

# **Chapter 23**

## **Pilanesberg – Madikwe Corridor**

### **Subject Area**

## 23.1 Pilanesberg – Madikwe Corridor Project/Program Package

### 23.1.1 List of Priority Projects & Programs

The priority projects and programs that comprise the Pilanesberg – Madikwe Corridor Package are summarised in Table 23.1.1. The location of these projects is shown in Figure 23.1.1.

Table 23.1.1 List of Priority Projects & Programs

<b>A</b>	<b>Product, Facilities and Infrastructure</b>
A-1	Overall Programming for Development and Conservation for entire Heritage Park
A-2	Construction of broad infrastructure for Heritage Park
A-3	Development in Molatedi Dam area
A-4	Pilanesberg Game Reserve expansion
	A-4-1 Development of Midmarket Resort
	A-4-2 Development of Youth Tourism Cultural Exchange Centre
A-5	Road Transport Upgrading
	A-5-1 Improvement of road from Batlhalewa to Derdepoort
	A-5-2 Development of road signage in and around Heritage Park
A-6	Water Supply Development
<b>B</b>	<b>Marketing and Promotion</b>
B-1	Marketing & promotion of potential product and total subject area
B-2	Active promotion of MICE tourism product
<b>C</b>	<b>Human Resource Development</b>
C-1	Develop & Implement Tourism Entrepreneurial Training Program for local community
C-2	Tour Guiding and Interpretation Training Program
<b>D</b>	<b>Institutional Development</b>
D-1	Establish Heritage Park Project Implementation Unit (PIU)
D-2	Determine management, operation and maintenance scheme for Heritage Park
D-3	Establish Regional and Local Tourism Organizations (RTO and LTO)
D-4	Establish strong links between LTO/RTO and Provincial Tourism Marketing Agency

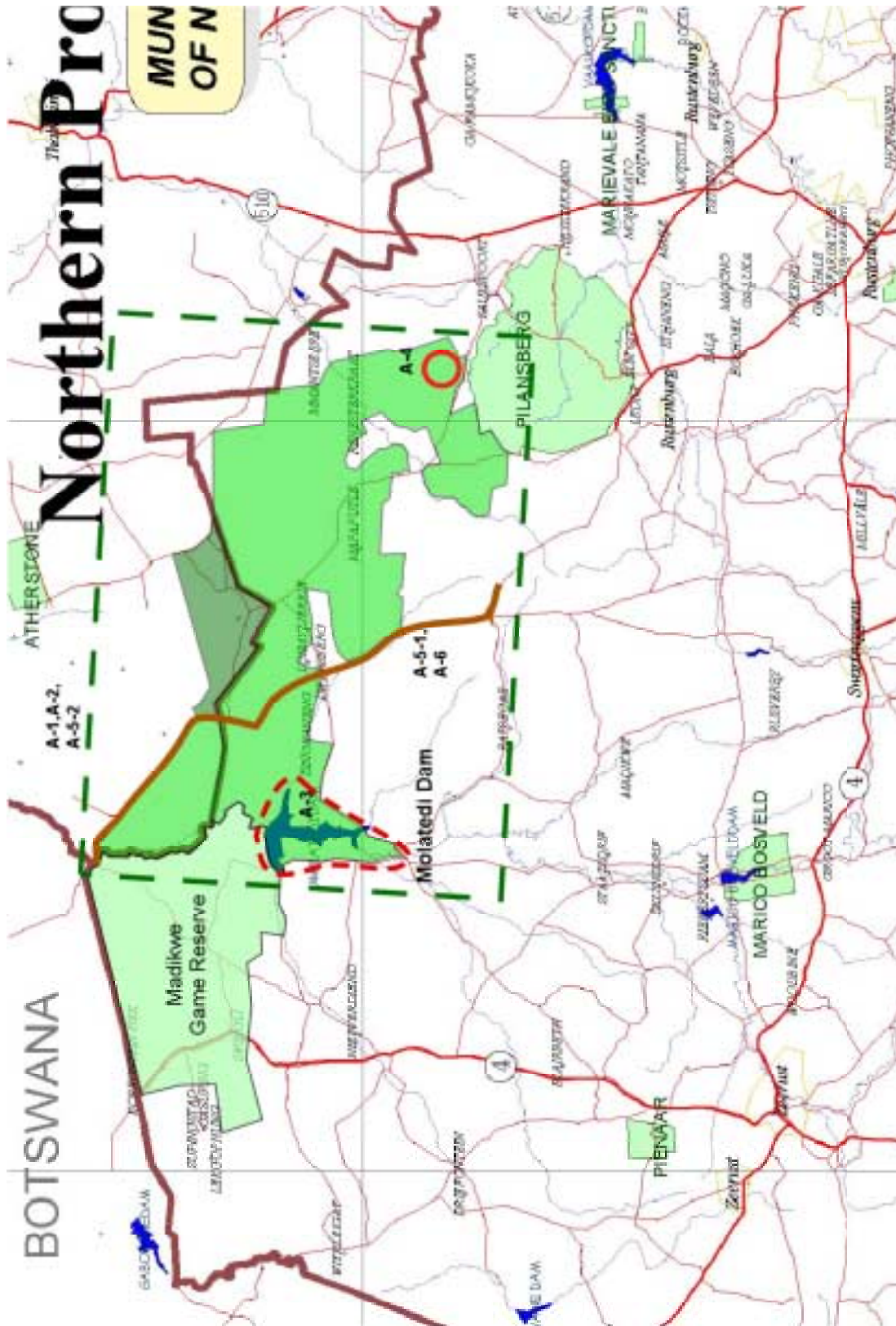
Source: JICA Study Team

### 23.1.2 Project Sheets

The project sheets that follow provide details of each project/program in terms of its justification, objectives, general description, and components. The anticipated implementing agency is identified and a cost estimate with time period for implementation is also provided.

Schematic drawings are also included to provide a visual impression of the proposed products and facilities.

Figure 23.1.1 Location of Priority Projects (Pilanesberg – Madikwe)



**Project Sheet – Pilanesberg – Madikwe Corridor Subject Area**

<p><b>Project Title:</b> A-1 Overall Programming for Development &amp; Conservation of entire Heritage Park</p>	
<p><b>Justification:</b>                  The proposal is to develop an area lying between Pilanesberg and Madikwe into a large tourism destination like KNP and for it to be known as the “Heritage Park”. Molatedi Dam Area Development (A-3) and Pilanesberg Game Reserve Expansion (A-4) are the main components of this proposal. This area is vast and has much space for tourism development. Moreover, many towns and villages exist in and around this area. As any future disordered development of this area will inevitably impact the natural and social environment, it is important to make an appropriate plan and program for development. Such programming will avoid potential confusion and conflicts of interest thus achieving the smooth and successful development of tourism.</p>	
<p><b>Project Objectives:</b></p> <ul style="list-style-type: none"> <li>• To protect the natural and social environment in and around this area</li> <li>• To achieve smooth and successful development of tourism</li> <li>• To attract investors and visitors to this area</li> </ul>	
<p><b>General Description:</b>                  In order to understand the existing natural and social condition in and around the proposed Heritage Park area, studies and surveys are required. Data and information collected from such study and survey are essential for making a Land Use Plan of the entire Heritage Park. The Land Use Plan for the Heritage Park will also be based on future tourism development demand. Land use consists of development area by type, a development reserve area, and a conservation area. The policy for development and conservation will also be established at this stage. The zoning of the Pilanesberg – Madikwe Corridor is as below:</p>	
<p>The map illustrates the Pilanesberg - Madikwe Corridor, a large area outlined by a dashed line. It is divided into several distinct zones: a green Madikwe Game Reserve on the left; a blue Molatedi Dam Development Zone; a pink Wildlife Breeding Zone; a large light green Heritage Park Zone in the center; a red Upmarket Resort Zone; a red Midmarket Resort &amp; Youth Cultural Exchange Zone; and a green Pilanesberg National Park on the right. The corridor is labeled at the bottom.</p>	
<p><b>Project Components:</b></p> <ul style="list-style-type: none"> <li>• Study and survey of present and existing condition in and around Heritage Park</li> <li>• Planning of land use of entire Heritage Park for development and conservation</li> <li>• Policy making for development and conservation</li> </ul>	
<p><b>Project Implementing Agency:</b>                  The Provincial Government is anticipated to be the implementation agency of this project.</p>	
<p><b>Project Cost Estimate:</b>                  R 1,500,000</p>	<p><b>Implementation Schedule:</b>                  1 year from 2002</p>

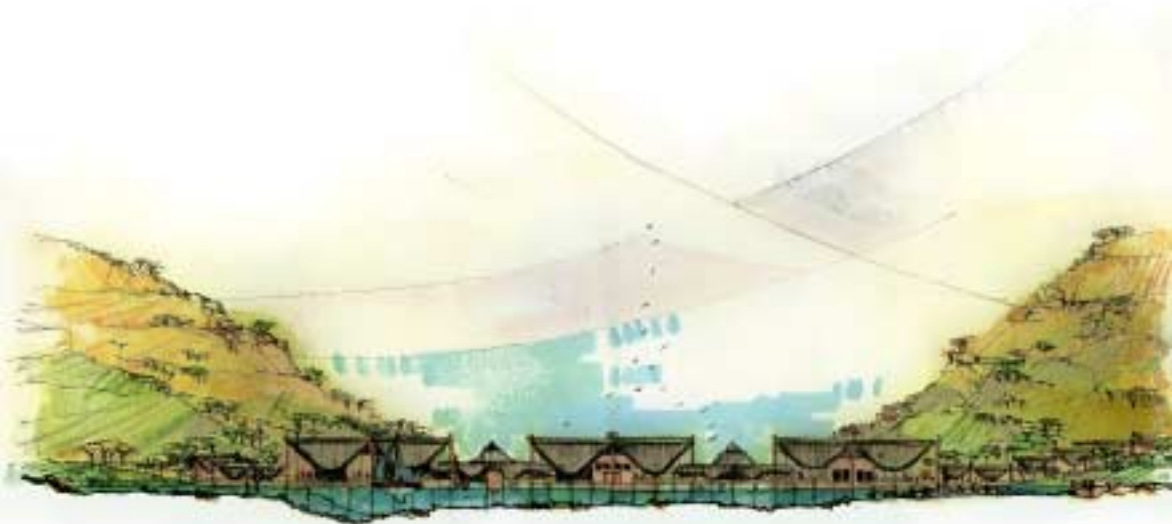
**Project Sheet – Pilanesberg – Madikwe Corridor Subject Area**

<b>Project Title:</b> A-2 Construction of Broad Infrastructure for Heritage Park	
<b>Justification:</b> The area planned for the Heritage Park is very large. Though several tourism attractions are planned, game viewing will be the dominant attraction. Many different animals will be imported to this Park for game viewing including the “Big Five”, which are most popular among tourists. Visitors will self-drive cars or utilize sightseeing vehicles to view animals and plants within the Park. Construction of inner road routes should be planned to protect fauna and flora within the Heritage Park and to ensure the safety of tourists. Fencing is also very important not only to clearly demarcate the boundary of the development property, but also to confine the animals and prevent them from escaping and damaging property outside the Park area.	
<b>Project Objectives:</b> <ul style="list-style-type: none"> <li>• To protect fauna and flora within the Heritage Park</li> <li>• To ensure the safety of tourists</li> <li>• To clearly demarcate the boundary of the property</li> <li>• To confine the animals within the Park thus protecting the surrounding area</li> </ul>	
<b>General Description:</b> It will take a long time to develop the Heritage Park due to vast area and phased construction. Construction of the inner roads and fencing will be undertaken according development phases. The route for inner roads will be selected by considering the natural environment of the Park (terrain, fauna, flora etc) and ease of driving and viewing “Game”. Inner roads will be constructed with a 9m total width with 7m roadway and tar paving. The total length of the inner roads is estimated at 100km. Fencing will be constructed not only along the boundary of the entire Park, but also the boundary of each development phase area. Fencing removed after each phase will be re-used and ultimately used for the entire Park boundary. The fence will be 2m high and electrified, and its total length will be about 350km.	
<b>Project Components:</b> <ul style="list-style-type: none"> <li>• Construction of inner road</li> <li>• Construction of fence</li> </ul>	
<b>Project Implementing Agency:</b> It is anticipated that Heritage Park PIU will implement this project.	
<b>Project Cost Estimate:</b> R 95,160,000	<b>Implementation Schedule:</b> 4 years (one year for study and 3 years for construction) from 2003 to 2006

**Project Sheet – Pilanesberg – Madikwe Corridor Subject Area**

<p><b>Project Title: A-3 Development in the Molatedi Dam area</b></p>	
<p><b>Justification</b></p> <p>In order to achieve the Heritage Park Concept objectives i.e. stretching beyond the current Pilanesberg and Madikwe into one totally integrated Heritage Park, it is necessary to create a variety of quality attractions and destinations within the interlinking area. Gaps have been identified for mid-market tourist facilities in the Madikwe area (which currently only caters for the luxury and up-market markets). There is potential to spread the markets by providing day visitor facilities, which will satisfy day visitor demand from the Gaborone market.</p>	
<p><b>Project Objectives</b></p> <ul style="list-style-type: none"> <li>• To create new facilities and destinations which will expand the current Madikwe reserve area into the greater Heritage Park area.</li> <li>• To satisfy identified gaps in the market i.e. mid-market and day visitor facilities.</li> <li>• To generate tourist flows that will give rise to tourism jobs and entrepreneurial opportunities in an area that greatly needs economic stimulation.</li> </ul>	
<p><b>General Description</b></p> <p>Development of mid-market tourist facilities with a water-based theme. The facilities should cater for the day as well as overnight markets and be targeted at the family or group markets. New facilities should be provided as well as the upgrading of the existing lodge at Molatedi Dam. The existing lodge could be incorporated into a new and larger facility/resort, and could either become an extension to a new resort or remain as a separate facility. The facilities should make full use of the water activity potential.</p> <p>It is also suggested that in order for the potential resort facilities to be a stronger attraction, the Madikwe Reserve be expanded to the western boundary of the Molatedi Dam and that guided game drives be offered to resort guests.</p>	<p><u>Location of Day Visitor Facilities and Upgrading of Lodges:</u></p> <p>The map illustrates the Molatedi Dam area within the Madikwe Game Reserve and Heritage Park. The dam is shown as a light blue body of water. Three pink ovals represent 'Day Visitor Area' locations: one on the northern shore, one on the eastern shore, and one on the western shore. A red oval on the eastern shore represents the 'Lodge Area'. The dam is surrounded by a green buffer zone. Orange lines indicate roads, including 'Dam Circuit Road' and a road labeled 'U.S. ROAD'. The 'Madikwe Game Reserve' is labeled to the north and west, and 'Heritage Park' is labeled to the east and south.</p>
<p><u>High Potential Site(s):</u></p> <p>Based on the water levels of the dam (which can differ significantly depending on rainfall) as well as connection to roads, existing infrastructure, and the location of potential human resources, the recommended sites are:</p> <ul style="list-style-type: none"> <li>• The north western bank of the dam, near the dam wall;</li> <li>• The north eastern bank of the dam, near the dam wall;</li> <li>• Adjacent to the existing lodge – north eastern bank of the dam</li> </ul>	
<p><b>Project Components</b></p> <ul style="list-style-type: none"> <li>• Upgrade existing lodge</li> </ul>	

<b>Project Title: A-3 Development in the Molatedi Dam area</b>	
<ul style="list-style-type: none"> <li>• Develop day visitor facilities, i.e.:             <ul style="list-style-type: none"> <li>- picnic areas</li> <li>- access to or sharing of water-based facilities to be developed for resort</li> <li>- access to or sharing of recreation facilities to be developed for resort</li> </ul> </li> <li>• Develop a mid-market family and water-based resort, which will include, inter alia:             <ul style="list-style-type: none"> <li>- Self-catering chalets - ±50 chalets of varying sizes</li> <li>- Electrified camp sites</li> </ul> </li> <li>• Recreational facilities such as water based facilities and activities on and adjacent to the dam, boat launching, swimming pools, children’s playgrounds, sports facilities             <ul style="list-style-type: none"> <li>- Games rooms</li> <li>- Recreational hall, convenience shopping outlet &amp; petrol station</li> <li>- Restaurant &amp; bar facility</li> </ul> </li> <li>• Expansion of the Madikwe Game Reserve to the western boundary of the Dam.</li> </ul>	
<b>Project Implementing Agency</b>	
<ul style="list-style-type: none"> <li>• Expansion of the Madikwe Reserve:             <ul style="list-style-type: none"> <li>- Combination of Heritage Park PIU &amp; North West Parks</li> </ul> </li> <li>• Project facilitation of tourist facilities:             <ul style="list-style-type: none"> <li>- Heritage Park PIU</li> </ul> </li> <li>• Development and operation of tourist facilities:             <ul style="list-style-type: none"> <li>- Private sector investors</li> </ul> </li> </ul>	
<b>Project Cost Estimate</b> Development of day visitor facilities: R 10,688,000 Upgrading of Lodge: R 736,000 Total Project Cost: R 11,424,000	<b>Implementation Schedule:</b> <u>Development of day visitor facilities:</u> 2.5 years (one year for planning and designing and 1.5 years for construction) from middle of 2002 to 2004 <u>Upgrading of Lodge</u> 1.5 years from 2002 to middle of 2003



PERSPECTIVE VIEW  
MOLATEDI DAM





PERSPECTIVE VIEW OF CHALETS  
MOLATEDI DAM

**Project Sheet– Pilanesberg – Madikwe Corridor Subject Area**

<b>Project Title</b>	<b>A-4 Pilanesberg Game Reserve expansion</b>
	A-4-1 Development of Midmarket Resort
	A-4-2 Development of Youth Tourism Cultural Exchange Centre
<b>Justification</b>	
<p>In order to achieve the Heritage Park Concept objectives i.e. stretching beyond the current Pilanesberg and Madikwe into one totally integrated Heritage Park, it is necessary to create a variety of quality attractions and destinations within the inter-linking areas.</p> <p>The current Pilanesberg Reserve, in particular, is under tremendous strain to attain high visitor experience satisfaction given the large number of attracted visitors. The largest number of tourist facilities and correspondingly highest tourist flows within the greater Heritage Park area will remain concentrated at the Pilanesberg node. This is due to the strong tourism drawcards/icons of Pilanesberg and Sun City. It is one of the premises of the development concept for this area that these draw cards should be promoted as much as possible to foster further tourism development. However, the current product is primarily targeted at the luxury and up-market market segments, and gaps have been identified for mid-market products.</p> <p>In order to satisfy existing markets, attract new markets (to fill identified gaps) and utilize the drawing potential of the existing icons, the next logical step is the further expansion of the current Pilanesberg Reserve.</p>	
<b>Project Objectives</b>	
<ul style="list-style-type: none"> <li>• To create new facilities and destinations which will expand the current Pilanesberg Reserve area into the greater Heritage Park area, while building on the strength of the current Reserve.</li> <li>• To satisfy identified gaps in the market and facilities i.e. mid-market facilities, which will broaden the area's market appeal.</li> <li>• To develop facilities that will help establish and strengthen the clear-cut image suggested for the area, i.e. "the leisure, entertainment and wildlife hub on the tourists' doorstep".</li> <li>• To develop facilities that will generate increasing tourist numbers from East Asian countries.</li> </ul>	
<b>General Description</b>	
<p>The expansion of the Pilanesberg Reserve towards the north-west is already planned and the provision of facilities in this first expansion is far advanced. So far this includes expansion of the luxury and upmarket lodging market.</p> <p>This project takes into account the existing expansion plan while providing recommendations for further expansion facilities. The project includes two main components:</p> <p><u>The development of a Mid-market Resort:</u></p> <p>The mid-market resort product is currently totally lacking in Pilanesberg and it is considered that the domestic market in particular would be attracted to such a resort in a wildlife setting while still offering the recreational/entertainment possibilities close by. This resort should have a family orientation and some facilities at the resort could also be utilized by day visitors.</p> <p><u>The development of a Youth Cultural Exchange Centre:</u></p> <p>This facility will facilitate an exchange of youths from across the world, including East Asia, and promote cultural exchange with South Africa as well as within South Africa. A similar program is already being established in the province and this facility will thus extend the existing program. The term "youth" is fairly broad and would extend into the early 20s age group.</p> <p>It is envisaged that the facility could be used for the youth exchange program as well as the domestic market and given the strong synergies in support facilities required, it is strongly recommended that this facility be combined with the mid-market family orientated resort recommended near Pilanesberg.</p> <p><u>High Potential Site(s):</u></p> <p>Given the strong connection suggested for this area between wildlife, entertainment and</p>	

<b>Project Title</b> <b>A-4</b> <b>Pilanesberg Game Reserve expansion</b> A-4-1    Development of Midmarket Resort A-4-2    Development of Youth Tourism Cultural Exchange Centre	
<p>leisure and the connection with existing draw cards, a location within the first extension of Pilanesberg Reserve is recommended. Given the already planned expansion developments to the north west of the existing Pilanesberg Reserve (which are to be targeted at a different market level i.e. luxury and upmarket), it is recommended that the proposed facilities be located in the first expansion area but towards the north-east. This location will still allow for connection or the perception of an easy connection to the existing entertainment and wildlife product.</p>	
<b>Project Components</b>	
<u>Mid-market Resort Specific:</u> <ul style="list-style-type: none"> <li>- Self-catering chalets – ±60; varying sizes</li> <li>- Camp sites</li> </ul>	
<u>Youth Cultural Exchange Centre Specific:</u> <ul style="list-style-type: none"> <li>- Dormitory accommodation, but with rooms accommodating 4 to 6 beds per rooms rather than large dormitory floors – 100 beds; 25 bedrooms</li> <li>- Cultural/Heritage interpretation centre/area</li> <li>- Meeting/lecture facilities (seminar rooms)</li> </ul>	
<u>Shared Facilities:</u> <ul style="list-style-type: none"> <li>- 1 Mid-market Restaurant</li> <li>- Fast food kiosk (attached to Restaurant)</li> <li>- Convenience shopping outlet</li> <li>- Swimming pools</li> <li>- Sport fields/facilities</li> </ul>	
<b>Project Implementing Agency</b> <ul style="list-style-type: none"> <li>• The expansion of the Pilanesberg Reserve:           <ul style="list-style-type: none"> <li>- Combination of Heritage Park PIU &amp; North West Parks</li> </ul> </li> <li>• Project facilitation of tourist facilities:           <ul style="list-style-type: none"> <li>- Heritage Park PIU</li> </ul> </li> <li>• Development and operation of tourist facilities:           <ul style="list-style-type: none"> <li>- Private sector investors</li> </ul> </li> </ul>	
<b>Project Cost Estimate</b> R 31,019,000	<b>Implementation Schedule:</b> 4 years (1.5 years for study and 2.5 years for construction) from 2003 to 2006



**PERSPECTIVE VIEW  
MADIKWE MIDMARKET RESORT  
AND EXCHANGE CENTRE**



PERSPECTIVE VIEW OF CHALET  
MIDMARKET RESORT AND EXCHANGE CENTRE



PERSPECTIVE VIEW OF CHALET  
MIDMARKET RESORT AND EXCHANGE CENTRE

**Project Sheet– Pilanesberg – Madikwe Corridor Subject Area**

<b>Project Title:</b> A-5 Road and Transport Upgrading	
<b>Justification:</b> Pilanesberg National Park and Madikwe Game Reserve have been well developed as up-market destinations and are presently very popular. The area lying between these two major tourist destinations will be developed for the mid-market to make the best use of these two major tourism products. However, there are no well-developed roads in this area and most are dirt roads. During the rainy season, these roads are muddy and slippery, and little road signage exists in and around the subject area. There are few transport services served by the public or private sector not only in, but also around, the development area. This situation is very inconvenient especially for people who do not have a car (i.e. mainly the mid and low markets). The road proposed for upgrading connects the two major tourist destinations and runs through the planned tourism development area. Paving this road will improve comfort and accessibility to the area, and will thus be attractive to tourists. Development of road signage in and around the targeted development area will also help tourists reach their destination easily.	
<b>Project Objectives:</b>	
<ul style="list-style-type: none"> <li>• To integrate two major tourist spots by developing the area between them</li> <li>• To make this integrated area attractive to tourists</li> <li>• To facilitate easy accessibility to this area</li> </ul>	
<b>General Description:</b>	
<p>The road to be upgraded connects Batlhalerwa, located west of Pilanesberg National Park, and Derdepoort located on the northern edge of Madikwe Game Reserve. It runs from east to west near and through the Heritage Park area. This road will be tar paved and surveys will be conducted for one year. The length and width of the road upgrade are about 100km and 10m (pavement) respectively.</p> <p>Signage along roads in and around the Heritage Park will be implemented at intervals of 2km and the total number of signs will be about 100.</p>	
<b>Project Components:</b>	
<ul style="list-style-type: none"> <li>• Improvement of road from Batlhalerwa to Derdepoort</li> <li>• Development of road signage in and around Heritage Park</li> </ul>	
<b>Project Implementing Agency:</b>	
<p>It is anticipated that the following agencies will implement each project.</p> <ul style="list-style-type: none"> <li>• Province and Regional Council for “Improvement of road from Batlhalerwa to Derdepoort” project</li> <li>• Regional Council for “Development of road signage in and around Heritage Park” project</li> </ul>	
<b>Project Cost Estimate:</b>	<b>Implementation Schedule:</b>
Improvement of road from Batlhalerwa to Derdepoort R 146,400,000	Improvement of road from Batlhalerwa to Derdepoort: 3 years (1 year study/design and 2 years construction) from 2002 to 2004:
Development of road signage in and around Heritage Park R 230,000	5 years (1 year study/design and 4 years construction) from 2002 to 2006
Total project cost: R 146,630,000	Development of road signage in and around Heritage Park: 2 years (1 year study/survey and 1 year setting) from 2002 to 2003: 1 year for study/survey at 2003

**Project Sheet – Pilanesberg – Madikwe Corridor Subject Area**

<b>Project Title:</b> A-6 Water Supply Development	
<b>Justification:</b> Drinking water for people living in the towns and villages around PNP is distributed from Vaalkop Dam by pipeline after purification. Molatedi, which is located between PNP and MGR (but closer to MGR), is the only town that receives treated drinking water from the Molatedi Dam. Towns and villages located between PNP and Molatedi obtain drinking water from wells. However, groundwater supply is unreliable in certain parts and is often insufficient, low in quality or has low water pressure. Expansion and connection of the two pipelines will secure water supply not only to the tourism development area, but also to the region as a whole.	
<b>Project Objectives:</b> <ul style="list-style-type: none"> <li>• To accelerate tourism and industrial developments in the area</li> <li>• To improve living conditions of people living in towns/villages near the subject area, and</li> <li>• To secure a sufficient and constant drinking water supply in the area</li> </ul>	
<b>General Description:</b> Studies and surveys will be conducted for the construction of the water pipe to understand the present water supply and demand condition in this area as well as the existing ground condition. Based on this result, the size and type of water pipe will be decided. The length of the water pipe to connect the two towns that receive treated drinking water is about 70km. The pipeline will be constructed under the road that will be upgraded for tourism development (A-5-1).	
<b>Project Components:</b> <ul style="list-style-type: none"> <li>• Planning and designing of water supply</li> <li>• Construction of water pipe</li> </ul>	
<b>Project Implementing Agency:</b> It is anticipated that the following agencies will implement each project. <ul style="list-style-type: none"> <li>• Provincial government for “Study of water supply” project</li> <li>• Provincial government and regional council for “Construction of water pipe” project</li> </ul>	
<b>Project Cost Estimate:</b> Planning and designing of water supply R 12,250,000 Construction of water pipe R 201,250,000 Total project cost is as follow. R 213,500,000	<b>Implementation Schedule:</b> Planning and designing of water supply: 1 year for planning and designing at 2003 Construction of water pipe: 3 years for construction from 2004 to 2006

**Project Sheet – Pilanesberg – Madikwe Corridor Subject Area**

<b>Program Title:</b> B-1 Marketing and Promotion of Subject Area	
<b>Justification:</b> In order to achieve the tourism demand and development potential inherent in the Pilanesberg-Madikwe focus area, continuous, comprehensive and effective destination marketing and promotion of the focus area and the product within the focus area is required.	
<b>Program Objectives:</b> <ul style="list-style-type: none"> <li>• Develop marketing and promotion messages and materials for the Subject Area which:</li> <li>• Successfully promotes the area as a tourist destination, ie creates awareness in the identified market segments of the destination and the range of products on offer in the area</li> <li>• Establishes the selected clear-cut image</li> <li>• Differentiates the area from major competitive destinations</li> <li>• Results in the achievement of the maximum potential increase in tourist demand projected for the area</li> </ul>	
<b>General Description/ Components:</b> This program comprises a Marketing and Promotion Plan for the marketing/promotion of the focus area as a tourist destination. The Marketing and Promotion plan comprises the following components: <ul style="list-style-type: none"> <li>• Branding &amp; Positioning Direction: Covers both generic branding (i.e. positioning of the total area) as well as sub-branding (ie positioning of product segments within the area). Provides some idea or direction of the icons/slogans/phrases that depict the brand essence or brand value of the area or the product segment within the area.</li> <li>• Promotion &amp; Communication Plan: Specifies the promotion and communication mix (ie the range of promotion and communication activities to be undertaken and the tools to be utilised in reaching identified target markets) by product segment.</li> <li>• Marketing Organisation: Specifies the best structure for the promotional agency (referred to as a Destination Marketing Organisation or DMO) for the focus area, including where this structure is to be housed, and the resources required by the DMO, including financial budget.</li> </ul>	
<b>Program Implementing Agency:</b> The marketing of the areas should be handled by a body with adequate funds and significant private sector input. The JICA Study Team suggests that a new entity (a DMO) be established for the Pilanesberg-Madikwe area. This DMO should be the equivalent of a regional tourism organisation, with local community organisations such as Pilanesberg Information & Community Development Centre, Sun City Information Centre, Mankwe Development Foundation and Molatedi Tourism Association falling under it and with it taking leadership from the North West Parks & Tourism Board.	
<b>Program Cost Estimate:</b> R 700,000 pa	<b>Implementation Schedule:</b> Commence 2003 and ongoing.



**Project Sheet – Pilanesberg – Madikwe Corridor Subject Area**

**Program Title:** C-1 Develop & Implement Tourism Entrepreneurial Training Program for local community

**Justification:**

The total Heritage Park development will create opportunities for indirect tourism jobs in conservation and development (e.g. fencing, bush clearing, road building, etc) and these will require training of communities to take up jobs as well as entrepreneurial opportunities. It is envisaged that many entrepreneurial opportunities should present as the new park develops, and business training will be needed to assist community members to take up these opportunities. Also, we believe that there are many existing opportunities to provide tourism services and/or products and services to existing tourism product operators, in the Pilanesberg-Madikwe Corridor, due to the large size of the established tourism industry in the area.

