

**MEASURING THE ECONOMIC VALUE OF  
TOURISM IN SOUTHERN AFRICA:  
*TOURISM SATELLITE AND RESOURCE ACCOUNTS  
FOR SOUTH AFRICA, NAMIBIA AND BOTSWANA***

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## Abstract

*This study, initiated by the Natural Resources Accounting Project for Southern Africa (NRASA) was aimed at assessing the potential for the development of satellite accounts (TSA) and natural asset base accounts (TRA) for tourism in South Africa, Namibia and Botswana. The countries and their relevant agencies were visited to assess their policies, their current plans and programmes, and the availability of data with regard to TSA and TRA. Preliminary development of TSA in Namibia, during this study, provided insights regarding the usefulness of further work, the data needs, the rigour required, the institutional setting required, and potential for funding.*

*In all three countries studied, TSA are needed to improve planning in the tourism sector. No TSA are available and the constraint has been lack of sufficient data. However all countries intend to develop them. Botswana has funded surveys in place. South Africa has a project planned. Namibia is planning surveys and seeking funding. Basic TSA including consumption, production, supply and use, employment and capital tables are required. Technical and human resources are scarce, and the capacity to make and use very detailed accounts is limited. All three countries need to further develop their national accounts (SNA93) which form the basis for TSA. South Africa, with a relatively very large and multi-dimensional tourism industry, requires the most sophisticated accounts. The process of TSA development should take place step by step.*

*Specific surveys are needed in all three countries. Agreements are needed between stakeholders (tourism agencies, statistical agencies, immigration authorities, environmental agencies and others) to ensure a consistent and structured framework for data collection complying with WTO recommended procedures. Surveys should be focused on the suppliers of tourism commodities, and the consumers (tourists) themselves, including domestic tourists. Additional work with modelling of tourism enterprises can supplement this. Generally the surveys should be carried out by the statistical units within central tourism agencies. These units should also aim to take over the production and maintenance of TSA, in collaboration with the producers of national accounts in central statistic agencies.*

*In all three countries studied, tourism natural asset base accounts (TRA) are needed to improve planning in the tourism sector. Measurement of the tourism natural asset base should be approached from the point of view of specific physical accounts, and more general accounts, taking the form of maps of tourism potential and the resultant tourism values. Even basic TRA will be very useful to help ensure efficiency and sustainability in tourism. They should conform to the UN natural resource accounting framework for land and other resource accounts. Both national and regional accounts should be developed. Environmental health indicators need to be developed for the tourism base. TRA development would be best co-ordinated from within environmental/nature conservation/land use planning agencies, working closely with the producers of tourism satellite accounts.*

*It is recommended that South Africa, Namibia and Botswana all go ahead with their current and emerging plans to develop TSA, TRA and economic models for tourism planning. Countries should ensure that the rigour and degree of detail in their TSA and TRA match with their anticipated technical and human capacity to make and use the tools for planning and analysis. The TSA, NRA and other planning tools for tourism, should be housed where leadership and skills exist to make and use the tools, but this needs to be flexible. We recommend that a regional project be developed, to be funded by a willing donor, to assist southern African countries, including South Africa, Namibia and Botswana, develop TSA, TRA, and economic tourism planning models. This could form part of a new phase the NRASA project. The project would provide specific technical assistance and training with the aim of developing and institutionalising both national and regional tourism planning tools.*

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# Chapter 1

## Introduction

### 1.1 Introduction

The Natural Resource Accounting Project for Southern Africa (NRASA) elected, in December 2000, to conduct a case study to assess the possibility of developing *tourism satellite accounts* (TSA) and *tourism resource accounts* (TRA) in the region. The aim of such accounts is specifically to measure the economic contribution of tourism, including nature-based tourism (TSA) and to measure the natural asset base associated with tourism (TRA). In conformation with the main thrust of NRASA, the study focuses on South Africa, Namibia and Botswana. Development of TSA and TRA for tourism should considerably enhance policy analysis and the management of the tourism sector in the region. This is especially relevant given the importance that governments and the private sector in SADC countries have placed on the nature-based tourism economy.

### 1.2 Background

Travel and tourism has an increasingly important role in the economy of SADC countries. It is a major source of foreign exchange, income and employment. It has the potential to become a dominant industry in the Southern Africa region, contributing significantly to economic growth in the next few decades.

World wide, the tourist market has become more specialised and segmented, with nature-based tourism dominating in southern Africa. *Nature-based* tourism has particular comparative advantages in the SADC region, and demand for it is growing due to growing environmental consciousness and the desire of people to experience nature in their leisure time. Much of Southern Africa's tourism is drawn to the many national parks, game reserves and other protected areas, containing world-renowned wildlife, biological diversity and natural attributes, as well as very unique and spectacular scenery and cultural attractions.

The conventional indicator of economic performance of a country is the gross domestic product (GDP), which is measured using the *system of national accounts* or SNA93 (CEC-EUROSTAT-IMF-OECD-UN-WB, 1993). However, the SNA is a broad framework and it is structured in industries based on product and does not provide enough information of the sectoral contribution of service sectors such as travel and tourism. Since within the national accounts, the activities that make up tourism are classified under different sectors such as accommodation, transport, manufacturing,

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forestry and agriculture, so the tourism components of these are effectively hidden. Thus, appropriate economic information for analysis and planning in the tourism sector is not available easily. The fragmentation of this sector in the national accounts means that governments in SADC tend not to recognise its importance, or the potential effects on tourism of interventions designed to influence other, product-based sectors.

Prior to the development of the framework for satellite accounts, a common practice to assess the economic impact of an industry such as tourism were based on statistical information such as foreign arrivals in a country, overnight stay statistics and balance of payments. Such analyses did not reflect the economic phenomenon of tourism, and consequently, private and public sectors did not receive the accurate information necessary for formulation of effective policies and efficient business operations. In recognition of these information deficiencies, the framework for *tourism satellite accounts* (TSA) was developed by The World Travel and Tourism Council and the World Tourism Organisation (WTTC/WTO) in collaboration with the Organisation for Economic Co-operation and Development (OECD).

In Sweden, Canada, the USA, and other parts of the world, there have been attempts to develop sets of TSA, which draw together the components of the tourism sector into an integrated statistical tool, for use in research policy analysis and planning. Recently, Tourism South Africa (previously Satour) in South Africa, the Department of Tourism in Botswana, and the Directorate of Environmental Affairs in Namibia have embarked with varying degrees of rigour on development of TSA.

In addition to this, the assets upon which tourism is based - particularly natural resource based tourism in southern Africa - are complex, and for obvious reasons, must be sustainably managed in order to ensure the continued growth of the sector. Thus, in addition to TSA, there is also a need to investigate the possibilities of developing tourism natural asset base accounts or *tourism resource accounts* (TRA). This needs to be looked at in a trans-boundary context (Anon, 1999) as well as nationally.

### 1.3 Objective

First and foremost this study aims to extend the capacity of statistical agencies, so that better planning decisions, based on well-defined economic analysis of the role the tourism sector-nature based tourism can be undertaken. What is needed is a set of tools to measure the social and economic aspects of this sector (value added, earnings, investment, profits) and the resource base on which it depends. This in-depth analysis suggests methods that can be easily adopted by the countries within the SADC region.

Of particular interest is the need to understand the economic and social value and impact of *nature-based* tourism and travel. The value and impact of this specific tourism sub sector has consistently not been measured satisfactorily, although it has particular comparative advantages in southern Africa. The need for accurate economic accounts to measure the eco-value and environment accounts to measure the environmental and

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natural resource that supports tourism is becoming even greater as the region moves towards trans-frontier management of common wildlife resources, and the development of trans-frontier parks.

From the beginning, the objectives of this study have been to review the existing literature and data sources, to assess the potential for development of pilot or simulated TSA and TRA (within the WTTC/WTO guidelines, with nature-based tourism as a component), to illustrate the process involved with examples, and finally to make recommendations for future development of TSA and TRA. Against this background, this study should be looked as a first step in a process of methodological development of TSA and TRA for tourism, including nature-based tourism, in the southern African region. The exercise has also identified information gaps and can therefore make recommendations for future research. Furthermore, tourism in southern Africa involves multiple-destination travel and the possibilities for integrating the national satellite accounts to regional accounts was also investigated.

## 1.5 Literature review

Following the development in 1991 by the OECD (OECD, 2000) of a manual for economic accounts of tourism, the WTTC and WTO generated their own approaches to constructing *tourism satellite accounts*. Their two methods differ in detail but have the same objectives, and now provide the most commonly used frameworks for compiling TSA.

The WTTC approach is based on a macroeconomic model, though it is often limited to the construction of *simulated* satellite accounts because of the complexity of disentangling the relevant information relating to tourism from all other industries as classified in the national accounts. The WTTC has developed simulated TSA for countries throughout the world (WTTC/WEFA, 1999) which are accessible on their website ([www.wttc.org](http://www.wttc.org)). The WTO approach (WTO, 1999a, 1999b, 1999c, 199d, 1999e, 1999f) is very comprehensive, and requires a very detailed database - which is often not practically available. However the United States, Australia and Canada have compiled TSA, applying the methodologies suggested by the WTO and work is in progress in other countries. Experience in Sweden (Nordström, 1995), Canada (Smith, 1995; Lapierre and Hayes, 1994), Norway (Evensen, 1998), New Zealand (National Accounts Division, 1999) and the USA (Kass and Obuko, 2000), indicates that, in conformity with national accounting convention, the TSA should involve the development of three types of basic accounts:

1. Those based on *tourist expenditures*, which provide measures of the share of national income by final demand, as well as the direct and indirect impacts of tourist expenditure on national and local economies;
2. Those based on *production of tourism services*, which provide estimates of the national income (and domestic product), as well as the economic rent generated in the tourism sector; and

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3. Those seeking to measure the value of both the *produced* and *natural capital* associated with the tourism sector (asset accounts).

The natural capital accounts would represent TRA as defined in this study.

The WTTC conducted a study in 1999, which assessed the economic *impact* of tourism in SADC countries. The study is an extension of their work, developing simulated TSA for countries throughout the world (WTTC/WEFA, 1999). The lack of country specific data meant that generic developing country models were used. In their results, the contribution of the tourism economy to GDP varied considerably among the SADC countries in 1999 - from a low of 3.9% in Malawi to a high of 27.9% in Mauritius. In South Africa the tourism economy contribution to GDP was 8.2%, compared to 12.0% in Botswana and 20.9% in Namibia. Employment within the tourism sector also varied widely among the SADC countries, from a low of 3.4% in the Democratic Republic of Congo to a high of 20.6% in Mauritius. South African tourism employment represents 7.3% of total employment, with 10.1% and 15.1% in Botswana and Namibia respectively. South Africa also had tourism capital formation of 12.1% of the total capital formation of the economy, surpassed only by Mauritius and Seychelles, and it produces the largest tourism demand, followed by Mauritius and Tanzania (WTTC, 1999). The *“tourism economy”* in this case refers to all tourism demand expenditures, including that on travel as well as assets and infrastructure. It includes both direct and indirect value added.

In 2000, Grant Thornton Kessel Feinstein (2000a, 2000b) constructed a simulated tourism satellite account for South Africa. They estimated the direct *and* indirect impact of tourism on GDP at US\$523.4 million (R3350 million). The WTTC and Grant Thornton Kessel Feinstein studies covered similar time periods and yielded similar results. Using three different scenarios - worst case, base case and best case - Grant Thornton Kessel Feinstein simulated the impact of the tourism sector. They were forced to use assumptions, which reduce the value of their results, but these results do provide some very useful indications of the impact of the tourism industry. Their forecasts suggest that the industry will continue to grow even in the worst-case scenario. Unfortunately, many of the ratios used in the study were extracted from a case study in the USA because such ratios were not available in South Africa at the time study. The Grant Thornton Kessel Feinstein study tends to ignore domestic tourism, despite the fact that this is a major contributor to GDP. However Grant Thornton Kessel Feinstein provided suggestions regarding how to overcome such some of the information gaps and ways of improving data collection techniques by including additional information on existing and proposed questionnaires and surveys.

