabwe and its donor partners show what can be achieved in this regard within a short time span.

The following skills/abilities would seem to be most pressing for Zimbabwe:

- Skills in project identification, formulation and design.
- Development of criteria and indicators for sustainable development.
- Strengthening key relevant academic and research institutions and non-governmental organisations.
- Studies designed to build capacity to detect and assess economic instrument-change impacts and other technical issues associated with policy implementation.
- Skills in policy analysis and policy formulation.
- Integration of environmental/economic policies into national development strategies and plans.
- There is a need for better data on the economic aspects of biodiversity (e.g. spectrum of values) and a better understanding of the measures required to halt biodiversity degradation/loss.
- Public awareness programmes, including the development and production of appropriate educational materials.

This list is not comprehensive; there are many other lesser requirements. Although some of these skills already exist within the country, there are simply not enough persons with the necessary knowledge, ability and interest, nor the establishment to support and sustain them at present.

The problem, however, is more than just building capacity. To be useful, the capacity has to be maintained and extended. In many cases there are no supporting national programmes, or the programmes are short-lived. Thus many of the gains are ephemeral: people receive training but soon move on to doing other things because there are no posts, formal responsibilities or supporting infrastructure through which they can consistently exercise their newly acquired skills. In some instances, there may be no suitably qualified or appropriate persons to take up the opportunities presented by these initiatives.

8.4 Integrating the Ministry of Finance

Finally, the NBSAP process from now onwards should make an effort to involve and/or be presented to the Ministry of Finance/Economic Planning. Serious attempts should be made to demonstrate to macro and sectoral economic planners (outside the Ministry of Environment) as to why they should take biodiversity seriously, how it is economically important, and how the aims of the NBSAP could be factored into macro and sectoral planning.

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10. Terms of reference: National Case study on the integration of economics into NBSAPs - Southern Africa: Zimbabwe

10.1. Background

The GEF-UNDP-UNEP implemented Biodiversity Planning Support Programme (BPSP) has a mandate to provide assistance to national biodiversity planners as they develop and implement their National Biodiversity Strategies and Action Plans (NBSAPs). Under the BPSP, a series of studies are being carried on key aspects of biodiversity planning related to national implementation of the Convention on Biological Diversity (CBD). One of these thematic studies aims to review experiences, lessons learned and ways forward in the use of economic measures in NBSAPs. The study is being co-ordinated by IUCN - The World Conservation Union.

The economics thematic study includes 4 components: an annotated bibliography of experiences, cases and lessons learned on the use of economics for biodiversity planning; national/regional case studies on the integration of economics into NBSAPs; a global workshop on the use of economics for biodiversity planning; and guidelines on using economics for biodiversity planning and NBSAP implementation.

The national/regional case studies on the integration of economics into NBSAPs are being carried out in South Asia, South East Asia, Eastern Africa, Southern Africa and South America. They aim to examine, in detail, how economic measures have been integrated into NBSAPs in countries in these regions.

In addition one national workshop will have to be organised to discuss the study. This workshop should have different stakeholders involved in the NBSAP process and must be aimed to discuss the paper and suggest ways forward. The results/outcome from this workshop will then be feeding into the global synthesis.

10.2. Methodology for the national case study

The national case study will have a major focus on one country in the Southern Africa region, Zimbabwe.

Information will be gathered through a review of NBSAP documents (including country studies/national assessments and strategies and action plans) and interviews/written communication with NBSAP planners and implementers. In Zimbabwe, broad analysis of major macroeconomic and sectoral economic policies, strategies and plans will also be required.

Economic measures are defined, for the purpose of this study, as biodiversity valuation, economic incentive measures and economic policies.