**Program Objectives:**

- To teach prospective and existing SMME entrepreneurs:
- To understand the tourism industry
- To understand customer service
- General business management skills
- How to identify tourism business opportunities
- How to negotiate/approach the established traditional tourism sector to sell and supply goods and services
- To provide an ongoing tourism business advisory service to assist new and existing tourism SMME entrepreneurs, including assistance with identifying opportunities and negotiating with established players.

**General Description/ Components:**

This program comprises the following components:

- Identification of existing similar training programs.

Specification of:

- The potential structures for the training program:
  - who should develop, manage and provide the training
  - what training should be provided
  - how should the training be provided
  - The numbers to be trained
  - The resources required for the training program, including financial budget

**Program Implementing Agency:**

North West Parks and Tourism Board

**Program Cost Estimate**

R 350,000 to R 850,000 pa

**Implementation Schedule**

Commence 2003 and ongoing.

**Project Sheet – Pilanesberg – Madikwe Corridor Subject Area**

<b>Program Title:</b> C-2 Tour Guiding and Interpretation Training Program	
<b>Justification:</b> The successful development of the focus area as a tourist destination will not only depend on the development of the tangible tourism product, such as resorts, attractions, etc, but also on the development of intangible product, such as the oral interpretation at tourist sites and tour guiding in the area. A high standard intangible tourist experience requires knowledgeable and trained persons in the skills of tour guiding and interpretation.	
<b>Program Objectives:</b> To train guides, according to the Provincial Guide Accreditation System, to provide tour guiding of the heritage and wildlife attractions in the area. The guides will have the basic general guiding skills and SA tourism knowledge, and the speciality knowledge related to the heritage and wildlife attractions in the area. They should also learn the importance of good interpretation for visitors and particularly foreign visitors. In addition some languages (English and foreign) will form part of the tour guiding and interpretation training programs.	
<b>Program Description/ Components:</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program: <ul style="list-style-type: none"> <li>- who should develop, manage and provide the training</li> <li>- what training should be provided</li> <li>- how should the training be provided</li> <li>- The numbers to be trained</li> <li>- The resources required for the training program, including financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b> North West Parks and Tourism Board	
<b>Program Cost Estimate:</b> R 160,000 to R 200,000 pa	<b>Implementation Schedule:</b> Commence 2003 and ongoing.

**Project Sheet – Pilanesberg – Madikwe Corridor Subject Area**

<b>Program Title:</b> D-1 Establish Heritage Park Project Implementation Unit (PIU)	
<b>Justification:</b> The Heritage Park is a huge project, with many sub-projects and programs, and which is expected to take many years to develop. Such a complex project requires meticulous planning and coordination. To ensure proper coordination as well as to maintain a strong momentum within the development process, the establishment of a dedicated Project or Program Implementation Unit (PIU) for the Heritage Park is essential.	
<b>Program Objectives:</b> Establish the framework for a PIU which will allow for the timely and effective development of the Heritage Park and its various projects and programs.	
<b>Program Description/ Components</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the PIU: <ul style="list-style-type: none"> <li>- who should be part of and/or lead the PIU</li> <li>- what should the PIU do</li> <li>- how should the PIU be structured</li> <li>- The time horizon of the PIU</li> <li>- The resources required for the PIU, including financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b> Heritage Park Project Implementation Unit	
<b>Program Cost Estimate:</b> R 1,000,000 pa	<b>Implementation Schedule</b> Commence 2003 and ongoing.

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**Project Sheet – Pilanesberg – Madikwe Corridor Subject Area**

<b>Program Title:</b>	D-2 Establish Focus Area Destination Tourism Organizations (equivalent of RTO)
	D-3 Establish strong links between LTO/RTO and Provincial Tourism Marketing Agency

**No separate program sheets required. Part of Program B-1.**

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## **23.2 Costs Estimate, Implementation Schedule and Financing Alternatives**

### **23.2.1 Cost Estimate**

Table 23.2.1 shows the priority project costs for the tourism development at Pilanesberg – Madikwe Corridor Subject Area.

Major points include:

- The projects for product, facilities and infrastructure development amount to R306 million of their initial (investment) costs including those for study and design, physical works, and contingencies.
- Average annual operation/maintenance cost is estimated for each project, and is shown in the table.
- Average annual cost is estimated separately for the implementation of programs including marketing and promotion, human resource development, and institutional development. These program costs are not included in the total amount of the initial cost above.

The assumptions used for estimating the initial cost are provided in Appendix K.

### **23.2.2 Implementation Schedule**

Table 23.2.2 shows the implementation schedule for all of the priority projects and programs.

For product, facilities and infrastructure development, there are three kinds of periods: study/design, construction/development, and operation/maintenance, while there is no such distinction for marketing & promotion, human resource development and institutional development.

Annual cost requirements including the initial cost and the operation/maintenance costs are estimated for each year.

Table 23.2.1 Project Costs – Pilanesberg – Madikwe Corridor Subject Area

(R'000)

Projects and Programs		Study/Design	Construction/ Procurement			Total of Project (Initial cost)	Annual Operation/ Maintenance*	Remark
			Cost	Contingency	Sub-Total			
<b>Product, Facilities &amp; Infrastructure</b>								
A-1	Overall Programming for Development and Conservation for entire Heritage Park	1,500	0	0	0	1,500	0	
A-2	Construction of broad infrastructure for Heritage Park	5,460	78,000	11,700	89,700	95,160	2,691	Refer Appendix Construction Costs - 1
A-3	Development in Molatedi Dam area	1,433	15,325	2,299	17,624	19,057	4,922	Refer Appendix Construction Costs - 1
A-4	Planesberg Game Reserve expansion	2,482	24,815	3,722	28,537	31,019	8,741	Refer Appendix Construction Costs - 1
A-5	Road Transport Upgrading	8,400	120,200	18,030	138,230	146,630		Refer Appendix Construction Costs - 1
A-5-1	Improvement of road from Bathalera w a to Derdepoort	8,400	120,000	18,000	138,000	146,400	4,140	
A-5-2	Development of road signage in and around Heritage Park	0	200	30	230	230	23	
A-6	Water Supply Development	12,250				12,250	0	Refer Appendix Construction Costs - 1
<b>Grand Total</b>		<b>31,525</b>	<b>238,340</b>	<b>35,751</b>	<b>274,091</b>	<b>305,616</b>	<b>15,156</b>	

\* Annual Cost is average annual to year 2011.

Projects and Programs		Annual Operation/ Maintenance*	Remarks
<b>Marketing &amp; Promotion</b>			
B-1	Marketing & promotion of potential product and total subject area	700	
Sub-Total		700	
<b>Human Resource Development</b>			
C-1	Develop & Implement Tourism Entrepreneurial Training Program for local community	460	
C-2	Tour Guiding and Interpretation Training Program	200	
Sub-Total		660	
<b>Institutional Development</b>			
D-1	Establish Heritage Park Project Implementation Unit (PIU)	1,000	
D-2	Establish Focus Area Destination Tourism Organizations (equivalent of RTO)		No additional cost - part of program B-1
D-3	Establish strong links between LTO/RTO and Provincial Tourism Marketing Agency		No additional cost - part of program B-1
Sub-Total		1,000	
Total		2,360	
<b>Grand Total (operation/maintenance)</b>		<b>17,516</b>	

\* Annual Cost is average annual to year 2011.

Table 23.2.2 Project Implementation and Operation/Maintenance Cost – Pilanesberg – Madikwe Corridor Subject Area

Unit: R1000

Projects and Programs		Initial Cost	Project Implementation & Operation/Maintenance Cost									
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Product, Facilities &amp; Infrastructure</b>												
A-1	Overall Programming for Development and Conservation for entire Heritage Park	1,500	1,500									
A-2	Construction of broad infrastructure for Heritage Park	95,160		5,460	29,900	29,900	29,900	2,691	2,691	2,691	2,691	2,691
A-3	Development in Molatedi Dam area	19,057	1,433	5,287	12,337	4,077	4,287	4,540	5,224	5,443	5,443	5,443
A-4	Pilanesberg Game Reserve	31,019		2,482	5,707	22,830	7,009	7,573	8,218	9,603	10,023	10,023
A-5-1	Improvement of road from Batlhalew a to Derdepoort	146,400	8,400	34,500	34,500	34,500	34,500	4,140	4,140	4,140	4,140	4,140
A-5-2	Development of road signage in and around Heritage Park	230		230	23	23	23	23	23	23	23	23
A-6	Study on water supply development	12,250		12,250								
	sub-total	305,616	11,333	60,209	82,467	91,330	75,719	18,967	20,296	21,899	22,319	22,319
<b>Marketing &amp; Promotion</b>												
B-1	Marketing & promotion of potential product and total subject area			700	700	700	700	700	700	700	700	700
	sub-total	0	0	700	700	700	700	700	700	700	700	700
<b>Human Resource Development</b>												
C-1	Develop & Implement Tourism Entrepreneurial Training Program for local community			850	850	350	350	350	350	350	350	350
C-2	Tour Guiding and Interpretation Training Program			210	160	200	200	200	200	200	200	200
	sub-total	0	0	1,060	1,010	550	550	550	550	550	550	550
<b>Institutional Development</b>												
D-1	Establish Heritage Park Project Implementation Unit (PIU)	0		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
D-2	Establish Focus Area Destination Tourism Organizations (equivalent of RTO)			No additional cost - part of programme B-1								
D-3	Establish strong links between LTO/RTO and Provincial Tourism Marketing Agency			No additional cost - part of programme B-1								
	sub-total	0	0	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	Grand-Total	305,616	11,333	62,969	85,177	93,580	77,969	21,217	22,546	24,149	24,569	24,569

Source: JICA Study Team

Note: Product, Facilities & Infrastructures

Study/Plan/Design
  Construction/Development
  Operation/Maintenance

Marketing & Promotion, Human Resource Development, and Institutional Development
  Plan & Operation

### 23.2.3 Financing Alternatives

The proposed developments need to be funded jointly by the public and private sectors, considering that government resources are scarce and that private sector participation is essential for rendering services responsive to the customer needs.

In principle, the public sector should play a role to provide infrastructure (both physical and institutional) needed for the development and to promote and facilitate private investment in the area. On the other hand, commercially oriented activities can be undertaken by the private sector as long as they can generate a reasonable level of financial return. See section of financial evaluation for this point. Table 23.2.3 shows suggestions for potential funding sources for the implementation of the proposed priority projects and programs.

Table 23.2.3 Suggestions for Potential Funding Sources for Implementing Priority Projects and Programs

Item	Potential funding sources for implementation	Remarks
<b>Product, Facilities &amp; Infrastructure</b>		
Planning & designing		
Broad infrastructure for Heritage Park	Governments' own budget DBSA (External loan funds from donor agencies where available)	Responsibility of the public sector as an infrastructure provider and a facilitator to attract private investors and operators
Road transport upgrading including road improvement		
Water supply study		
Molatedi Dam development		
Site preparation & day visitor facilities	Governments' own budget DBSA (External loan funds where available)	It is recommended that operation and maintenance of day visitor facilities be contracted out to private operators.
Chalets	Private investment (possibly with IDC funding)	
Upgrading existing lodge		
Pilanesberg Game Reserve Expansion		
Site preparation, Youth Exchange Centre (including the Heritage Interpretation facility)	Governments' own budget DBSA  Grant and loan funding from international donor agencies	It is recommended that the initial cost of these be borne by the public sector to facilitate the development of the expansion, and that the youth exchange centre be operated privately.
Other facilities including accommodation	Private investment (possibly with IDC funding)	
Marketing & Promotion	Governments' own budget (including Government Skills Development Grant Schemes) Technical assistance capacity & funding from DBSA (Local Government Technical Assistance Scheme) Grant funding from donor agencies Technical assistance from donor agencies	
Human Resource Development		
Institutional Development		

Source: JICA Study Team



## 23.3 Economic Evaluation

The proposed priority projects and programs are expected to attract a greater number of tourists to the area. Economic evaluation of these projects and programs was undertaken according to the methodology described in Section 21.2.1. **Note that at this planning stage both project benefits and costs used in the analysis are preliminary in nature, and thus the result should be taken as indicative.**

### 23.3.1 Economic Benefits

#### (1) Summary of Demand Projection

Table 23.3.1 shows the results of demand projection undertaken in the focus area development plan for both “with” and “without” project cases. The projection is made up to 2021, the ending year of the evaluation period (i.e. 20 years).

Table 23.3.1 Projection of Visitors to Pilanesberg – Madikwe Corridor

Year	“With” projects & programs				“Without” projects & programs			
	Domestic tourists		Foreign tourists		Domestic tourists		Foreign tourists	
	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors
2001	228,783	178,177	133,285	57,467	228,783	178,177	133,285	57,467
2002	232,214	180,849	125,665	31,565	230,842	179,958	125,052	31,411
2003	236,859	184,466	130,063	32,670	232,919	181,758	127,553	32,039
2004	241,596	188,156	134,615	33,813	235,016	183,576	130,104	32,680
2005	260,924	193,800	139,327	34,997	237,131	185,411	132,706	33,333
2006	287,016	203,490	150,473	36,221	239,265	187,265	135,360	34,000
2007	298,497	209,595	156,492	37,489	241,418	189,138	138,068	34,680
2008	304,467	213,787	159,622	38,239	243,591	191,030	140,829	35,374
2009	307,511	215,925	162,814	39,004	245,783	192,940	143,645	36,081
2010	310,586	218,084	166,071	39,784	247,995	194,869	146,518	36,803
2011	313,692	220,265	169,392	40,579	250,227	196,818	149,449	37,539
2012	316,829	222,468	172,780	41,391	252,479	198,786	152,438	38,290
2013	319,997	224,692	176,236	42,219	254,752	200,774	155,486	39,056
2014	323,197	226,939	179,760	43,063	257,045	202,782	158,596	39,837
2015	326,429	229,209	183,355	43,925	259,358	204,809	161,768	40,633
2016	329,694	231,501	187,023	44,803	261,692	206,858	165,003	41,446
2017	332,991	233,816	190,763	45,699	264,047	208,926	168,304	42,275
2018	336,321	236,154	194,578	46,613	266,424	211,015	171,670	43,120
2019	339,684	238,515	198,470	47,545	268,822	213,126	175,103	43,983
2020	343,081	240,900	202,439	48,496	271,241	215,257	178,605	44,863
2021	346,511	243,309	206,488	49,466	273,682	217,409	182,177	45,760

Source: JICA Study Team

## (2) Tourist Expenditure

Total tourist expenditure is estimated by multiplying the number of tourists to the area by the amount spent per tourist. Tourist expenditure per tourist for the area is estimated as shown in Table 23.3.2.

The estimates for the “without” project case are made based on the socio-economic impact assessment survey conducted as part of this study. No inflation is assumed, thereby maintaining consistency with the project costs where inflation is also not taken into account.

The same figures are assumed for the “with” project case, considering that the planned development will help attract both mid-market and upmarket tourists due to the development of mid-market facilities and accommodation, as well as because of the improved access to Madikwe that is mainly for upmarket tourists and more active promotion of Pilanesberg itself that is for mid- to up-market tourists in the case of overnight stays.

Table 23.3.2 Estimate of Tourist Expenditure per Tourist for Pilanesberg–Madikwe Corridor  
(in Rand)

Domestic/foreign n	“With” projects & programs		“Without” projects & programs	
	Overnight visitors	Day visitors	Overnight visitors	Day visitors
Domestic tourists	1,166	278	1,166	278
Foreign tourists	3,740	825	3,740	825

Note: Expenditure of overnight visitors is the total spent for the entire stay in the area, not per day. The difference in day visitors' expenditure between domestic and foreign tourists comes mainly from the fact that many foreign tourists visit the area on a tour operated by tour operators, while domestic tourists mostly drive themselves.

Source: Socio-Economic Impact Assessment Survey, JICA Study Team

## (3) Contribution to GDP

Contribution of the priority projects and programs to GDP or value added is estimated as shown in Table 23.3.3.

Assumptions:

- The difference in total expenditure between “with” and “without” cases, as shown in the table, is obtained from demand projection coming from the focus area development plan that includes the priority projects and programs and those not selected as priority. The incremental expenditure attributed to the priority projects and programs should be somewhat less than this difference. In this analysis, a factor of 0.8 is assumed to be applied to convert this difference to that for the priority projects and programs, considering that most of the important ones were selected as priority. The result is shown in the second column from the right.
- A factor of 0.55 is then assumed to convert the incremental tourist expenditure attributed to the priority projects and programs to the net increment in value added. This assumption is based on the result of the socio-economic impact assessment survey, in which one unit of the incremental final demand related to tourism is estimated to increase value added of somewhat higher than 0.6.<sup>1</sup>

<sup>1</sup> Since tourism is not a separate sector in the South Africa's national account system, this estimate was made for sectors that include tourism-related services. For example, this factor was estimated at 0.56 for wholesale and retail trade that includes accommodation and restaurants, and 0.58 for transport and communication including travel agencies, air and related transport activities.

- All the benefit figures are in constant values, and price escalation is not considered.

The last column of the table provides the estimated contribution of the priority projects and programs to GDP, namely, the project benefits.

Table 23.3.3 Economic Benefits of Priority Projects and Programs

(Thousand Rand)

Year	Total tourist expenditure								Incremental tourist expenditure					Increment attributed to priority projects	Contribution to GDP
	"With" projects & programs				"With" projects & programs				Domestic tourists		Foreign tourists		Total		
	Domestic tourists		Foreign tourists		Domestic tourists		Foreign tourists		Overnight visitors	Day visitors	Overnight visitors	Day visitors			
	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors							
2001	266,761	49,533	498,486	47,410	266,761	49,533	498,486	47,410	0	0	0	0	0	0	0
2002	270,762	50,276	469,987	26,041	269,162	50,028	467,694	25,914	1,601	248	2,293	127	4,268	3,414	1,878
2003	276,177	51,282	486,437	26,952	271,584	50,529	477,048	26,432	4,593	753	9,388	520	15,255	12,204	6,712
2004	281,701	52,307	503,462	27,896	274,028	51,034	486,589	26,961	7,673	1,273	16,873	935	26,753	21,403	11,771
2005	304,237	53,876	521,083	28,872	276,494	51,544	496,321	27,500	27,742	2,332	24,762	1,372	56,209	44,967	24,732
2006	334,661	56,570	562,770	29,883	278,983	52,060	506,248	28,050	55,678	4,511	56,522	1,833	118,543	94,834	52,159
2007	348,047	58,267	585,281	30,929	281,494	52,580	516,372	28,611	66,553	5,687	68,908	2,317	143,466	114,773	63,125
2008	355,008	59,433	596,986	31,547	284,027	53,106	526,700	29,183	70,981	6,327	70,286	2,364	149,957	119,966	65,981
2009	358,558	60,027	608,926	32,178	286,583	53,637	537,234	29,767	71,975	6,390	71,692	2,411	152,467	121,974	67,086
2010	362,144	60,627	621,104	32,822	289,163	54,174	547,979	30,362	72,981	6,454	73,126	2,459	155,020	124,016	68,209
2011	365,765	61,234	633,526	33,478	291,765	54,715	558,938	30,970	74,000	6,518	74,588	2,508	157,615	126,092	69,351
2012	369,423	61,846	646,197	34,148	294,391	55,263	570,117	31,589	75,032	6,583	76,080	2,559	160,254	128,203	70,512
2013	373,117	62,464	659,121	34,831	297,041	55,815	581,519	32,221	76,076	6,649	77,602	2,610	162,937	130,350	71,692
2014	376,848	63,089	672,303	35,527	299,714	56,373	593,150	32,865	77,134	6,716	79,154	2,662	165,666	132,533	72,893
2015	380,617	63,720	685,749	36,238	302,411	56,937	605,013	33,523	78,205	6,783	80,737	2,715	168,440	134,752	74,114
2016	384,423	64,357	699,464	36,962	305,133	57,506	617,113	34,193	79,290	6,851	82,351	2,770	171,261	137,009	75,355
2017	388,267	65,001	713,454	37,702	307,879	58,081	629,455	34,877	80,388	6,919	83,999	2,825	174,130	139,304	76,617
2018	392,150	65,651	727,723	38,456	310,650	58,662	642,044	35,574	81,500	6,988	85,678	2,881	177,048	141,638	77,901
2019	396,071	66,307	742,277	39,225	313,446	59,249	654,885	36,286	82,625	7,058	87,392	2,939	180,015	144,012	79,206
2020	400,032	66,970	757,123	40,009	316,267	59,841	667,983	37,012	83,765	7,129	89,140	2,998	183,032	146,425	80,534
2021	404,032	67,640	772,265	40,810	319,113	60,440	681,343	37,752	84,919	7,200	90,923	3,058	186,099	148,880	81,884

Source: JICA Study Team

### 23.3.2 Economic Costs

The initial cost and the operation and maintenance cost for the priority projects and programs that were estimated earlier are used for the economic evaluation.

Assumptions:

- All the costs are in constant values, and price escalation is not considered.
- All the costs are to be incurred according to the schedule estimated earlier.
- In order to convert the financial cost to the economic cost, a factor of 0.9 was adopted primarily considering taxes that are an internal transfer.

### 23.3.3 Economic Return

With the economic benefits and costs estimated above, the priority projects and programs as a whole were evaluated using the economic internal rate of return (EIRR), a standard measure for project's economic impact. Table 23.3.4 presents the results of the estimation.

EIRR was estimated to be 16.1% for these projects and programs. Although the result is indicative in nature, this value exceeds the economic opportunity cost of capital that is often assumed at 12%, and is high enough for justifying the investment in them from the national economic point of view.

Table 23.3.4 Economic Internal Rate of Return for Priority Projects and Programs

Year	Economic Benefit (1)	Economic Cost		Net benefit (1)-(2)-(3)
		Product, facilities, infrastructure (2)	Programs (3)	
2001	0	0	0	0
2002	1,878	10,200	0	-8,322
2003	6,712	54,188	2,484	-49,960
2004	11,771	74,220	2,439	-64,888
2005	24,732	82,197	2,025	-59,490
2006	52,159	68,147	2,025	-18,013
2007	63,125	17,070	2,025	44,030
2008	65,981	18,266	2,025	45,690
2009	67,086	19,709	2,025	45,352
2010	68,209	20,087	2,025	46,097
2011	69,351	20,087	2,025	47,238
2012	70,512	20,087	2,025	48,400
2013	71,692	20,087	2,025	49,580
2014	72,893	20,087	2,025	50,781
2015	74,114	20,087	2,025	52,002
2016	75,355	20,087	2,025	53,243
2017	76,617	20,087	2,025	54,505
2018	77,901	20,087	2,025	55,789
2019	79,206	20,087	2,025	57,094
2020	80,534	20,087	2,025	58,422
2021	81,884	20,087	2,025	59,772

**EIRR = 16.1%**

Note: Cost for product, facilities and infrastructure ((2) above) includes investment cost and operation and maintenance cost. Cost for programs ((3) above) includes that for promotion and marketing, human resource development, and institution development.

Source: JICA Study Team

### 23.3.4 Sensitivity Analysis

In view of the inevitable uncertainty concerning the precise values of key variables in the economic evaluation, sensitivity analysis was undertaken.

Table 23.3.5 shows sensitivity of EIRR with respect to the change in the initial cost (investment cost) and in the benefit, and the combination of them.

Table 23.3.5 Sensitivity of Economic Internal Rate of Return (EIRR)

Case	EIRR
Base Case	16.1%
(1) Initial Cost: 10% up	14.6%
(2) Benefits: 10% down	13.3%
(3) Combination of (1) & (2)	11.9%

Source: JICA Study Team

## 23.4 Preliminary Financial Assessment

Two major projects proposed as priority are the development of Molatedi Dam area and the expansion of Pilanesberg Game Reserve, both involving development of revenue generating facilities: chalets and recreational facilities for the Molatedi Dam project; and chalets, Youth Exchange Centre, shops, etc. for the Pilanesberg Game Reserve expansion.

Other development, excluding the above listed revenue generating facilities, would be needed for both projects including site preparation and infrastructure, and it is highly recommended that the projects be undertaken jointly by the public and private sectors for their successful implementation. In order to attract private investors, it is necessary that the private operators be provided a reasonable level of financial return.

Tables 23.4.1 and 23.4.2 summarize a preliminary assessment of the operating performance of these projects. While the result is preliminary and indicative in nature, estimation was made as to whether these projects could be a commercial activity attractive enough to a private entity. Note that inflation is not considered in the analysis, and thus the ROI estimated is in real terms. Cash flows for this preliminary assessment are provided in Appendix K.

As shown, despite the reasonably high economic return estimated previously for the entire priority projects and programs, it is estimated that the return on investment in these two projects is not high enough for private investors if all the initial cost is to be borne by the private sector (see case (1) in the tables). This is plausible in view of the scale of the entire development relative to the size of the revenue generating facilities planned in consideration of the demand.

As shown in cases (2) and (3) in the tables, ROI improves as the amount of the initial cost is reduced, namely, if the public sector increasingly bears the cost for some of the initial investment in these projects.

Table 23.4.1 Indicative Result: Return on Investment (ROI) for Molatedi Dam Area Development

Case	ROI
All the initial cost included (incl. planning & design, site preparation, infrastructure, facilities, etc.)	7%
75% of total initial cost included	10%
50% of total initial cost included	16%

Note: ROI is in real terms, assuming no inflation.

Source: JICA Study Team

Table 23.4.2 Indicative Result: Return on Investment (ROI) for Pilanesberg Game Reserve Expansion

Case	ROI
All the initial cost included (incl. planning & design, site preparation, infrastructure, facilities, etc.)	4%
50% of total initial cost included	12%
40% of total initial cost included	16%

Note: ROI is in real terms, assuming no inflation.

Source: JICA Study Team

Although the result is indicative, it strongly suggests that public investment in these developments is essential for commercially viable operation of the proposed facilities.

## 23.5 Environmental Considerations

Projects and programs for tourism development may require the preparation of an EIA in accordance with EIA guidelines in South Africa. At the planning stage of all projects/ programs, EIA procedures are required for project components. Thus, in this section, the preliminary EIAs for all priority projects/ programs are prepared. The selected priority projects and programs are categorized into the four (4) types same as candidate ones in the earlier section.

Type A: Projects/ programs of small-scale development

Type B: Projects/ programs of integrated infrastructure and/or large-scale development

Type C: Projects/ programs of road development

Type D: Projects/ programs of water supply development

Table 23.5.1 shows list of priority projects/ programs in Pilanesberg – Madikwe by type. The basic data for the size/ description of each project/ program is shown in Table 23.5.2. The results of preliminary EIA are discussed in the following sections.

Table 23.5.1 List of Priority Projects &amp; Programs in Pilanesberg - Madikwe Corridor Subject Area required EIA

Priority Projects and Programs		Type
<b>A</b>	<b>Product, Facilities and Infrastructure</b>	
A-1	Overall Programming for Development and Conservation for entire Heritage Park	*2
A-2	Construction of broad infrastructure for Heritage Park	Type B
A-3	Development in Molatedi Dam area	Type B
A-4	Pilanesberg Game Reserve expansion A-4-1 Development of Midmarket Resort A-4-2 Development of Youth Tourism Cultural Exchange Centre	Type B
A-5	Road Transport Upgrading	*1
A-5-1	Improvement of road from Bathalerwa to Derdepoort	Type C
A-5-2	Development of road signage in and around Heritage Park	Type A
A-6	Water Supply Development	Type D

Source: JICA Study Team

Note: Type A: Projects/ programs of small-scale development  
 Type B: Projects/ programs of integrated infrastructure and/or large-scale development  
 Type C: Projects/ programs of road development  
 Type D: Projects/ programs of water supply development  
 \*1: Project/ program title  
 \*2: No need to prepare IEE because of soft type project/ program



Table 23.5.2 Size/ Description of Each Project/ Program in Pilanesberg - Madikwe Corridor Subject Area

No.	Item	Size/ Description
<b>Type A</b>		
<b>A-5-2 Development of road signage in and around Heritage Park</b>		
<b>Type B</b>		
<b>A-2 Construction of broad infrastructure for Heritage Park</b>		
1	Construct Inner Road	W=10m, phase I L=60km, phase II L=40km, tar
2	Construct Fencing	phase I L=200km, phase II L=150km, H=2m, electrified
<b>A-3 Development in Molatedi Dam area</b>		
1	Site Preparation	total site area 20,000m <sup>2</sup>
2	Construct Parking	50 parking lots 1,500m <sup>2</sup>
3	Construct Administration Office	floor area 30m <sup>2</sup>
4	Construct Resting House	with restaurant and shop, floor area 150m <sup>2</sup>
5	Construct Chalets	self-catering, 50 chalets, floor area 50m <sup>2</sup> /each
6	Construct Camp Site	with 20 braai set, 2,000m <sup>2</sup>
7	Construct Boat House	1 house, floor area 5m <sup>2</sup>
8	Construct Wooden Pier	L=20m, W=2m
9	Purchasing Rowboats	20 boats, 2 passengers/boat
10	Construct Infrastructure	water supply (Φ30 L=1km),
11	Upgrading of Lodges	5 Lodges, floor area 40m <sup>2</sup> /each
12	Rehabilitation of Office with Restaurant	floor area 80m <sup>2</sup>
13	Rehabilitation of Toilet	floor area 15m <sup>2</sup>
14	Rehabilitation of Pier	wooden L=10m, W=2m
15	Purchasing Sightseeing Boat	20 passengers
<b>A-4 Pilanesberg Game Reserve expansion</b>		
1	Site Preparation	total area 300,000m <sup>2</sup>
2	Construct Parking	2000m <sup>2</sup> (70 parking lots)
3	Construct Dormitory	2 stories, floor area 2,000m <sup>2</sup> (25 bedrooms, restaurant, meeting room, reception), total site 1,300m <sup>2</sup>
4	Construct Chalets	60 units
5	Construct Restaurant Building with Fastfood Kiosk	Indoor 20 seats, outdoor 20 seats (total restaurant site 1,000m <sup>2</sup> , building site 300m <sup>2</sup> , outdoor 400m <sup>2</sup> )
6	Construct Shop	building 100m <sup>2</sup>
7	Construction of Multipurpose Sports Field	soccer x 1, basket ball x 2, volleyball x 2 (total area 15,000m <sup>2</sup> )
8	Construct Swimming Pool	25m x 20m
9	Construct Picnic/Camping Fields	braai set x 20, total area 15,000m <sup>2</sup>
10	Construct Cultural/Heritage Area	total cultural/heritage area 100,000m <sup>2</sup> , path (unpaved L=2,000m, W=2m)
11	Construct Cultural/Heritage Interpretation Centre	building 250m <sup>2</sup>
12	Construct Access Road	L=1,000m W=10m tar
13	Construct Water Supply	Φ30 L=1km
<b>Type C</b>		
<b>A-5-1 Improvement of road from Batlhalerwa to Derdepoort</b>		
1	Planning and Designing	
2	Upgrading of Road	L=100km, W=12m
3	Develop Road Signage	200
<b>Type D</b>		
<b>A-6 Water Supply Development</b>		
1	Planning and Designing	
2	Construction of Water Pipe	Φ200 (average) L=70km

### (1) Type A Projects/ Programs (Development of road signage in and around Heritage Park)

Table 23.5.3 shows results of the preliminary EIA of Type A in this Area. The Type A project/program is small-scale facility construction. The impact caused by reclamation works are the main issue of this type. This impact could be resolved by careful attention to the selection of location. This type of project/program is not included as activities that require an EIA. Therefore, discussion with the EIA Section in North West Province is required.