Both the WTTC and the Grant Thornton Kessel Feinstein studies used internationally available statistics to determine both direct and indirect impacts of gross receipts, GDP contributions and employment. The data sources and methodology used are not made explicit, and, given the dearth of applicable data, it is clear that internationally derived assumptions were widely used for this, though they may not be entirely appropriate. For instance, tourism in Namibia was estimated to generate gross receipts in 1996 of US\$1700 million, gross value added of US\$850 million, and employment worth some

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US\$69 million. These figures are vastly greater than those suggested by the pilot TSA constructed for Namibia (*see Chapter 4 for results*). This would in part reflect the method, one of measuring both direct and indirect impact rather than simply the first round of tourism spending. Forecasts from both studies show that the travel and tourism industry will continue to grow (in both absolute and relative terms), thereby increasing employment, exports, capital investment and government revenue. The importance of the demand perspective of tourism was also highlighted - business and government consumption, capital investment and exports - especially as continued growth is expected over the next few years.

There appear to have been almost no attempts by countries to develop formal asset base accounts or *tourism resource accounts* (TRA). These have, however, been developed indirectly as part of land accounts, as described by the UN (2000), and as part of specific environmental economic valuation studies, such as those of Bell (1997) and Barnes (1995a, 1995b).

## **1.6 Organisation of this study**

Following this introduction and background, Chapter 2 provides an overview of tourism satellite accounts, including relevant definitions and concepts; Chapter 3 develops the methods used in this study and the framework for constructing TSA. Chapter 4 gives the findings of the case study, and is divided in four parts, three dealing with TSA in the individual countries - South Africa (more specifically, KwaZulu Natal), Namibia and Botswana, and one dealing generally with TRA. Finally, in chapter 5 discussion on the way forward, conclusions and recommendations are presented.

## **1.7 Acknowledgements**

We wish to thank all the government, parastatal and private agencies in South Africa, Namibia and Botswana and the numerous staff members, who gave freely of their information. We thank the United States Agency for International Development (USAID) Regional Office for Southern Africa for funding the study, and the NRASA project steering committee for initiating the it and providing support and assistance. Opinions expressed in this report should be attributed solely to the authors.



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# Chapter 2

## Principles, definitions and concepts

### 2.1 Definitions

In this chapter the definitions and concepts developed by WTO and WTTC are adopted.

#### 2.1.1 Tourism

According to WTO, **tourism** is defined as “*the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited*”. The **usual environment** is defined as “*the geographical boundaries within which an individual displaces himself/herself within his/her regular routine of life, except for leisure and recreation*”. This is the definition adopted by UN-WTO (1994) in their published *Recommendations on tourism statistics*

**Tourism industries** are “*the producers of goods and services purchased by tourists*”. They produce *tourism products* or *commodities*. In some national accounts, commodities and industries are grouped as suggested by SNA93. In others, the classification of commodities can show much greater disaggregation than that for industries. **Tourism ratio** refer to the proportion of gross output, value added, employment, capital, or other measure for a tourism industry that is attributable to tourism.

**Nature-based tourism** may be defined as “*all forms of tourism that rely on or incorporate visitation to natural environments*”. The exact definition of *natural environments*, is not always clear, as sometimes these include some cultural assets. Some confusion surrounds this definition in the literature. For our purpose - in southern Africa - we assume that the definition is restricted to environments that are not primarily man-made in recent times. Thus they can include historically developed cultural assets. Tourism, which is not defined as nature-based, may make minor use of natural environments, but it does not rely on them for its existence.

This study investigated the possibilities for development of **tourism satellite accounts** (TSA), which are defined as “*physical and monetary accounts of tourism activity in the economy, offset from the national accounts*”. Further, the possibilities of developing accounts for the natural asset base of tourism and nature-based tourism were investigated.

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These are **tourism resource accounts** which we define as “*physical and monetary accounts of the natural assets, which make up the base for tourism*”.

### 2.1.2 Tourism demand

The basis of tourism's definition is the activity of visitors who have a set of demands. Thus, half of the basic framework of TSA is the demand-side of economic activities - *tourism consumption* and *tourism demand*. **Tourism demand** is defined by the OECD as “*the expenditure made by, or on behalf of, a visitor before, during and after the trip and which expenditure is related to that trip and which trip is undertaken outside the usual environment of the visitor*” (OECD, 2000).

The goods and services consumed by visitors are principally transport, accommodation, food and entertainment, though it should be noted that visitor consumption is not limited to a pre-defined set of goods and/or services. Travel and tourism consumption is a sub-component of travel and tourism demand, as can be seen below. Consumption activities can include, but are not limited to, the following:

**Table 1: Tourism consumption activities**

Activity	Explanation
<b>Personal travel and tourism</b>	Personal expenditure on accommodation, transportation, meals, entertainment, financial services, durable goods and non-durable goods
<b>Business, corporate and government expenditure (work related)</b>	Expenditure incurred in the course of business on accommodation, transportation, meals, entertainment, financial services, durable goods and non-durable goods
<b>Government expenditure (individual)</b>	Expenditure incurred by government institutions on behalf of the individual visitors
<b>Exports—visitors</b>	Expenditures by international visitor on goods and services in the place of visit

Travel and tourism demand includes all the above mentioned components, as well as the following:

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**Table 2: Travel and tourism demand**

Type of demand	Explanation
<b>Government expenditure (collective)</b>	Expenditure incurred by government on behalf of the industry at large such as promotion, aviation industry, etc.
<b>Capital investment</b>	Private and public sector investment to provide equipment, facilities and infrastructure such coast guard, lifesavers, beach amenities, etc.
<b>Exports—non visitors</b>	Consumer and capital goods sent abroad to be used by industry

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By analysing tourism demand the economic impact of different travel and tourism components such as domestic leisure and business; foreign leisure and business; government tourism expenditure (individual and collective); tourism consumption (durable and non-durable goods); visitor and non-visitor exports; and tourism investment can be quantified.

### **2.1.3 Tourism supply**

The aim of the supply side analysis is to identify those economic units which provide goods and services to meet the demands of the visitor. The supply component is subdivided into two major categories: travel and tourism industry supply; and travel and tourism supplier supply. Combining the economic contributions of these two gives total travel and tourism economic activities—that is the travel and tourism economy (direct and indirect). The **“travel and tourism industry”** is defined as the *“direct value-added and employment associated with travel and tourism consumption”* (WTTC, 1999: 8). That is, direct producers of goods and/or services for tourists. The **“travel and tourism economy”** is defined as *“the direct and indirect value-added and employment associated with travel and tourism demand”* (WTTC, 1999: pp8). This includes both direct producers as well indirect producers of goods and/or services for tourists, such as fuel and food suppliers. The various components of travel and tourism industry supply and travel and tourism economy are outlined below.

**Table 3: Components of tourism supply**

Supply—travel and tourism <i>industry</i>	Supply—travel and tourism <i>economy</i>
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Tourism *industry* imports

Tourism *economy* imports

Tourism *industry* employment

Tourism *economy* employment

Components of tourism *industry* GDP  
(compensation, indirect taxes, operating surplus  
and depreciation)

Components of tourism *economy* GDP  
(compensation, operating surplus and  
depreciation, personal taxes, indirect taxes,  
corporate taxes, imports)

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### 2.1.4 Tourism capital formation

According to 1993 System of National Accounts (SNA93), **gross fixed capital formation** can be defined as the “*total value of a producer’s acquisitions, less disposals, of fixed assets during the accounting period plus certain additions to the value of non-produced assets by the productive activity of institutional units*”. **Fixed assets** are “*tangible or intangible assets that are produced as outputs from processes of production and that are themselves used repeatedly or continuously in other processes of production for more than one year*” (CEC-EUROSTAT-IMF-OECD-UN-WB, 1993: 98).

However, the identification of capital goods, the acquisition or production of which are driven by the needs of visitors, presents both conceptual and practical difficulties. It is not possible to look at the total gross fixed capital formation of the tourism industry, nor it is possible to consider the gross fixed capital formation of tourism specific capital goods (i.e. those that are directly linked to the provision of services to visitors). Finally, it is not possible to consider the proportion of total gross fixed capital formation, which is required to provide goods and services to visitors from SNA.

Until more research is undertaken, there is no proposal for a specific aggregate for tourism gross fixed capital formation for the purposes of international comparison. Any of the aggregates noted above may be of interest to countries in compiling their TSA. The direct application of tourism ratios, derived from the proportion of demand consumed by tourists in any given industry, is commonly suggested for deriving the proportion of capital assets attributable to tourism. We have assumed this as a guideline.

The SNA93 does not include natural assets within capital formation, and these are dealt with separately in the form of tourism resource accounts (TSA), as defined above.

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# Chapter 3

## Framework and Methodology

### 3.1 Framework

In this section the necessary framework for development of tourism satellite accounts (TSA) is discussed. As stated, the two mostly commonly used methods to construct TSA are those of the WTTC/WEFA and the WTO. Though the development of TSA was, in essence, a joint initiative by these two parties (WTTC and WTO), the approaches do differ in their method, and both simulated TSA and those constructed from national accounts have methodological difficulties due to deficiency in the data, particularly from a demand point of view.

#### 3.1.1 *Structure of tourism satellite accounts*

In recognition of the fact that the current system of national accounting aggregates a mass of information on the economy, the need to compile a set of accounts concentrating on individual sectors of interest - *satellite accounts* - is commonly identified. The aim of satellite accounts is to expand the analytical capacity of the central framework of national accounting to encompass specific areas that a country may be interested in, such as tourism. This can be done without disrupting the core of national accounts and ensures consistency of definitions and concepts.

The tourism satellite accounts, or TSA, as defined above and as advocated by the WTO are designed to organise information about the effects that tourism activity has on a nation's production, income, wealth and employment. This should be done in a way consistent with how other sectors of the national economy are measured, i.e., in a way consistent with the system of national accounts (SNA93).

In general, satellite accounting systems provide a comprehensive and a detailed data analysis, while integrating both physical and monetary values for the specific sector being analysed (such as tourism, education, environment, health or transport). The purpose of the tourism accounts is thus to measure the economic activity generated: the demand for commodities created by tourism and, the production required for that demand to be met.

In formulating TSA we are interested in the effect tourism has on the supply and demand of goods and services, on the general level of economic activity and on employment. The

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starting point for the economic analysis is activity of visitors - mainly their consumption activities. TSA are, therefore, an attempt to improve the understanding of the importance of the tourism industry and tourism economy by providing a detailed analysis of the economic performance of the sector. The accounts ideally provide an integrated statistical tool to measure the economic and social impacts of the tourism sector on the economy as a whole.

As stated by the WTTC, a full implementation of TSA makes it possible for the government to understand the immediate and broader economic impact of *tourism economy GDP* as defined above. The actual accounts are a set of inter-linked tables of the exact number and construction of which varies with the system adopted. The tables need to provide information relating to the size and economic importance of tourism (e.g., tourism value added and tourism GDP). They need to make possible analysis of the effects on tourism of government expenditure and capital investment. They also need to provide a link between economic and other non-monetary information on tourism. The accounts also need to provide the basic information for the development of models to measure economic impact of tourism at national and regional level, and for forecasting future planning needs of the sector.

A full set of TSA can be described more specifically as a series of ten tables as follows in Table 4. The detailed structure of the tables is presented in Appendix A. Setting up a full set of accounts is a huge undertaking, often out of reach due to financial and person-power constraints, so it makes sense to prioritise them. From the list of ten tables, at least basic tables, of the six types discussed below, are arguably the most valuable in terms of providing information for policy planning and industry management.