The national case study will be presented as a written report, which will include boxes and examples of actual experiences and information to illustrate major points and conclusions reached. The report will include sections dealing with:

(1) Introduction to the Zimbabwe country setting in terms of biodiversity richness and general economic conditions;

(2) Brief description of Zimbabwe's macroeconomic and sectoral economic policy framework as it relates to biodiversity, in particular the economic causes of biodiversity degradation and loss,

the impact of economic policies and strategies on the status of biodiversity, and history of the use of economic measures for biodiversity and environmental conservation;

(3) Brief description of the process of developing a NBSAP in Zimbabwe, leading to its adoption at a national government level;

(4) Description of the process, extent and type of involvement of economic policymakers and planners, from both environmental and other sectors, in the development of the NBSAP in Zimbabwe, including the formulation of the Biodiversity Country Study or National Assessment and the development of the Strategy and Action Plan;

(5) Description of the degree of economic analysis in the Zimbabwe Biodiversity Country Study or National Assessment, including a critical review of whether adequate assessment of economy-biodiversity linkages, issues, problems and opportunities were identified. Particular attention should be paid to the analysis of economic policy incentives and disincentives to biodiversity conservation, to the impacts of sectoral economic activities and policies on biodiversity, to biodiversity economic valuation, and to the presentation of recommendations for the use of economic instruments for biodiversity conservation;

(6) Description of economic measures specified in the Zimbabwe NBSAP, including those aimed at improving information and knowledge on economic aspects of biodiversity conservation, using economic instruments for biodiversity conservation, eliminating perverse economic incentives, and integrating measures for biodiversity conservation into macroeconomic and sectoral economic policies, strategies and plans. Review and analysis of the type and adequacy of these measures, including gaps remaining;

(7) Description of the extent to which economic measures for conservation have been implemented in biodiversity and environmental sectors following the official adoption of the NBSAP by the Zimbabwean government, and the extent to which measures for biodiversity conservation have been integrated into major macroeconomic and sectoral economic policies, strategies and plans. Review and analysis of the type and adequacy of these measures, including gaps remaining;

(8) Conclusions for Zimbabwe on the degree of integration of economics into the NBSAP, the adequacy of resulting economic analysis and measures, the extent of participation of economic planners and policy-makers in the NBSAP process, and the process/methods by which this was achieved. Analysis of the limiting and/or enabling factors influencing the integration of economics into the NBSAP;

(9) Broad comparative review of the NBSAP process in Lesotho, Mozambique, Swaziland and Zambia, including a summary of the extent to which economists were involved, economic factors and measures were identified in Biodiversity Country Studies/National Assessments and Strategies and Action Plans, and economic measures for biodiversity conservation are used by major economic sectors, and how this was achieved;

(10) Recommendations for future actions in Southern Africa to improve the use of economic measures for biodiversity conservation, within both environmental and non-environmental sectors, and in the implementation of NBSAPs;

(11) List of persons, institutions and literature consulted.

10.3. Timing and reporting

A written report with all relevant details must be submitted for comments by IUCN-ROSA no later than 30 March 2001. The final written report with IUCN-ROSA's comments incorporated should be submitted to IUCN-ROSA no later than 6 April 2001.

11. List of persons and institutions consulted

(1) Dr. Ivan Bond, WWF-Southern Africa Regional Programme Office.

(2) Professor E. Chidumayo, Biologist, University of Zambia (Team leader for natural science in the Zambian NBSAP)

(3) Mr Rabson Dhlodhlo, IUCN - The World Conservation Union, Regional Office for Southern Africa (National Economics consultant for Zimbabwe)

(4) Dr. Lucy Emerton, Co-ordinator, Regional Economics & Biodiversity Programme, IUCN - The World Conservation Union, Eastern Africa Regional Office (formerly GEF expert advising Zimbabwe NBSAP process)

(5) Mr Emmanuel Guveya, Department of Agricultural Economics, University of Zimbabwe (formerly IUCN economics expert assisting the Malawian process)

(6) Dr. Steve Johnson, Independent consultant, Harare, Zimbabwe

(7) Prof. John Hatton, IMPACTO Lda. – Estudos e Projectos Ambientais, Mozambique.

(8) Mr Misael Kokwe, Ecosystem Programme Co-ordinator, IUCN - The World Conservation Union, Regional Office for Southern Africa (IUCN expert assisting the Zambian NBSAP process)

(9) Ms Sarah Mangundhla, Biodiversity Office, Ministry of Environment and Tourism, Government of Zimbabwe Chief administrator responsible for the Zimbabwe NBSAP).

(10) Mr. Devious Marongwe, Ministry of Environment and Tourism, Government of Zimbabwe.

(11) Mr. Grant Milne, GR Milne Technical Consulting, Seychelles (Economics Team Leader for the Zimbabwe NBSAP).

(12) Mr. Edwin Muchapondwa, Department of Economics, University of Goteborg, Sweden