Table 23.5.3 Results of Preliminary EIA for Type A

Environmental items		Before operation		After operation			
		Reclamation/ spatial occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of vehicles/ ships/ airplanes	Operation/ maintenance of associated facilities	Accumulation of people/ goods
Social environment	Resettlement						
	Economic activities						
	Traffic/ public facilities						
	Split of communities						
	Cultural property						
	Water rights/ rights of common						
	Public health condition						
	Waste						
	Hazard (risk)						
Natural environment	Topography/ geology	X					
	Soil erosion	X					
	Groundwater						
	Hydrological						
	Coastal zone						
	Fauna/ flora						
	Meteorology						
	Landscape						
Pollution	Air pollution						
	Water pollution						
	Soil contamination						
	Noise/ vibration						
	Land subsidence						
	Offensive odor						

Note:

XX: The environmental items to which special attention must be paid. They might cause serious impact that may affect the project formation depending on the magnitude of the impacts.

X: The environmental items which may have a significant impact depending on the scale of project and site conditions.

No mark: The environmental items requiring no impact assessment since the anticipated impacts are, in general, not significant.

In case of the comprehensive development projects, all the items are classified in X, because their studies are usually at the master planning stage and the extent of impacts are not clear.

**(2) Type B Projects/ Programs (Construction of broad infrastructure for Heritage Park/ Development in Molatedi Dam area/ Pilanesberg Game Reserve expansion)**

Table 23.5.4 shows results of the preliminary EIA of Type B in this area. The projects/ programs in Type B are mainly integrated infrastructure and/or large-scale development for tourism development. Therefore, there are many environmental items that will cause environment impact. Some of these impacts might be serious depending on their magnitude and/or the location of the sites. In the case that projects/programs include resettlement, the impact will be serious. When the site is located in a sensitive area, the impact to the natural environment by reclamation works at construction stage will be serious. Careful attention to the selection of the site and development planning with environmental considerations is required.

This type of project/program may be activities that require an EIA as “1 The construction or upgrading: (m) public and private resorts and associated infrastructure”. Therefore, some of them might require a full-scale EIA in accordance with the EIA guideline in South Africa. It is required that discussion should take place with the EIA Section in North West Province at an early stage of the development planning.

Table 23.5.4 Results of Preliminary EIA for Type B

Environmental items		Before operation		After operation			
		Reclamation/ spatial occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of vehicles/ ships/ airplanes	Operation/ maintenance of associated facilities	Accumulation of people/ goods
Social environment	Resettlement	X					
	Economic activities	X				X	X
	Traffic/ public facilities		X		X		
	Split of communities			X			
	Cultural property	X					X
	Water rights/ rights of common	X		X			
	Public health condition					X	X
	Waste					X	X
	Hazard (risk)	X					
Natural environment	Topography/ geology	X					
	Soil erosion	X					
	Groundwater						
	Hydrological	X				X	
	Coastal zone						
	Fauna/ flora	X	X	X	X	X	X
	Meteorology						
	Landscape	X		X			
Pollution	Air pollution						
	Water pollution	X				X	
	Soil contamination						
	Noise/ vibration		X		X	X	
	Land subsidence						
	Offensive odor						

Note:

XX: The environmental items to which special attention has be paid. They might cause serious impacts that may affect the project formation depending on the magnitude of the impacts and the possibility of the measures.

X: The environmental items which may have a significant impact depending on the scale of project and site conditions.

No mark: The environmental items requiring no impact assessment since the anticipated impacts are, in general, not significant.

In case of the comprehensive development projects, all the items are classified in X, because their studies are usually at the master planning stage and the extent of impacts are not clear.

Source: JICA Study Team

### (3) Type C Projects/ Programs (Improvement of road from Batlhalerwa to Derdepoort)

Table 23.5.5 shows the results of a preliminary EIA of Type C in this Area. The project/ program in Type C is road rehabilitation. Some environmental impacts by this type are mainly caused by reclamation/ special occupancy at alignment points as well as air pollution/ noise & vibration by operation of vehicles. Some of these impacts might be serious depending on the construction methods, the location of the alignment points, and the volume of vehicles. Careful attention is required for the selection of the construction methods and the site. The objective of road rehabilitation is mainly to accommodate vehicles for tourism. However, this road will also be used for the regional economy, or as a short cut to the Botswana border. Therefore, a detailed demand forecast for traffic volume will be required.

This type of project/ program may be activities that require an EIA as “1 The construction or upgrading: (d) roads, railways, airfields and associated structures and activities outside the boundaries of town planning schemes”. In this description, it is not clear whether these activities mean new construction and/or rehabilitation. Therefore, discussion should take place with the EIA Section in North West Province at an early stage of the development planning.

The JICA Study Team carried out an environmental survey for this project (Improvement of road from Batlhalerwa to Derdepoort) through a local consultant. The TOR of this survey shows in Appendix G.

Table 23.5.5 Results of Preliminary EIA for Type C

Environmental items		Before operation		After operation		
		Reclamation/ spatial occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of vehicles	Accumulation of people/ goods
Social environment	Resettlement	X				
	Economic activities					X
	Traffic/ public facilities				X	
	Split of communities			X		
	Cultural property	X				
	Water rights/ rights of common	X				
	Public health condition					
	Waste					X
	Hazard (risk)					
Natural environment	Topography/ geology	X				
	Soil erosion	X				
	Groundwater					
	Hydrological	X		X		
	Coastal zone					
	Fauna/ flora	X			X	
	Meteorology					
	Landscape					
Pollution	Air pollution				X	
	Water pollution	X				
	Soil contamination					
	Noise/ vibration				X	

Environmental items	Before operation		After operation		
	Reclamation/ spatial occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of vehicles	Accumulation of people/ goods
Land subsidence					
Offensive odor					

Note: XX: The environmental items to which special attention has been paid. They might cause serious impacts that may affect the project formation depending on the magnitude of the impacts and the possibility of the measures.

X: The environmental items which may have a significant impact depending on the scale of project and site conditions.

No mark: The environmental items requiring no impact assessment since the anticipated impacts are, in general, not significant.

In case of the comprehensive development projects, all the items are classified in X, because their studies are usually at the master planning stage and the extent of impacts are not clear.

Source: JICA Study Team

#### (4) Type D Projects/ Programs (Water Supply Development)

Table 23.5.6 shows results of preliminary EIA of Type D in this Area. The project/ program in Type D is water pipe construction for water supply development. Environmental impacts by this type are mainly resettlement caused by reclamation/ special occupancy at the construction stage. In the case that projects/ programs include resettlement, the impact will be serious and careful attention to site selection at the planning stage is required.

The list of activities for the EIA includes "1 The construction or upgrading: (k) reservoirs for public water supply". However, water pipe construction is not included as an activity requiring EIA. Therefore, discussion with the EIA Section in North West Province is required.

Table 23.5.6 Results of Preliminary EIA for Type D

Environmental items	Before operation		After operation	
	Reclamation/ spatial occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of facilities
Social environment	Resettlement	X		
	Economic activities			
	Traffic/ public facilities			
	Split of communities			
	Cultural property			
	Water rights/ rights of common	X		X
	Public health condition			
	Waste			
	Hazard (risk)			
Natural environment	Topography/ geology			
	Soil erosion			
	Groundwater			
	Hydrological	X		X
	Coastal zone			
	Fauna/ flora	X		
	Meteorology			
	Landscape			
Pollution	Air pollution			
	Water pollution	X		X
	Soil contamination			

		Before operation		After operation	
		Reclamation/ spatial occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of facilities
<b>Environmental items</b>					
	Noise/ vibration	X			X
	Land subsidence				
	Offensive odor				

Note: XX: The environmental items to which special attention has be paid. They might cause serious impacts that may affect the project formation depending on the magnitude of the impacts and the possibility of the measures.

X: The environmental items which may have a significant impact depending on the scale of project and site conditions.

No mark: The environmental items requiring no impact assessment since the anticipated impacts are, in general, not significant.

In case of the comprehensive development projects, all the items are classified in X, because their studies are usually at the master planning stage and the extent of impacts are not clear.

Source: JICA Study Team

# **Chapter 24**

## **Khayelitsha Corridor Subject Area**

## 24.1 Khayelitsha Project/Program Package

### 24.1.1 List of Priority Projects & Programs

The priority projects and programs that comprise the Khayelitsha Package are summarised in Table 24.1.1. The location of these projects is shown in Figure 24.1.1.

Table 24.1.1 List of Priority Projects & Programs

<b>A</b>	<b>Product, Facilities and Infrastructure</b>
A-1	Development of African Music and Dance Showcase
A-1-1	Development of facilities for African Music and Dance Showcase
A-1-2	Development of music, dance, shows and events/festivals for African Music and Dance Showcase
A-1-3	Development of African Music and Dance Showcase specific crafts/merchandise
A-2	Development of range of Khayelitsha tours and interpretation
A-3	Demand study on infrastructures for tourism development in Khayelitsha
<b>B</b>	<b>Marketing and Promotion</b>
B-1	Marketing and promotion for African Music and Dance Showcase
B-2	Marketing and promotion for Khayelitsha Township Tours
B-3	Development of distribution channel for African Music and Dance Showcase and Khayelitsha merchandise, arts and crafts
<b>C</b>	<b>Human Resource Development</b>
C-1	Development of local community musical talents, local entertainment troupes, interpretation of music
C-2	Development of arts and crafts design and manufacture skills
C-3	Tourism entrepreneurial training program for local community
C-4	Tour guiding and interpretation training program
<b>D</b>	<b>Institutional Development</b>
D-1	Establishing Project Implementation Unit for African Music and Dance Showcase
D-2	Determining management, operation and maintenance scheme for African Music and Dance Showcase

Source: JICA Study Team

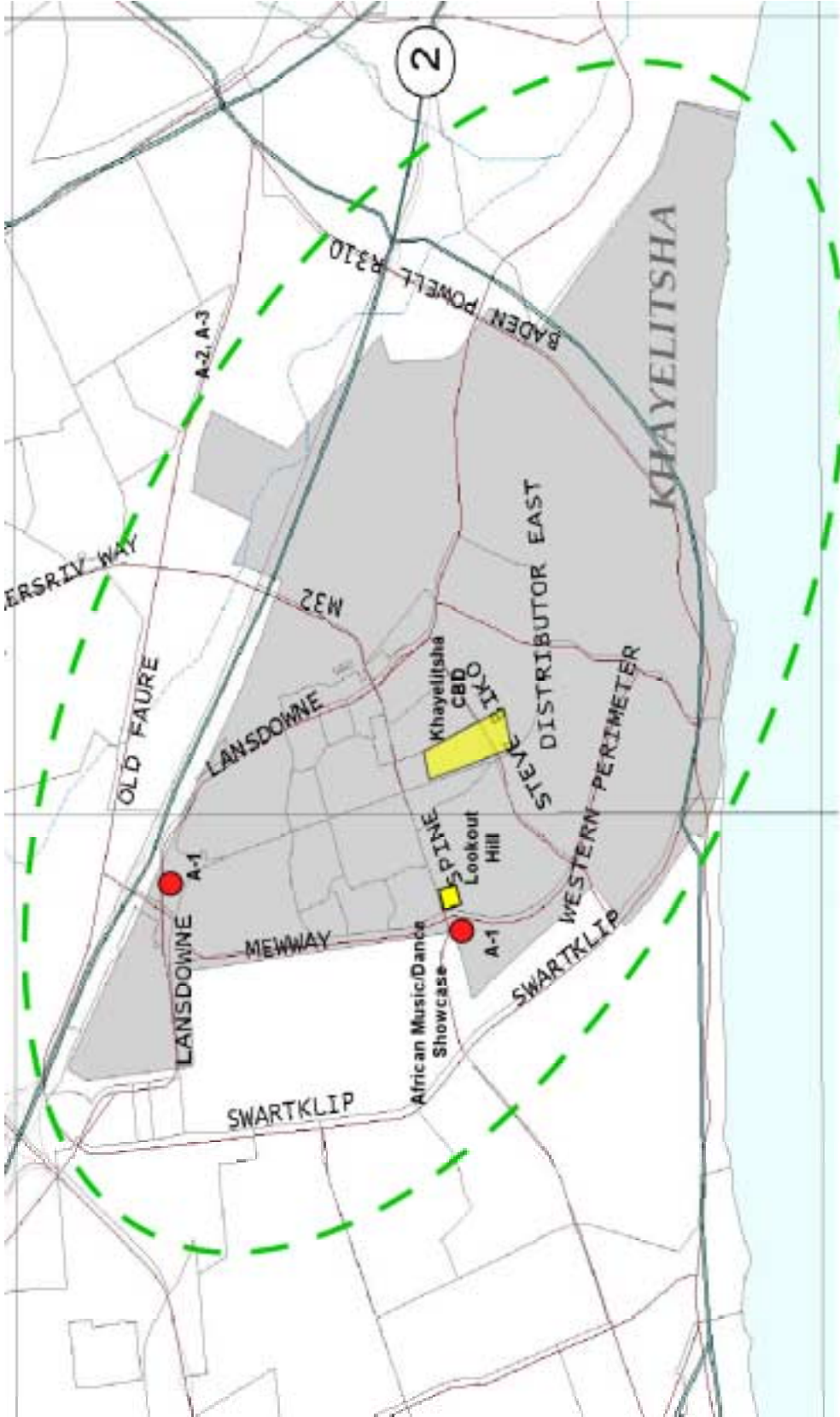
### 24.1.2 Project Sheets

The project sheets that follow provide details of each project/program in terms of its justification, objectives, general description, and components. The anticipated implementing agency is identified and a cost estimate with time period for implementation is also provided.

Schematic drawings are also included to provide a visual impression of the proposed products and facilities.



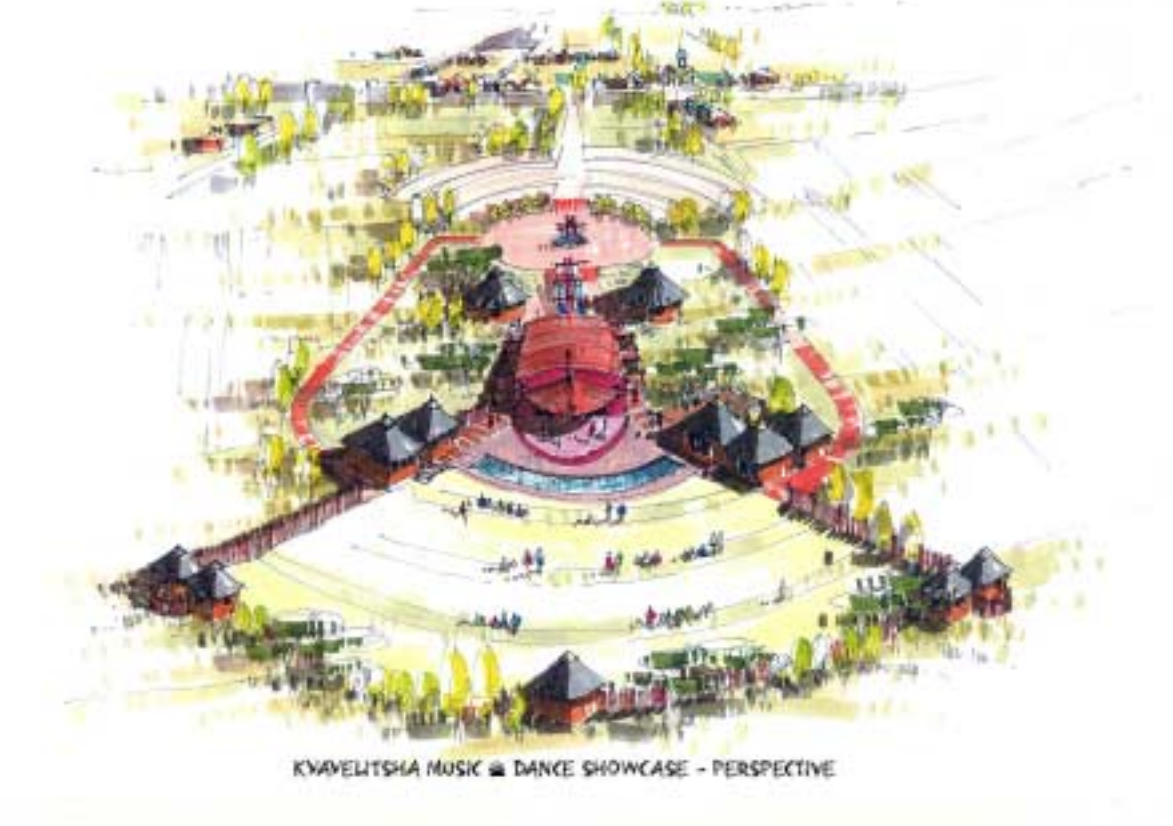
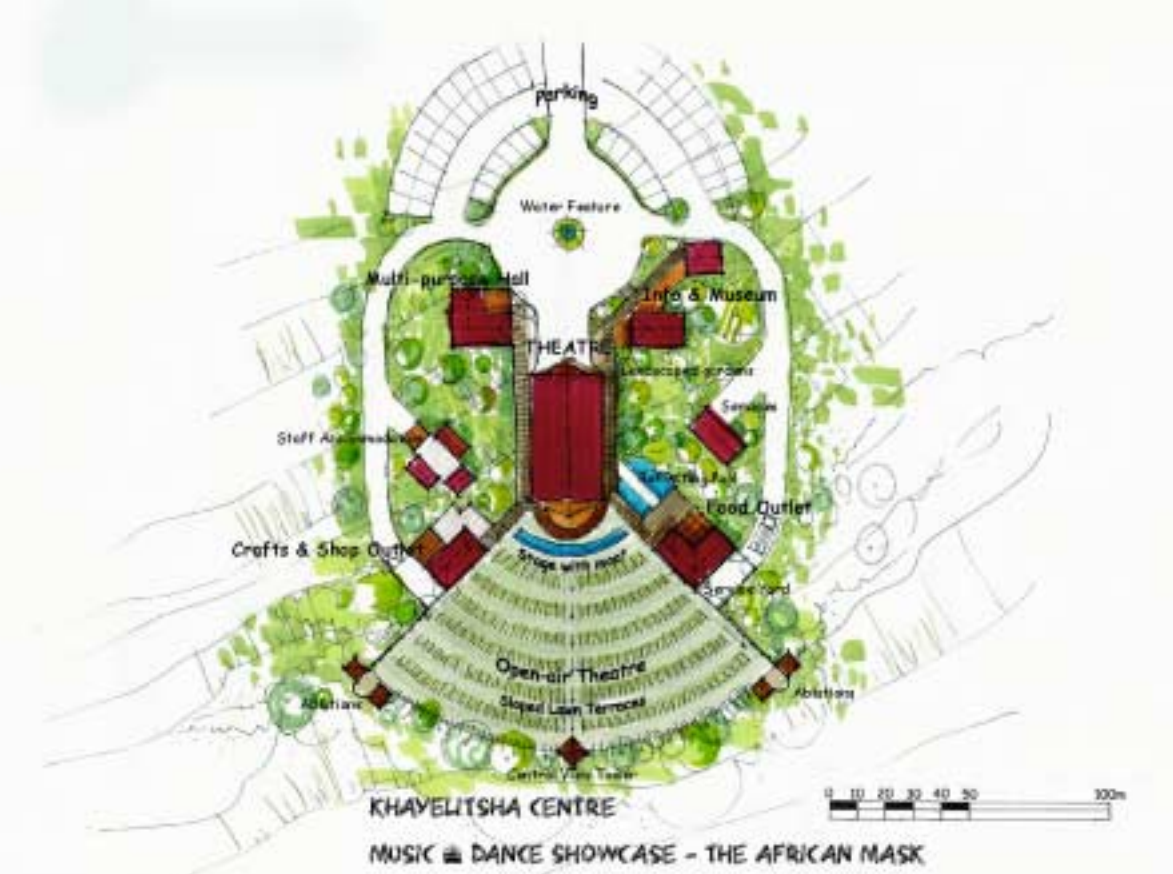
Figure 24.1.1 Location of Priority Projects (Khayelitsha)



**Project Sheet –Khayelitsha Subject Area**

<b>Project Title</b>	<b>A-1</b>	<b>Development of African Music and Dance Showcase</b>
<p><b>Justification:</b></p> <p>Khayelitsha's general tourism strengths and potential primarily relate to its good location. However, there is very little in respect of establishing a core tourism competitive advantage. This is due to the area offering little that can be viewed as truly unique (either from a natural or man-made perspective), which is a particularly serious constraint given its location near some of South Africa's most popular tourist attractions.</p> <p>Therefore, for Khayelitsha to be able to compete even marginally successfully, it requires a totally unique and powerful tourist attraction/facility. Its core tourism product strength would then depend upon the establishment of such a unique and powerful product. The area should be developed by newly creating a powerful attraction that will become a major draw card for attracting foreign and local tourists who are already visiting Cape Town and to then feed them into other tourist products in the area.</p> <p>It is therefore proposed that the area concentrate on the music and dance theme, which is integral to township life in South Africa. This would be developed as a world-class facility with a distinctive experience, i.e. "The African Music and Dance Showcase".</p>		
<p><b>Project Objectives</b></p> <ul style="list-style-type: none"> <li>• To develop a powerful attraction that will be a major draw card for attracting foreign and local tourists visiting Cape Town.</li> <li>• To use this new draw card facility to feed tourists into other tourism products in Khayelitsha.</li> <li>• To use this draw card facility to develop job and entrepreneurial opportunities for the local Khayelitsha community.</li> <li>• To use this facility to showcase African music and musicians and dancers.</li> </ul>		
<p><b>General Description</b></p> <p>A music/dance-based attraction (the "African Music &amp; Dance Showcase") will be developed that is based on the original, traditional African music and dance, with a modern, sophisticated flavor richly adding to it in terms of interpretation, arrangement, choreography, presentation, etc. The showcase will be a truly entertaining and satisfying experience to accommodate the taste of discerning international tourists (including East Asian visitors) as well as local visitors.</p> <p>This project comprises three major components:</p> <p>(1) <u>Development of the African Music and Dance Showcase Facilities:</u></p> <p>These facilities will include a venue for viewing shows, i.e. theatres, for training and rehearsing shows; an interpretative and interactive experience of the history and content of African music and dance; a purchasing venue and show specific merchandise.</p> <p>(2) <u>Development of African Music and Dance Showcase specific shows, events and festivals:</u></p> <p>South African dance and music troupes will be housed and trained with programs including representative tribal dances and songs that are unique, colorful and entertaining. These are based on the original, traditional ones, blended with sophisticated interpretation, arrangement, and choreography to meet world-level performing standards.</p> <p>Celebrity artists and performers should be involved in the development of dances and songs and in the training of performers. Although this facility is primarily for the training for signature events and signature music and dance troupes, it could also be utilized for general music and dance training.</p> <p>(3) <u>Development of African Music and Dance Showcase specific crafts and merchandise:</u></p> <p>This project relates to the design, manufacturing and distribution of arts, crafts and merchandise for the venue, the shows and the township. It also includes the training of locals in the above elements of the merchandising.</p>		

<b>Project Title</b> A-1 Development of African Music and Dance Showcase	
<p>This type of facility will provide a significant opportunity for merchandising such as signature clothing, music CDs, music and dance books, etc.</p> <p><u>High Potential Site(s):</u></p> <p>The facility should be located in an area that would allow for easy access and attract the most visitors, particularly bearing in mind that many events will be held at night. A location on the outskirts of the township would assist in creating a certain comfort level and would then pave the way to enticing visitors to undertake more intensive Khayelitsha experiences.</p> <p><u>Recommended sites would be:</u></p> <ul style="list-style-type: none"> <li>• Opposite to Lookout Hill</li> <li>• Next to the Olympic Boxing Hall.</li> </ul>	
<p><b>Project Components</b></p> <ul style="list-style-type: none"> <li>• Theatre – flexible structure with small indoor component expanding to a larger outdoor facility</li> <li>• Flat floor, multi-purpose rooms for training and rehearsing</li> <li>• Interpretation centre/museum, including: <ul style="list-style-type: none"> <li>• A “Hall of Fame” showcasing the life stories of African and South African music and dance achievers</li> <li>• An African and South African music and dance museum, providing interesting and state of the art interpretation of the history and development of African and South African music and dance</li> </ul> </li> <li>• Curio/craft/merchandising shop/outlet</li> <li>• Food outlet(s) – themed in line with the rest of the facility</li> <li>• Curio/craft/merchandising design/training to be outsourced to facilities within Khayelitsha.</li> </ul>	
<b>Project Implementing Agency</b>	
<p><b>Project Cost Estimate</b></p> <ul style="list-style-type: none"> <li>- Development of facilities R 25,132,000</li> <li>- Development of events/festivals R</li> <li>- Development of crafts/merchandise R</li> <li>Total Project Costs R</li> </ul>	<p><b>Implementation Schedule</b></p> <ul style="list-style-type: none"> <li>- Development of facilities 4 years (2years planning/designing and 2 years construction) from 2002 to 2005</li> <li>- Development of events/festivals Continuous development from 2004</li> <li>- Development of crafts/merchandise 3 years from 2003 to 2005</li> </ul>



**Project Sheet –Khayelitsha Subject Area**

<b>Project Title</b> A-2 Development of range of Khayelitsha tours and interpretation	
<b>Justification</b> <p>Khayelitsha's general tourism strengths and potentials primarily relate to its good location, but provide little assistance in respect of establishing a core tourism competitive advantage. Current experiences include a 'Township Life Drive Through Tour', 'Tavern/Shebeen Evenings' and an 'Overnight Experience' at a B&amp;B. However, these tours are only offered by a handful of tour operators and the existing Khayelitsha offerings do not differ from other Township tours in the region or in South Africa. Moreover, due to the lack of signage and interpretation, it is difficult for tourists to experience and understand the Khayelitsha life and culture. It is extremely important to establish linkages (into routes or experiences) between the various attractions, facilities and products in order to ensure a strong and cohesive product offering.</p>	
<b>Project Objectives</b> <ul style="list-style-type: none"> <li>• To establish linkage between the various attractions, facilities and products in order to ensure a strong and cohesive product offering.</li> <li>• To develop unique tours, which allow tourists to experience the real Khayelitsha, i.e. ensure it is unique to Khayelitsha and differentiated from other township experiences</li> <li>• To provide signage and interpretation for tours.</li> </ul>	
<b>General Description</b> <p>The future product offering includes the current products (i.e. Township Life Drive Through Tours, Township Tavern/Shebeen Evenings, Township Overnight Experience) but requires considerable further development of the current product offerings, particularly in improving the interpretation of the experiences and making it distinctive to Khayelitsha.</p> <p>In addition, the future product offering will incorporate the development of a large new facility/attraction that will be the unique product to put Khayelitsha on the tourism map, i.e. an African Music &amp; Dance Showcase (see A-1).</p> <p>The project will cover the total area of Khayelitsha.</p>	
<b>Project Components</b> <ul style="list-style-type: none"> <li>• Strengthening of the tour routes by researching their content and then designing new and updated (but unique to Khayelitsha) experiences and routes for: <ul style="list-style-type: none"> <li>- Township Life &amp; Culture Drive Through Tour Route</li> <li>- Township Tavern/Shebeen Evenings Route</li> <li>- Township Overnight Experience Route</li> </ul> </li> <li>• Facilitation of signage and interpretation at several tourists' nodes in the above tourist routes to improve tourist's understanding and experience of Khayelitsha Township life and culture.</li> </ul>	
<b>Project Implementing Agency</b> <p>Appropriate Cape Town Unicity marketing association and local tourism product owners and tour operators.</p>	
<b>Project Cost Estimate</b> R	<b>Implementation Schedule</b> 2 years from 2004 to 2005

**Project Sheet –Khayelitsha Subject Area**

<b>Project Title:</b> A-3 Demand study on infrastructures for tourism development in Khayelitsha	
<b>Justification:</b> This area has a relatively well-developed infrastructure base, such as piped water, sewage treatment system, electricity, and telecommunication. The existing infrastructure is sufficient from a future tourism development point of view. New investors can easily access existing infrastructure. However, it is very important to quantify existing supply and treatment volumes, capacity and the future demand of each utility. This is important for future development in this area.	
<b>Project Objectives:</b> <ul style="list-style-type: none"> <li>• To quantify existing supply and treatment volumes and capacity of each infrastructure</li> <li>• To estimate future demand of each infrastructure</li> <li>• To use results for future development planning</li> </ul>	
<b>General Description:</b> The subject area is situated within Uni City. The Provincial Government (water supply and sewage treatment) and private companies (electricity and telecommunication) operate and maintain all infrastructure in this area. The infrastructure within the area, except the sewage facility, are connected and networked to the facilities developed outside the subject area. Therefore, the Provincial Government will conduct this project soon after making plans for the African Music and dance Showcase.	
<b>Project Components:</b> <ul style="list-style-type: none"> <li>• Collection of current data</li> <li>• Study of capacity of existing infrastructure facilities</li> <li>• Site investigation</li> <li>• Demand forecast of each infrastructure</li> </ul>	
<b>Project Implementing Agency:</b> It is anticipated that the Provincial Government will be the implementing agency.	
<b>Project Cost Estimate:</b> R 600,000	<b>Implementation Schedule:</b> One year from 2003

**Project Sheet –Khayelitsha Subject Area**

<b>Program Title:</b> B-1 Marketing and Promotion of Subject Area	
<b>Justification:</b> In order to achieve the tourism demand and development potential inherent in the Khayelitsha focus area, continuous, comprehensive and effective destination marketing and promotion of the focus area and the product within the focus area is required.	
<b>Program Objectives:</b> <ul style="list-style-type: none"> <li>• Develop marketing and promotion messages and materials for the Subject Area which:</li> <li>• Successfully promotes the area as a tourist destination, ie creates awareness in the identified market segments of the destination and the range of products on offer in the area</li> <li>• Establishes the selected clear-cut image</li> <li>• Differentiates the area from major competitive destinations</li> <li>• Results in the achievement of the maximum potential increase in tourist demand projected for the area</li> </ul>	
<b>General Description/ Components:</b> This program comprises a Marketing and Promotion Plan for the marketing/promotion of the focus area as a tourist destination. The Marketing and Promotion plan comprises the following components: <ul style="list-style-type: none"> <li>• Branding &amp; Positioning Direction: Covers both generic branding (i.e. positioning of the total area) as well as sub-branding (ie positioning of product segments within the area). Provide some idea or direction of the icons/slogans/phrases that depict the brand essence or brand value of the area or the product segment within the area.</li> <li>• Promotion &amp; Communication Plan: Specifies the promotion and communication mix (ie the range of promotion and communication activities to be undertaken and the tools to be utilised in reaching identified target markets) by product segment.</li> <li>• Marketing Organisation: Specifies the best structure for the DMO for the focus area, including where this structure is to be housed, and the resources required by the DMO, including financial budget.</li> </ul>	
<b>Program Implementing Agency:</b> Many agencies have either had or currently have an involvement with tourism in Khayelitsha. Although there has been this significant interest, no clear responsibility and ownership of tourism promotion or development in Khayelitsha is apparent. We therefore suggest that the marketing of the area should be handled by a new Khayelitsha DMO, with adequate funds and significant private sector input, which links into the existing regional and local tourist bodies. We even suggest that as part of a skills-transfer and development program that this Khayelitsha DMO might “twin” with such a body such as Cape Tourism in its initial phases.	
<b>Program Cost Estimate:</b> R 760,000 pa	<b>Implementation Schedule:</b> Commence 2003 and ongoing.