*Expenditure accounts* (Tables 1 to 4) usually show the consumption by tourists by category of tourist (e.g., domestic, inbound, outbound, same-day, over-night, business, leisure, nature-based non-nature based, etc.) and by specific tourism product/ commodity.

*Production accounts* (Table 5) usually show the gross output for each tourism industry (hotels and lodges, eating and drinking places, passenger rail, passenger bus, taxis, etc.) , and by product/commodity. They also present the intermediate inputs, the value added, as well as employee compensation by industry. Both tourism industries and non-tourism industries that supply tourists demand are included.

*Supply and expenditure accounts* (Table 6) usually show the *production* (in producer prices, imports, government sales, wholesale and retail trade margins by tourism industry), and the *consumption* (as intermediate consumption, personal consumption government expenditures, exports, private investment, changes in inventories) all by industry. These are effectively the *supply and use* tables of SNA93. They allow reconciliation between the expenditure and the production accounts, which are often derived from different data sources, and this is very useful for validation of values.

**Table 4: Description of a full set of tourism satellite accounts (TSA)**

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Table	Title/description
Table 1	Inbound tourism consumption by product and categories of visitor (monetary)
Table 2	Domestic tourism consumption by products and ad hoc sets of residents (monetary)
Table 3	Outbound Tourism consumption by product and categories of visitor (monetary)
Table 4	Internal tourism consumption by products and types of tourism (monetary and non-monetary)
Table 5	Production accounts of tourism industries and other industries (net valuation)
Table 6	Domestic supply and internal tourism consumption by products (net valuation)
Table 7	Employment in the tourism industries
Table 8	Tourism gross fixed capital formation of tourism industries and other industries
Table 9	Tourism collective consumption by functions and levels of government
Table 10	Non monetary indicators

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*Tourism value added accounts* represent further development of the production accounts (Table 5) and show more detail on the computation of value added resulting from tourism production. Here the data is computed by industry - tourism and other. Tourism ratios are used to calculate the proportion of each industry applicable to the definition of tourism.

*Tourism employment accounts* (Table 7) present values on total employment and compensation by industry ó tourism and other. Here, tourism ratios are commonly employed to get the values applicable to tourism.

*Tourism capital accounts* (Table 8) provide data on the capital flows and stocks by industry, the former providing information on capital formation, and the latter providing information on the stocks of capital at the end of the relevant period. Here, again, tourism ratios are commonly employed to get the values applicable to tourism.

Data and person-power constraints mean that in many developing countries the development of TSA is severely restricted, often to the basic development of expenditure and production accounts. In theory, and under consideration in this study, capital

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accounts can also be extended to include the natural asset base - tourism resource accounts (TRA) - as described above.

### **3.1.2 Use of TSA in policy analysis**

As stated, the development of TSA should allow the contributions of the tourism industry to be separated out from the core accounts, in which they are hidden. It also allows them to be analysed individually, while retaining their relationships with the core accounts. TSA allow comparisons to be drawn between the tourism industry and other industries in the economy, they also provide a framework to calculate economic impact of tourism at regional level with a country and assist with the analysis of growth and productivity within the industry.

As is made clear in the SNA93, satellite accounts, by their very nature, meet the need for specific policy analysis in economic sectors not explicitly covered in the SNA:

“Satellite accounts or systems generally stress the need to expand the analytical capacity of national accounting for selected areas of social concern in a flexible manner, without overburdening or disrupting the central system. . . . Typically, satellite accounts or systems allow for: . . . (b) The use of complementary or alternative concepts, including the use of complementary and alternative classifications and accounting frameworks, when needed to introduce additional dimensions to the conceptual framework of national accounts” (CEC-EUROSTAT-IMF-OECD-UN-WB, 1993)

Indeed, SNA1993 specifically suggests the satellite accounting approach for analysing tourism:

“To put more emphasis on the functional point of view, such satellite accounts combine an extension of the kind of activity and product analysis and a generalization of the purposes approach. . . . Such accounts are relevant for many fields, such as culture, education, health, social protection, tourism, . . . ” (CEC-EUROSTAT-IMF-OECD-UN-WB, 1993)

TSA, as advocated by the WTO are designed to organise information about the effects tourism activity have on a nation's production, income, wealth and employment in a way consistent with how other sectors of the national economy are measured in the System of National Accounts. The information can be used to determine, for example, the value of tourism relative to that of other sectors, competing for resources. It can also be used to determine which tourism industries are the most productive in terms of generating direct income and employment, and which combinations of industries would be most productive. It can also be used to determine the extent of the different *impacts* of various tourism activities on the economy, as a result of the indirect effects of initial tourism expenditures. It can also be used to determine what might be needed to ensure the growth and sustainability of the tourism sector.



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### 3.1.3 TSA and input-output analysis

Since tourism is a demand based concept, attention is commonly focused on final consumption and foreign trade, rather than on supply. Determining values on the supply side, namely the value added, GDP and employment, in the industries that supply the goods and services to tourists, normally done by direct measurement through tourism producer surveys. However, when such data are missing, estimation methods can be deployed, and the standard procedure when direct measurement is not possible is to use input-output (I-O) tables. In addition, I-O analysis also makes it possible to determine the direct and indirect flows of value through the economy resulting from tourism consumption, and thus determine *impact* of tourism on the economy.

A link between the ten TSA tables described above and a national input-output model can be established. Before this linkage is established, the nature of input-output models, in particular the steps which link the direct and indirect value added, as well as the multiplier effects on income and employment, need to be documented.

An input-output table is a snapshot of the transactions among the industries of a country during a particular year. Each entry in the table measures the purchases (input) by one industry (column) of another industry's (row's) production (output). Therefore, each column represents an annual expense statement for the column industry for the year for which the table was compiled. As an example, to produce a year's worth of meals, a restaurant must buy a variety of goods and services from other industries. In the input-output table, there would be a column of entries for the restaurant industry, representing these purchases: a certain amount directly from farmers; another amount from food processors; amounts from other manufacturers; and amounts from various service providers such as line services, printers, and so forth.

The input-output table allows the economist to trace the restaurant expenditures as these expenditures flow through the economy from one producer to the next. The purchases the restaurant makes from a food processor, for example, generate business in food processing, which in turn generates purchases by the food processor from farmers, fuel producers, and others. Step by step these flows can be followed from one producer to the next.

Along each step of the way, industries add value to the economy. This is the value that is added from the use of employees and capital in each industry. The returns to each industry's human resources and capital, at each step in the economy, is the value added (VAD). The Gross Domestic Product is basically the sum of VAD across all of the producers in the economy. The flow of consumer expenditure through the economy thus generates employment and VAD at each step in the production process. An input-output table allows one to trace the flow of expenditures, and to track back with fair precision the employment and GDP generated by the expenditures.

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The input-output methodology discussed here, embraces the standard textbook approach. A fundamental assumption is that in an input-output table constructed with data from a given year, the percentages of the purchases a given industry makes, from each other industry in the economy, do not change through the period being studied. This obviously introduces limitations to the method, in that price effects and the like are not incorporated. A more formal description of input-output structure follows.

Input-output (I-O) begins with the familiar identity:

$$X_i = \sum_j X_{ij} + D_i \quad (1)$$

where:

$X_i$  = the output of industry  $i$ ;  
 $X_{ij}$  = the direct purchase from industry  $i$  by industry  $j$ ; and  
 $D_i$  = final demand for the output of industry  $i$ .

The fundamental I-O assumption is that direct purchases by an industry are proportional to the industry's output:

$$X_{ij} = a_{ij} X_j \quad (2)$$

where  $a_{ij}$  is a parameter, held constant in most I-O analyses and provided as the "A-matrix" in country I-O tables. Combining equations (1) and (2) yields:

$$X_i = \sum_j a_{ij} X_j + D_i \quad (3)$$

In matrix notation, (3) can be written as:

$$(I - A) X = D \quad (4)$$

Equation (4) has the well-known solution:

$$X = (I - A)^{-1} D \quad (5)$$

This will allow us to calculate the tourism by industry by substituting the final demand vector for tourism ( $D_t$ ) where final demand for the total economy ( $D$ ) once stood:

$$X_t = (I - A)^{-1} D_t \quad (6)$$

The ratio of the two sets of results can be interpreted as the fraction of each industry that contributes to tourism:

$$v_i = X_{it} / X_i \quad (8)$$

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where:  $v_i$  = the value-added weights for tourism

The precision of the value-added weights depends not only on the precision of the final demand data, but also on the precision of the input-output table.

The TSA and input-output have three main similarities. The TSA form a matrix identical to the input-output table, which explicitly differentiates between goods, services and revenue generated from production activities. TSA provide information on the monetary value or quantity of employment for the tourism and other sectors of the economy. These provide the basis for linking the ten TSA tables to the input-output table. Now a possible link between the TSA and the national accounts can be established as follows. It is evident that the products included in the TSA are a subset of those included in the national accounts. Hence TSA are linked to the national accounts through a transition matrix.

Alternatively the tourism value added can be computed if tourism economic activity data are available as follows:

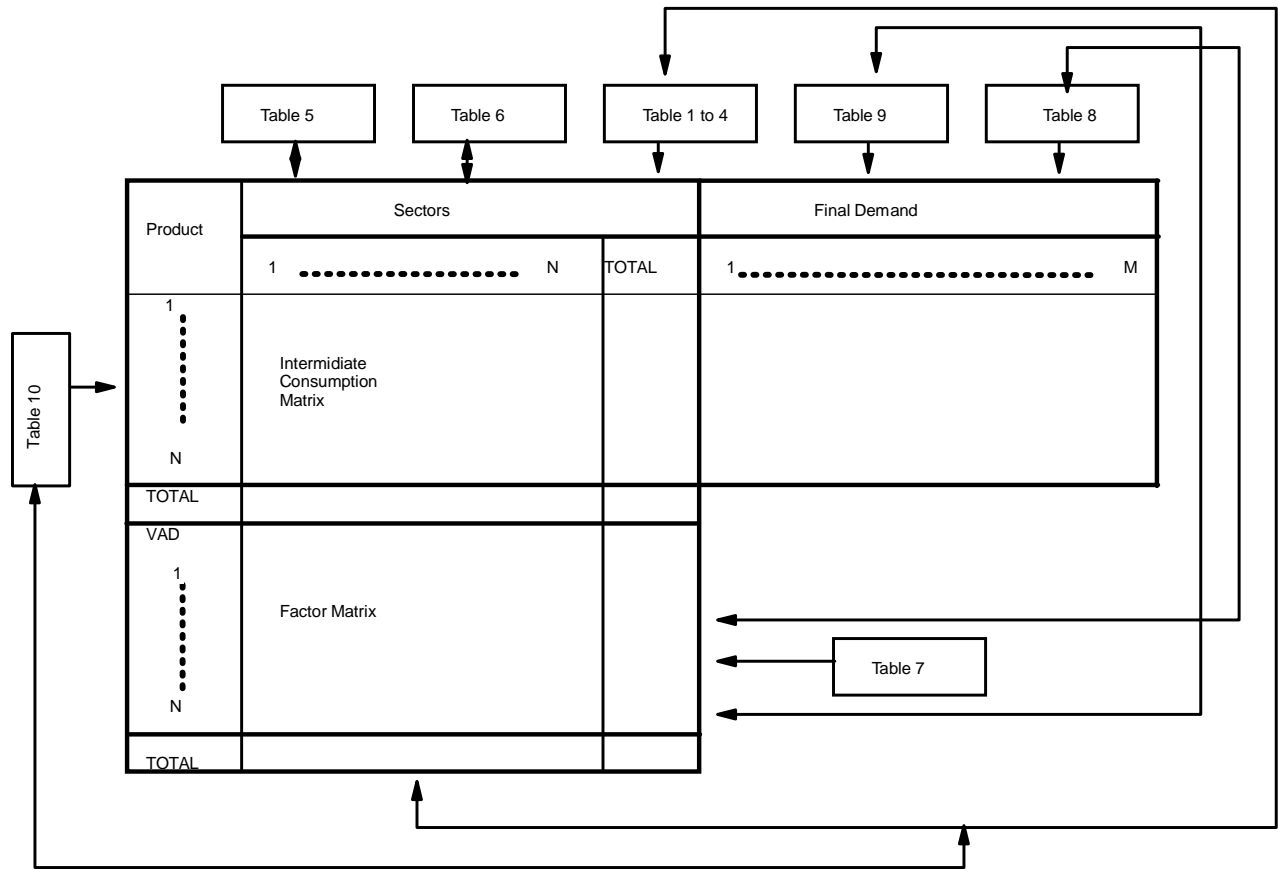
$$TVA_{ij} = (G_{ij} - I_{ij}) * TS_{ij}$$

Where:

- $TVA_{ij}$  = tourism value added of the  $i$ th commodity in the  $j$ th industry
- $G_{ij}$  = gross output of the  $i$ th commodity in the  $j$ th industry
- $I_{ij}$  = intermediate input for  $i$ th commodity in the  $j$ th industry
- $TS_{ij}$  = tourism's share of the output for  $i$ th commodity in the  $j$ th industry

Hence, TVA for industry output for a tourism commodity is obtained by the inputs that are used in the production of that commodity multiplied by the proportion of the total output acquired by the visitors.