**Project Sheet –Khayelitsha Subject Area**

<b>Program Title:</b> C-1 Development of local community musical talents, local entertainment troupes, interpretation of music	
<b>Justification:</b>  In order to make the African Music and Dance Showcase (AMDS) a world-class facility, it needs to host its own signature world-class shows and events. This would require the training and development of local talent into sophisticated dancers and musicians as well as theatre operating specialists in respect of lighting, sound, stage design, etc.	
<b>Program Objectives:</b>  <ul style="list-style-type: none"> <li>• Develop a small trained Showcase troop for music and dance performances</li> <li>• Develop an operational team with excellent theatre skills – lighting, sound, stage design, stage technical knowledge etc.</li> <li>• Develop and harness world class musicians and dancers, but at the same time maintaining the unique African vibrancy, rhythm, etc.</li> </ul>	
<b>General Description/ Components:</b>  This program comprises the following components: <ul style="list-style-type: none"> <li>• Identification of existing training programs.</li> </ul> Specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program – who should develop, manage and provide the training, what training should be provided and how should the training be provided.</li> <li>• The numbers to be trained.</li> <li>• The resources required for the training program, including financial budget.</li> </ul>	
<b>Program Implementing Agency:</b>  AMDS Project Implementation Unit	
<b>Program Cost Estimate:</b>  Included in PIU capital cost and operation budget  - Project A-1	<b>Implementation Schedule:</b>  Commence 2004 and ongoing.



**Project Sheet –Khayelitsha Subject Area**

<b>Program Title:</b> C-2 Arts, crafts and merchandising training	
<b>Justification:</b> The successful development of the focus area as a tourist destination will not only depend on the development of large tangible tourism product, such as the AMDS, but will also depend on other tangible product, such as arts, crafts and merchandising specific to the facility and the area. Arts, craft and merchandising can also be utilized successfully as marketing and promotion tools and can provide a significant revenue stream for a low return facility such as a theatre. A world-class AMDS would require world-class arts, crafts and merchandising and training in design and manufacturing of such product is therefore essential.	
<b>Program Objectives:</b> The overall objective is to equip a number of township residents with the skills to design and make world-class and contemporary arts, crafts and merchandise, which can be sold at the outlet at the Showcase as well as through other outlets, profitably.	
<b>General Description/Components:</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program – who should develop, manage and provide the training, what training should be provided and how should the training be provided.</li> <li>• The numbers to be trained.</li> <li>• The resources required for the training program, including financial budget.</li> </ul>	
<b>Program Implementing Agency:</b> Existing arts and craft training facilities in Khayelitsha with support from Khayelitsha DMO and AMDS PIU.	
<b>Program Cost Estimate:</b> R 25,000 to R 125,000 pa	<b>Implementation Schedule:</b> Commence 2003 and ongoing.

**Project Sheet –Khayelitsha Subject Area**

<b>Program Title:</b> C-3 Develop & Implement Tourism Entrepreneurial Training Program for local community	
<b>Justification:</b> It is envisaged that some entrepreneurial opportunities should present as the African Music and Dance Showcase facility and as tourism to the Township, develops, and business training will be needed to assist community members in taking up these opportunities.	
<b>Program Objectives:</b> To teach prospective and existing SMME entrepreneurs: <ul style="list-style-type: none"> <li>• To understand the tourism industry</li> <li>• To understand customer service</li> <li>• General business management skills</li> <li>• How to identify tourism business opportunities</li> <li>• How to negotiate/approach the established traditional tourism sector to sell and supply goods and services</li> <li>• To provide an ongoing tourism business advisory service to assist new and existing tourism SMME entrepreneurs, including assistance with identifying opportunities and negotiating with established players.</li> </ul>	
<b>Program Description/ Components</b> This program comprises the following components: <ul style="list-style-type: none"> <li>• Identification of existing similar training programs.</li> </ul> Specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program – who should develop, manage and provide the training, what training should be provided and how should the training be provided.</li> <li>• The numbers to be trained.</li> <li>• The resources required for the training program, including financial budget.</li> </ul>	
<b>Program Implementing Agency:</b> Khayelitsha Destination Tourism Organisation	
<b>Program Cost Estimate:</b> R 70,000 to R 120,000 pa	<b>Implementation Schedule:</b> 2003 to 2006.

**Project Sheet –Khayelitsha Subject Area**

<b>Program Title:</b> C-4 Tour Guiding and Interpretation Training Program	
<b>Justification:</b> The successful development of the focus area as a tourist destination will not only depend on the development of the tangible tourism product, such as the AMDS, but also on the development of intangible product, such as the oral interpretation at the AMDS and various other tourist sites. A high standard intangible tourist experience requires knowledgeable and trained persons in the skills of tour guiding and interpretation.	
<b>Program Objectives:</b> To train guides, according to the Provincial Guide Accreditation System, to provide tour guiding of the township attractions in the area and for the interpretation center of the Showcase. The guides will have the basic general guiding skills and SA tourism knowledge, and the speciality knowledge related to the township and/or music and dance. They should also learn the importance of good interpretation for visitors and particularly foreign visitors. In addition some languages (English and foreign) will form part of the tour guiding and interpretation training programs.	
<b>General Description/Components:</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program: <ul style="list-style-type: none"> <li>- who should develop, manage and provide the training</li> <li>- what training should be provided</li> <li>- how should the training be provided</li> <li>- The numbers to be trained</li> <li>- The resources required for the training program including, financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b> Khayelitsha Destination Tourism Organisation	
<b>Program Cost Estimate:</b> R 25,000 to R 230,000 pa	<b>Implementation Schedule:</b> Commence 2003 and ongoing.

**Project Sheet –Khayelitsha Subject Area**

<b>Program Title:</b> D-1 Establishing Project Implementation Unit for African Music and Dance Showcase (PIU)	
<b>Justification:</b> The AMDS will be a large project, which will require harnessing and satisfying the interests of a large number of stakeholders. Such a complex project requires meticulous planning and coordination. To ensure proper coordination as well as to maintain a strong momentum within the development process, the establishment of a dedicated Project or Program Implementation Unit (PIU) for the AMDS is essential.	
<b>Program Objectives:</b> <ul style="list-style-type: none"> <li>• Establish the framework for a PIU which will allow for the timely and effective development of the AMDS.</li> </ul>	
<b>Program Description/ Components</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the PIU: <ul style="list-style-type: none"> <li>- who should be part of and/or lead the PIU</li> <li>- what should the PIU do</li> <li>- how should the PIU be structured</li> <li>- The time horizon of the PIU</li> <li>- The resources required for the PIU, including financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b> AMDS Project Implementation Unit	
<b>Program Cost Estimate:</b> R 750,000 pa	<b>Implementation Schedule:</b> 2003 to 2006

## **24.2 Cost Estimate, Implementation Schedule and Financing Alternatives**

### **24.2.1 Cost Estimate**

Table 24.2.1 shows the priority project costs for the tourism development at Khayelitsha Subject Area.

Major points include:

- The projects for product, facilities and infrastructure development amount to R25 million of their initial (investment) costs including those for study and design, physical works, and contingencies.
- Average annual operation/maintenance cost is estimated for each project, and is shown in the table.
- Average annual cost is estimated separately for the implementation of programs including marketing and promotion, human resource development, and institutional development. These program costs are not included in the total amount of the initial cost above.

The assumptions used for estimating the initial cost are provided in Appendix K.

### **24.2.2 Implementation Schedule**

Table 24.2.2 shows the implementation schedule for all of the priority projects and programs.

For product, facilities and infrastructure development, there are three kinds of periods: study/design, construction/development, and operation/maintenance, while there is no such distinction for marketing & promotion, human resource development and institutional development.

Annual cost requirements including the initial cost and the operation/maintenance costs are estimated for each year.

Table 24.2.1 Project Costs – Khayalitsha Subject Area

(R'000)

Projects and Programs		Study/Design	Construction/ Procurement			Total of Project (Initial cost)	Annual Operation/ Maintenance*	Remark
			Cost	Contingency	Sub-Total			
<b>Product, Facilities &amp; Infrastructure</b>								
A-1	Development of African Music/Dance Showcase	5,700	15,811	2,933	18,744	24,444	14,881	Refer Construction Costs - 2
A-1-1	Development of Facilities	1,956	15,811	2,933	18,744	20,700	12,031	
A-1-2	Development of Events/Festivals	2,000				2,000	2,000	
A-1-3	Development of Crafts/Merchandise	1,744				1,744	850	
A-2	Development of range of Khayelitsha tours/interpretation	750				750	75	
A-3	Demand study on infrastructures for tourism development in Khayelitsha	600	0	0	0	600	0	water supply, sew age, electricity, and telephone
<b>Total</b>		<b>7,050</b>	<b>15,811</b>	<b>2,933</b>	<b>18,744</b>	<b>25,794</b>	<b>14,956</b>	

\*Annual Cost is average to year 2011

Projects and Programs		Annual Operation / Maintenance*	Remarks
<b>Marketing &amp; Promotion</b>			
B-1	Marketing and promotion for area	718	
<b>Total</b>		<b>718</b>	
<b>Human Resource Development</b>			
C-1	Development of local community musical talents, local entertainment troupes, interpretation of music		Cost included in the Development and Annual Operation Cost of Project A-1
C-2	Development of arts/crafts design, manufacture skills	64	
C-3	Tourism entrepreneurial training program for local community	80	2003 to 2006
C-4	Tour guiding and interpretation training program	86	
<b>Total</b>		<b>230</b>	
<b>Institutional Development</b>			
D-1	Establishing PIU for African Music and Dance Showcase	750	2003 to 2006
<b>Sub Total</b>		<b>750</b>	
<b>Total</b>		<b>1,698</b>	
<b>Grand Total (operation/maintenance)</b>		<b>16,654</b>	

\*Annual Cost is average to year 2011

Table 24.2.2 Project Implementation and Operation/Maintenance Cost – Khayelitsha

Unit: R1000

Projects and Programs		Initial Cost	Project Implementation & Operation/Maintenance Cost									
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Product, Facilities &amp; Infrastructure</b>												
A-1	Development of African Music and Dance Show case	24,444	1,140	4,560	18,744	10,864	14,194	16,022	17,030	19,278	19,278	19,278
A-2	Development of range of Khayelitsha tours and interpretation	750		750	75	75	75	75	75	75	75	75
A-3	Demand study on infrastructures for tourism development in Khayelitsha	600		600								
	<b>sub-total</b>	25,794	1,140	5,910	18,819	10,939	14,269	16,097	17,105	19,353	19,353	19,353
<b>Marketing &amp; Promotion</b>												
B-1	Marketing and promotion for area			383	760	760	760	760	760	760	760	760
	<b>sub-total</b>	0	0	383	760	760	760	760	760	760	760	760
<b>Human Resource Development</b>												
C-1	Development of local community musical talents, local entertainment troupes, interpretation of music			Cost included in the Development and Annual Operation Cost of Project A-1								
C-2	Arts, crafts and merchandising training			125	108	108	108	25	25	25	25	25
C-3	Tourism entrepreneurial training for local community			120	53	73	73					
C-4	Tour guiding and interpretation training				233	233	183	25	25	25	25	25
	<b>sub-total</b>	0	0	245	395	415	365	50	50	50	50	50
<b>Institutional Development</b>												
D-1	Establishing Project Implementation Unit for African Music and Dance Show case			750	750	750	750					
	<b>sub-total</b>	0	0	750	750	750	750					
	<b>Grand-Total</b>	25,794	1,140	7,288	20,724	12,864	16,144	16,907	17,915	20,163	20,163	20,163

Source: JICA Study Team

Note: Product, Facilities & Infrastructures

Study/Plan/Design
  Construction/Development
  Operation/Maintenance

Marketing & Promotion, Human Resource Development, and Institutional Development
  Plan & Operation

### 24.2.3 Financing Alternatives

The proposed development needs to be funded jointly by the public and private sectors, considering that government resources are scarce and that private sector participation is essential for rendering services responsive to the customer needs.

In principle, the public sector should play a role to provide infrastructure (both physical and institutional) needed for the development and to promote and facilitate private investment in the area. On the other hand, commercially oriented activities can be undertaken by the private sector as long as they can generate a reasonable level of financial return. See section of financial evaluation for this point. Table 24.2.3 shows suggestions for potential funding sources for the implementation of the proposed priority projects and programs.

Table 24.2.3 Suggestions for Potential Funding Sources for Implementing Priority Projects and Programs

Item	Potential funding sources for implementation	Remarks
<b>Product, Facilities &amp; Infrastructure</b>		
African Music/Dance Showcase		
Planning & designing	Governments' own budget	Responsibility of the public sector as an infrastructure provider and a facilitator to attract private operators. Operation of the facilities should be undertaken by private operators.
Development of Showcase including theatre, interpretation centre, and other facilities	DBSA (External loan funds from donor agencies where available)	
Infrastructure needed for the above development	IDC Private operators (possibly with IDC funding)	
Development of music, dance and shows	Grant funding and technical assistance from donor agencies where available Private sponsorship from large corporates, particularly those involved in music/dance commercially or through sponsorship	
Development events and festivals	Private operators Private sponsors Governments' own budget	Joint undertaking of the public and private sectors
Development of crafts and merchandise	Governments' own budget DBSA, IDC Private investors Grant funding and technical assistance from donor agencies Technical assistance from related institutions (design schools, universities, colleges)	Joint undertaking of the public and private sectors
Development of range of Khayelitsha tours/interpretation	Governments' own budget DBSA Technical assistance (External loan funds where available)	Responsibility of the public sector as facilitator but in cooperation with private sector tourism product owners



Item	Potential funding sources for implementation	Remarks
Demand study on infrastructure for tourism development in Khayelitsha	Governments' own budget DBSA (External loan funds where available)	Responsibility of the public sector
<b>Marketing &amp; Promotion</b>	Governments' own budget (including Government Skills Development Grant Schemes) Technical assistance capacity & funding from DBSA (Local Government Technical Assistance Scheme) Grant funding from donor agencies Technical assistance from donor agencies	
<b>Human Resource Development</b>		
<b>Institutional Development</b>		

Source: JICA Study Team

## 24.3 Economic Evaluation

The proposed priority projects and programs are expected to attract a greater number of tourists to the area. Economic evaluation of these projects and programs was undertaken according to the methodology described in Section 21.2.1. **Note that at this planning stage both project benefits and costs used in the analysis are preliminary in nature, and thus the result should be taken as indicative.**

### 24.3.1 Economic Benefits

#### (1) Summary of Demand Projection

Table 24.3.1 shows the results of demand projection undertaken in the focus area development plan for both "with" and "without" project cases. The projection is made up to 2021, the ending year of the evaluation period (20 years).

Table 24.3.1 Projection of Visitors to Khayelitsha

Year	"With" projects & programs				"Without" projects & programs			
	Domestic tourists		Foreign tourists		Domestic tourists		Foreign tourists	
	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors
2001	295	6,687	687	11,567	295	6,687	687	11,567
2002	731	7,857	1,528	15,279	296	6,720	694	11,683
2003	752	8,164	1,604	16,043	298	6,754	701	11,799
2004	775	8,481	1,684	16,845	299	6,787	708	11,917
2005	2,837	27,295	6,191	66,327	301	6,821	715	12,037
2006	2,922	55,042	6,500	83,572	302	6,855	722	12,157
2007	3,010	70,211	6,825	97,501	304	6,890	729	12,279

Year	“With” projects & programs				“Without” projects & programs			
	Domestic tourists		Foreign tourists		Domestic tourists		Foreign tourists	
	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors
2008	3,100	71,924	7,166	102,376	305	6,924	737	12,401
2009	3,193	73,681	7,525	107,495	307	6,959	744	12,525
2010	3,289	75,482	7,901	112,870	309	6,993	752	12,651
2011	3,388	77,329	8,296	118,513	310	7,028	759	12,777
2012	3,489	79,224	8,711	124,439	312	7,064	767	12,905
2013	3,524	80,016	8,928	127,550	313	7,099	774	13,034
2014	3,560	80,816	9,152	130,738	315	7,134	782	13,164
2015	3,595	81,624	9,380	134,007	316	7,170	790	13,296
2016	3,631	82,440	9,615	137,357	318	7,206	798	13,429
2017	3,667	83,265	9,855	140,791	320	7,242	806	13,563
2018	3,704	84,098	10,102	144,311	321	7,278	814	13,699
2019	3,741	84,938	10,354	147,918	323	7,315	822	13,836
2020	3,779	85,788	10,613	151,616	324	7,351	830	13,974
2021	3,816	86,646	10,878	155,407	326	7,388	839	14,114

Source: JICA Study Team

## (2) Tourist Expenditure

Total tourist expenditure is estimated by multiplying the number of tourists to the area by the amount spent per tourist. Tourist expenditure per tourist for the area is estimated as shown in Table 24.3.2.

The estimates for the “without” project case are made based on the socio-economic impact assessment survey conducted as part of this study. No inflation is assumed, thereby maintaining consistency with the project costs where inflation is also not taken into account.

The expenditure for day visitors both domestic and foreign is assumed to increase by 20% (from 2005) due to the introduction of the showcase. For overnight visitors, it is conservatively assumed that the same figures are also used for the “with” project case.

Table 24.3.2 Estimate of Tourist Expenditure per Tourist for Khayelitsha

(in Rand)

Domestic/foreign	“With” projects & programs		“Without” projects & programs	
	Overnight visitors	Day visitors	Overnight visitors	Day visitors
Domestic tourists	336	122	336	102
Foreign tourists	620	330	620	275

Note: Expenditure of overnight visitors is a total spent for the entire stay in the area, not per day. The difference in day visitors' expenditure between domestic and foreign tourists comes mainly from the fact that many foreign tourists visit the area on a tour operated by tour operators, while domestic tourists mostly visit on their own.

Source: Socio-Economic Impact Assessment Survey, JICA Study Team

### (3) Contribution to GDP

Contribution of the priority projects and programs to GDP or value added is estimated as shown in Table 24.3.3.

Assumptions:

- The difference in total expenditure between “with” and “without” cases, as shown in the table, is obtained from demand projection coming from the focus area development plan. Considering that most of the identified projects and programs were selected as priority, a factor of 0.9 is assumed to be applied to convert this difference to that resulting from the priority projects and programs. The result is shown in the second column from the right.
- A factor of 0.55 is then assumed to convert the incremental tourist expenditure attributed to the priority projects and programs to the net increment in value added. This assumption is based on the result of the socio-economic impact assessment survey, in which one unit of the incremental final demand related to tourism is estimated to increase value added of somewhat higher than 0.6.<sup>1</sup>
- All the benefit figures are in constant values, and price escalation is not considered.

The last column of the table provides the estimated contribution of the priority projects and programs to GDP, namely, the project benefits.

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<sup>1</sup> Since tourism is not a separate sector in the South Africa’s national account system, this estimate was made for sectors that include tourism-related services. For example, this factor was estimated at 0.56 for wholesale and retail trade that includes accommodation and restaurants, and 0.58 for transport and communication including travel agencies, air and related transport activities.

Table 24.3.3 Economic Benefits of Priority Projects and Programs

(Thousand Rand)

Year	Total tourist expenditure								Incremental tourist expenditure					Increment attributed to priority projects	Contribution to GDP
	"With" projects & programs				"With" projects & programs				Domestic tourists		Foreign tourists		Total		
	Domestic tourists		Foreign tourists		Domestic tourists		Foreign tourists		Overnight visitors	Day visitors	Overnight visitors	Day visitors			
	Overnight visitors	Day visitors	Overnight Visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors							
2001	99	682	426	3,181	99	682	426	3,181	0	0	0	0	0	0	0
2002	245	801	947	4,202	100	685	430	3,213	146	116	517	989	1,768	1,591	875
2003	253	833	995	4,412	100	689	435	3,245	153	144	560	1,167	2,023	1,821	1,002
2004	260	865	1,044	4,632	101	692	439	3,277	160	173	605	1,355	2,293	2,064	1,135
2005	953	3,341	3,838	21,888	101	696	443	3,310	852	2,645	3,395	18,578	25,470	22,923	12,608
2006	982	6,737	4,030	27,579	102	699	448	3,343	880	6,038	3,582	24,236	34,736	31,262	17,194
2007	1,011	8,594	4,232	32,175	102	703	452	3,377	909	7,891	3,779	28,799	41,378	37,240	20,482
2008	1,042	8,803	4,443	33,784	103	706	457	3,410	939	8,097	3,986	30,374	43,396	39,057	21,481
2009	1,073	9,018	4,665	35,473	103	710	461	3,444	970	8,309	4,204	32,029	45,511	40,960	22,528
2010	1,105	9,239	4,899	37,247	104	713	466	3,479	1,001	8,526	4,433	33,768	47,728	42,955	23,625
2011	1,138	9,465	5,143	39,109	104	717	471	3,514	1,034	8,748	4,673	35,596	50,051	45,046	24,775
2012	1,172	9,697	5,401	41,065	105	720	475	3,549	1,068	8,976	4,925	37,516	52,485	47,237	25,980
2013	1,184	9,794	5,536	42,091	105	724	480	3,584	1,079	9,070	5,056	38,507	53,711	48,340	26,587
2014	1,196	9,892	5,674	43,144	106	728	485	3,620	1,090	9,164	5,189	39,523	54,967	49,470	27,209
2015	1,208	9,991	5,816	44,222	106	731	490	3,656	1,102	9,259	5,326	40,566	56,253	50,628	27,845
2016	1,220	10,091	5,961	45,328	107	735	495	3,693	1,113	9,356	5,467	41,635	57,570	51,813	28,497
2017	1,232	10,192	6,110	46,461	107	739	500	3,730	1,125	9,453	5,611	42,731	58,920	53,028	29,165
2018	1,245	10,294	6,263	47,623	108	742	505	3,767	1,137	9,551	5,758	43,855	60,302	54,272	29,849
2019	1,257	10,396	6,420	48,813	108	746	510	3,805	1,149	9,650	5,910	45,008	61,717	55,546	30,550
2020	1,270	10,500	6,580	50,033	109	750	515	3,843	1,161	9,751	6,065	46,191	63,167	56,850	31,268
2021	1,282	10,605	6,745	51,284	110	754	520	3,881	1,173	9,852	6,225	47,403	64,652	58,187	32,003

Source: JICA Study Team

### 24.3.2 Economic Costs

The initial cost and the operation and maintenance cost for the priority projects and programs that were estimated earlier are used for the economic evaluation.

Assumptions:

- All the costs are in constant values, and price escalation is not considered.
- All the costs are to be incurred according to the schedule projected earlier.
- In order to convert the financial cost to the economic cost, a factor of 0.9 was adopted primarily considering taxes that are an internal transfer.

### 24.3.3 Economic Return

With the economic benefits and costs estimated above, the entire priority projects and programs were evaluated using the economic internal rate of return (EIRR), a standard measure for project's economic impact. Table 24.3.4 presents the results of the estimation.

EIRR was estimated to be 20.5% for these projects and programs. Although the result is indicative in nature, this value significantly exceeds the economic opportunity cost of capital that is often assumed at 12%, and is high enough for justifying the investment in them from the national economic point of view.

Table 24.3.4 Economic Internal Rate of Return for Priority Projects and Programs

Year	Economic Benefit (1)	Economic Cost		Net benefit (1)-(2)-(3)
		Product, facilities, infrastructure (2)	Programs (3)	
2001	0	0	0	0
2002	875	1,026	0	-151
2003	1,002	5,319	1,240	-5,558
2004	1,135	16,937	1,715	-17,517
2005	12,608	9,845	1,733	1,030
2006	17,194	12,842	1,688	2,665
2007	20,482	14,487	729	5,266
2008	21,481	15,395	729	5,358
2009	22,528	17,418	729	4,381
2010	23,625	17,418	729	5,479
2011	24,775	17,418	729	6,628
2012	25,980	17,418	729	7,834
2013	26,587	17,418	729	8,440
2014	27,209	17,418	729	9,062
2015	27,845	17,418	729	9,699
2016	28,497	17,418	729	10,351
2017	29,165	17,418	729	11,019
2018	29,849	17,418	729	11,703
2019	30,550	17,418	729	12,403
2020	31,268	17,418	729	13,121
2021	32,003	17,418	729	13,856

**EIRR = 20.5%**

Note: Cost for product, facilities and infrastructure ((2) above) includes investment cost and operation and maintenance cost. Cost for programs ((3) above) includes that for promotion and marketing, human resource development, and institution development.

Source: JICA Study Team

## (1) Sensitivity Analysis

In view of the inevitable uncertainty concerning the precise values of key variables in the economic evaluation, sensitivity analysis was undertaken.

Table 24.3.5 shows sensitivity of EIRR with respect to the change in the initial cost (investment cost) and in the benefit, and the combination of them.

Table 24.3.5 Sensitivity of Economic Internal Rate of Return (EIRR)

Case	EIRR
Base Case	20.5%
(1) Initial Cost: 10% up	18.6%
(2) Benefits: 10% down	13.7%
(3) Combination of (1) & (2)	12.3%

Source: JICA Study Team

## 24.4 Preliminary Financial Assessment

The single most important development focus proposed in the study is the development of an “African Music/Dance Showcase” that involves not only the construction of facilities, but also and extremely importantly, developing and operating the world-class, sophisticated music and dance shows that require major efforts in product development and training.

In order to make the showcase truly a world-class attraction, an enthusiastic private operator should provide training and develop and operate the shows that will meet the standard of discerning international tourists. For this to happen, it is necessary that the private operator be provided a reasonable level of financial return.

Table 24.4.1 summarizes a preliminary assessment of the operating performance of the showcase. While the result is preliminary and indicative in nature, estimation was made as to whether operating the showcase could be a commercial activity attractive enough to a private entity. Note that inflation is not considered in the analysis, and thus the ROI estimated is in real terms. Cash flows for this preliminary assessment are provided in Appendix K.

As shown, despite the high economic return estimated previously for the entire priority projects and programs, it is estimated that the return on investment in the showcase is not high enough for private investors if all the initial cost is to be borne by the private sector (see case (1) in the table). This result is plausible in view of the need for maintaining high quality (thus costly) of the shows and performances during operation.

The estimated initial cost is essentially the cost of construction of facilities and infrastructure needed. ROI improves as the amount of the initial cost is reduced, i.e., if the public sector bears the cost for the initial investment in facilities and infrastructure (see cases (2) and (3) in the table).

Table 24.4.1 Indicative Result: Return on Investment (ROI) for African Music/Dance Showcase

Case	ROI
All the initial cost included (incl. planning & design, site preparation, infrastructure, facilities, etc.)	3%
50% of total initial cost included	10%
30% of total initial cost included	17%

Note: ROI is in real terms, assuming no inflation.

Source: JICA Study Team

Generally, theatres in South Africa do not show a reasonable level of return on investment, many not even achieving an operating profit. Therefore, the level of returns shown above is in line with (and in some cases even better than) what is achieved by existing similar establishments.

Taking all these into account, the result strongly suggests that public investment in facilities and infrastructure is essential for commercially viable operation of the showcase.

## 24.5 Environmental Considerations

Table 24.5.1 shows the list of priority projects/ programs in Khayelitsha by type. The basic data for the size/ description of each project/ program is shown in Table 24.2.6.2. The results of preliminary EIA are discussed in the following section.

Table 24.5.1 List of Priority Projects &amp; Programs in Khayelitsha Subject Area requiring EIA

Priority Projects and Programs	Type
<b>A Product, Facilities and Infrastructure</b>	
A-1 Development of African Music and Dance Showcase	*1
A-1-1 Development of facilities for African Music and Dance Showcase	Type A
A-1-2 Development of music, dance, shows and events/festivals for African Music and Dance Showcase	*2
A-1-3 Development of African Music and Dance Showcase specific crafts/ merchandise	*2
A-2 Development of range of Khayelitsha tours and interpretation	*2
A-3 Demand study on infrastructures for tourism development in Khayelitsha	*2

Source: JICA Study Team

Note: Type A: Projects/ programs of small-scale development

\*1: Project/ program title

\*2: No need to prepare IEE because of soft type project/ program

Table 24.5.2 Size/ Description of Each Project/ Program in Khayelitsha Subject Area

No.	Item	Size/ Description
<b>Type A</b>		
<b>A-1-1 Development of facilities for African Music and Dance Showcase</b>		
1	Site Preparation	site area 40,000m <sup>2</sup>
2	Construct Theatre	total floor area 2,000m <sup>2</sup> (with 200 seats, stage, backstage, anteroom, office, lobby, toilet, machine room)
3	Construct Info Interpretation/Interpretation Museum/Museum	floor area 500m <sup>2</sup>
4	Construct Outdoor Theatre	ground area 10,000m <sup>2</sup> with stage and lawn

No.	Item	Size/ Description
5	Construct Multi-purpose Building	floor area 300m <sup>2</sup> with flat floor
6	Construct Shop/Outlet	floor area 300m <sup>2</sup>
7	Construct Food outlet	floor area 200m <sup>2</sup>
8	Construct Parking and Landscaping	500 bays
9	Construct Fencing	H=2m, L=1,000m
10	Construct water supply pipe	Φ30, L=300m
11	Construct sewage pipe	Φ300, L=300m
12	Construct Electricity Line	underground L=300m
13	Construct Telephone Line	underground L=300m

Source: JICA Study Team

### (1) Type A Projects/ Programs (Development of facilities for African Music and Dance Showcase)

Table 24.5.3 shows results of a preliminary EIA of Type A in this Area. The Type A project/ program is small-scale building construction. The impacts are caused by reclamation/ special occupancy at the construction stage and by the accumulation of people/ goods at the operation stage. Careful attention at the construction stage, such as the construction equipment and vehicles, and a detailed demand study is required.

This type of project/ program may be activities which require an EIA as "1 The construction or upgrading: (m) public and private resorts and associated infrastructure". Discussion with the EIA section in Western Cape Province is required.

Table 24.5.3 Results of Preliminary EIA for Type A

Environmental items		Before operation		After operation			
		Reclamation/ spatial Occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of vehicles-/ship s/ airplanes	Operation/ maintenance of associated facilities	Accumulation of people/ goods
Social environment	Resettlement	X					
	Economic activities						X
	Traffic/ public facilities				X		X
	Split of communities						
	Cultural property	X					X
	Water rights/ rights of common	X		X			
	Public health condition						
	Waste						X
	Hazard (risk)						
Natural environment	Topography/ geology						
	Soil erosion						
	Groundwater						
	Hydrological						
	Coastal zone						
	Fauna/ flora						
	Meteorology						
	Landscape	X		X			



Environmental items		Before operation		After operation			
		Reclamation/ spatial Occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of vehicles./ship s/ airplanes	Operation/ maintenance of associated facilities	Accumulation of people/ goods
Pollution	Air pollution				X		
	Water pollution	X				X	X
	Soil contamination						
	Noise/ vibration				X		
	Land subsidence						
	Offensive odor						

Note: XX: The environmental items to which special attention has be paid. They might cause serious impacts that may affect the project formation depending on the magnitude of the impacts and the possibility of the measures.

X: The environmental items which may have a significant impact depending on the scale of project and site conditions.

No mark: The environmental items requiring no impact assessment since the anticipated impacts are, in general, not significant.

In case of the comprehensive development projects, all the items are classified in X, because their studies are usually at the master planning stage and the extent of impacts are not clear.

Source: JICA Study Team



# **Chapter 25**

## **Valley of the Olifants Subject Area**

## 25.1 Valley of the Olifants Project/Program Package

### 25.1.1 List of Priority Projects & Programs

The priority projects and programs that comprise the Valley of the Olifants Package are summarised in Table 25.1.1. The location of these projects is shown in Figure 25.1.1.

Table 25.1.1 List of Priority Projects & Programs

<b>A</b>	<b>Product, Facilities and Infrastructure</b>
A-1	Wildlife Education and Research Centre
A-2	Wildlife Education and Research Route Product
A-3	Road and Transport Upgrading
	A-3-1 Upgrading of R36
	A-3-2 Improvement of general road signage
	A-3-3 Preparation of the latest road map/tourist map
<b>B</b>	<b>Marketing and Promotion</b>
B-1	Marketing and promotion of the area (as key entry point or the route into KNP, establishing distinctive wildlife research experience brand, promoting unique wildlife experience)
<b>C</b>	<b>Human Resource Development</b>
C-1	Development of local community craft and curio making design and manufacture skills
C-2	Development of wildlife viewing/research guiding skills and interpretation
C-3	Training program for product owners to incorporate WR&E brand and products
<b>D</b>	<b>Institutional Development</b>
D-1	Establishing Project Implementation Unit for WERC and WR&ETR (Wildlife PIU)
D-2	Determining management, operation and maintenance scheme for WERC and WR&ETR
D-3	Re-establish LTO in Hoedspruit

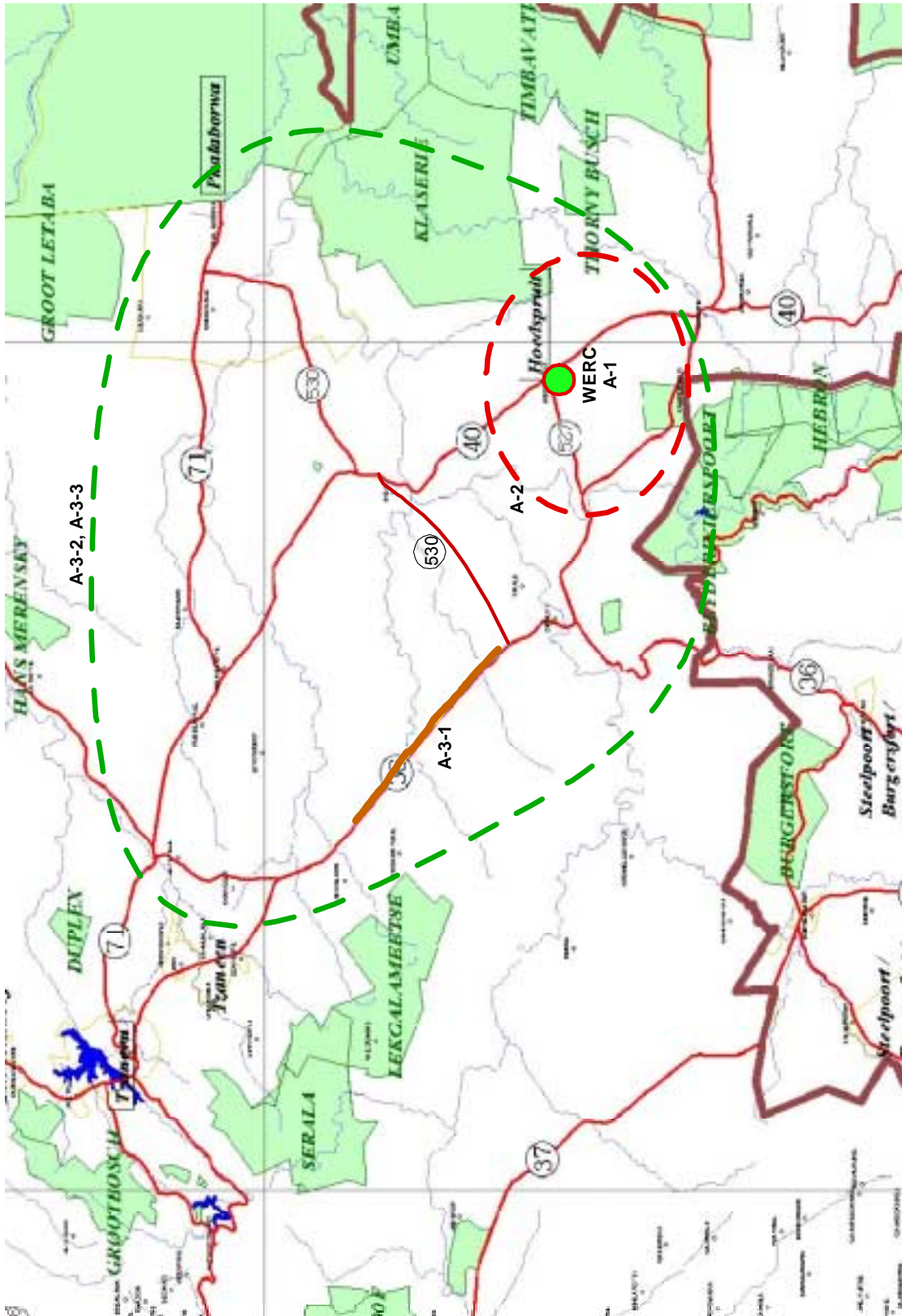
Source: JICA Study Team

### 25.1.2 Project Sheets

The project sheets that follow provide details of each project/program in terms of its justification, objectives, general description, and components. The anticipated implementing agency is identified and a cost estimate with time period for implementation is also provided.

Schematic drawings are also included to provide a visual impression of the proposed products and facilities.

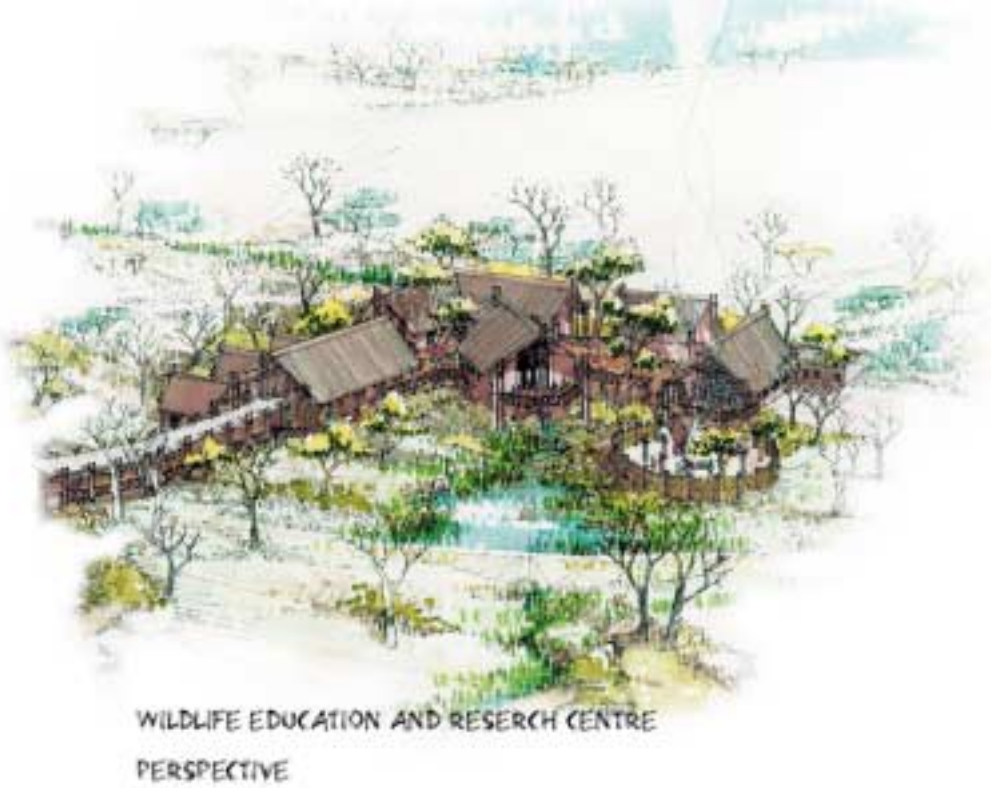
Figure 25.1.1 Location of Priority Projects (Valley of Olifants)



**Project Sheet–Valley of Olifants Subject Area**

<b>Project Title</b>	A-1	Wildlife Education and Research Centre
<b>Justification</b>		
<p>Although the area already has several attractions and facilities that offer a wildlife research/education experience, a powerful and state-of-the-art facility is required that will indisputably establish the selected clear-cut image of the area and act as a draw card. A state-of-the-art WE&amp;RC embodies such a facility.</p>		
<b>Project Objectives</b>		
<ul style="list-style-type: none"> <li>• To strengthen and establish the suggested clear cut image, “The Wildlife Education and Research experience of South Africa”</li> <li>• To differentiate the wildlife experience of this area from other wildlife experiences in SA</li> <li>• To build on the core strengths of the area, i.e. wildlife education and research and access into the KNP</li> <li>• To increase tourist flow into the area, which will open up opportunities to develop tourism-related activities on access routes such as the R36 to Blyde-River Canyon and the R40 to Hazyview via Bushbuck Ridge, thereby creating jobs in this economically disadvantaged area.</li> </ul>		
<b>General Description</b>		
<p>The WE&amp;RC facility together with a range of smaller more hands-on and specialized wildlife research and education facilities, would provide tourists with the unique opportunity to experience both wildlife education and wildlife practice (i.e. real life) in one area or visit.</p> <p>The facility should be state-of-the-art, highly interactive, and offer a high standard of interpretation. It should be used to “whet the appetite” of visitors to experience the more specialized facilities in the rest of the area.</p> <p>This facility must primarily appeal to the general tourist (i.e. the layman), but could also offer facilities that would be of interest to the wildlife special interest or wildlife academic market.</p> <p><u>High Potential Site(s):</u></p> <p>The location of this facility is extremely important to the ultimate success of the facility as well as the clear-cut brand and route development. The facility must be located where it would attract the most tourist traffic. We recommend:</p> <p>In Hoedspruit; Or around Hoedspruit on one of the major access/tourist routes.</p>		
<b>Project Components</b>		
<ul style="list-style-type: none"> <li>• Wildlife interpretation centre including a virtual reality simulation area and highly interactive exhibitions</li> <li>• Wildlife exhibition facility/hall with continuously changing exhibitions</li> <li>• Wildlife theatre for viewing wildlife shows, etc</li> <li>• Meeting facilities, particularly for attracting the special interest (wildlife education) MICE markets to the area</li> <li>• Subject area information/visitor centre that would offer information on the greater area and act as a dissemination point for tourists to the area</li> <li>• Wildlife arts and crafts and other merchandising centre (visitor participation in crafts production, pottery production, etc.). Wildlife research and education merchandising can, in particular, be very successful, i.e. literature, CDs, etc</li> <li>• Restaurants and other shops</li> </ul>		

<b>Project Title</b> A-1      Wildlife Education and Research Centre	
<b>Project Implementing Agency</b>	
<b>Project Cost Estimate</b> Planning and designing: R 1,015,000 Construction: R 11,669,000 Total Project Costs: R 12,684,000	<b>Implementation Schedule</b> 4 years (2 years for planning and designing and 2 years for construction) from 2002 to 2005





**Project Sheet–Valley of Olifants Subject Area**

<b>Project Title</b> A-2 Wildlife Education and Research Route Product	
<b>Justification</b> In order to differentiate the wildlife experience in the Subject Area from the myriad of other wildlife products in other areas, it is essential that a total cohesive route or experience be developed, i.e. a Wildlife Research & Education Route.	
<b>Project Objectives</b> <ul style="list-style-type: none"> <li>• To strengthen and establish the suggested clear cut image, “The Wildlife Education and Research experience of South Africa”</li> <li>• To differentiate the wildlife experience of this area from other wildlife experiences in SA</li> <li>• To build on the core strengths of the area, ie wildlife research and education and access into the KNP</li> <li>• To increase tourist flow into the area, which will open up opportunities to develop tourism-related activities on access routes such as the R36 to Blyde-River Canyon and the R40 to Hazyview via Bushbuck Ridge, thereby creating jobs in this economically disadvantaged area</li> </ul>	
<b>General Description</b> Strengthen the recommended image by developing a cohesive and well-interpreted route, linking the proposed new development to other wildlife research and education products located throughout the area. The proposed new facility could also act as the dissemination point for visitors to the other more specialized hands-on facilities.  <u>High Potential Site(s):</u> Not site specific, across total focus subject area and including all relevant sites.	
<b>Project Components</b> <ul style="list-style-type: none"> <li>• Existing and new attractions/facilities would be incorporated into the Route and standards as well as the core principles and activities of the Route will need to be established and implemented.</li> <li>• Route marketing would need to be developed and implemented.</li> </ul> This also ties in with the development of tourist maps and signage as discussed above.	
<b>Project Implementing Agency</b>	
<b>Project Cost Estimate</b> R	<b>Implementation Schedule</b> 4 years from 2002 to 2005

**Project Sheet–Valley of Olifants Subject Area**

<b>Project Title:</b> A-3 Road and Transport Upgrading	
<b>Justification:</b>	
<p>The R36 is one of the main regional roads, which connects Tzaneen in the Northern Province to Lydenburg in Mpumalanga, running through the Valley of the Olifants from north to south. However, part of this road (from Karongwe to the intersection with the R530) has not yet been paved. In the rainfall season, this road is muddy and slippery and consequently very dangerous for tourists. The paving of this road would contribute significantly to the further development of the tourism industry and to improvement of the living condition of people in the area.</p> <p>Few road signs indicating road numbers and/or directions are provided along roads in this area. This makes it difficult for drivers/tourists to recognize which road they are driving on as well as the direction that they should go. Road signs should be installed at suitable locations and at regular intervals along the roads.</p> <p>The road numbers on road signs do not correspond with the numbers reflected on available road maps, particularly the official tourist maps provided by the Province. For instance, the roads between Mica and the R36, and Mica and Phalaborwa, have road signs showing it as R530. However, the latest tourism road map shows these roads as the R527 and R40, respectively. These inaccuracies cause major difficulties for tourists. The improvement of the accuracy of the road numbering and tourist mapping is extremely important for tourism development, particularly in view of the fact that the majority of tourists to this area are self-drive.</p>	
<b>Project Objectives:</b>	
<ul style="list-style-type: none"> <li>• To accelerate development of tourism and other industry in this area</li> <li>• To improve living conditions of people living along this road</li> <li>• To make drivers/tourists comfortable and make driving easier, and</li> <li>• To attract more tourists/visitors to this area</li> </ul>	
<b>General Description:</b>	
<p>Part of the R36 (from Karongwe to the intersection with the R530) has not yet been paved, and is very dangerous for drivers in the rainfall season. 30km length and 10m width of road improvement by tar will be required to solve this problem.</p> <p>A study and survey of the road will be conducted before setting up the signage to identify the type and number of road signs required in the area. Approximately 300km length of road for study will be necessary and about 100 road signs will be newly set up along roads in this area.</p> <p>To prepare a new road/tourist map with the latest information, a one-year study and survey of the road in this area will be needed at the same time as the improvement to road signage. A total of about 10,000 road/tourist maps will be prepared and distributed to appropriate places.</p>	
<b>Project Components:</b>	
<ul style="list-style-type: none"> <li>• Upgrading of R36 (paving by tar)</li> <li>• Improvement of general road signage, and</li> <li>• Preparation of the latest road map/tourist map</li> </ul>	
<b>Project Implementing Agency:</b>	
It is anticipated that the Provincial Government will implement this project.	
<b>Project Cost Estimate:</b>	<b>Implementation Schedule:</b>
Upgrading of R36	Upgrading of R36:
R 43,920,000	3 years (1 year study and 2 year construction)
Improvement of general road signage	of 2002 and 2004

<b>Project Title:</b> A-3 Road and Transport Upgrading	
R 330,000	Improvement of general road signage:
Preparation of the latest road map/tourist map	2 years (1 year study/survey and 1 year setting) from 2002 to 2003
R 825,000	Preparation of the latest road map/tourist map:
Total project cost is as follow.	2 years (1 year study/survey and 1 year setting) from 2002 to 2003
R 45,075,000	

**Project Sheet–Valley of Olifants Subject Area**

<b>Program Title:</b> B-1 Marketing and Promotion of Subject Area	
<b>Justification:</b> In order to achieve the tourism demand and development potential inherent in the Valley of the Olifants focus area, continuous, comprehensive and effective destination marketing and promotion of the focus area and the product within the focus area is required.	
<b>Program Objectives:</b> Develop marketing and promotion messages and materials for the Subject Area which: <ul style="list-style-type: none"> <li>• Successfully promotes the area as a tourist destination, ie creates awareness in the identified market segments of the destination and the range of products on offer in the focus area</li> <li>• Establishes the selected clear-cut image</li> <li>• Differentiates the area from major competitive destinations</li> <li>• Results in the achievement of the maximum potential increase in tourist demand projected for the area</li> </ul>	
<b>General Description/Components:</b> This program comprises a Marketing and Promotion Plan for the marketing/promotion of the focus area as a tourist destination. The Marketing and Promotion plan comprises the following components: <ul style="list-style-type: none"> <li>• Branding &amp; Positioning Direction: Covers both generic branding (i.e. positioning of the total area) as well as sub-branding (ie positioning of product segments within the area). Provide some idea or direction of the icons/slogans/phrases that depict the brand essence or brand value of the area or the product segment within the area.</li> <li>• Promotion &amp; Communication Plan: Specifies the promotion and communication mix (i.e. the range of promotion and communication activities to be undertaken and the tools to be utilised in reaching identified target markets) by product segment.</li> <li>• Marketing Organisation: Specifies the best structure for the DMO for the focus area, including where this structure is to be housed, and the resources required by the DMO, including financial budget.</li> </ul>	
<b>Program Implementing Agency:</b> The marketing of the area should be handled by a body with adequate funds and significant private sector input. We suggest that this might be the Valley of the Olifants regional tourism organisation, or a re-established Hoedspruit Tourism association, working in conjunction with the RTO.	
<b>Program Cost Estimate:</b> R 840,000 pa	<b>Implementation Schedule:</b> Commence 2003 and ongoing.

**Project Sheet–Valley of Olifants Subject Area**

<b>Program Title:</b> C-1 Development of local community craft and curio making design and manufacture skills	
<b>Justification:</b> The successful development of the focus area as a tourist destination will not only depend on the development of large tangible tourism product, such as the WR&EC, but will also depend on other tangible product, such as arts, crafts and merchandising specific to the center and the area. Arts, craft and merchandising can also be utilized successfully as marketing and promotion tools and can provide a significant revenue stream. A world-class WR&EC would require world-class arts, crafts and merchandising and training in design and manufacturing of such product is therefore essential.	
<b>Program Objectives:</b> The overall objective is to equip a number of local residents with the skills to design and make world-class and contemporary arts, crafts and merchandise, which can be sold at the outlet at the WR&EC as well as through other outlets, profitably.	
<b>Program Description/Components:</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program: <ul style="list-style-type: none"> <li>- who should develop, manage and provide the training</li> <li>- what training should be provided</li> <li>- how should the training be provided</li> <li>- The numbers to be trained</li> <li>- The resources required for the training program, including financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b> Existing arts and craft training facilities in the Valley of the Olifants with support from the Valley of the Olifants DMO and the WR&EC PIU.	
<b>Program Cost Estimate:</b> R 80,000 to R 230,000 pa	<b>Implementation Schedule:</b> Commence 2003 and ongoing.

**Project Sheet–Valley of Olifants Subject Area**

<b>Program Title:</b> C-2 Development of wildlife viewing/research guiding skills and interpretation	
<b>Justification:</b> The successful development of the focus area as a tourist destination will not only depend on the development of the tangible tourism product, such as resorts, lodges, attractions, etc, but also on the development of intangible product, such as the oral interpretation at tourist sites. A high standard intangible tourist experience requires knowledgeable and trained persons in the skills of tour guiding and interpretation.	
<b>Program Objectives:</b> To train guides, according to the Provincial Guide Accreditation System, to provide tour guiding of the education, research and wildlife attractions in the area. The guides will have the basic general guiding skills and SA tourism knowledge, and the speciality knowledge related to the wildlife education and research attractions in the area. They should also learn the importance of good interpretation for visitors and particularly foreign visitors. In addition some languages (English and foreign) will form part of the tour guiding and interpretation training programs.	
<b>Program Description/Components:</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program: <ul style="list-style-type: none"> <li>- who should develop, manage and provide the training</li> <li>- what training should be provided</li> <li>- how should the training be provided</li> <li>- The numbers to be trained</li> <li>- The resources required for the training program, including financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b> Valley of the Olifants Destination Tourism Organisation	
<b>Program Cost Estimate:</b> R 80,000 to R 130,000 pa	<b>Implementation Schedule:</b> Commence 2003 and ongoing.

**Project Sheet–Valley of Olifants Subject Area**

<b>Program Title:</b> C-3 Training program for product owners to incorporate WR&E brand and products	
<b>Justification:</b>  In order to differentiate the wildlife experience in the Subject Area from the myriad of other wildlife products in other areas, it is essential that a total cohesive route or experience be developed, i.e. a Wildlife Research & Education Route (WR&E Route). In order to ensure the success of the WR&E Route, product owners on the route and in the area need to understand the branding and positioning of the area and its unique strengths, and learn how to benefit from this for their own establishment.	
<b>Program Objectives:</b>  To ensure that product owners understand the branding and positioning of the area and its unique strengths, and learn how to benefit from this for their establishment through developing a specific and unique research/education element to their product and packaging and promoting their product as part of the Route.	
<b>Program Description/Components:</b>  This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program: <ul style="list-style-type: none"> <li>- who should develop, manage and provide the training</li> <li>- what training should be provided</li> <li>- how should the training be provided</li> <li>- The numbers to be trained</li> <li>- The resources required for the training program, including financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b>  Valley of the Olifants DMO	
<b>Program Cost Estimate:</b>  Part of Project A-2	<b>Implementation Schedule:</b>  Commence 2003 and ongoing.

**Project Sheet–Valley of Olifants Subject Area**

<b>Program Title:</b> C-4 Develop & Implement Tourism Entrepreneurial Training Program for local community	
<b>Justification:</b> It is envisaged that many entrepreneurial opportunities should present as the WE&RC and WE&R Route are developed, and business training will be needed to assist community members to take up these opportunities. Also, we believe that there are many existing opportunities to provide tourism services and/or products and services to existing tourism product operators, in the Valley of the Olifants, due to the large size of the established tourism industry in the area.	
<b>Program Objectives:</b> To teach prospective and existing SMME entrepreneurs: <ul style="list-style-type: none"> <li>• To understand the tourism industry</li> <li>• To understand customer service</li> <li>• General business management skills</li> <li>• How to identify tourism business opportunities</li> <li>• How to negotiate/approach the established traditional tourism sector to sell and supply goods and services</li> <li>• To provide an ongoing tourism business advisory service to assist new and existing tourism SMME entrepreneurs, including assistance with identifying opportunities and negotiating with established players.</li> </ul>	
<b>Program Description/ Components</b> This program comprises the following components: <ul style="list-style-type: none"> <li>• Identification of existing similar training programs.</li> </ul> Specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program – who should develop, manage and provide the training, what training should be provided and how should the training be provided.</li> <li>• The numbers to be trained.</li> <li>• The resources required for the training program, including financial budget.</li> </ul>	
<b>Program Implementing Agency:</b> Valley of the Olifants DMO with support from Northern Province Tourism Board and the WE&RC PIU	
<b>Program Cost Estimate</b> R 350,000 to R 850,000 pa	<b>Implementation Schedule</b> Commence 2003 and ongoing.



**Project Sheet–Valley of Olifants Subject Area**

<b>Program Title:</b> D-1 Establishing Project Implementation Unit for WE&RC and WE&R Route (Wildlife PIU)	
<b>Justification:</b> The WE&RC and the WE&R Route will be large projects, which will require harnessing and satisfying the interests of a large number and a broad variety of stakeholders. Such complex projects require meticulous planning and coordination. To ensure proper coordination as well as to maintain a strong momentum within the development process, the establishment of one dedicated Project or Program Implementation Unit (PIU) for the two projects is essential.	
<b>Program Objectives:</b> Establish the framework for a Wildlife PIU, which will allow for the timely and effective development of the WE&RC and the WE&R Route.	
<b>Program Description/ Components:</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the PIU: <ul style="list-style-type: none"> <li>- who should be part of and/or lead the PIU</li> <li>- what should the PIU do</li> <li>- how should the PIU be structured</li> <li>- The time horizon of the PIU</li> <li>- The resources required for the PIU, including financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b> Wildlife PIU	
<b>Program Cost Estimate:</b> R 750,000 pa	<b>Implementation Schedule</b> 2003 to 2006

**Project Sheet–Valley of Olifants Subject Area**

**Program Title:** D-2 Re-establish LTO in Hoedspruit, ie establish Focus Area DMO in Hoedspruit (equivalent of RTO)

**No separate program sheet required. Part of Program B-1.**

## **25.2 Cost Estimate, Implementation Schedule and Financing Alternatives**

### **25.2.1 Cost Estimate**

Table 25.2.1 shows the priority project costs for the tourism development at Valley of the Olifants Subject Area.

Major points include:

- The projects for product, facilities and infrastructure development amount to R63 million of their initial (investment) costs including those for study and design, physical works, and contingencies.
- Average annual operation/maintenance cost is estimated for each project, and is shown in the table.
- Average annual cost is estimated separately for the implementation of programs including marketing and promotion, human resource development, and institutional development. These program costs are not included in the total amount of the initial cost above.

The assumptions used for estimating the initial cost are provided in Appendix K.

### **25.2.2 Implementation Schedule**

Table 25.2.2 shows the implementation schedule for all of the priority projects and programs.

For product, facilities and infrastructure development, there are three kinds of periods: study/design, construction/development, and operation/maintenance, while there is no such distinction for marketing & promotion, human resource development and institutional development.

Annual cost requirements including the initial cost and the operation/maintenance costs are estimated for each year.

Table 25.2.1 Project Cost – Valley of Olifants Subject Area

(R'000)

Projects and Programs		Study/Design	Construction/ Procurement			Total of Project (Initial cost)	Annual Operation/ Maintenance*	Remark
			Cost	Contingency	Sub-Total			
<b>Product, Facilities &amp; Infrastructure</b>								
A-1	Development of Wildlife Education/Research Centre (WERC)	1,358	13,582	2,658	16,240	17,598	15,103	
A-2	Wildlife Education and Research Route Product	1,000				1,000	50	Refer Construction Costs - 3
A-3	Road and Transport Upgrading	2,870	36,700	5,505	42,205	45,075		Refer Construction Costs - 3
A-3-1	Upgrading of R36	2,520	36,000	5,400	41,400	43,920	2,070	
A-3-2	Improvement of general Road Signage	100	200	30	230	330	23	
A-3-3	Preparation of the latest Road Map/Tourist Map	250	500	75	575	825	58	
Total		5,228	50,282	8,163	58,445	<b>63,673</b>	17,304	

\*Annual Cost is average to year 2011

Projects and Programs		Annual Operation / Maintenance*	Remarks
<b>Marketing &amp; Promotion</b>			
B-1	Marketing and promotion of the area	770	
Total		770	
<b>Human Resource Development</b>			
C-1	Development of local community craft and curio making design and manufacture skills	122	
C-2	Development of wildlife viewing/research guiding skills	90	
C-3	Training program for product owners to incorporate WR&E brand and products		No additional cost - cost included in Project A-2
C-4	Tourism entrepreneurial training for local community	183	
Total		395	
<b>Institutional Development</b>			
D-1	Establishing PIU for WERC and WR&ETR (Wildlife PIU)	750	
D-2	Re-establish LTO in Hoedspruit		No additional cost - cost included in Project A-2
Sub Total		750	
Total		1,915	
Grand Total (operation/maintenance)		<b>19,219</b>	

\*Annual Cost is average to year 2011

Table 25.2.2 Project Implementation and Operation/Maintenance Cost – Valley of the Olifants Subject Area

Unit: R1000

Projects and Programs		Initial Cost	Project Implementation & Operation/Maintenance Cost									
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Product, Facilities &amp; Infrastructure</b>												
A-1	Development of Wildlife Education and Research Centre (WERC)	17,598	272	1,066	16,240	13,115	13,883	14,356	15,161	17,575	15,815	15,815
A-2	Wildlife Education and Research Route Product	1,000	100	900	50	50	50	50	50	50	50	50
A-3	Road and Transport Upgrading											
A-3-1	Upgrading of R36	43,920	2,520	20,700	20,700	2,070	2,070	2,070	2,070	2,070	2,070	2,070
A-3-2	Improvement of general road signage	330	100	230	23	23	23	23	23	23	23	23
A-3-3	Preparation of the latest road map/tourist map	825	250	575	58	58	58	58	58	58	58	58
sub-total		63,673	3,242	23,491	37,071	15,316	16,084	16,557	17,362	19,776	18,016	18,016
<b>Marketing &amp; Promotion</b>												
B-1	Marketing and promotion of the area (as key entry point or the route into KNP, establishing distinctive wildlife research experience brand, promoting unique wildlife experience)			420	630	840	840	840	840	840	840	840
sub-total		0	0	420	630	840	840	840	840	840	840	840
<b>Human Resource Development</b>												
C-1	Development of local community craft and curio making design and manufacture skills	0		233	233	133	83	83	83	83	83	83
C-2	Development of wildlife viewing/research guiding skills and interpretation			113	63	133	83	83	83	83	83	83
C-3	Training program for product owners to incorporate WR&E brand and products		No additional cost - cost included in Project A-2									
C-4	Tourism entrepreneurial training for local community	0		283	283	283	133	133	133	133	133	133
sub-total		0	0	630	580	550	300	300	300	300	300	300
<b>Institutional Development</b>												
D-1	Establishing Project Implementation Unit for WERC and WR&ETR (Wildlife PIU)			750	750	750	750					
D-2	Re-establish LTO in Hoedspruit		No additional cost - cost included in Project B-1									
sub-total		0	0	750	750	750	750	0	0	0	0	0
Grand-Total		63,673	3,242	25,291	39,031	17,456	17,974	17,697	18,502	20,916	19,156	19,156

Source: JICA Study Team

Note: Product, Facilities & Infrastructures

Study/Plan/Design
  Construction/Development
  Operation/Maintenance

Marketing & Promotion, Human Resource Development, and Institutional Development
  Plan & Operation

### 25.2.3 Financing Alternatives

The proposed development needs to be funded jointly by the public and private sectors, considering that government resources are scarce and that private sector participation is essential for rendering services responsive to the customer needs.