Figure 1 schematically depicts the broad structure of an input output table, and the links between it and the ten TSA tables.



**Figure 1: Schematic outline of an input-output (I-O) table showing the links with the ten TSA Tables**

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## 3.2 Methodology

### 3.2.1 The approach

To achieve the objective, a survey of existing literature and data on tourism for the focus countries was undertaken. Where documented information was not easily available, the consultants visited relevant stakeholders in South Africa, Namibia and Botswana, personally, to survey their work and future plans relating to the formulation of TSA and TRA. The data sources available for the development of accounts were examined, and assessed for their rigour, reliability, and potential for use. During the field visits and the interviews with stakeholders the possibility for and potential methods for formulating TSA and TRA for tourism and nature based tourism accounts, according to recognised guidelines were reviewed. In the process any important data gaps and inconsistencies of information were identified. The capacity for the agencies in question to undertake the development of TSA and TRA accounts was also assessed.

*Money values given in this report are either in South African Rand (R), Namibia dollars (N\$), Botswana pula (P), or United States dollars (US\$), where R1.00 = N\$1.00 = P0.74 = US\$0.14.*

### 3.2.2 Data requirements and data sources

The data requirements for TSAs are extensive, and there is often not sufficient disaggregation in the national accounts to extract these values directly. For example, the tourism ratios of all industries (say, the ratio of true tourists to commuters and others using a train) are commonly not available. Thus, data from separate surveys are required. While not all of the elements of TSA need be developed at the very outset, when data gaps are significant it has been a common practice to build a simulated TSA.

We attempted to examine all relevant primary and secondary data sources in the three countries concerned, and extracted and collated these to determine their suitability for development of satellite accounts. We have focused on three main sources to acquire the data necessary to develop the TSA. Firstly there are the *statistical units associated with government and parastatal tourism agencies* (such as Tourism South Africa, or Satour, in South Africa) and provincial governments (such as the KwaZulu-Natal Tourism Agency in KwaZulu-Natal). Secondly there are the *national central statistical agencies, responsible for producing the national accounts*. Thirdly there are the results of *various specific research studies on tourism and tourists*.

Specific research studies include surveys of tourists (demand) and tourism operators (supply), to acquire disaggregated data on such things as expenditures, costs, income, economic value, economic impacts, etc. A number of such key sources have been used to

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derive tourism ratios and measures of expenditure and production for the study. The results of TSA constructed in other (mostly developed) countries have also been utilised.

Important sources of data in South Africa included Tourism South Africa, Statistics South Africa, the provincial tourism and wildlife agencies for KwaZulu-Natal, the Reserve Bank of South Africa, and the Marketing Research Bureau of the University of South Africa. For Namibia, the Central Bureau of Statistics, the Directorate of Tourism and the Directorate of Environmental Affairs were the primary sources utilised, while for Botswana the Central Statistics Office, and the Department of Tourism were the main sources of data.

A check list of tourism commodities relevant to the Southern African region is shown in Table 5.

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**Table 5: A “check list” of tourism commodities for southern Africa**

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**A. Specific Products**

*Characteristic tourism products*

Accommodation

Hotel and other lodging services

Second homes on own account or for free

Food and beverage service services

Restaurants

Beverage serving establishments

Transport

Passenger transport

Rail transport services

Road transport services

Air transport services

Water transport services

Support services

Transport equipment

Rail transport equipment

Road transport equipment

Rental

Own vehicle

Fuel, oil, etc.

Air transport equipment

Travel agency, tour operator and tour guide services

Travel agency services

Tour operator services

Tourist information and tour guide services

Cultural services

Recreational and other entertainment services

*Tourism connected products*

Goods

Services

**B Non-specific products**

Goods

Services

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# Chapter 4

## Findings

This chapter presents the basic findings of the study. It is divided into four parts. In the first three, the findings regarding the development of TSA are presented for each of South Africa, Namibia, and Botswana. In the fourth, the findings generally for all countries, regarding tourism resource accounts are presented. The chapter describes the degree to which the different countries have been able, and would be able to develop and use TSA and TRA. Only in Namibia has an attempt been made to use the data available develop preliminary satellite accounts for tourism.

### 4.1 TSA in South Africa

#### 4.1.1 *Tourism in South Africa*

South Africa has tremendous advantages and critical challenges in the global tourism market. This is seen through its products, which are in line with the global market trends for diversification into adventure tourism, eco-tourism, cultural tourism and others. There also has been increased co-ordination of tourism initiatives in Southern Africa, for expansion and increased diversity of products. South Africa's positive international image, due to its democratic political transformation, has had and is having a positive effect on the expansion of tourism industry. Although tourism in South Africa missed opportunities due to the country's past political regime, the industry is perceived to have very significant potential contribute to the country's economic growth.

Part of the success of tourism has been due to the fact that it has been able to create opportunities for small entrepreneurs, promote awareness and understanding among different cultures, stimulate the informal sector, help conserve the environment, create economic linkages with agriculture, and provide employment opportunities for the poor. Tourism in South Africa has therefore been seen to provide sturdy, effective and sustainable legs for the national development programme to walk on (DEAT, 2000).

Travel and tourism in South Africa is based primarily on the region's natural attributes, which include wildlife, scenery and cultural attractions. As explained above, it is made up of different activities classified under different sectors in the national accounts, such as services, transport, manufacturing, forestry and agriculture and is effectively hidden within them. Travel and tourism has also taken different forms over the years, affected by



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several key factors, including government monetary policy, the rise or fall in crime, and the effectiveness of the industry's product development and marketing.

South Africa's tourism attractiveness lies in its diversity that comprises accessible, varied and impressive wildlife, impressive scenery, unspoiled wilderness areas, and diverse cultures. Extremely valuable wildlife communities, and beautiful beaches are included. There are internationally renowned attractions such as the Kruger National Park, Cape Town, Table Mountain, Sun City, the Garden Route, and the Drakensberg mountains.

Because of the many natural attributes, tourism in South Africa is now expanding into activities eco-, agro- and adventure-tourism. Diversification is well advanced into niche markets, such as those for sport hunting, whale watching, white-water rafting, hiking, bird watching, bush survival, deep sea fishing and diving. There are also unique archaeological sites and historic battlefields. The well-developed infrastructure means that excellent conference and exhibition facilities, a wide range of sporting facilities, and good communication and medical services can be utilised.

Table 1 below shows the significance of some of South African tourist attributes. From this table it can be seen that most tourists in South Africa are attracted by the country's natural reserves and diverse wildlife

**Table 6: Tourist activities in South Africa**

Attribute	%age of tourists using attribute
Nature/ Wildlife Reserve	60 %
Historical Site	40 %
Museum / Art Gallery	36 %
Cultural Village	21%
Adventure Activity	16%
Theatre/ Concert	16%

Source: Satour (1999)

As a general rule, South Africa has long experienced large and growing populations of tourists every year, and this growth accelerated with the new political dispensation of a government of national unity. In 1995 South Africa received 4.5 million international visitors, 73% of which came from the rest of Africa and 15% from Europe (Creemers and Wood, 1997). In addition, it is estimated that in that year 7.9 million South Africans took

part in domestic tourism. While these figures are significant, the fact that large components of the South African population do not travel means that there is also significant potential for expansion (DEAT, 1996).

As stated, and as elsewhere in the world, tourism plays an important role in South Africa's economic development. The WTTC study of the southern African region, which made use of generic models to assess the value and impact of tourism, estimated that, in 1998, tourism contributed 8% to total GDP, generated employment for 735 000 South Africans, and contributed 8% to tax revenue (WTTC, 1999). Table 7, below, shows economic contribution of different sectors of tourism industry in South Africa.

**Table 7: Estimated economic contribution of South African tourism (R billion)\***

Measure	1998	% of total	2010	% of total	Growth** (%)
<b>Consumer expenditures</b>	23.2	5.8	79.3	6.4	3.5
<b>Business travel</b>	8.8		29.1		3.4
<b>Government expenditures</b>	0.8	0.5	4.9	1.1	9.2
<b>Capital investment</b>	12.8	11.4	47.8	13.5	5.1
<b>Exports</b>	24.2	13.2	109.2	17.5	6.8
<b>Travel and tourism demand</b>	69.8		270.2		5.2
<b>GDP</b>	53.2	8.2	210.9	10.3	5.5
<b>Imports</b>	16.6	9.2	59.3	9.5	4.6
<b>Taxes</b>	15.0	8.4	55.1	10.6	4.8
<b>Employment</b>	738	7.0	1253	9.3	4.5

\* Source: WTTC (1999)

\*\* Real growth

#### **4.1.2 Tourism in KwaZulu-Natal**

South Africa's domestic tourism industry comprises seven provincial markets: Gauteng, KwaZulu-Natal, Western Cape, Free State, Northern Cape, Northwest and Northern Province. The province that attracts most foreign visitors is Gauteng (66%), followed by Western Cape (49%), KwaZulu-Natal (32%), Northern Province (8%), Northern Cape

(6%), Free State (7%) and Northwest (8%) (Creemers and Wood, 1997). As a consequence, the province that contributes most to GDP from tourism is Gauteng. However, KwaZulu-Natal is the most important province in terms of domestic tourism. The province captures 25% of all trips and 32% of the value of domestic holiday market worth, for which the expenditures were estimated to be R14,9 billion in 1995 (Creemers and Wood, 1997). Table 3 below shows the breakdown of KwaZulu-Natal's share of national domestic tourism revenue.

**Table 8: Domestic tourism expenditure in KwaZulu-Natal (1995)**

<b>Item</b>	<b>Expenditure (R billion)</b>
<b>Accommodation</b>	1,9
<b>Food</b>	1,1
<b>Transport</b>	1,3

Source: Satour (1995a, 1995b)

KwaZulu-Natal has myriad of metropolitan, historical, cultural and ecological sites, which attract millions of both foreign and domestic tourists every year. The province has some of the most beautiful beaches in the world. The rich culture of the Zulu people, and several historical battlefields draw both South Africans from other provinces and foreigners. The Drakensberg escarpment provides beautiful scenery, which attracts nature lovers from all over the world. Several important wildlife reserves are found in the north including the St Lucia wetlands world heritage site. All these are a testimony to the fact that KwaZulu-Natal is a province endowed with a wide range of tourism attractions.