In principle, the public sector should play a role to provide infrastructure (both physical and institutional) needed for the development and to promote and facilitate private investment in the area. On the other hand, commercially oriented activities can be undertaken by the private sector as long as they can generate a reasonable level of financial return. See section of financial evaluation for this point. Table 25.2.3 shows suggestions for potential funding sources for the implementation of the proposed priority projects and programs.

Table 25.2.3 Suggestions for Potential Funding Sources for Implementing Priority Projects and Programs

Item	Potential funding sources for implementation	Remarks
<b>Product, Facilities &amp; Infrastructure</b>		
Wildlife Education/Research Centre		
Planning & designing	Governments' own budget DBSA	Responsibility of the public sector as a facilitator to attract private operators. Operation of the facilities should be undertaken by private operators.
Construction of the facilities and infrastructure	(External loan funds from donor agencies where available) Private investment (possibly with IDC funding) Private sponsorship from corporates (total facility or components thereof) International NGOs/Foundations	
Wildlife Education/Research Route Product	Governments' own budget DBSA (External loan funds where available)	Responsibility of the public sector as facilitator but in cooperation with private sector tourism product owners
Road & transport upgrading, including road improvement, general road signage, and road/ tourist maps	Governments' own budget DBSA (External loan funds where available)	Responsibility of the public sector
Development of crafts and merchandise	Governments' own budget DBSA, IDC Private investors Grant funding and technical assistance from donor agencies	Joint undertaking of the public and private sectors
<b>Marketing &amp; Promotion</b>	Governments' own budget (including Government Skills Development Grant Schemes) Technical assistance capacity & funding from DBSA (Local Government Technical Assistance Scheme) Grant funding from donor agencies Technical assistance from donor agencies	
<b>Human Resource Development</b>		
<b>Institutional Development</b>		

Source: JICA Study Team

## 25.3 Economic Evaluation

The proposed priority projects and programs are expected to attract a greater number of tourists to the area. Economic evaluation of these projects and programs was undertaken according to the methodology described in Section 21.2.1. **Note that at this planning stage both project benefits and costs used in the analysis are preliminary in nature, and thus the result should be taken as indicative.**

### 25.3.1 Economic Benefits

#### (1) Summary of Demand Projection

Table 25.3.1 shows the results of demand projection undertaken in the focus area development plan for both “with” and “without” project cases. The projection is made up to 2021, the ending year of the evaluation period (20 years).

Table 25.3.1 Projection of Visitors to the Valley of the Olifants

Year	“With” projects & programs				“Without” projects & programs			
	Domestic tourists		Foreign tourists		Domestic tourists		Foreign tourists	
	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors
2001	190,343	354,070	67,245	11,440	190,343	354,070	67,245	11,440
2002	193,198	359,381	68,590	11,669	192,246	355,840	67,917	11,555
2003	198,994	364,772	70,990	12,077	194,168	357,620	68,596	11,670
2004	204,963	370,243	73,475	12,500	196,110	359,408	69,282	11,787
2005	214,187	375,797	77,149	13,125	198,071	361,205	69,975	11,905
2006	222,754	381,434	81,006	13,781	200,052	363,011	70,675	12,024
2007	229,437	387,155	85,056	14,264	202,052	364,826	71,382	12,144
2008	235,173	392,963	88,033	14,763	204,073	366,650	72,095	12,265
2009	239,876	396,892	91,115	15,280	206,114	368,483	72,816	12,388
2010	244,674	400,861	94,304	15,814	208,175	370,326	73,545	12,512
2011	249,567	404,870	97,604	16,368	210,257	372,177	74,280	12,637
2012	250,815	406,894	98,580	16,532	211,308	374,038	75,023	12,763
2013	252,069	408,929	99,566	16,697	212,364	375,908	75,773	12,891
2014	253,329	410,973	100,562	16,864	213,426	377,788	76,531	13,020
2015	254,596	413,028	101,567	17,032	214,493	379,677	77,296	13,150
2016	255,869	415,093	102,583	17,203	215,566	381,575	78,069	13,282
2017	257,148	417,169	103,609	17,375	216,644	383,483	78,850	13,414
2018	258,434	419,255	104,645	17,549	217,727	385,400	79,638	13,549
2019	259,726	421,351	105,691	17,724	218,815	387,327	80,435	13,684
2020	261,025	423,458	106,748	17,901	219,910	389,264	81,239	13,821
2021	262,330	425,575	107,816	18,080	221,009	391,210	82,051	13,959

Source: JICA Study Team

## (2) Tourist Expenditure

Total tourist expenditure is estimated by multiplying the number of tourists to the area by the amount spent per tourist. Tourist expenditure per tourist for the area is estimated as shown in Table 25.3.2.

The estimates for the “without” project case are made based on the socio-economic impact assessment survey conducted as part of this study. No inflation is assumed, thereby maintaining consistency with project costs where inflation is also not taken into account. It is conservatively assumed that the same figures are also used for the “with” project case.

Table 25.3.2 Estimate of Tourist Expenditure per Tourist for the Valley of the Olifants  
(in Rand)

Domestic/foreign	“With” projects & programs		“Without” projects & programs	
	Overnight visitors	Day visitors	Overnight visitors	Day visitors
Domestic tourists	765	145	765	145
Foreign tourists	1,570	225	1,570	225

Note: Expenditure of overnight visitors is a total spent for the entire stay in the area, not per day.

Source: Socio-Economic Impact Assessment Survey, JICA Study Team

## (3) Contribution to GDP

Contribution of the priority projects and programs to GDP or value added is estimated as shown in Table 25.3.3.

Assumptions:

- The difference in total expenditure between “with” and “without” cases, as shown in the table, is obtained from demand projection coming from the focus area development plan. Considering that most of the identified projects and programs were selected as priority, a factor of 0.9 is assumed to be applied to convert this difference to that resulting from the priority projects and programs. The result is shown in the second column from the right.
- A factor of 0.55 is then assumed to convert the incremental tourist expenditure attributed to the priority projects and programs to the net increment in value added. This assumption is based on the result of the socio-economic impact assessment survey, in which one unit of the incremental final demand related to tourism is estimated to increase value added of somewhat higher than 0.6.<sup>1</sup>
- All the benefit figures are in constant values, and price escalation is not considered.

The last column of the table provides the estimated contribution of the priority projects and programs to GDP, namely, the project benefits.

<sup>1</sup> Since tourism is not a separate sector in the South Africa’s national account system, this estimate was made for sectors that include tourism-related services. For example, this factor was estimated at 0.56 for wholesale and retail trade that includes accommodation and restaurants, and 0.58 for transport and communication including travel agencies, air and related transport activities.



Table 25.3.3 Economic Benefits of Priority Projects and Programs

(Thousand Rand)

Year	Total tourist expenditure								Incremental tourist expenditure					Increment attributed to priority projects	Contribution to GDP
	"With" projects & programs				"With" projects & programs				Domestic tourists		Foreign tourists		Total		
	Domestic tourists		Foreign tourists		Domestic tourists		Foreign tourists		Overnight visitors	Day visitors	Overnight visitors	Day visitors			
	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors							
2001	145,612	51,340	105,575	2,574	145,612	51,340	105,575	2,574	0	0	0	0	0	0	0
2002	147,796	52,110	107,686	2,626	147,068	51,597	106,630	2,600	728	513	1,056	26	2,323	2,091	1,150
2003	152,230	52,892	111,455	2,717	148,539	51,855	107,696	2,626	3,691	1,037	3,758	92	8,578	7,721	4,246
2004	156,797	53,685	115,356	2,813	150,024	52,114	108,773	2,652	6,773	1,571	6,582	160	15,087	13,578	7,468
2005	163,853	54,491	121,123	2,953	151,524	52,375	109,861	2,679	12,328	2,116	11,262	275	25,981	23,383	12,861
2006	170,407	55,308	127,180	3,101	153,040	52,637	110,960	2,705	17,367	2,671	16,220	395	36,654	32,989	18,144
2007	175,519	56,138	133,539	3,209	154,570	52,900	112,069	2,732	20,949	3,238	21,469	477	46,133	41,520	22,836
2008	179,907	56,980	138,212	3,322	156,116	53,164	113,190	2,760	23,791	3,815	25,023	562	53,191	47,872	26,330
2009	183,505	57,549	143,050	3,438	157,677	53,430	114,322	2,787	25,828	4,119	28,728	651	59,326	53,394	29,367
2010	187,175	58,125	148,057	3,558	159,254	53,697	115,465	2,815	27,922	4,428	32,592	743	65,684	59,116	32,514
2011	190,919	58,706	153,239	3,683	160,846	53,966	116,620	2,843	30,073	4,740	36,619	839	72,271	65,044	35,774
2012	191,873	59,000	154,771	3,720	161,650	54,236	117,786	2,872	30,223	4,764	36,985	848	72,820	65,538	36,046
2013	192,833	59,295	156,319	3,757	162,459	54,507	118,964	2,900	30,374	4,788	37,355	856	73,373	66,036	36,320
2014	193,797	59,591	157,882	3,794	163,271	54,779	120,153	2,929	30,526	4,812	37,729	865	73,931	66,538	36,596
2015	194,766	59,889	159,461	3,832	164,087	55,053	121,355	2,959	30,679	4,836	38,106	874	74,494	67,045	36,874
2016	195,740	60,189	161,055	3,871	164,908	55,328	122,568	2,988	30,832	4,860	38,487	882	75,061	67,555	37,155
2017	196,719	60,489	162,666	3,909	165,732	55,605	123,794	3,018	30,986	4,884	38,872	891	75,633	68,070	37,439
2018	197,702	60,792	164,292	3,948	166,561	55,883	125,032	3,048	31,141	4,909	39,260	900	76,210	68,589	37,724
2019	198,691	61,096	165,935	3,988	167,394	56,162	126,282	3,079	31,297	4,933	39,653	909	76,792	69,113	38,012
2020	199,684	61,401	167,595	4,028	168,231	56,443	127,545	3,110	31,453	4,958	40,050	918	77,379	69,641	38,303
2021	200,683	61,708	169,271	4,068	169,072	56,726	128,821	3,141	31,611	4,983	40,450	927	77,971	70,174	38,596

Source: JICA Study Team

### 25.3.2 Economic Costs

The initial cost and the operation and maintenance cost for the priority projects and programs that were estimated earlier are used for the economic evaluation.

Assumptions:

- All the costs are in constant values, and price escalation is not considered.
- All the costs are to be incurred according to the schedule projected earlier.
- In order to convert the financial cost to the economic cost, a factor of 0.9 was adopted primarily considering taxes that are an internal transfer.

### 25.3.3 Economic Return

With the economic benefits and costs estimated above, the entire priority projects and programs were evaluated using the economic internal rate of return (EIRR), a standard measure for project's economic impact. Table 25.3.4 presents the results of the estimation.

EIRR was estimated to be 18.0% for these projects and programs. Although the result is indicative in nature, this value significantly exceeds the economic opportunity cost of capital that is often assumed at 12%, and is high enough for justifying the investment in them from the national economic point of view.

Table 25.3.4 Economic Internal Rate of Return for Priority Projects and Programs

Year	Economic Benefit (1)	Economic Cost		Net benefit (1)-(2)-(3)
		Product, facilities, infrastructure (2)	Programs (3)	
2001	0	0	0	0
2002	1,045	2,918	0	-1,872
2003	3,860	21,142	1,620	-18,902
2004	6,789	26,056	1,764	-21,031
2005	11,692	9,289	1,926	477
2006	16,494	13,302	1,701	1,491
2007	20,760	13,783	1,026	5,950
2008	23,936	13,950	1,026	8,960
2009	26,697	14,342	1,026	11,329
2010	29,558	16,321	1,026	12,210
2011	32,522	14,737	1,026	16,759
2012	32,769	14,737	1,026	17,006
2013	33,018	14,737	1,026	17,255
2014	33,269	14,737	1,026	17,506
2015	33,522	14,737	1,026	17,759
2016	33,778	14,737	1,026	18,014
2017	34,035	14,737	1,026	18,272
2018	34,295	14,737	1,026	18,531
2019	34,557	14,737	1,026	18,793
2020	34,821	14,737	1,026	19,057
2021	35,087	14,737	1,026	19,323

**EIRR = 18.0%**

Note: Cost for product, facilities and infrastructure ((2) above) includes investment cost and operation and maintenance cost. Cost for programs ((3) above) includes that for promotion and marketing, human resource development, and institution development.

Source: JICA Study Team

### 25.3.4 Sensitivity Analysis

In view of the inevitable uncertainty concerning the precise values of key variables in the economic evaluation, sensitivity analysis was undertaken.

Table 25.3.5 shows sensitivity of EIRR with respect to the change in the initial cost (investment cost) and in the benefit, and the combination of them.

Table 25.3.5 Sensitivity of Economic Internal Rate of Return (EIRR)

Case	EIRR
Base Case	18.0%
(1) Initial Cost: 10% up	16.3%
(2) Benefits: 10% down	14.1%
(3) Combination of (1) & (2)	12.6%

Source: JICA Study Team

## 25.4 Preliminary Financial Assessment

The development focus proposed in the study is the creation of a “Wildlife Education and Research Centre (WERC)”. This should be managed and operated with the revenue it will generate in order to achieve sustainability of its operation.

It is highly recommended that the centre be operated by the private sector to offer quality contents, which can be best achieved through profit motives. This will also contribute to minimizing the use of scarce resources in the public sector. For this to happen, it is necessary that the private operator be provided a reasonable level of financial return.

Table 25.4.1 summarizes a preliminary assessment of the operating performance of WERC. While the result is preliminary and indicative in nature, estimation was made as to whether operating the WERC could be a commercial activity attractive enough to a private entity. Note that inflation is not considered in the analysis, and thus the ROI estimated is in real terms. Cash flows for this preliminary assessment are provided in Appendix K. As shown, despite the reasonably high economic return estimated previously for the entire priority projects and programs, it is estimated that the return on investment in the WERC is not high enough for private investors if all the initial cost is to be borne by the private sector (see case (1) in the table). This result is plausible in view of the need for offering quality contents and their maintenance and upgrading for the centre.

Most of the estimated initial cost is for the construction of facilities and infrastructure. ROI improves as the amount of the initial cost is reduced, namely, if the public sector increasingly bears the cost for the initial investment in facilities and infrastructure (see cases (2) and (3) in the table).

Table 25.4.1 Indicative Result: Return on Investment (ROI) for Wildlife Education and Research Centre

Case	ROI
All the initial cost included (incl. planning & design, site preparation, infrastructure, facilities, etc.)	8%
75% of total initial cost included	13%
50% of total initial cost included	21%

Note: ROI is in real terms, assuming no inflation.

Source: JICA Study Team

Although the result is indicative, it strongly suggests that public investment in facilities and infrastructure is highly necessary for commercially viable operation of the WERC.

## 25.5 Environmental Consideration

Table 25.5.1 shows the list of priority projects/ programs in Valley of the Olifants by type. The basic data for the size/ description of each project/ program is shown in Table 25.5.2. The results of preliminary EIA are discussed in the following section.

Table 25.5.1 List of Priority Projects & Programs in Valley of the Olifants Subject Area requiring EIA

Priority Projects and Programs		Type
<b>A</b>	<b>Product, Facilities and Infrastructure</b>	
A-1	Wildlife Education and Research Centre	Type A
A-2	Wildlife Education and Research Route Product	*2
A-3	Road and Transport Upgrading	*1
A-3-1	Upgrading of R36	Type C
A-3-2	Improvement of general road signage	Type A
A-3-3	Preparation of the latest road map/tourist map	*2

Source: JICA Study Team

Note: Type A: Projects/ programs of small-scale development  
 Type C: Projects/ programs of road development  
 \*1: Project/ program title  
 \*2: No need to prepare IEE because of soft type project/ program

Table 25.5.2 Size/ Description of Each Project/ Program in Valley of the Olifants Subject Area

No.	Item	Size/ Description
<b>Type A</b>		
<b>A-1 Wildlife Education and Research Centre</b>		
1	Site Preparation	site area 20,000m <sup>2</sup>
2	Construct Visitor Centre	floor area 50m <sup>2</sup>
3	Construct Interpretation Centre	with 200m <sup>2</sup> meeting room, total floor area 800m <sup>2</sup>
4	Construct Exhibition Hall/Theatre	exhibition hall 500m <sup>2</sup> , theatre 400m <sup>2</sup> (100seats), total floor area 1,000m <sup>2</sup>
5	Construct Arts & crafts outlet	floor area 200m <sup>2</sup>
6	Construct Restaurant & Shops	total floor area 400m <sup>2</sup>
7	Construct Play lot with Resting Facility	500m <sup>2</sup>
	Construct conference centre	400m <sup>2</sup>
8	Construct Parking	5000m <sup>2</sup>
9	Construct Fencing	H=2m, L=700m
10	Construct Water Pipe	Φ30, L=500m
11	Construct Sewage Pipe	Φ300, L=300m
12	Construct Electricity	Underground L=500m
13	Construct Telephone Line	Underground L=500m
<b>A-3-2 Improvement of general road signage</b>		
1	Study and Survey of Road	
2	Setting of Road Signage	Road length 300 km, 200 signages
<b>Type C</b>		
<b>A-3-1 Upgrading of R36</b>		
1	Planning and Designing	
2	Paving	Tar (L= 30 km, W= 10 m)

### (1) Type A Projects/ Programs (Wildlife Education and Research Centre/ Improvement of general road signage)

Table 25.5.3 shows results of a preliminary EIA of Type A in this area. Type A projects/

programs are mainly small-scale building construction. The impacts caused by reclamation/ special occupancy at construction stage and by the accumulation of people/ goods at the operation stage are the main issues of this type. Careful attention at the construction stage, including construction equipment and vehicles, and a detailed demand study are required.

This type of project/ program may be activities which require an EIA as “The construction or upgrading: (m) public and private resorts and associated infrastructure”. Discussion with the EIA section in Mpumalanga Province is required.

Table 25.5.3 Results of Preliminary EIA for Type A

Environmental items		Before operation		After operation			
		Reclamation/ spatial occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of vehicles/ ships/ airplanes	Operation/ maintenance of associated facilities	Accumulation of people/ goods
Social environment	Resettlement	X					
	Economic activities						X
	Traffic/ public facilities				X		X
	Split of communities						
	Cultural property	X					X
	Water rights/ rights of common	X		X			
	Public health condition						
	Waste						X
	Hazard (risk)						
Natural environment	Topography/ geology						
	Soil erosion						
	Groundwater						
	Hydrological						
	Coastal zone						
	Fauna/ flora						
	Meteorology						
	Landscape	X		X			
Pollution	Air pollution				X		
	Water pollution	X				X	X
	Soil contamination						
	Noise/ vibration				X		
	Land subsidence						
	Offensive odor						

Note: XX: The environmental items to which special attention has been paid. They might cause serious impacts that may affect the project formation depending on the magnitude of the impacts and the possibility of the measures.

X: The environmental items which may have a significant impact depending on the scale of project and site conditions.

No mark: The environmental items requiring no impact assessment since the anticipated impacts are, in general, not significant.

In case of the comprehensive development projects, all the items are classified in X, because their studies are usually at the master planning stage and the extent of impacts are not clear.

Source: JICA Study Team

## (2) Type C Projects/ Programs (Upgrading of R36)

Table 25.5.4 shows results of a preliminary EIA of Type C in this Area. The project/ program in Type C is road rehabilitation. Environmental impacts by this type are mainly caused by reclamation/ special occupancy at alignment points and air pollution/ noise & vibration from the

operation of vehicles. Some of these impacts might be serious depending on the construction methods, the location of the alignment points, and the volume of vehicles. Careful attention to the selection of construction methods and the site is required. The objective of road rehabilitation is mainly to accommodate vehicles for tourism. However, this road will also be used for regional economy purposes and traffic volume will increase. Therefore, a detailed traffic demand forecast will be required.

This type of project/program may include activities which require an EIA as “The construction or upgrading: (d) roads, railways, airfields and associated structures and activities outside the boundaries of town planning schemes”. In this description, it is not clear whether such activities relate to new construction and/or rehabilitation. Therefore, discussion with the EIA section in Mpumalanga Province is required from an early stage of the development planning.

Table 25.5.4 Results of Preliminary EIA for Type C

Environmental items		Before operation		After operation		
		Reclamation/ spatial occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of vehicles	Accumulation of people/ goods
Social environment	Resettlement	X				
	Economic activities					X
	Traffic/ public facilities				X	
	Split of communities			X		
	Cultural property	X				
	Water rights/ rights of common	X				
	Public health condition					
	Waste					X
	Hazard (risk)					
Natural environment	Topography/ geology	X				
	Soil erosion	X				
	Groundwater					
	Hydrological	X		X		
	Coastal zone					
	Fauna/ flora	X			X	
	Meteorology					
	Landscape					
Pollution	Air pollution				X	
	Water pollution	X				
	Soil contamination					
	Noise/ vibration				X	
	Land subsidence					
	Offensive odor					

Note: XX: The environmental items to which special attention has been paid. They might cause serious impacts that may affect the project formation depending on the magnitude of the impacts and the possibility of the measures.

X: The environmental items which may have a significant impact depending on the scale of project and site conditions.

No mark: The environmental items requiring no impact assessment since the anticipated impacts are, in general, not significant.

In case of the comprehensive development projects, all the items are classified in X, because their studies are usually at the master planning stage and the extent of impacts are not clear.

Source: JICA Study Team

# **Chapter 26**

## **Barberton Corridor Subject Area**

## 26.1 Barberton Project/Program Package

### 26.1.1 List of Priority Projects & Programs

The priority projects and programs that comprise the Barberton Package are summarised in Table 26.1.1. The location of these projects is shown in Figure 26.1.1.

Table 26.1.1 List of Priority Projects & Programs

<b>A</b>	<b>Product, Facilities and Infrastructure</b>
A-1	Overall Programming for Development and Conservation for Greater Trans Frontier Conservation Area
A-2	Development of Mountainlands Game Reserve
A-3	Further Development of Songimvelo Game Reserve
A-4	Development of range/variety of Barberton special interest and general interest tours & Improvement of interpretation of Barberton sights
A-5	Road and Transport Upgrading
	A-5-1 R40 (between Nelspruit and Barberton) improvement project
	A-5-2 Road from Elukwatini to Bulembu upgrading project
	A-5-3 Road from Ekulindeni to Songimvelo gate (improvement of road condition)
	A-5-4 R538 (between Karino and Plaston) improvement project
A-6	Other Tourist Facilities
	A-6-1 Upgrading of Bulembu border post
	A-6-2 Development of tourist signage
<b>B</b>	<b>Marketing and Promotion</b>
B-1	Marketing & promotion of existing product
B-2	Marketing & promotion of potential product
B-3	Developing and hosting subject area signature adventure events
<b>C</b>	<b>Human Resource Development</b>
C-1	Craft development, design & manufacture skills training
C-2	Tourism business skills training for local communities
<b>D</b>	<b>Institutional Development</b>
D-1	Establishing Project Implementation Unit for product development in Mpumalanga Biodiversity Corridor
D-2	Determining management, operation and maintenance scheme for the products and attractions proposed above
D-3	Strengthen/expand/develop the Barberton LTO
D-4	Establish strong linkages between LTO and new RTO (Wild Frontier)/MTA

Source: JICA Study Team

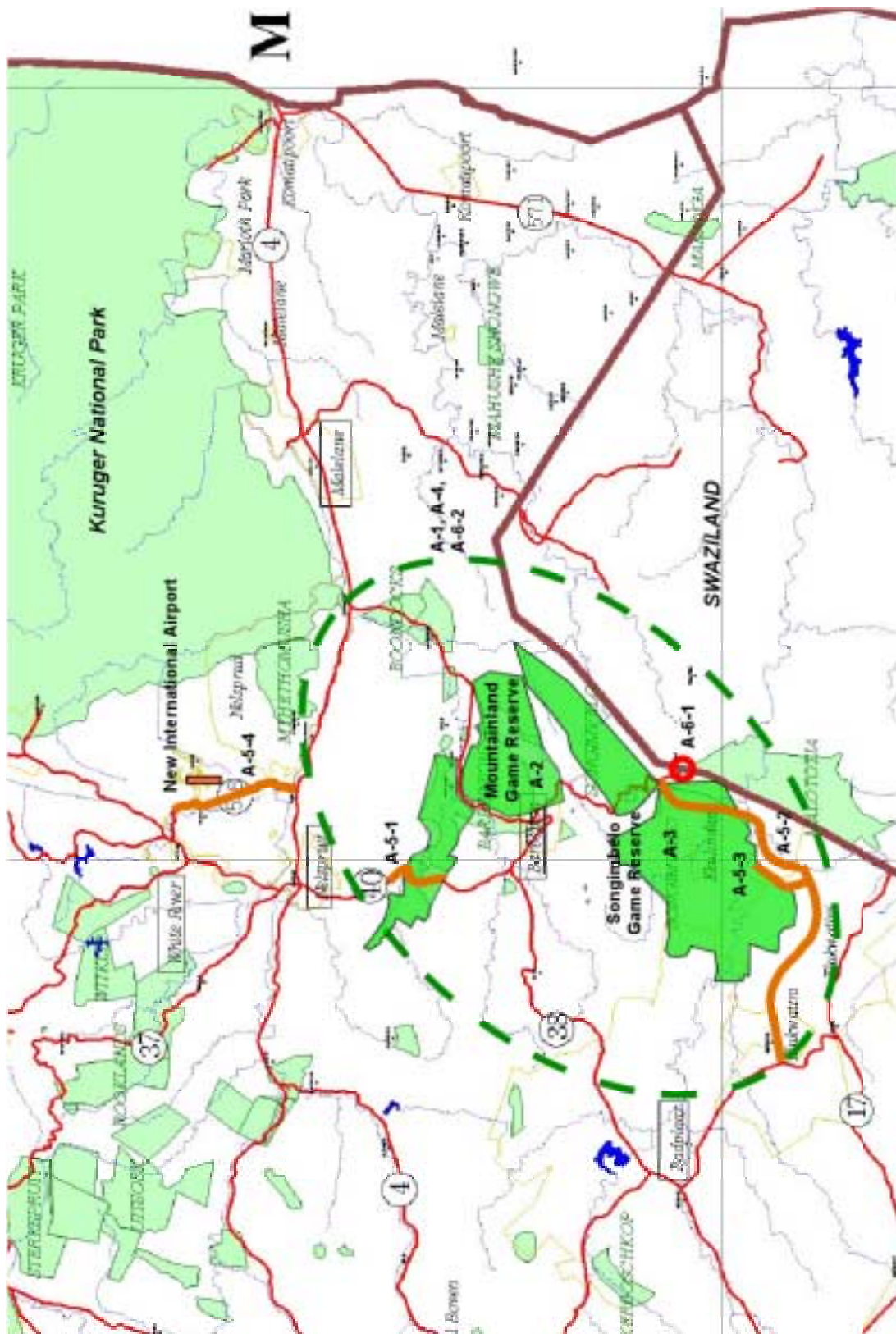


### **26.1.2 Project Sheets**

The project sheets that follow provide details of each project/program in terms of its justification, objectives, general description, and components. The anticipated implementing agency is identified and a cost estimate with time period for implementation is also provided.

Schematic drawings are also included to provide a visual impression of the proposed products and facilities.

Figure 26.1.1 Location of Priority Projects (Barberton)



**Project Sheet –Barberton Subject Area****Project Sheet –Barberton Corridor Subject Area**

<b>Project Title:</b> A-1 Overall Programming for Development and Conservation for Greater Trans Frontier Conservation Area	
<b>Justification:</b> <p>The subject area lies within the Maputo Corridor, borders Swaziland to the south and the KNP to the north-east and has many tourism resources such as unique mountainous and scenic terrain, unique geology, game and nature reserves and Barberton's mining history. This area is a part of "The Tourism and Biodiversity Corridor (TBC)", which runs from Barberton and the surrounding areas through Swaziland and Mozambique. The proposal is to develop this area into one of the most attractive tourism destinations in the country making the best use of resources in the area.</p> <p>Though some of the projects included in this proposal have been partly implemented, there are still many projects that have not been implemented. To achieve tourism development successfully and to protect the natural and social environment of this vast area, formulating an overall program for development and conservation for this area is very important and required as soon as possible. This will avoid confusion and conflicts of interest.</p>	
<b>Project Objectives:</b> <ul style="list-style-type: none"> <li>• To protect the natural and social environment in and around this area</li> <li>• To achieve smooth and successful development of tourism</li> <li>• To attract investors and tourists to this area</li> </ul>	
<b>General Description:</b> <p>To understand the existing natural and social condition in and around the subject area, a survey will be required. Information collected from the survey is essential to make a Land Use Plan of the entire subject area. An assessment of future tourism and other development demand will also contribute to the Land Use Plan. Land use consists of area for development by type, development reserve area, and a conservation area. The policy for development and conservation will also be established in this stage.</p>	
<b>Project Components:</b> <ul style="list-style-type: none"> <li>• Study and survey of present and existing condition of entire subject area</li> <li>• Planning of land use of entire subject area for development and conservation</li> <li>• Policy making for development and conservation</li> </ul>	
<b>Project Implementing Agency:</b> MBC-PIU will be the agency for implementation of this project.	
<b>Project Cost Estimate:</b> R 2,000,000	<b>Implementation Schedule:</b> One year from 2002

**Project Sheet –Barberton Corridor Subject Area**

<b>Project Title:</b> A-2	Development of Mountainlands Game Reserve
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**Justification:**

This area possesses good potential for developing mountain-based soft adventure tourism and some hard adventure combined with a game viewing experience, offering a variety of activities, nature walks and trails using the mountainous terrain, diverse flora and fauna, and geology. The area, endowed with unique mountainous terrain and diverse nature should be developed with the aim of establishing it as: "South Africa's mountain land, adventure and wildlife experience".

Further potential exists from establishing a game reserve. However, such a new reserve would need to differentiate its wildlife experience from the standard experience offered elsewhere in South Africa, by providing adventure activities within the game reserve (without carnivores) and by taking advantage of the area's mountainous/scenic terrain.

**Project Objectives:**

- To strengthen and establish the suggested clear-cut image, "South Africa's mountain land, adventure and wildlife experience".
- To incorporate a mountain and adventure theme into the Game Reserve.
- To differentiate the wildlife experience of this area from other wildlife experiences in SA.
- To develop mountain and adventure orientated facilities/activities within the reserve.
- To generate tourist flows that will result in tourism jobs and entrepreneurial opportunities in an area in need of economic stimulation.

**General Description:**

The development of the Mountainlands Game Reserve should support, strengthen and assist in establishing the clear-cut image of the area. As access to this reserve is far better than that of Songimvelo (on the main tourist route), it is recommended that the average size of facilities be much larger than that of Songimvelo.

The mountain and adventure theme should be incorporated into the Game Reserve by developing adventure orientated activities within the reserve linked where possible to wildlife activities. Both hard and soft adventure activities should be included.

Facilities, such as accommodation, should be developed around the adventure and mountain theme. Although small upmarket facilities could also be included, the main facilities should be targeted at the mid-market family market, i.e. resort style. The developments could incorporate both self-catering and serviced facilities.

Development of day visitor recreation facilities is also recommended. This could be linked to the mid-market resort, but should provide general picnic and/or restaurant facilities and access to adventure activities elsewhere in the Reserve.

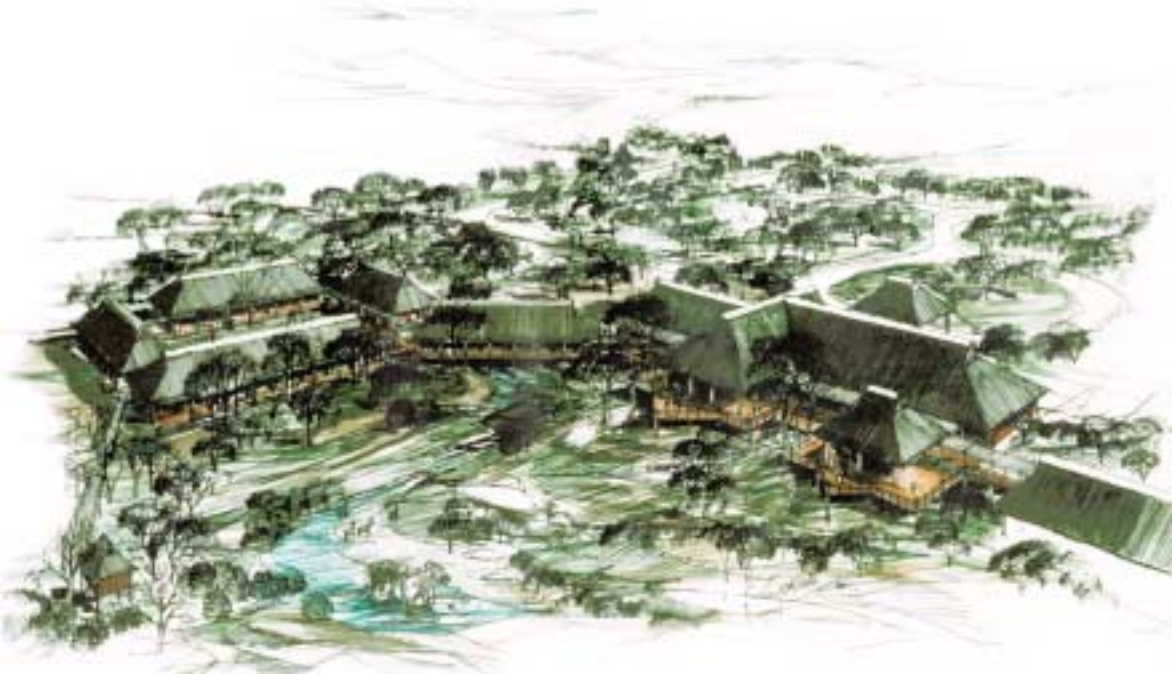
**Site:**

Mountainlands Reserve. At this stage no specific sites within the Reserve for various facilities are specified. However, it is recommended that, as far as possible, day visitor facilities and adventure/mountain activities be accessible from the Bulembo-Barberton Road in order to create a tourism route/hub along this road.

<b>Project Title:</b> A-2 Development of Mountainlands Game Reserve	
<b>Project Components:</b>	
<p>A mid-market mid-sized resort facility:</p> <ul style="list-style-type: none"> <li>• Family orientated, either or both self-catering and full service facilities</li> <li>• Self catering chalets ± 50+ (could consider timeshare)</li> <li>• Full service lodge ± 80 rooms</li> </ul> <p>This facility should incorporate or offer nearby a range of adventure and mountain facilities and activities, i.e.: Mountain bike trails, hiking trails, rock climbing, abseiling, swimming pool (look at heating for winter).</p> <p>Support facilities such as restaurant &amp; fast food kiosk, shop for essentials to self-catering chalet. Small mid-market and up-market lodge facilities scattered throughout the Reserve. Consideration could also be given to individual mountain chalets.</p> <p>Day visitor adventure and recreation facilities, i.e. linking with adventure sites in reserve established for resort and lodges, provision of recreation facilities, such as picnic sites, etc.</p>	
<b>Project Implementing Agency:</b>	
<p><b>Project Cost Estimate:</b></p> <p>Planning and Designing: R 6,620,000</p> <p>Construction and Game Stocking: R 87,630,000</p> <p>Total Project Costs (Operation and maintenance Costs excluded) R 94,250,000</p>	<p><b>Implementation Schedule:</b></p> <p>One year for planning and designing from mid 2002 to mid 2003</p> <p>1.5 years construction from mid 2003 to 2005</p> <p>Operation and maintenance to commence from mid 2006</p>



MOUNTAINLANDS - FAMILY RESORT



MOUNTAINLANDS - FAMILY RESORT

**Project Sheet –Barberton Corridor Subject Area**

<b>Project Title:</b> A-3 Further Development of Songimvelo Game Reserve
<p><b>Justification:</b></p> <p>This area possesses good potential for developing mountain-based soft adventure tourism and some hard adventure combined with a game viewing experience, offering a variety of activities, nature walks and trails using mountainous terrain, diverse flora and fauna, and geology. The area, endowed with unique mountainous terrain and diverse nature should be developed with the aim of establishing it as: “South Africa’s mountain land, adventure and wildlife experience”.</p> <p>Although Songimvelo is already developed, the current development primarily relates to conservation and as there is only one small existing lodge, significant opportunities lie in expanding the tourist facilities and activities within the reserve.</p>
<p><b>Project Objectives:</b></p> <ul style="list-style-type: none"> <li>• To strengthen and establish the suggested clear-cut image, “South Africa’s mountain land, adventure and wildlife experience”.</li> <li>• To incorporate a mountain and adventure theme into the Game Reserve.</li> <li>• To differentiate the wildlife experience of this area from other wildlife experiences in SA.</li> <li>• To develop mountain and adventure orientated facilities/activities within the reserve.</li> <li>• To generate tourist flows that will result in tourism jobs and entrepreneurial opportunities in an area in significant need of economic stimulation.</li> </ul>
<p><b>General Description:</b></p> <p>Further development of Songimvelo should support, strengthen and assist in establishing the clear-cut image of the area and also the game reserve product in the area. Given the access constraints (i.e. off the major access/tourist route in the area), it is suggested that the facilities at this Reserve remain relatively small in size. This would provide for a more personalized experience, which will also differentiate Songimvelo from the new Mountainlands product.</p> <p>It is recommended that the mountain and adventure theme be strongly incorporated into the Game Reserve by developing adventure-orientated activities within the reserve linked where possible to the wildlife activities. In addition, other tourist facilities, such as accommodation, should be developed around the adventure and mountain theme.</p> <p>It is recommended that the reserve incorporate both small up-market accommodation establishments (lodges) and small mid-market accommodation establishments, which should be more family orientated.</p> <p>As this Reserve provides excellent rhino viewing opportunities, it is suggested that a specific product around Rhino spotting be developed, packaged and marketed.</p> <p><u>Site:</u></p> <p>The Songimvelo Reserve. At this stage no specific sites within the Reserve for various facilities are specified. However, it is recommended that selected sites support the adventure and mountain theme.</p>

<b>Project Title:</b> A-3 Further Development of Songimvelo Game Reserve	
<b>Project Components:</b>	
<ul style="list-style-type: none"> <li>• Refurbishment of existing camp</li> <li>• Development of a mid-market Lodge:</li> <li>• Either self-catering or serviced units (± 50 rooms)</li> <li>• Family orientated but also for small mid-market team building groups</li> <li>• Up-market Lodge (serviced, ± 20 rooms)</li> <li>• Targeted at small groups, couples, etc.</li> <li>• At each of above lodge facilities include lounge, restaurant/eating &amp; bar facility, small meeting/conference rooms, Lapa/Boma, swimming pool, adventure activities on offer</li> </ul>	
<b>Project Implementing Agency:</b>	
<b>Project Cost Estimate:</b>	<b>Implementation Schedule:</b>
Planning and Designing R 4,671,000 Construction R 53,717,000 Total Project Costs (Operation and maintenance Costs excluded) R 58,388,000	One year for planning and designing from mid 2002 to mid 2003 1.5 years for construction from mid 2003 to 2004 Operation and maintenance will commence from mid 2005







**Project Sheet –Barberton Corridor Subject Area**

<b>Project Title</b>	A-4 Development of range/variety of Barberton special interest and general interest tours & improvement in interpretation of Barberton sites	
<b>Justification</b>	<p>Although the tourism resource list of the Barberton area is extensive, with the exception of the historic attractions, most of the tourism resources in the area are offered as separate fragmented facilities and attractions have no routes or linked experiences. In addition, very poor or no interpretation is provided for most of the attractions. The content, interpretation and packaging of the existing historic route could therefore be improved.</p> <p>It is recommended that product offering be significantly different from the current product offering so that it incorporates several new products incorporating the mountain and adventure themes into several of the product offerings, i.e. game reserve, scenic drives, etc. This change in product offering calls for the development of tours and routes.</p>	
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• To strengthen and establish the suggested clear-cut image, "South Africa's mountain land, adventure and wildlife experience".</li> <li>• To establish linkage between the various attractions, facilities and products in order to ensure a strong and cohesive product offering.</li> <li>• To develop unique tours and routes, which allow tourists to experience the area's product offering, i.e. ensure it is unique and differentiated from other similar experiences.</li> <li>• To provide adequate signage and interpretation for tours.</li> </ul>	
<b>General Description</b>	This program generally relates to the developing/compilation of tourist routes (existing and new routes), the combination of various tourist routes (i.e. adventure route combined with scenic route) as well as the development of route and area specific tourism maps and signage.	
<b>Project Components</b>	<p>Improving or actually developing the content and interpretation of the existing attractions and experiences, particularly the Barberton History experience.</p> <p>Researching, packaging and designing new routes and sub-routes required (content and interpretation at route sites), i.e. scenic route, adventure route, geology route, etc.</p> <p>Developing tourist signage (and maps) for the subject area that would assist in establishing tourist routes and guiding tourists to resources while reinforcing the clear-cut image of the area.</p>	
<b>Project Implementing Agency</b>		
<b>Project Cost Estimate</b>	<b>Implementation Schedule</b>	
R	3.5 years from mid 2002 to 2005	

**Project Sheet–Barberton Corridor Subject Area****Project Title:** A-5 Road and Transport Upgrading**Justification:**

The Barberton subject area is situated about 400km and 350km east from Johannesburg and Pretoria, which are the main tourism markets to this area and have many tourism attractions within and near the subject area. Therefore, most foreign and domestic tourists access this area by road and the majority is self-drive tourists. The national road N4 is the main access road to this area from the main market and most regional main roads to/from and within the subject area are well developed. However, some sections of roads still require improvement and upgrading in order to facilitate easier accessibility to the area and contribute to tourist demand.

**Project Objectives:**

The objectives of this project are

- To attract more tourists to this area
- To improve accessibility to this area
- To make this integrated area more attractive, and
- To improve the living conditions of inhabitants along these roads

**General Description:**

A section of the R40 that passes through mountainous areas between Nelspruit and Barberton has very steep slopes and sharp bends. In addition, the dangerous sections of this road are too narrow. Heavily loaded trucks and busses often cause major traffic congestion and serious accidents. To solve this situation, a 4m widening of the road will be needed. The length of the widened section will be about 5km.

The road from Elukwatini to Bulembu, which is an access road to Swaziland via Bulembu and is also one of the access roads to the Songimvelo Nature Reserve, (from Barberton as well as Badplaas) is still a dirt road. This road passes through very mountainous terrain and is very inconvenient and uncomfortable for tourists, particularly in the rainfall season. The access road from the R541 (via Ekulindeni Village) to the Songimvelo access gate is also a dirt road and is in poor condition. This inconveniences and restricts the movement of tourists, particularly as driving on this road at night is not recommended. The length of upgrading these roads by tar pavement will be 50km and 5km respectively. The required pavement width of both roads is 7m.

The R538, which links Karino on the N4 and White River, is the access to the new international airport (Kruger Mpumalanga International Airport) currently under construction near Plaston. This road is very narrow and has several sharp curves and although tarred, is in a poor condition with a number of potholes. Therefore, upgrading will be needed. The length and width of upgrading will be about 20km and 7m respectively.

**Project Components:**

- R40 (between Nelspruit and Barberton) improvement project
- Road from Elukwatini to Bulembu upgrading project
- Road from Elukwatini to Songimvelo upgrading project, and
- R538 (between Karino and Plaston) improvement project

**Project Implementing Agency:**

It is anticipated that the following agencies will implement each project.

Provincial Government for “R40 and R538 improvement” projects

MBC-PIU for “Road from Elukwatini to Bulembu upgrading and Road from Elukwatini to Songimvelo upgrading” projects

<b>Project Title:</b> A-5 Road and Transport Upgrading	
<p><b>Project Cost Estimate:</b>                      R 40 (between Nelspruit and Barberton) improvement project                      R 4,880,000                      Road from Elukwatini to Bulembu upgrading project                      R 48,800,000                      Road from Elukwatini to Songimvelo upgrading project                      R 4,880,000                      R 538 (between Karino and Plaston) improvement project                      R 29,280,000                      Total project cost is as follow.                      R 87,840,000</p>	<p><b>Implementation Schedule:</b>                      R 40 (between Nelspruit and Barberton) improvement project:                      2 years (1 year study and 1 year construction) from 2002 to 2004                      Road from Elukwatini to Bulembu upgrading project:                      4.5 years (1 year study and 3.5 years construction) from middle of 2002 to 2006                      Road from Elukwatini to Songimvelo upgrading project:                      1 year (0.5 year study and 0.5 year construction) from 2003                      R 538 (between Karino and Plaston) improvement project:                      3 years (1 year study and 2 years construction) from 2002 to 2004</p>

**Project Sheet –Barberton Corridor Subject Area**

<b>Project Title:</b> A-6 Other Tourism Facilities	
<b>Justification:</b> <p>A border post exists on the R40 at the border of S.A. and Swaziland. At present, few people pass this border due to the bad condition of the R40 and there is less tourism development in this area. It is proposed to develop this area as one of the most attractive tourism destinations in the country based on “The Tourism and Biodiversity Corridor (TBC)” concept. Some of the projects included in this proposal idea have already been partly implemented. Improvement of the R40 from Barberton to Bulembo, which is a border town in Swaziland, is one of these projects and construction is expected to commence in early 2002. Steady implementation of tourism development and completion of the R40 improvement will increase the number of tourists and visitors passing through this border. Upgrading of the border post will contribute to increase handling capacity of passport control and provide a good impression to people passing through this border.</p> <p>Few road signs indicating road numbers and directions are provided along roads in this area. This makes it difficult for drivers/tourists to recognize which road they are driving on as well as the direction that they should go. Fortunately, Mupumalanga Tourism Authority has developed an original design of road sign with their own symbol marked by region. That road sign should be installed at suitable locations and at regular intervals along the roads.</p>	
<b>Project Objectives:</b>	
<ul style="list-style-type: none"> <li>• To increase handling capacity of passport control at the border</li> <li>• To give a good impression to people passing through the border</li> <li>• To make drivers/tourists comfortable and driving easier, and</li> <li>• To attract more tourists/visitors to this area</li> </ul>	
<b>General Description:</b>	
<p>A passport control building will be upgraded to cope with an increase in the number of people passing through this border. Both the exterior and interior of the building will be renovated to increase handling capacity and provide a good impression to people passing through the border. Landscape with parking spaces around the building will also be renewed.</p> <p>A study and survey of the road will be conducted before setting up the road signage to identify the type and number of required road signs. Approximately 300km length of road for study and survey will be necessary and about 300 road signs will be set up along roads in this area.</p>	
<b>Project Components:</b>	
<ul style="list-style-type: none"> <li>• Upgrading of Bulembo border post</li> <li>• Development of tourism signage</li> </ul>	
<b>Project Implementing Agency:</b>	
<p>It is anticipated that the following agencies will implement each project:  National government for “Upgrading of Bulembo border post” project  Barberton LTO and local government for “Development of tourism signage” project</p>	
<b>Project Cost Estimate:</b>	<b>Implementation Schedule:</b>
Upgrading of Bulembo border post: R 810,000	Upgrading of Bulembo border post: 2 years (0.5 year study and 1.5 years construction) from mid 2003 to mid 2005
Development of tourism signage: R 230,000	Development of tourism signage: 3 years from mid 2002 to mid 2005
Total project cost: R 1,040,000	

**Project Sheet –Barberton Corridor Subject Area**

<b>Program Title:</b> B-1 Marketing and Promotion of Subject Area	
<b>Justification:</b> In order to achieve the tourism demand and development potential inherent in the Barberton focus area, continuous, comprehensive and effective destination marketing and promotion of the focus area and the product within the focus area is required.	
<b>Program Objectives:</b> Develop marketing and promotion messages and materials for the Subject Area which: <ul style="list-style-type: none"> <li>• Successfully promotes the area as a tourist destination, i.e. creates awareness in the identified market segments of the destination and the range of products on offer in the focus area</li> <li>• Establishes the selected clear-cut image</li> <li>• Differentiates the area from major competitive destinations</li> <li>• Results in the achievement of the maximum potential increase in tourist demand projected for the area</li> </ul>	
<b>General Description/Components:</b> This program comprises a Marketing and Promotion Plan for the marketing/promotion of the focus area as a tourist destination. The Marketing and Promotion plan comprises the following components: <ul style="list-style-type: none"> <li>• Branding &amp; Positioning Direction: Covers both generic branding (i.e. positioning of the total area) as well as sub-branding (ie positioning of product segments within the area). Provide some idea or direction of the icons/slogans/phrases that depict the brand essence or brand value of the area or the product segment within the area.</li> <li>• Promotion &amp; Communication Plan: Specifies the promotion and communication mix (ie the range of promotion and communication activities to be undertaken and the tools to be utilised in reaching identified target markets) by product segment.</li> <li>• Marketing Organisation: Specifies the best structure for the promotional agency for the focus area, including where this structure is to be housed, and the resources required by the promotional agency, including financial budget.</li> </ul>	
<b>Program Implementing Agency:</b> The marketing of the area should be handled by a body with adequate funds and significant private sector input. We suggest that this might be a more substantial Barberton Tourism Organisation, or a new body (DMO), which combines the Barberton Tourism Organisation with significant other organisations that have a major interest in the area, such as the Bio-diversity Corridor Entity, the Mpumalanga Parks Board, etc.	
<b>Program Cost Estimate:</b> R 930,000 pa	<b>Implementation Schedule:</b> Commence 2003 and ongoing.

**Project Sheet –Barberton Corridor Subject Area**

<b>Program Title:</b> C-1 Development of local community craft and curio making design and manufacture skills	
<b>Justification:</b> The successful development of the focus area as a tourist destination will not only depend on the development of large tangible tourism product, such as lodges, resorts, attractions, etc, but will also depend on other tangible product, such as arts, crafts and merchandising specific to the area.	
<b>Program Objectives:</b> The overall objective is to equip a number of local residents with the skills to design and manufacture crafts and merchandise themed around the mountains, adventure and wildlife, which can be sold at outlets throughout the area, profitably.	
<b>Program Description/Components:</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program: <ul style="list-style-type: none"> <li>- who should develop, manage and provide the training</li> <li>- what training should be provided</li> <li>- how should the training be provided</li> <li>- The numbers to be trained</li> <li>- The resources required for the training program, including financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b> Barberton Destination Tourism Organisation	
<b>Program Cost Estimate</b> R 65,000 to R150,000 pa	<b>Implementation Schedule</b> Commence 2003 and ongoing.



**Project Sheet –Barberton Corridor Subject Area**

<b>Program Title:</b> C-2 Develop & Implement Tourism Entrepreneurial Training Program for local community	
<b>Justification:</b> The Songimvelo, Mountainlands and total area developments will create opportunities for indirect tourism jobs in conservation and development (e.g. fencing, clearing, road building, etc) and these will require training of communities to take up jobs. In addition it is envisaged that many entrepreneurial opportunities should present as the new tourism product develops, and business training will be needed to assist community members to take up these opportunities. Also, we believe that there are some existing opportunities to provide tourism services and/or products and services to existing tourism product operators.	
<b>Program Objectives:</b> To teach prospective and existing SMME entrepreneurs: <ul style="list-style-type: none"> <li>• To understand the tourism industry</li> <li>• To understand customer service</li> <li>• General business management skills</li> <li>• How to identify tourism business opportunities</li> <li>• How to negotiate/approach the established traditional tourism sector to sell and supply goods and services</li> <li>• To provide an ongoing tourism business advisory service to assist new and existing tourism SMME entrepreneurs, including assistance with identifying opportunities and negotiating with established players.</li> </ul>	
<b>Program Description/Components:</b> This program comprises the following components: <ul style="list-style-type: none"> <li>• Identification of existing similar training programs.</li> </ul> Specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program – who should develop, manage and provide the training, what training should be provided and how should the training be provided.</li> <li>• The numbers to be trained.</li> <li>• The resources required for the training program, including financial budget.</li> </ul>	
<b>Program Implementing Agency:</b> Barberton Destination Tourism Organisation with support from Mpumalanga Tourism Authority and the Mountainlands/Songimvelo (Biodiversity Corridor) PIU	
<b>Program Cost Estimate:</b> R 35,000 to R 150,000 pa	<b>Implementation Schedule:</b> Commence 2003 and ongoing.

**Project Sheet –Barberton Corridor Subject Area**

<b>Program Title:</b> C-3 Tour Guiding and Interpretation Training Program	
<b>Justification:</b> The successful development of the focus area as a tourist destination will not only depend on the development of the tangible tourism product, such as resorts, lodges, attractions, etc, but also on the development of intangible product, such as oral interpretation at tourist sites. A high standard intangible tourist experience requires knowledgeable and trained persons in the skills of tour guiding and interpretation.	
<b>Program Objectives:</b> <ul style="list-style-type: none"> <li>• To train guides, according to the Provincial Guide Accreditation System, to provide tour guiding of the adventure, scenic, historical, heritage and wildlife attractions in the area. The guides will have the basic general guiding skills and SA tourism knowledge, and the speciality knowledge related to the adventure, historical, scenic, heritage and wildlife attractions in the area. They should also learn the importance of good interpretation for visitors and particularly foreign visitors. In addition some languages (English and foreign) will form part of the tour guiding and interpretation training programs.</li> </ul>	
<b>Program Description/Components:</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program: <ul style="list-style-type: none"> <li>- who should develop, manage and provide the training</li> <li>- what training should be provided</li> <li>- how should the training be provided</li> <li>- The numbers to be trained</li> <li>- The resources required for the training program, including financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b> Barberton Destination Tourism Organisation	
<b>Program Cost Estimate:</b> R 75,000 to R 95,000 pa	<b>Implementation Schedule:</b> Commence 2004 and ongoing.

**Project Sheet –Barberton Corridor Subject Area**

<b>Program Title:</b> C-4 Training of Adventure leaders and guides	
<b>Justification:</b> The successful development of the focus area as a tourist destination will not only depend on the development of the tangible tourism product, such as resorts, lodges, attractions, etc, but also on the development of intangible product, such as oral interpretation at tourist sites and adventure and general guiding. A high standard intangible tourist experience requires knowledgeable and trained persons in the skills of tour guiding and interpretation.	
<b>Program Objectives:</b> To train guides, according to the Provincial Guide Accreditation System, to provide tour guiding of the adventure, scenic, historical, heritage and wildlife attractions in the area. The guides will have the basic general guiding skills and SA tourism knowledge, and the speciality knowledge related to the adventure, historical, scenic, heritage and wildlife attractions in the area. They should also learn the importance of good interpretation for visitors and particularly foreign visitors. In addition some languages (English and foreign) will form part of the tour guiding and interpretation training programs. Adventure leaders will be trained in specific adventure activities and will also be required to gain any adventure guiding and/or activity specific qualifications required for the activity.	
<b>General Description/Components:</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the training program: <ul style="list-style-type: none"> <li>- who should develop, manage and provide the training</li> <li>- what training should be provided</li> <li>- how should the training be provided</li> <li>- The numbers to be trained</li> <li>- The resources required for the training program, including financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b> Barberton Destination Tourism Organisation	
<b>Program Cost Estimate:</b> R 125,000 to R 183,000 pa	<b>Implementation Schedule:</b> Commence 2004 and ongoing.

**Project Sheet –Barberton Corridor Subject Area**

<b>Program Title:</b> D-1 Establishing Project Implementation Unit for product development in Mpumalanga Biodiversity Corridor (PIU)	
<b>Justification:</b> The Biodiversity Corridor is a huge project, with many sub-projects and programs, and which is expected to take many years to develop. Such a complex project requires meticulous planning and coordination. To ensure proper coordination as well as to maintain a strong momentum within the development process, the establishment of a dedicated Project or Program Implementation Unit (PIU) for the Biodiversity Corridor is essential.	
<b>Program Objectives:</b> Establish the framework for a PIU which will allow for the timely and effective development of the Biodiversity Corridor and its various projects and programs.	
<b>General Description/Components:</b> This program comprises the specification of: <ul style="list-style-type: none"> <li>• The potential structures for the PIU: <ul style="list-style-type: none"> <li>- who should be part of and/or lead the PIU</li> <li>- what should the PIU do</li> <li>- how should the PIU be structured</li> <li>- The time horizon of the PIU</li> <li>- The resources required for the PIU, including financial budget</li> </ul> </li> </ul>	
<b>Program Implementing Agency:</b> Biodiversity Corridor PIU	
<b>Program Cost Estimate:</b> R 750,000 to R 1,000,000 pa	<b>Implementation Schedule:</b> Commence 2003 and ongoing.

**Project Sheet –Barberton Corridor Subject Area**

<b>Program Title:</b>	D-2 Strengthen/expand/develop the Barberton LTO to establish Focus Area Destination Tourism Organization
	D-3 Establish strong linkages between LTO and new RTO (Wild Frontier)/MTA

**No separate program sheets required. Part of Program B-1.**

## **26.2 Cost Estimate, Implementation Schedule and Financing Alternatives**

### **26.2.1 Cost Estimate**

Table 26.2.1 shows the priority project costs for the tourism development at Barberton Subject Area.

Major points include:

- The projects for product, facilities and infrastructure development amount to R 229 million of their initial (investment) costs including those for study and design, physical works, and contingencies.
- Average annual operation/maintenance cost is estimated for each project, and is shown in the table.
- Average annual cost is estimated separately for the implementation of programs including marketing and promotion, human resource development, and institutional development. These program costs are not included in the total amount of the initial cost above.

The assumptions used for estimating the initial cost are provided in Appendix K.

### **26.2.2 Implementation Schedule**

Table 26.2.2 shows the implementation schedule for all of the priority projects and programs.

For product, facilities and infrastructure development, there are three kinds of periods: study/design, construction/development, and operation/maintenance, while there is no such distinction for marketing & promotion, human resource development and institutional development.

Annual cost requirements including the initial cost and the operation/maintenance costs are estimated for each year.

Table 26.2.1 Project Costs – Barberton Corridor Subject Area

(R'000)

Projects and Programs	Study/Design	Construction/ Procurement			Total of Project (Initial cost)	Annual Operation / Maintenance*	Remark
		Cost	Contingency	Sub-Total			
<b>Product, Facilities &amp; Infrastructure</b>							
A-1	Overall Programming for Development/Conservation for Greater Trans Frontier Conservation Area	2,000	0	0	2,000	0	
A-2	Mountainlands Game Reserve Development	5,855	68,550	10,283	78,833	17,092	Refer Construction Cost - 4
A-3	Songimvelo Game Reserve Development	4,241	42,410	6,362	48,772	9,359	Refer Construction Cost - 4
A-4	Develop Barberton special/general interest tours & Improve interpretation of Barberton sights	1,000			1,000	50	
A-5	Road and Transport Upgrading	5,040	72,000	10,800	82,800	87,840	Refer Construction Cost - 4
A-5-1	R40 (between Nelspruit and Barberton) improvement	280	4,000	600	4,600	4,880	230
A-5-2	Road (from Elukwatini to Bulembu) upgrading	2,800	40,000	6,000	46,000	48,800	1,380
A-5-3	Road improvement (Elukwatini to Songimvelo gate)	280	4,000	600	4,600	4,880	230
A-5-4	R538 (between Karino and Plaston) improvement	1,680	24,000	3,600	27,600	29,280	828
A-6	Other Tourist Facilities	120	800	120	920	1,040	Refer Construction Cost - 4
A-6-1	Upgrading of Bulembu border post	120	600	90	690	810	69
A-6-2	Development of tourist signage	0	200	30	230	230	23
Total		18,256	183,760	27,565	211,325	229,581	29,261

\*Annual Cost is average to year 2011

Projects and Programs	Annual Operation /	Remarks	
<b>Marketing &amp; Promotion</b>			
B-1	Marketing & promotion of the area	899	
Total		899	
<b>Human Resource Development</b>			
C-1	Craft development, design/manufacture skills training	89	
C-2	Tourism business skills training for local communities	40	
C-3	Tour guiding and interpretation training	69	
C-4	Training of Adventure leaders and guides	128	
Total		326	
<b>Institutional Development</b>			
D-1	Establishing PIU for product development in B.D.C	1,000	
D-2	Strengthen/expand/develop the Barberton LTO		No additional cost - cost included in Project B-1
D-3	Establish strong linkages between LTO and new RTO (Wild Frontier)/MTA		No additional cost - cost included in Project B-1
Sub Total		1,000	
Total		2,225	
Grand Total (operation/maintenance)		31,486	

\*Annual Cost is average to year 2011

Table 26.2.2 Project Implementation and Operation/Maintenance Cost – Barberton Corridor Subject Area

Unit: R1000

Projects and Programs		Initial Cost	Project Implementation & Operation/Maintenance Cost											
			2002	2003	2004	2005	2006	2007	2008	2009	2010	2011		
<b>Product, Facilities &amp; Infrastructure</b>														
A-1	Overall Programming for Development and Conservation for Greater Trans Frontier Conservation Area	2,000	2,000											
A-2	Mountainlands G.R. Development	84,688	5,855	23,650	55,183	13,847	15,803	17,207	17,911	18,292	18,292	18,292	18,292	
A-3	Further Development of Songimvelo Game Reserve	53,013	4,241	14,632	34,140	7,653	8,569	9,243	9,868	10,060	10,060	10,060	10,060	
A-4	Development of range/variety of Barberton special interest and general interest tours & Improvement of interpretation of Barberton sights	1,000	100	900	50	50	50	50	50	50	50	50	50	
A-5-1	R40 (betw een Nelspruit and Barberton) improvement project	4,880	280	4,600	230	230	230	230	230	230	230	230	230	
A-5-2	Road from Elukwatini to Bulembu upgrading project	48,800	2,800	6,571	13,143	13,143	13,143	1,380	1,380	1,380	1,380	1,380	1,380	
A-5-3	Road from Elukwatini to Songimvelo gate (improvement of road condition)	4,880	4,880	230	230	230	230	230	230	230	230	230	230	
A-5-4	R538 (betw een Karino and Plaston) improvement project	29,280	1,680	13,800	13,800	828	828	828	828	828	828	828	828	
A-6-1	Upgrading of Barberton Border Post	810		120	460	266	69	69	69	69	69	69	69	
A-6-2	Development of Tourist Signage	230	38	77	77	61	23	23	23	23	23	23	23	
sub-total		229,581	16,994	69,230	117,314	36,309	38,944	29,260	30,589	31,162	31,162	31,162	31,162	
<b>Marketing &amp; Promotion</b>														
B-1	Marketing & promotion of existing & potential product - ie marketing of subject area			651	930	930	930	930	930	930	930	930	930	
sub-total		0	0	651	930	930	930	930	930	930	930	930	930	
<b>Human Resource Development</b>														
C-1	Craft development, design & manufacture skills training			150	125	125	75	65	65	65	65	65	65	
C-2	Tourism business skills training for local communities			70	45	35	35	35	35	35	35	35	35	
C-3	Tour guiding and interpretation training				95	75	75	75	75	75	75	75	75	
C-4	Training of Adventure leaders and guides				175	175	175	125	125	125	125	125	125	
sub-total		0	0	220	440	410	360	300	300	300	300	300	300	
<b>Institutional Development</b>														
D-1	Establishing Project Implementation Unit for product development in Mpumalanga Biodiversity Corridor			1,000	1,000	1,000	1,000	750	750	750	750	750	750	
D-2	Strengthen/expand/develop the Barberton LTO			No additional cost - cost included in Project B-1										
D-3	Establish strong linkages betw een LTO and new RTO (Wild Frontier)/MTA			No additional cost - cost included in Project B-1										
sub-total		0	0	1,000	1,000	1,000	1,000	750	750	750	750	750	750	
Grand-Total		229,581	16,994	71,101	119,684	38,649	41,234	31,240	32,569	33,142	33,142	33,142	33,142	

Source: JICA Study Team

Note: Product, Facilities & Infrastructures

Study/Plan/Design
  Construction/Development
  Operation/Maintenance

Marketing & Promotion, Human Resource Development, and Institutional Development
  Plan & Operation



### 26.2.3 Financing Alternatives

The proposed development needs to be funded jointly by the public and private sectors, considering that government resources are scarce and that private sector participation is essential for rendering services responsive to the customer needs.