Most popular tourism activities in KwaZulu-Natal are beach (37%), nature reserves (32%), arts/craft centres (21%), hiking (19%) and cultural villages (25%) (KZNTA, 1999). Table 4, below, shows the contribution of each tourism activity to the economy of KwaZulu-Natal.

**Table 9: Values for tourist zones/destinations in KwaZulu-Natal in 1998**

<b>No. visitors (thousand)</b>		<b>Value (R million)</b>	
<b>Domestic</b>	<b>Foreign</b>	<b>Domestic</b>	<b>Foreign</b>

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<b>Durban</b>	4,595	365	2 697	1 095
<b>South Coast</b>	2 001	100	1 201	200
<b>North Coast</b>	1 218	138	731	275
<b>PMB &amp; Midlands</b>	1 189	120	713	360
<b>Drakensburg</b>	348	135	209	270
<b>Zululand</b>	38	160	226	320
<b>Maputaland</b>	174	80	104	160
<b>Battlefields</b>	899	70	539	140

Source: Tourism KwaZulu-Natal (2000)

Natal Parks Board is acclaimed as one of the most efficient nature conservation agency in South Africa in terms on nature conservation, information generation and tourism promotion (J. Seymour, 2001, pers. comm.). In 1995-1996 the Board generated employment for 2 877 people and R96,2 million mostly in tourism turnover for the economy of KwaZulu-Natal (Creemers and Wood, 1997).

The major foreign tourism market sources for KwaZulu-Natal are the UK, Germany, USA, France and the Netherlands (Tourism KwaZulu-Natal, 2000). Foreign tourists bring much-needed foreign earnings to the province. In 1998 foreign tourists spent R2-3 billion on tourist goods and services in the province. The tourists come to the province for different purposes, with holiday being the most popular purpose. Fifty nine percent of foreign tourists who visit KwaZulu-Natal are holidaymakers, 15% of them are business visitors and 20% visit with family and friends (KZNTA 1999).

Domestically, KwaZulu-Natal also attracts a wide market. The five top domestic tourism markets are KwaZulu-Natal itself, Gauteng, Eastern Cape, Free State/Northern Cape and Western Cape. Thirty four percent of domestic visitors are holidaymakers, 49% visit with family and friends, and 8 % for business purposes.

### **4.1.3 Findings**

The Department of Environmental Affairs and Tourism (DEAT) in collaboration with StatsSA is embarking on a plan to develop a set of TSA, using government funding. If a full set of accounts were to be developed, the TSA tables presented in Appendix A would be easily modifiable for this purpose. Tables 1 to 4 could be used to generate the data on consumption. Table 5 would form the supply table or the production accounts. Table 6 is the main table of the TSA system, where supply and tourism consumption are compared and

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the tourism value added, Tourism GDP and their components are compiled. This is a key account, which would allow reconciliation as in the supply and use tables of the national accounts. Table 7 would be used to report the details of employment in the tourism industries. Table 8 would be used to describe tourism gross fixed capital formation. Tables 9 and 10 could be developed and used to provide more detail on consumption and indicators with value for planning. The monetary tables could be in current prices, constant prices, in domestic currency and, for international tourism, in foreign currencies.

Our investigation into different data sources, such as StatsSA, public and private tourism related agencies, and parks and wild life agencies, revealed that TSA would be possible only after a significant investment in specific data collection. The very significant investments made by Canada, Australia and the USA over many years in developing full TSA would not be appropriate for South Africa.

The new initiative to develop TSA is entirely appropriate, but the degree of detail and rigor needs to be tailored to the needs of South Africa. The full development of national accounts (full implementation of SNA93) is still not in place, and the development of TSA needs to fit with these. The development of TSA needs to be a step by step process, where basic tables are produced first and, as data collection capacity develops, more tables are introduced to the system. As a start it is recommended that basic consumption and production tables be produced, based on specific foreign and domestic tourist expenditure surveys, as well as producer surveys.

The expenditure surveys should aim at collecting data, which provide specific information on the spread of expenditures between tourism products. This data can assist in the determination of tourism ratios. Expenditure surveys should also solicit information on tourist origin, and purpose. The producer surveys, should be aimed at producing data on the gross output, intermediate inputs, employment, capital formation and consumption associated with producers. Most importantly the surveys should attempt to determine the proportions of output attributable to tourists and non-tourists.

As time goes on the surveys should be expanded to include more detail. For example, the tourist surveys could extract more on the purpose of visits, allowing the dis-aggregation of accounts between nature-based and other, as well as between components of the nature-based tourism sub-sector. They could also be expanded to include coverage of imports as well as exports.

Producer surveys could be expanded to provide more information on taxation, the use of fixed and natural capital, and input/product ratios. Since TSA are based on the SNA framework, they need to be consistent with the national accounts. The surveys should thus be compatible with those for the national accounts. The recommendations of Grant Thornton Kessel Feinstein (2000b) regarding surveys are useful and could be adopted.

The development of TSA based on survey work can be augmented with continued use of input-output modelling along the lines of that done by WTTC (1999) and Grant Thornton

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Kessel Feinstein (2000a). As improved data is gathered the potential for use of these models for impact and policy analysis will improve.

The development of TSA should be a co-operative effort between the various stakeholders, and the recent collaborative efforts of DEAT, StatsSA and the Ministry of Home Affairs will help ensure that future necessary data collection will meet the recommended criteria for TSA. Ongoing close co-ordination between DEAT, StatSA, the Ministry of Home Affairs, Tourism South Africa and various business agencies linked with tourism is required. To this end close collaboration is also required from the provincial tourism departments.

A formal agreement, between the main stakeholders, on a collaborative plan for the implementation of TSA is recommended. This agreement should bring together the capacities of these institutions and ensure efficient use of technical and operational resources.

Compared with those of other southern African countries, the tourism industry in South Africa is large and complex, and it exists within a complex and large economy. Planning the optimal development of Tourism will require more sophisticated data sets and accounts than are currently available. A full set of TSA would certainly make this possible. The data sources are currently inadequate for development of the full set of accounts, but given an investment in additional data gathering, the structures are in place to make it possible.

## **4.2 TSA in Namibia**

### **4.2.1 *The value of tourism in Namibia***

Compared with that of South Africa, the tourism industry (and the economy generally) in Namibia is very small and comparatively simple. Leisure tourism in Namibia is overwhelmingly nature-based, with most leisure visitors and domestic tourists visiting national parks and game reserves, or, to a lesser extent, the coast (Hoff and Overgaard Planning Consultants, 1993; PPMIU, 1997; Barnes *et al.* 1999). Regarding the natural asset base for tourism, Namibia is characterised by having semi-arid and desert environments, which are not available elsewhere in the region.

Apart from the work of the World Travel and Tourism Council (WTTC, 1999), using internationally available data and described above, there has been no attempt to develop tourism satellite accounts for Namibia. The data used for the national accounts (CSO, 1996) contain some data which could be used, but no work has been done on this. In recent years the Policy Planning and Management Information Unit (PPMIU) in the Directorate of Tourism has been gathering statistics on foreign visitor numbers and the bed capacity of tourism establishments (Ministry of Environment and Tourism, 1995a, 1995b). The PPMIU has also carried out two surveys of foreign visitors one in 1992

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(Hoff and Overgaard Planning Consultants, 1993), and one in 1996 (PPMIU, 1997). These sought information on visitor numbers, visitor preferences and visitor expenditures.

The foreign visitor surveys, above, made it possible to estimate gross tourism expenditures for foreign visitors, and Jenkins (1997) attempted briefly to estimate the economic value and impact of tourism in the country. From the tourism statistics he determined that, in 1996, 560 000 visitors arrived in Namibia, staying an average of 11.7 nights and generating N\$ 956 million in gross receipts. No empirical data on the proportions of receipts made up by value added or leakage was available. Barnes and Ashley (1996) used a survey of nature-based tourists in parks and other destinations, and empirically-derived financial and economic models of nature-based tourism in Namibia to make crude estimates of the contributions to value added from various forms of nature-based tourism in 1994. The total net value added to national income from nature-based tourism was estimated to be some N\$300 million.

As stated above, the WTTC (1999) used internationally available statistics to determine both direct and indirect impacts of gross receipts, GDP contributions, and employment figures for tourism in Namibia. The data sources and methodology used are not made explicit, and it is difficult to interpret the results but tourism in Namibia was estimated to generate gross receipts in 1996 of some N\$1700 million, gross value added of N\$850 million, and employment worth some N\$68.5 million. The direct *and* indirect impact on GDP was estimated at some N\$1900 million.

Namibia, as yet, does not have a social accounting matrix (SAM) like that of Botswana (CSO, 1988b) and neither has there been development of a national input-output (I-O) model which would help with the measurement of the economic impact of the tourism sector. As described above, I-O tables can provide useful guidance for the development of tourism satellite accounts (Grant Thornton Kessel Feinstein, 2000; National Accounts Division, 1999), and attempts, here, must rely on basic statistics where available.

In this study, a part of the assessment process, we have used the data available in Namibia to develop TSA as far as possible. This exercise has given valuable insights regarding the gaps in the data and how these could be filled. Data do not allow more than the development of very preliminary tables on expenditure, production, value added and employment. Data on tourist expenditures from the national tourism agency were used as the base for the expenditure table, while data for the national accounts were used to develop the production, value added and employment tables.

#### **4.2.2 Preliminary tourism consumption accounts**

We examined the data from the *demand* side of tourism to develop crude expenditure accounts. Foreign visitor numbers were derived from the visitor surveys of PPMIU (Hoff and Overgaard Planning Consultants, 1993, PPMIU, 1997; Ministry of Environment and Tourism 1995a, 1996, 1997, and unpublished statistics for 1998 and 1999). Figures for

domestic tourist numbers were unavailable, and had to be derived from unpublished national park and game reserve entry data from an eight year period before 1994. Here, the ratio between domestic and foreign tourists (3:7) entering parks and reserves was applied to the national visitor statistics to get an estimate of total domestic tourist numbers.

Gross expenditures for the broader categories of foreign tourists were obtained from PPMIU (1997), and Hoff and Overgaard Planning Consultants (1993). They were corroborated from a national survey (Barnes *et al.*, 1999) and more site- or activity-specific surveys (Krug, 1998; Zeybrandt, 1999; Kirschner *et al.*, 2000; Humavindu and Shuuya, 1998), all involving nature-based tourists. The latter study also provided data on expenditures of domestic tourists, relative to those of foreign visitors. Mean domestic tourist expenditures were lower than those for foreign tourists and this difference was applied to the tourist numbers in the calculation of gross receipts.

A list of tourism commodities or products was drawn up using other examples of tourism satellite accounts (Kass and Obuko, 2000; National Accounts Division, 1999; ABS, 2000; OECD, 2000; Grant Thornton Kessel Feinstein, 2000a; WTO, 1999d; UN-EUROSTAT-OECD-WTO, 2000). This formed the check list, presented in chapter 3, above, for which data was sought to develop a preliminary set of production accounts based on expenditures.

The visitor surveys of PPMIU (PPMIU, 1997; Hoff and Overgaard Planning Consultants, 1993, provided some data on the spread of tourist expenditures between accommodation, food and beverages, transport, crafts and other shopping. Other more specific studies, such as that of Barnes, *et al.* (1999) provided some survey results on the allocation of tourists expenditures, and these were used to corroborate or expand this information.