In principle, the public sector should play a role to provide infrastructure (both physical and institutional) needed for the development and to promote and facilitate private investment in the area. On the other hand, commercially oriented activities can be undertaken by the private sector as long as they can generate a reasonable level of financial return. See section of financial evaluation for this point.

Table 26.2.3 shows potential funding sources for the implementation of the proposed priority projects and programs.

Table 26.2.3 Potential Funding Sources for Implementing Priority Projects and Programs

Item	Potential funding sources for implementation	Remarks
Product, Facilities & Infrastructure		
Overall programming	Governments' own budget DBSA International Donor Funding	Responsibility of the public sector
Mountainlands Game Reserve		
Game reserve development except accommodation	Governments' own budget DBSA Grant & loan funds from donor agencies Technical assistance from donor agencies International NGOs/Foundations	Responsibility of the public sector as an infrastructure provider and a facilitator to attract private investors/operators.
Chalet and lodges (and possibly part of adventure/ sports facilities)	Private investment (possibly with IDC funding)	
Songimvelo Game Reserve		
Game reserve development except accommodation	Governments' own budget DBSA Grant & loan funds from donor agencies Technical assistance from donor agencies International NGOs/Foundations	Responsibility of the public sector as an infrastructure provider and a facilitator to attract private investors/operators.
Lodges	Private investment (possibly with IDC funding)	
Road and transport upgrading	Governments' own budget DBSA (External loan funds where available)	Responsibility of the public sector
Other tourist facilities including the border post and tourist signage	Governments' own budget DBSA External loan funds where available Private investment	Responsibility of the public sector as an infrastructure provider and private sector as a product provider

Item	Potential funding sources for implementation	Remarks
Marketing & Promotion	Governments' own budget (including Government Skills Development Grant Schemes) Technical assistance capacity & funding from DBSA (Local Government Technical Assistance Scheme) Grant funding from donor agencies Technical assistance from donor agencies	
Human Resource Development		
Institutional Development		

Source: JICA Study Team

## 26.3 Economic Evaluation

The proposed priority projects and programs are expected to attract a greater number of tourists to the area. Economic evaluation of these projects and programs was undertaken according to the methodology described in Section 21.2.1. **Note that at this planning stage both project benefits and costs used in the analysis are preliminary in nature, and thus the result should be taken as indicative.**

### 26.3.1 Economic Benefits

#### (1) Summary of Demand Projection

Table 26.3.1 shows the results of demand projection undertaken in the focus area development plan for both "with" and "without" project cases. The projection is made up to 2021, the ending year of the evaluation period (20 years).

Table 26.3.1 Projection of Visitors to Barberton

Year	"With" projects & programs				"Without" projects & programs			
	Domestic tourists		Foreign tourists		Domestic tourists		Foreign tourists	
	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors
2001	79,924	24,445	16,419	6,451	79,924	24,445	16,419	6,451
2002	81,522	24,934	16,829	6,613	80,324	24,567	16,583	6,516
2003	84,580	25,806	17,670	6,943	80,725	24,690	16,749	6,581
2004	103,610	29,935	19,879	7,985	81,129	24,813	16,916	6,647
2005	134,693	35,922	22,861	9,182	81,534	24,937	17,085	6,713
2006	161,632	39,515	25,147	10,101	81,942	25,062	17,256	6,780
2007	185,876	42,478	27,033	10,606	82,352	25,187	17,429	6,848
2008	199,817	44,602	28,385	11,136	82,764	25,313	17,603	6,917
2009	209,808	46,163	29,804	11,693	83,177	25,440	17,779	6,986
2010	216,102	47,317	31,294	12,277	83,593	25,567	17,957	7,056
2011	222,585	48,500	32,859	12,891	84,011	25,695	18,136	7,126
2012	224,811	48,985	33,681	13,213	84,431	25,823	18,318	7,197

Year	"With" projects & programs				"Without" projects & programs			
	Domestic tourists		Foreign tourists		Domestic tourists		Foreign tourists	
	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors
2013	227,059	49,475	34,523	13,544	84,854	25,952	18,501	7,269
2014	229,330	49,970	35,386	13,882	85,278	26,082	18,686	7,342
2015	231,623	50,469	36,270	14,229	85,704	26,213	18,873	7,416
2016	233,939	50,974	37,177	14,585	86,133	26,344	19,061	7,490
2017	236,279	51,484	38,107	14,950	86,563	26,475	19,252	7,565
2018	238,641	51,999	39,059	15,324	86,996	26,608	19,445	7,640
2019	241,028	52,519	40,036	15,707	87,431	26,741	19,639	7,717
2020	243,438	53,044	41,037	16,099	87,868	26,874	19,835	7,794
2021	245,872	53,574	42,062	16,502	88,308	27,009	20,034	7,872

Source: JICA Study Team

## (2) Tourist Expenditure

Total tourist expenditure is estimated by multiplying the number of tourists to the area by the amount spent per tourist. Tourist expenditure per tourist for the area is estimated as shown in Table 26.3.2.

The estimates for the "without" project case are made based on the socio-economic impact assessment survey conducted as part of this study. No inflation is assumed, thereby maintaining consistency with project costs where inflation is also not taken into account.

For "with" project case, tourist expenditure per tourist is assumed to increase by 25% starting in 2005 from that for the "without" project case, considering that Barberton will offer much greater variety of activities once the proposed projects are implemented.

Table 26.3.2 Estimate of Tourist Expenditure per Tourist for Barberton

(in Rand)

Domestic/foreign	"With" projects & programs		"Without" projects & programs	
	Overnight visitors	Day visitors	Overnight visitors	Day visitors
Domestic tourists	781	200	625	160
Foreign tourists	1,063	313	850	250

Note: Expenditure of overnight visitors is a total spent for the entire stay in the area, not per day. The difference in day visitors' expenditure between domestic and foreign tourists comes mainly from the fact that many foreign tourists visit the area on a tour operated by tour operators, while domestic tourists mostly visit on their own.

Source: Socio-Economic Impact Assessment Survey, JICA Study Team

## (3) Contribution to GDP

Contribution of the priority projects and programs to GDP or value added is estimated as shown in Table 26.3.3.

Assumptions:

- The difference in total expenditure between “with” and “without” cases, as shown in the table, is obtained from demand projection coming from the focus area development plan. Considering that most of the identified projects and programs were selected as priority, a factor of 0.9 is assumed to be applied to convert this difference to that resulting from the priority projects and programs. The result is shown in the second column from the right.
- A factor of 0.55 is then assumed to convert the incremental tourist expenditure attributed to the priority projects and programs to the net increment in value added. This assumption is based on the result of the socio-economic impact assessment survey, in which one unit of the incremental final demand related to tourism is estimated to increase value added of somewhat less than 0.6.<sup>1</sup>
- All the benefit figures are in constant values, and price escalation is not considered.

The last column of the table provides the estimated contribution of the priority projects and programs to GDP, namely, the project benefits.

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<sup>1</sup> Since tourism is not a separate sector in the South Africa's national account system, this estimate was made for sectors that include tourism-related services. For example, this factor was estimated at 0.56 for wholesale and retail trade that includes accommodation and restaurants, and 0.58 for transport and communication including travel agencies, air and related transport activities.

Table 26.3.3 Economic Benefits of Priority Projects and Programs

(Thousand Rand)

Year	Total tourist expenditure								Incremental tourist expenditure					Increment attributed to priority projects	Contribution to GDP
	"With" projects & programs				"With" projects & programs				Domestic tourists		Foreign tourists		Total		
	Domestic tourists		Foreign tourists		Domestic tourists		Foreign tourists		Overnight visitors	Day visitors	Overnight visitors	Day visitors			
	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors	Overnight visitors	Day visitors							
2001	49,953	3,911	13,956	1,613	49,953	3,911	13,956	1,613	0	0	0	0	0	0	0
2002	50,952	3,989	14,305	1,653	50,202	3,931	14,095	1,629	749	59	209	24	1,041	937	516
2003	52,862	4,129	15,020	1,736	50,453	3,950	14,236	1,645	2,409	179	784	91	3,462	3,116	1,714
2004	64,756	4,790	16,897	1,996	50,706	3,970	14,379	1,662	14,051	820	2,519	334	17,723	15,951	8,773
2005	105,229	7,184	24,290	2,869	50,959	3,990	14,522	1,678	54,270	3,194	9,768	1,191	68,423	61,581	33,869
2006	126,275	7,903	26,719	3,156	51,214	4,010	14,668	1,695	75,061	3,893	12,051	1,461	92,466	83,220	45,771
2007	145,216	8,496	28,723	3,314	51,470	4,030	14,814	1,712	93,746	4,466	13,909	1,602	113,722	102,350	56,293
2008	156,107	8,920	30,159	3,480	51,727	4,050	14,962	1,729	104,380	4,870	15,197	1,751	126,197	113,578	62,468
2009	163,912	9,233	31,667	3,654	51,986	4,070	15,112	1,746	111,926	5,162	16,555	1,908	135,551	121,996	67,098
2010	168,830	9,463	33,250	3,837	52,246	4,091	15,263	1,764	116,584	5,373	17,987	2,073	142,016	127,815	70,298
2011	173,895	9,700	34,913	4,028	52,507	4,111	15,416	1,782	121,388	5,589	19,497	2,247	148,720	133,848	73,617
2012	175,634	9,797	35,786	4,129	52,770	4,132	15,570	1,799	122,864	5,665	20,216	2,330	151,075	135,967	74,782
2013	177,390	9,895	36,680	4,232	53,033	4,152	15,726	1,817	124,356	5,743	20,955	2,415	153,469	138,122	75,967
2014	179,164	9,994	37,597	4,338	53,299	4,173	15,883	1,836	125,865	5,821	21,714	2,503	155,903	140,313	77,172
2015	180,955	10,094	38,537	4,447	53,565	4,194	16,042	1,854	127,390	5,900	22,495	2,593	158,378	142,541	78,397
2016	182,765	10,195	39,501	4,558	53,833	4,215	16,202	1,872	128,932	5,980	23,298	2,685	160,896	144,806	79,643
2017	184,593	10,297	40,488	4,672	54,102	4,236	16,364	1,891	130,491	6,061	24,124	2,781	163,456	147,110	80,911
2018	186,439	10,400	41,500	4,789	54,373	4,257	16,528	1,910	132,066	6,142	24,973	2,879	166,060	149,454	82,199
2019	188,303	10,504	42,538	4,908	54,644	4,279	16,693	1,929	133,658	6,225	25,845	2,979	168,708	151,837	83,510
2020	190,186	10,609	43,601	5,031	54,918	4,300	16,860	1,948	135,268	6,309	26,741	3,083	171,401	154,261	84,843
2021	192,088	10,715	44,691	5,157	55,192	4,321	17,029	1,968	136,896	6,393	27,663	3,189	174,141	156,727	86,200

Source: JICA Study Team

### 26.3.2 Economic Costs

The initial cost and the operation and maintenance cost for the priority projects and programs that were estimated earlier are used for the economic evaluation.

Assumptions:

- All the costs are in constant values, and price escalation is not considered.
- All the costs are to be incurred according to the schedule projected earlier.
- In order to convert the financial cost to the economic cost, a factor of 0.9 was adopted primarily considering taxes that are an internal transfer.

### 26.3.3 Economic Return

With the economic benefits and costs estimated above, the entire priority projects and programs were evaluated using the economic internal rate of return (EIRR), a standard measure for project's economic impact. Table 26.3.4 presents the results of the estimation.

EIRR was estimated to be 14.1% for these projects and programs. Although the result is indicative in nature, this value exceeds the economic opportunity cost of capital that is often assumed at 12%, and is high enough for justifying the investment in them from the national economic point of view.

Table 26.3.4 Economic Internal Rate of Return for Priority Projects and Programs

Year	Economic Benefit (1)	Economic Cost		Net benefit (1)-(2)-(3)
		Product, facilities, infrastructure (2)	Programs (3)	
2001	0	0	0	0
2002	516	15,295	0	-14,779
2003	1,714	62,307	1,756	-62,349
2004	8,773	105,583	2,142	-98,952
2005	33,869	32,678	2,169	-978
2006	45,771	35,050	2,088	8,633
2007	56,293	26,334	1,782	28,177
2008	62,468	27,530	1,782	33,156
2009	67,098	28,046	1,782	37,270
2010	70,298	28,046	1,782	40,470
2011	73,617	28,046	1,782	43,789
2012	74,782	28,046	1,782	44,954
2013	75,967	28,046	1,782	46,139
2014	77,172	28,046	1,782	47,344
2015	78,397	28,046	1,782	48,570
2016	79,643	28,046	1,782	49,816
2017	80,911	28,046	1,782	51,083
2018	82,199	28,046	1,782	52,372
2019	83,510	28,046	1,782	53,682
2020	84,843	28,046	1,782	55,016
2021	86,200	28,046	1,782	56,372

**EIRR = 14.9%**

Note: Cost for product, facilities and infrastructure ((2) above) includes investment cost and operation and maintenance cost. Cost for programs ((3) above) includes that for promotion and marketing, human resource development, and institution development.

Source: JICA Study Team

### 26.3.4 Sensitivity Analysis

In view of the inevitable uncertainty concerning the precise values of key variables in the economic evaluation, sensitivity analysis was undertaken.

Table 26.3.5 shows sensitivity of EIRR with respect to the change in the initial cost (investment cost) and in the benefit, and the combination of them.

Table 26.3.5 Sensitivity of Economic Internal Rate of Return (EIRR)

Case	EIRR
Base Case	14.9%
(1) Initial Cost: 10% up	13.4%
(2) Benefits: 10% down	12.1%
(3) Combination of (1) & (2)	10.7%

Source: JICA Study Team

## 26.4 Preliminary Financial Assessment

Two major projects proposed as priority are the development of the Mountainlands Game Reserve and further development of the Songimvelo Game Reserve, both involving development of revenue generating facilities: chalets, lodges, adventure and recreational facilities, shops, etc.

Substantial development work other than these facilities would be needed for both projects including site preparation and infrastructure development covering large areas. For this reason, it is highly recommended that the projects be undertaken jointly by the public and private sectors for their successful implementation. In order to attract private investors, it is necessary that the private operators be provided a reasonable level of financial return.

Tables 26.4.1 and 26.4.2 summarize a preliminary assessment of the operating performance of these projects. While the result is preliminary and indicative in nature, estimation was made as to whether these projects could be a commercial activity attractive enough to a private entity. Note that inflation is not considered in the analysis, and thus the ROI estimated is in real terms. Cash flows for this preliminary assessment are provided in Appendix K.

As shown, despite the reasonably high economic return estimated previously for the entire priority projects and programs, it is estimated that the return on investment in these two projects may not be high enough for private investors even excluding developmental work needed for the entire game reserves (see case (1) in the tables). Note, however, that the initial cost in this case still includes the estimated costs for planning and designing and for infrastructure development that is more project specific.

As shown in cases (2) and (3) in the tables, ROI improves as the amount of the initial cost is reduced, namely, if the public sector increasingly bears the cost for the initial investment in these projects.

Table 26.4.1 Indicative Result: Return on Investment (ROI) for Mountainlands Game Reserve Development

Case	ROI
Initial cost excluding area-wide developmental work such as roads and fencing for the entire game reserve	9%
75% of the initial cost used for (1)	12%
60% of the initial cost used for (1)	16%

Note: ROI is in real terms, assuming no inflation.

Source: JICA Study Team

Table 26.4.2 Indicative Result: Return on Investment (ROI) for Further Development of Songimvelo Game Reserve

Case	ROI
Initial cost excluding area-wide developmental work such as roads and fencing for the entire game reserve	8%
75% of the initial cost used for (1)	11%
60% of the initial cost used for (1)	15%

Note: ROI is in real terms, assuming no inflation.

Source: JICA Study Team

Although the result is indicative, it strongly suggests that public investment in these developments is highly necessary for commercially viable operation of the proposed facilities.

## 26.5 Environmental Considerations

Table 26.5.1 shows the list of priority projects/ programs in Barberton by type. The basic data for the size/ description of each project/ program is shown in Table 26.5.2. The results of preliminary EIA are discussed in the following section.

Table 26.5.1 List of Priority Projects &amp; Programs in Barberton Subject Area requiring EIA

Priority Projects and Programs	Type
<b>A Product, Facilities and Infrastructure</b>	
A-1 Overall Programming for Development and Conservation for Greater Trans Frontier Conservation Area	*2
A-2 Development of Mountainlands Game Reserve	Type B
A-3 Further Development of Songimvelo Game Reserve	Type B
A-4 Further Development of Barberton Game Reserve	Type B
A-5 Development of range/variety of Barberton special interest and general interest tours & Improvement of interpretation of Barberton sights	*2
A-6 Road and Transport Upgrading	*1
A-6-1 R40 (between Nelspruit and Barberton) improvement project	Type C
A-6-2 Road from Elukwatini to Bulembu upgrading project	Type C
A-6-3 Road from Ekulindeni to Songimvelo gate (improvement of road condition)	Type C
A-6-4 R538 (between Karino and Plaston) improvement project	Type C
A-7 Other Tourist Facilities	*1
A-7-1 Upgrading of Bulembo border post	Type A
A-7-2 Development of tourist signage	Type A



Source: JICA Study Team

Note:     Type A: Projects/ programs of small-scale development  
          Type B: Projects/ programs of integrated infrastructure and/or large-scale development  
          Type C: Projects/ programs of road development  
          \*1: Project/ program title  
          \*2: No need to prepare IEE because of soft type project/ program

Table 26.5.2 Size/ Description of Each Project/ Program in Barberton Corridor Subject Area

No.	Item	Size/ Description
<b>Type A</b>		
<b>A-7-1 Upgrading of Bulembo border post</b>		
1	Planning and Designing	
2	Construction of Border Post	
<b>A-7-2 Development of tourist signage</b>		
<b>Type B</b>		
<b>A-2 Development of Mountainlands Game Reserve</b>		
1	Planning and Designing	
2	Promotion and Evaluation	
3	Tourism facilities, infrastructures and tourist activities	
3-1	Construct Chalet	self catering for mid-market, 70m <sup>2</sup> /each, 50 chalets, site area 50,000m <sup>2</sup>
3-2	Construct Lodge	full service for mid-market, one lodge 80 rooms
3-3	Construct Restaurant/Fast Food Kiosk	Floor area 700m <sup>2</sup>
3-4	Construct Shop	for chalets, floor area 200m <sup>2</sup>
3-5	Construct Swimming Pool	20m x 15m and 25m x 20m
3-6	Construct Picnic Site	adjacent to chalets area, site area 20,000m <sup>2</sup> with 20 braai sets
3-7	Construct Inner Road	L= 30km, W= 7m, paving
3-8	Construct Fencing	H=2m, L= 70 km, electrified
3-9	Construct Water Supply	Surface water, 80m <sup>3</sup> /day
3-10	Construct Sewage Treatment Facility	Septic tank, 90m <sup>3</sup> (water 80m <sup>3</sup> /day) x 1.1
3-11	Development of Electricity Supply	L=10km
3-12	Construct Mountain Bike Route	L= 10km, W= 5 m, no paving
4	Game Stocking	Purchase "Big Five"
<b>A-3 Further Development of Songimvelo Game Reserve</b>		
1	Planning and Designing	
2	Promotion and Evaluation	
3	Tourism facilities, infrastructures and tourist activities	
3-1	Rehabilitation of existing mining house to tourism use (Msauli Village)	110 houses with 600 beds
3-2	Refurbishment of existing Camp/Lodges	for mid-market 10 tents
3-3	Construct New Lodges for Mid-market	50 rooms
3-4	Construct New Lodges for Up-market	20 rooms
3-5	Construct Meeting Room	2 meeting rooms with an office, 150m <sup>2</sup> /each
3-6	Construct Swimming Pool	2 pools, 20m x 15m x 1m/each
3-7	Construct Inner Road	L= 20km, W= 7m, paving
3-8	Construct Fencing	H=2m, L= km, electrified
3-9	Construct Water Supply	Surface water, 20m <sup>3</sup> /day
3-10	Construct Sewage Treatment Facility	Septic tank, 22m <sup>3</sup> capacity
3-11	Development of Electricity Supply	L=5km

No.	Item	Size/ Description
3-12	Construct Mountain Bike Route	L= 10km, W= 5m, no paving
<b>A-4 Further Development of Barberton Game Reserve</b>		
1	Designing	
2	Promotion and Evaluation	
3	Tourism facilities, infrastructures and tourist activities	
3-1	Construct Accommodation	
3-2	Construct Housing	for security personnel and manager,
3-3	Construct Entrance Gate	
3-4	Upgrading Inner Road	including new bridges, L= km, W= m, paving
3-5	Construct Water Supply	
3-6	Development of Electricity Supply	
4	Game Stocking	
<b>Type C</b>		
<b>A-6-1 R40 (between Nelspruit and Barberton) improvement project</b>		
1	Planning and Designing	
2	Improvement of R 40	Widening of road (L=5km, W=+4m)
<b>A-6-2 Road from Elukwatini to Bulembu upgrading project</b>		
1	Planning and Designing	
2	Paving	Tar (L=50km, W=7m)
<b>A-6-3 Road from Ekulindeni to Songimvelo gate (improvement of road condition)</b>		
1	Planning and Designing	
2	Paving	Tar (L=5km, W=7m)
<b>A-6-4 R538 (between Karino and Plaston) improvement project</b>		
1	Planning and Designing	
2	Improvement of R538	Widening and Paving of road (L=20km, W=7m)

**(1) Type A Projects/ Programs (Upgrading of Bulembo border post/ Development of tourist signage)**

Table 26.5.3 shows results of a preliminary EIA of Type A in this Area. The Type A projects/ programs are mainly small-scale building construction. The main impact is caused by reclamation/ special occupancy at construction stage and by accumulation of people/ goods at operation stage. Careful attention at the construction stage including adequate construction equipment and vehicles, and a detailed demand study are required.

This type of project/ program is not included as an activity that requires EIA. Therefore, discussion with the EIA section in Mpumalanga Province is required.

Table 26.5.3 Results of Preliminary EIA for Type A

Environmental items		Before operation		After operation			
		Reclamation/ spatial occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of vehicles/ ships/ airplanes	Operation/ maintenance of associated facilities	Accumulation of people/ goods
Social environment	Resettlement	X					
	Economic activities						X
	Traffic/ public facilities				X		X
	Split of communities						
	Cultural property	X					X
	Water rights/ rights of common	X		X			
	Public health condition						
	Waste						X
	Hazard (risk)						
Natural environment	Topography/ geology						
	Soil erosion						
	Groundwater						
	Hydrological						
	Coastal zone						
	Fauna/ flora						
	Meteorology						
	Landscape	X		X			
Pollution	Air pollution				X		
	Water pollution	X				X	X
	Soil contamination						
	Noise/ vibration				X		
	Land subsidence						
	Offensive odor						

Note: XX: The environmental items to which special attention has been paid. They might cause serious impacts that may affect the project formation depending on the magnitude of the impacts and the possibility of the measures.

X: The environmental items which may have a significant impact depending on the scale of project and site conditions.

No mark: The environmental items requiring no impact assessment since the anticipated impacts are, in general, not significant.

In case of the comprehensive development projects, all the items are classified in X, because their studies are usually at the master planning stage and the extent of impacts are not clear.

Source: JICA Study Team

## (2) Type B Projects/ Programs (Development of Mountainlands Game Reserve/ Further Development of Songimvelo Game Reserve/ Further Development of Barberton Game Reserve)

Table 26.5.4 shows results of a preliminary EIA of Type B in this Area. The projects/ programs in Type B are mainly integrated infrastructure and/or large-scale development for tourism development. Therefore, there are many items that will cause environment impacts. Some of these impacts might be serious depending on their magnitude and the location of the sites. In the case that projects/ programs include resettlement, the impact will be serious. When the site is located in a sensitive area, the impact to the natural environment by reclamation works at construction stage will be serious. Careful attention to the selection of the site and development planning with environmental considerations are required.

The type of projects/ programs that may have activities requiring an EIA are categorized as "Construction or upgrading: (m) public and private resorts and associated infrastructure". Some of them might require a full-scale EIA in accordance with the EIA guideline in South Africa. Discussion with the EIA section in Mpumalanga Province is required from an early stage in the development planning.

Table 26.5.4 Results of Preliminary EIA for Type B

Environmental items		Before operation		After operation			
		Reclamation/ spatial occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of vehicles/ ships/ airplanes	Operation/ maintenance of associated facilities	Accumulation of people/ goods
Social environment	Resettlement	X					
	Economic activities	X				X	X
	Traffic/ public facilities		X		X		
	Split of communities			X			
	Cultural property	X					X
	Water rights/ rights of common	X		X			
	Public health condition					X	X
	Waste					X	X
	Hazard (risk)	X					
Natural environment	Topography/ geology	X					
	Soil erosion	X					
	Groundwater						
	Hydrological	X				X	
	Coastal zone						
	Fauna/ flora	X	X	X	X	X	X
	Meteorology						
	Landscape	X		X			
Pollution	Air pollution						
	Water pollution	X				X	
	Soil contamination						
	Noise/ vibration		X		X	X	
	Land subsidence						
	Offensive odor						

Note: XX: The environmental items to which special attention has been paid. They might cause serious impacts that may affect the project formation depending on the magnitude of the impacts and the possibility of the measures.

X: The environmental items which may have a significant impact depending on the scale of project and site conditions.

No mark: The environmental items requiring no impact assessment since the anticipated impacts are, in general, not

significant.

In case of the comprehensive development projects, all the items are classified in X, because their studies are usually at the master planning stage and the extent of impacts are not clear.

Source: JICA Study Team

### (3) Type C Projects/ Programs (R40 (between Nelspruit and Barberton) improvement project/ Road from Elukwatini to Bulembu upgrading project/ Road from Ekulindeni to Songimvelo gate (improvement of road condition)/ R538 (between Karino and Plaston) improvement project)

Table 26.5.5 shows results of a preliminary EIA of Type C in this area. The projects/ programs in Type C are mainly road rehabilitation. Environmental impacts by this type are mainly caused by reclamation/ special occupancy at alignment points and by air pollution/ noise & vibration from vehicles. Some of these impacts might be serious depending on the construction methods, the location of the points, and the volume of vehicles. Careful attention to the selection of construction methods and the site are required. The objective of road rehabilitation is mainly to accommodate vehicles for tourism. However, this road will be used for the regional economy or as a short cut to the Botswana border. In this case traffic volume will increase and a detailed traffic demand forecast will be required.

This type of project/program may include activities that require EIA as “The construction or upgrading: (d) roads, railways, airfields and associated structures and activities outside the boundaries of town planning schemes”. In this description, it is not clear whether these activities mean new construction or rehabilitation. Therefore, discussion with the EIA section in Mpumalanga province is required from an early stage of the development planning.

Table 26.5.5 Results of Preliminary EIA for Type C

Environmental items		Before operation		After operation		
		Reclamation/ spatial occupancy	Operation of construction equipment/ vehicles	Spatial occupancy	Operation of vehicles	Accumulation of people/ goods
Social environment	Resettlement	X				
	Economic activities					X
	Traffic/ public facilities				X	
	Split of communities			X		
	Cultural property	X				
	Water rights/ rights of common	X				
	Public health condition					
	Waste					X
	Hazard (risk)					
Natural environment	Topography/ geology	X				
	Soil erosion	X				
	Groundwater					
	Hydrological	X		X		
	Coastal zone					
	Fauna/ flora	X			X	
	Meteorology					
	Landscape					
Pollution	Air pollution				X	
	Water pollution	X				
	Soil contamination					
	Noise/ vibration				X	
	Land subsidence					
	Offensive odour					

Note: XX: The environmental items to which special attention has be paid. They might cause serious impacts that may affect the project formation depending on the magnitude of the impacts and the possibility of the measures.

X: The environmental items which may have a significant impact depending on the scale of project and site conditions.

No mark: The environmental items requiring no impact assessment since the anticipated impacts are, in general, not significant.

In case of the comprehensive development projects, all the items are classified in X, because their studies are usually at the master planning stage and the extent of impacts are not clear.

Source: JICA Study Team