Table 10 shows the basic findings of this analysis for 1996, where the results are compared with those based on supply, below. The full table showing the estimates for all the year in the period 1991 to 1999 are shown in appendix B. The total gross output of tourism in 1996 is estimated at N\$1 179 million. An estimate of the component of

**Table 10: Comparison of tourism gross output estimates for Namibia in 1996, derived from expenditure and production data**

Tourism product	Tourism gross output estimates derived from:			
	Expenditure data		Production data	
	Proportion of total (%)	Value N\$million	Tourism ratio (%)*	Value N\$million
<b>Specific products</b>				
<b>Accommodation</b>				
<i>Hotel and other lodging services</i>	27	310	96	341



<b>Food and beverage serving services</b>				
<b>Restaurants and bars</b>	13	152	30	41
<b>Transport [total]</b>		<b>[317]</b>	88	<b>[272]</b>
Passenger services				
<b>Rail</b>			88	4
<b>Road</b>			88	4
<b>Air</b>			88	231
Domestic	7	87		
International				
Transport equipment				
<b>Rail</b>			88	1
<b>Road</b>				
<b>Rental</b>				
<b>Own vehicle</b>	12	140		
Petrol oil				
<b>Air</b>			88	20
Travel agencies, operators, guides	8	90	97	12
<b>Cultural and recreational services</b>	7	87	27	49
<b>Connected goods and services</b>				
<b>Goods</b>				
Handicrafts	4	45	90	17
<b>Personal consumption</b>	12	146		
<b>Services (incl. post and telecoms)</b>			1	4
<b>Other (incl. miscellaneous exp.)</b>				
Miscellaneous expenditure	10	122		
<b>Total</b>	<b>100</b>	<b>1 179</b>	<b>-</b>	<b>724</b>

the total tourism output, which is made up by *nature-based* tourism can be made using the estimates from the survey of Barnes *et al.* (1999). The gross output value (inflated to 1996 values) for nature-based tourism would be N\$670 million, which suggests that some 56% of tourism output is nature-based.

#### 4.2.3 Preliminary tourism production and employment accounts

We examined available data from the supply side of tourism in an another attempt to set up accounts. Here, the basis was the national accounts, specifically for 1996, but figures were calculated for each year from 1991 to 1999. The data for gross output for all industries, which were considered to contribute to the supply of direct tourism services, was obtained. This was arrayed next to the list of tourism commodities selected, above, and tourism ratios applied to determine the gross output for tourism products.

There is no empirical information in Namibia on tourism ratios, so these were obtained from other studies. Unfortunately none from developing economies were to hand, so ratios as applied in the USA (Kass and Obuko, 2000), Australia (ABS, 2000), and New Zealand (National Accounts Division, 1999) were compared. Table 3 shows some of these for selected tourism products. Of the three sets of accounts those for Australia and New Zealand used a definition for a tourist similar to that adopted by us (and by the WTO), while that for the USA uses a broader definition. We used ratios derived from the Australian accounts to obtain tourism industry output.

Unfortunately, the national accounts in Namibia are incomplete with regard to some tourism commodities. Values for transport services are crude estimates, extrapolated from figures for the national (parastatal), transport company. Transport equipment estimates are incomplete. There is no data for travel agencies. There are incomplete estimates for craft production. Some data is aggregated so that values for all commodities cannot be extracted. The potential for error is high in the case of non-specific goods produced for personal consumption, as the national values are high and the tourism ratios are small. Some of the tourism expenditure data could be used to determine the tourism ratios but this is incomplete due to the abridged nature of the tourist expenditure surveys, and this was not attempted.

The results of the estimates of tourism producer gross output are shown in Table 10, for 1996, in comparison with the expenditure estimates. The full tables are shown in Appendix B. Total tourism output in 1996 is measured at N\$715 million, some 40% less than the measure derived from expenditures. Much of this discrepancy appears to be due to missing national accounts data in relation to the food and beverages, and transport sections. Some work can be done, using the MET national inventory of tourist bed capacity, to work back to supply figures and substantiate the national accounts data. It is also noteworthy that the estimate of tourism gross output, made by WTTC (1999), using generalised models was some 40% higher than our measure derived from expenditures.

**Table 11: Comparison of selected tourism ratios calculated in the USA (Kass and Obuko, 2000), Australia (ABS, 2000), and New Zealand (National Accounts Division, 1999)**

Tourism product	Ratio of tourism output to total industry output (%)		
	USA*	Australia	New Zealand
Accommodation services	81	96	94
Eating and drinking places	19		
Food serving services		30	31
Beverage serving services		16	24

<b>Long distance passenger transport</b>		97	88
<b>Water and rail passenger transport</b>	100		71
<b>International air passenger transport</b>	76		98
<b>Short distance rail passenger transport</b>	24	20	
<b>Taxi passenger transport</b>	46	38	36
<b>Travel agencies, tour operators, guides</b>	21	96	100
<b>Motor vehicle hire and rental</b>	58	53	61
<b>Movie theatres, dance studios, etc.</b>	20		
<b>Recreational/cultural/sports services</b>		20	
<b>Music and theatre productions</b>			18
<b>Museums, art galleries, gardens, zoos</b>			35
<b>Tourism related commodities**</b>	6	7	8

\* Mean of three ratios derived differently  
\*\* Mean of several categories; because of accounting convention the ratio applies to retail margins in most cases

**Table 12: Estimates of tourism gross value added for Namibia in 1996, derived from production data (N\$ million)**

<b>Tourism product</b>	<b>Tourism Output</b>	<b>Intermediate consumption</b>	<b>Tourism Gross value added</b>
<b>Selected products:</b>			
Accommodation	341	170	171
Restaurants	41	29	12
Transport	272	163	108
Cultural services	49	24	24

Connected services	4	2	3
<b>Total</b>	<b>707</b>	<b>388</b>	<b>318</b>
<b>All products</b>	<b>724*</b>	<b>397**</b>	<b>327**</b>

\* From Table 10

\*\* Calculated by proportion

In Table 12 the estimates for gross value added in 1996 are presented. More detail is presented in appendix B. The value added ratios were derived from those currently applied in the national accounts. Ratios for only some tourism products are available. The overall proportion of value added to gross output for the selected products was 45% and this was applied to the total sector to obtain an estimate of tourism gross value added of N\$327 million.

In Table 13 the estimates of employment in the tourism sector are presented for 1997. Here, the (Australian) tourism ratios, used in Table 10, were applied to the employment figures for tourism commodities in the national accounts. The overall number of employees in the sector is estimated at some 11 700.

**Table 13: Estimates of tourism employment in Namibia in 1997**

Tourism product	Tourism gross output estimates derived from:			
	Expenditure data		Production data	
	Tourism ratio (%)	Total	Females	Males
<b>Specific products</b>				
<b>Accommodation</b>				
<i>Hotel and other lodging services</i>	96	2 151	1 154	997
<b>Food and beverage serving services</b>				
<i>Restaurants and bars</i>	30	224	120	104
<i>Transport [total]</i>	88	[2 598]	[316]	[2 281]
<b>Passenger services</b>				
<i>Rail</i>	88	60	7	52
<i>Road</i>				

<b>Air</b>	88	34	4	30
Domestic	88	2 195	267	1 928
International				
Transport equipment				
<b>Rail</b>				
<b>Road</b>	88	18	2	16
Rental				
Own vehicle				
Petrol oil				
<b>Air</b>				
	88	135	16	119
Travel agencies, operators, guides	97	160	20	141
<b>Cultural and recreational services</b>	27	6 718	3 213	3 504
<b>Connected goods and services</b>				
<b>Goods</b>				
Handicrafts				
<b>Personal consumption</b>				
<b>Services (incl. post and telecoms)</b>	1	25	3	22
<b>Other (incl. miscellaneous exp.)</b>				
Miscellaneous expenditure				
<b>Total</b>		11 716	4 807	6 909

#### 4.2.4 Findings

The data available in Namibia is inadequate to develop more than the *very* preliminary TSA presented here. Within the government, the Directorate of Environmental Affairs, the Directorate of Tourism and the Central Bureau of Statistics are collaborating in an initiative to extend the preliminary development of TSA, reported here, to an ongoing programme. An informal agreement between the parties has been established and some donor funding for new surveys has been partially secured.

The initiative is a step by step process in which new surveys will be undertaken of tourists and tourism producers, and additional data will be sought from household expenditure surveys, etc. The progress will partly depend on how rapidly implementation of full national accounts is achieved (so far these are only partially developed). It will also depend on whether and how funding can be secured.

The tourism industry of Namibia is some 5% of the size of that of South Africa. It is simpler and has an emphasis on wildlife and scenic attractions. It represents one of the main sectors with potential for significant economic growth. Development of TSA will

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be very useful in the rational planning of this sector, and the ongoing programme to develop TSA should be supported.

## **4.3 TSA in Botswana**

### ***4.3.1 Tourism in Botswana***

The tourism industry in Botswana is small - roughly the size of Namibia's and about one twentieth the size of that of South Africa - but it is a very important part of Botswana's economy and the demand is growing fast (Wendy L. Oden and Chemonics International Inc., 1998). There are no data yet to specifically compare the percentage contribution of the tourism sector to value added or GDP, because, as is the case in other countries, the sector is reported under disparate industries in the national accounts. Figures are available on the final demand (tourist consumption), but the department of Tourism is still working on the determination of tourism ratios.

Wildlife and wilderness are the main tourism attractions in Botswana (Botswana Society, 1991). This exists mostly in the western and northern part of the country with the Kgalagadi semi-desert attractions and wildlife in the west, and the diverse ecological systems of the Okavango delta, the Chobe/Linyanti systems and wildlife in the north. Other tourism attractions are in the form of the Makgadikgadi pans, and handicrafts.

The country invests large sums of money in wildlife conservation, which is the main backbone of the Tourism industry. Seventeen percent the total land area is allocated to wildlife conservation areas such as game reserves, national parks and wildlife management areas (Tsiang, 1991). The Tourism policy for Botswana aims to attract primarily low impact - high value visitation. This reduces the impact of tourists on the sensitive natural asset base.

As mentioned, the tourism industry is based mainly on wilderness and wildlife. Data collected by the department of Tourism however show that most arrivals were to the capital city, Gaborone, which received 49% in 2000. This may be attributed to the fact that the main airport is in Gaborone such that tourists to the Okavango delta or Moremi game reserve, for example will still be counted as arrivals in Gaborone. Francistown, which is the second largest urban area in Botswana, received 28% visitors in 2000, the Okavango delta received 12% of tourists while Kasane/Chobe area had 12% in the same year. The Maun area which is rich in wildlife and natural attractions received 11% tourists (Department of Tourism, 2000).

Data on visitor arrivals in national parks by generating region are available for the year 1998, and European tourists were dominant with 32 329 tourists. South Africa accounted for 23 345 tourists whilst Asia contributed the lowest number of tourists to Botswana with only 816 tourists. The visitor arrivals study also showed that 8 703 tourists to national parks were Botswana (citizens of Botswana). This destination survey can assist

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in the compilation of data on domestic tourists since no other domestic tourist surveys have been carried out in the country. More data will however be needed to compile domestic tourism accounts and those specifically for nature based tourism.

### **4.3.2 Development of TSA**

Among the three countries under investigation, Botswana is the furthest along in the development of TSA. For this reason our treatment of Botswana is brief. Our visit concentrated on documenting the surveys that are being undertaken by the Department of Tourism for the purpose of constructing TSA.

The Department of Tourism with assistance from the WTO and with funding from UNDP initiated a project in 2000 to develop TSA. This is a two-year project and will be entering its second phase soon. The end of 2002 is targeted for the production of the first tables for a set of TSA. It is acknowledged that Botswana's TSA, while adhering to WTO/WTTC recommendations, will be adapted to the planning needs of the country and its available resources. The definitions are being established locally, to ensure local applicability. The development of the accounts will be (at least initially) in the department of Tourism and not in the Central Statistics Office.

The availability of data determines how extensive the TSA can be and insufficient data will hamper any efforts to develop TSA in Botswana. Thus data collection is the main foundation and backbone of the TSA project. The department has always collected basic information on tourism related activities and services even before the TSA project started, this however were not sufficient to be used for the construction of the TSA.

Data from earlier reports shows that only 9.8% arrivals into Botswana were on business endeavors whilst the bulk (51%) of arrivals were residents (Tsiang, 1991). Using basic data from the new TSA surveys department's statistical unit was able to compile a Statistical Review of Tourism for 1998 (Department of Tourism, 2000), which is the first publication of its kind in Botswana. Plans are under way to produce this publication on yearly basis.

The report contains data on tourist arrivals by mode of transport, age, length of stay and purpose of visit. It includes data on trends in tourist arrivals from 1994 to 1998. Arrivals data is also available for 1997 and 1998 on monthly basis. Tourist arrivals by generating region for 1997 to 1998 has been divided into five categories, which are Africa, the Americas, Asia and the Pacific, Europe and 'unknown'. Statistics from earlier years (1985 to 1988) showing arrivals by purpose of stay is available from the Statistical Bulletin of December, 1988, which is published by the Central Statistics Office. Data from these years is not as detailed as the one published in the Statistical Review report.

Expenditure data in the Statistical Review of Tourism in Botswana report shows that tourism receipts for 2000 amounted to P2 148 million. Table 14 shows some data on the spread of expenditures by categories of tourist. Expenditures by country of residence

which are spread fairly evenly between visitors from South Africa, Zimbabwe, the United Kingdom, the USA, and other places. The report shows tourism expenditures by purpose of visit and holiday/leisure accounts for a dominant proportion of expenditure followed by business. Most expenditures are for accommodation but some 60% is for other items.

In the TSA project there is a *visitor expenditure survey* being implemented twice per year (October and April for two weeks) at the busiest entry points - three airports, Gaborone, Maun and Kasane, as well as about ten border posts. The data on expenditure in the statistical review (Department of Tourism, 2000) is based on this. There may be some potential for expanding some of the key questions in the current survey. There could also be an attempt to record imports (Botswana residents and citizens travelling out of the country). There is no domestic tourist survey but a specific one is proposed. Here, use will be made of the WTO manual on domestic tourism surveys.

The Department is building up an inventory of tourism producers including accommodations, restaurants, tour operators, attractions and travel agents. The main forms for these are in hand. The list is still somewhat incomplete and does not include transport operators, airlines, and car hire firms. It is not clear to what extent it includes a full inventory of bars, government facilities, etc. The response rate has been low and it is intended to put pressure on producers to respond. The basic list already provides useful data on beds, tariffs, (occupancies?) and employment. Once the list is complete, and producer confidence has been gained, the producers will be asked to provide some details on financial matters. In this case, it should be possible to secure information on the intermediate costs, and tourism ratios.

**Table 14:      Categorisation of tourism expenditures in Botswana 2000**

<b>Category</b>	<b>Percentage</b>
<b>Expenditure by country of origin</b>	
USA	19
United Kingdom	17
South Africa	24
Zimbabwe	19
Other	21
Total	100
<b>Expenditure by purpose of visit</b>	
Holiday/leisure	51
Business	32
Visiting friends/relatives	16
Transit	1



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Total	100
<b>Expenditure by product</b>	
Accommodation	38
Food and beverages	10
Transport	11
Shopping	12
Recreation	3
Other	26
Total	100

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Source: Department of Tourism (2000)

The Department of Wildlife and National Parks has statistics produced from its park entry data. This is available to the Department of Tourism, which has also begun to institute a new questionnaire survey of the parks. This is dispersed via park entry staff, and the return has been very low. This is one way that limited data on domestic tourism can be obtained. It may also be possible to obtain some from national household income and expenditure surveys such as that of CSO (1976, 1988a). Expenditure data in parks for 2000 is divided into entry fees, camping fees, vehicle fees and reservation fees. Entry fees generated the highest revenues at P7.6 million, whilst reservations generated P0.9 million.

On the production side the *national accounts*, produced by the Central Statistics Office (CSO) for Botswana are fairly well developed and data, presented using the SNA93 international classification of industries, is available. Output, value added and employment data is available but there are no tourism ratios. The national Labour Statistics Unit carries out household surveys twice a year and this surveys tries to categorise employment data by economic activity. Though data is available it is aggregated. There are no data on tourism ratios. The Hotel and Tourism Association of Botswana (HATAB) collects some data on tourism-related employment but the TSA project plans to specifically survey employment in the producer survey.

The CSO constructs a Social Accounting Matrix (SAM) (CSO, 1988b) of which the latest was for 1993/94. The SAM could be used to come up with tourism ratios to be used for the construction of the TSA. The SAM will also be of great use in measuring the impact of tourism and in policy analysis, using the TSA.

### **4.3.3 Findings**

Attempts to develop TSA in Botswana are ongoing, and the Department of Tourism has this process well in hand. This process is a step by step one ó as we would recommend - and the data collection process will be expanded and improved as the amount of detail

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required for the accounts increases. Some immediate improvements in the detail of the visitor surveys, and the coverage of the establishment register can be made (as described in detail above). The ultimate level of detail and rigour in the TSA will depend on the resources that are available to make and use them.

## 4.4 Natural capital for tourism

In the SNA93 gross fixed capital formation is defined as the "total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain additions to the value of non-produced assets by the productive activity of institutional units". Thus, although, by definition, the natural capital base for tourism is not produced by man, it can be the result of investment. Such investment is often in conservation of the particular assets.

While resource accounts do exist for some of the natural assets involved in tourism, these assets are mostly used for a range of tourism and non-tourism activities, and there is no clear approach, derived in southern Africa, for linking these assets to tourism. Tourism planning has been linked only indirectly to the study of its asset base. There is a long way to go and in the context of this study we have simply built a conceptual framework leading to the way forward. The three countries are treated together, as our conclusions are similar with each.

The natural capital base for tourism is made up of a conglomerate of factors and assets. We see two approaches to measuring these. First, one needs to simply measure the *stocks* of the assets. Second one needs to measure their *environmental health* in productive terms. Further, we would look at *stocks* of the assets from two angles:

1. Basic sets of data on *specific* assets, such as wildlife stocks, water, land allocated to conservation, and others can be collected and set up as physical accounts. The physical status, and environmental health of these stocks can usually be measured fairly easily, but their values cannot. This is because they are used in complex spatial and temporal ways, to produce many products, of which tourism (itself comprising many alternative products) is only one.
2. The stock of assets underpinning the tourism products can be conceptually classified, more *generally*, according to the amount of *tourism activity or tourism potential* that they generate, or can generate. Because of the huge complexities and difficulties involved, these classifications must be made subjectively, based on the spectrum of natural and other assets on hand. Here although the measurement is somewhat difficult, subjective, and subject to error, the information can be relatively easily linked to tourism values and output. The environmental health of these "stocks" of assets can albeit with difficulty, be measured with the values of tourism in mind.

Table 15 shows a preliminary classification of the types of asset accounts that could be developed to assist with the sound planning and development of tourism in southern Africa. Of the specific resources listed some are easier to measure than others. The

natural resources accounting project (NRASA) has already developed a set of physical accounts for Botswana, which has very good countrywide data on wildlife numbers, and which lends itself to the development of these accounts. In Namibia and KwaZulu-Natal the data on wildlife stocks is less spatially complete, and would require some collation. Nevertheless we consider that wildlife accounts will be very useful for tourism planning. Water as an input to tourism is very important, especially in countries like Namibia and Botswana and it is thus a key asset. It is also suitable and can provide very useful data to feed in tourism planning and management. It is questionable whether the other more specific assets listed in Table 15 can be measured well enough in physical terms to be useful in tourism development. If ways could be found to measure them they could be considered. Nature-based tourism yields highly variable spatially, and it is clear from the analysis that spatial mapping of the assets should be important in the accounting process.

General natural asset accounts for tourism would seem to hold promise, even though they are difficult to measure without subjective assessment. Some work has been done of this in Botswana, and more specifically in Namibia (Barnes 1995a, 1995b). Here land was studied with the aim of making spatial inventories of the natural resource uses, including tourism. Use was made of financial and economic enterprise models to derive the gross output and value added and employment generated by the activities. The inventory was surveyed once more considering the potential of the 'package' of natural and man-made assets to generate income. Tourism was a large component of this study, and the government's statistical base of tourism establishments was used. The result is a map of potential for tourism as described above. This has proved extremely useful in tourism planning, and could be developed further towards an accounting framework which at a later stage could possibly even be linked to TSA. The system for *land accounts*, described in the UN manual on natural resource accounting (UN, 2000), should form the basic accounting framework.

**Table 15: A typology of natural asset accounts for tourism**

Asset	Ease of measurement of:			
	Tourism values	Physical stocks	Environmental health trends	Suitability/ Feasibility?
<b>Specific stock accounts</b>				
Wildlife	Poor	Good	Good	High
Water	Poor	Good	Good	High

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Vegetation	Poor	Good	Good	High
Biodiversity	Poor	Good	Poor	Moderate
Scenery	Poor	Moderate	Good	Moderate
Land use	Moderate	Good	Good	Moderate
<b>General stock accounts</b>				
Current tourism activity	Good	Moderate	Moderate	High
Potential for tourism	Good	Moderate	Moderate	High

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Environmental health can be treated with use of key indicators, as described in detail by Dixon *et al.* (2000) in the Caribbean, and which are measured and monitored over time. Namibia has a basis for this in its 'State of the Environment' reporting programme.

#### **4.4.1 Specific stock accounts**

The development of natural resource accounts in South Africa, Namibia and Botswana has not so far addressed specific tourism asset base accounts. Botswana is currently developing physical wildlife accounts. These are based on data from broad countywide national aerial counts of wildlife stocks which have been carried out more or less once a year since 1987. This is the only data set in the three countries which provides easily collated accounts. In South Africa and Namibia many detailed aerial wildlife surveys have been done in parks and on specific properties and land use categories. However the methods used differed and results are often incomparable, so that this data is not collated and reconciled in a form useful for accounting at national level. In Namibia, broader surveys initiated in 1997 will likely result in countrywide data useful for planning.

The Botswana accounts (J. Arntzen, 2001, pers. comm.) contain data which has somewhat wide margins of error, making it difficult to detect statistically valid trends. However it does show up, for example, significant increases in the elephant population. The data on wildlife consumptive off-take through hunting, capture, etc., available in Botswana, is of low quality and required improvement before it can be used to measure production. In addition, the wildlife resource is multi-dimensional and is used for numerous competing productive activities. The valuation of the wildlife resource as a base for tourism is difficult in this context.

Barnes (1998a, 1998b, 2001) did a detailed analysis of the potential for the wildlife resource in Botswana to generate direct use values, including those of tourism. He used an enterprise modelling and linear programming approach, and examined the wildlife

resources present in Botswana around 1991. The results showed the combinations of wildlife uses, which would maximise the gross value added. Table 16, below, shows some results from this study. The value of the wildlife resource as a generator of for tourism value can be extracted from the values for wildlife viewing, safari hunting, community wildlife use, and game ranching. This is the closest to a measure of the value of the standing stock of wildlife, for tourism, on a national level. Because empirically determined enterprise models were used, it possible to work back to get the gross output, employment, capital investments as well as the gross value added. It should be noted however that the measures of gross output and value added derived by Barnes were calibrated in shadow prices ó as measures of economic efficiency rather than the statistical measures used in resource accounting. They could be converted accordingly.

The development of basic water accounts has been undertaken in the three countries and these are in the process of being refined and improved. As part of this it is intended to ultimately survey the use of water by the tourism sector, and include this component in the accounts. This will provide important information on the value of water resources used for tourism and thus the value of a generally important component of the natural resource base for tourism.

**Table 16: Optimal combinations of wildlife uses and/or livestock production, to maximise gross value added, on land allocated to wildlife in Botswana, showing the effect of inclusion or exclusion of consumptive use on values generated and land requirements (1991)**

Wildlife/rangeland use	Measure of allocation between activities			
	Net value added <sup>1</sup> (pula'000 000)		Land requirements <sup>2</sup> (ha'000 000)	
	All possible activities included	Non-consumptive activities only	All possible activities included	Non-consumptive activities only
Wildlife viewing	93.5	92.5	3.9	3.9
Safari hunting	5.4	0.0	3.9	0.0
Community use, high <sup>3</sup>	1.3	0.7	1.2	0.6
Community use, low <sup>3</sup>	1.0	0.2	13.3	2.1
Game ranching	0.8	0.8	0.1	0.1
Cattle ranching	3.2	3.2	0.7	0.7
Ostrich farming	10.9	0.0	0.0	0.0
Crocodile farming	2.5	0.0	0.0	0.0

Elephant cropping	0.4	0.0	4.0	0.0
Product processing <sup>4</sup>	0.2	0.0	0.0	0.0
<b>Total: wildlife only</b>	116.0	94.2	26.4	6.7
<b>Total: wildlife + livestock</b>	119.2	97.4	27.1	7.4

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<sup>1</sup> Net value added to the national income per annum (net value added is gross value added less depreciation)

<sup>2</sup> Includes very small amounts of land for ostrich/crocodile farming and product processing

<sup>3</sup> Community-based wildlife use projects in high- and low-quality areas

<sup>4</sup> Medium-scale tanning enterprises

In South Africa and Namibia, partial land and forest accounts are being developed. These form part of the natural base for tourism. The accounts can be developed physically, but use of land and forests is multi-dimensional, and the problems associated with valuing the wildlife resource for tourism are applicable here. A similar approach to valuation, as that discussed above for wildlife, could be applied to land and forest resources.

The development of physical accounts for wildlife, land, forests, and other tourism resources, as well as the use of valuation approaches such as that described above for wildlife, have great potential to improve the planning of tourism, particularly nature-based tourism. These approaches will require more investment in economic person-power, and specific allocation of this toward land valuation work.

#### **4.4.2 General stock accounts**

The potential for the development of general stock accounts has been tested in Namibia, where Barnes (1995a, 1995b) did a spatial analysis of the existing and potential use values of natural resources in parts of Namibia. This was an exercise aimed at measuring the current potential values of natural resources being enclosed within community-based natural resource management (CBNRM) initiatives. The approach was used as planning tool in land use and CBNRM planning.

In this study, land was subjectively mapped into zones or units of relatively homogeneous potential for natural resource use. A team of people knowledge about the area was used in a Delphi approach to get consensus on the zones. Within each of the zones, the current resource use activities were documented and the potential for development within the existing policy and land use framework was also documented. Again, the potential was subjectively determined, and checked using a Delphi approach.

Detailed spreadsheet budget and cost-benefit models on different resource use activities, based mostly on empirical data, were used to allocate certain values to the physical data on activities for each zone. The picture that emerges is spatially allocated set of data showing the resource base in terms of its potential to generate value.

Table 17 shows some results for tourism activities in one of the zones. The models allow extraction of data compatible with TSA and relevant to tourism planning, such as gross output, gross value added, employment, and capital formation. The approach could thus be used to create general spatial physical and monetary stock accounts for the asset base for nature-based tourism. But, along with the development of specific asset base accounts this will require more investment in economic person-power, and specific allocation of this toward land valuation work.

**Table 17: Example of current and potential values, attributable to tourism, in an 850 km<sup>2</sup> land capability zone (Zone 5a, Caprivi region, Namibia, 1994), after Barnes (1995a, 1995b)**

Activity	No. units	Examples of estimated values (N\$)		
		Net value added	Community income	Community wages
<b>Current values</b>				
Wildlife viewing lodge	1	220500	81000	81000
Wildlife viewing tented camp	1	140300	32400	32400
Campsite (developed)	0	0	0	0
Campsite (basic)	0	0	0	0
Rest camp	0	0	0	0
Safari hunting lodge	0.62	240560	31000	27280
Fishing lodge	0	0	0	0
Crafts sales	40	20860	29800	0
Traditional villages	1	20000	24000	10000
Guiding activities	0	0	0	0
<b>Total current tourism values</b>	-	642220	198200	150680
<b>Potential values</b>				
Wildlife viewing lodge	1	220500	81000	81000
Wildlife viewing tented camp	1	140300	32400	32400
Campsite (developed)	1	12700	12400	5400
Campsite (basic)	1	3700	4000	1800
Rest camp	0	0	0	0
Safari hunting lodge	0.56	216890	27950	24590
Fishing lodge	0	0	0	0
Crafts sales	105	59200	86380	0
Traditional villages	1	20000	24000	10000
Guiding activities	6	3150	4500	0
<b>Total potential tourism values</b>	-	676440	272630	155190

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#### **4.4.3 Environmental indicators**

Dixon *et al.* (2000) describe the links between tourism and the environment in the Caribbean. The causes and effects of environmental problems for tourism both caused by tourism, and caused by other sectors in the economy are described. The incentives to invest in the asset base for tourism and environmental care, differ depending on the link between source and effect of the problem. These issues are all relevant in the southern African environment. The problems associated with tourism in the southern African coastal environment, in particular, are similar to those in the Caribbean. Elsewhere, where wildlife stocks and wild lands are important, the threats to the asset base are primarily due to competition for land, or excessive use of the resource by tourism and others.

The development of tourism resource accounts (TRA) will make it possible to define the indicators of the health of the asset base. The policy issues that surround incentives for investing in and preserving the health of the base will be clearer. Issues such as certification of tourism products, and modification of property rights, and institutional structures to ensure incentives for asset preservation and capture of rents from tourism will be clear. This will enable development of policy environments, which strengthen rather than threaten the tourism environment.



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# Chapter 5

## Conclusions and recommendations

### 5.1 Conclusions

1. In all three countries studied, TSA are needed to improve planning in the tourism sector. No full TSA are available in the three countries studied. The constraint has been *lack of sufficient data* and the few attempts to develop TSA have had to rely on major assumptions. However all countries intend to develop basic TSA and are at various stages in the process of developing statistical bases for this. Botswana has funded surveys in place. South Africa has a government-funded project planned. Namibia is planning surveys and seeking funding.
2. The case study for Namibia found that a demand-side approach provided the most complete measure of gross tourism output. However, in TSA development both demand and supply data is needed. Development of a basic tourism *supply and use* table should be a target. Surveys are needed of tourists and producers for more empirical data. Demand (expenditure) data differentiating between exports and imports, domestic and foreign, and nature-based and *other* as well as between different tourism products are needed. Inventories of producers are needed with survey information on output, intermediate inputs, employment, capital formation/consumption, and taxes. Improved collection of tourism immigration data by immigration authorities is needed.
3. *Basic* TSA are required *not* very detailed ones. Technical and human resources are scarce, and the capacity to make, and to make use of, very detailed accounts is limited. All three countries have not yet fully developed their national accounts (SNA93) which form the basis for TSA. They should continue to pursue this. For each of the countries studied there is an optimal level of development for their TSA. Among the three countries, South Africa, with a relatively very large and multi-dimensional tourism industry, requires the most sophisticated TSA. Basic consumption, production, supply and use, employment and capital accounts are needed. In Namibia and Botswana relatively basic TSA including these elements will suffice. The process of TSA development should be a step by step one.
4. The completion of *specific surveys* is needed in all three countries. Agreements are needed between stakeholders (tourism agencies, statistical agencies, immigration authorities, environmental agencies and others) to ensure a consistent and structured framework for data collection. As far as is practical data collection should comply with WTO recommended procedures. Surveys should be focused on the suppliers of

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tourism commodities, and the consumers (tourists) themselves, including domestic tourists. Additional work can supplement this with modelling of tourism enterprises to corroborate the statistical findings. Generally the best setting for these surveys is within the statistical units of the specific central or local tourism agencies/authorities. These units should also aim to take over the production and maintenance of the TSA, in collaboration with the central bureau of statistics. However, depending on capacity and leadership, specific circumstances may dictate otherwise.

5. In all three countries studied, tourism natural asset base accounts (TRA) are needed to improve planning in the tourism sector. Measurement of the tourism natural asset base should be approached from the point of view of *specific physical accounts*, and more general accounts taking the form of *maps of tourism potential* and the resultant tourism values. These TRA are important and even basic ones will be very useful to help ensure efficiency and sustainability in tourism. They should, as far as possible, conform to the UN natural resource accounting framework for land and other resource accounts. Both national and regional accounts could be developed. Environmental indicators need to be developed for the tourism base. The development of TRA would be best co-ordinated from within environmental/nature conservation/land use planning agencies, working closely with the producers of tourism satellite accounts.

## 5.2 The way forward

The study has provided the answer to the question of whether southern African countries need to invest in the development of tools for planning tourism, such as TSA, input-output/SAM models, and TRA. The answer is *yes*. South Africa, Botswana and Namibia should invest in at least basic TSA, input-output methodology and basic tourism land and resource accounts. In all cases the decisions regarding investment in these tools should rest on whether they will make tourism more economically efficient and sustainable.

The second question answered surrounds the level of detail to which TSA and TRA should be developed in southern Africa. This revolves around the degree of accuracy required in surveys, the degree of disaggregation and detail in the accounts, whether accounting needs to be annual or only periodic, and whether less crucial accounting tables are needed or not. In all cases the answer should be based on the planning requirements of the country and sector, as well as the capacity available in the country to make and develop accounts.

A third question arose as to what surveys and studies are needed to develop the basic accounts. The answer, in South Africa, Namibia and Botswana, is that *expenditure surveys* will be needed, of visitors and domestic tourists at national border entry/departure points, as well as at destinations in the country. *Producer surveys* will also be needed, at least for accommodation, food/beverage and transport products, with the aim of obtaining values for output, value added, capital, employment, and tourism

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ratios. For TRA accounts at least basic specific land and asset studies to document tourism potential will be needed.

The fourth question answered is about who should develop these tools, who should use them, and where should they be housed. Ideally, TSA should be developed and maintained either by the national tourism agencies, or by the central statistical agencies. Less preferable is for them to be made by environmental agencies or regional tourism/statistical agencies. Their use will tend to be in the tourism and economic planning agencies. In the case of natural asset base accounts (TRA), the most appropriate makers and users will be environmental and/or land use planning agencies, which are multi-disciplinary, and control investment in the tourism base. In all cases regarding this question, flexibility is essential to ensure that effective use of available leadership and capacity is made.

The fifth question concerns who should pay for the development of TSA, input-output/SAM models and TRA. The answer is that both donors and governments should pay. Donors have a role in (supporting government in) funding initial or periodic surveys and project/program development. Ongoing, institutionalised surveys and analysis should be within the country's means and should be funded, at least primarily, by government.

## **5.3 Recommendations**

1. It is recommended that South Africa, Namibia and Botswana all go ahead with their current and emerging plans to develop TSA, TRA and economic models for tourism planning.
2. Countries should ensure that the rigour and degree of detail in their TSA and TRA match with their anticipated technical and human capacity to make and use the tools for planning and analysis.
3. The TSA NRA and other planning tools for tourism should be housed where there is the leadership and skills to make and use the tools, but this needs to be flexible in case conditions change.
4. We recommend that a regional project be developed, to be funded by a willing donor, to assist southern African countries, particularly South Africa, Namibia and Botswana, develop TSA, TRA, and economic tourism planning models. This could form part of a Phase 3 of the NRASA project. The project would provide specific technical assistance and training with the aim of developing both national and regional tourism planning tools.

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# **Appendices**

**Appendix A: Structure for a full ten-table set of tourism satellite accounts (TSA)**

**Appendix B: Preliminary tourism satellite accounts (TSA) for Namibia**