

Appendix E

Biodiversity Corridor Marketing and Promotion

Barberton Tourism and Biodiversity Corridor

MARKETING AND PROMOTION PLAN

1. Key Activities & Responsibilities:

- 1.1. Establishing a branding identity and competitive positioning for the Tourism and Biodiversity Corridor. Responsibility: TBCSC. Status: Still to be initiated. Time framework: April 2002. Budget: To be determined.
- 1.2. Develop strategy(ies) to promote optimal use of sub-regional and local tourist attractions/products as part of the TBC. In addition, to support the further development and promotion of new attractions/products with potential. Responsibility: TBCSC. Status: To be initiated. Time Framework: June 2002.
- 1.3. Development of required related infrastructure throughout the TBC. Responsibility: TBCSC. Status: All of the activities listed below are receiving attention. Time Framework: Varies (see below for detail).
 - 1.3.1. Development and establishment of innovative and user-friendly tourism route road signage throughout the Tourism and Biodiversity Corridor. Time Framework: June 2002.
 - 1.3.2. Lobby for the upgrading of various priority access roads including the Nelspruit to Barberton Road, Barberton to Bulembu to Piggs Peak Road, the Wonderfontein to Carolina to Badplaas Road, and the upgrade of the Machadadorp to Badplaas Road. Time Framework: The need to rehabilitate and/or upgrade each of the above roads has been brought to the attention of the relevant authorities.
 - 1.3.3. The development of new and/or upgrading of existing 'Information Centres' in Badplaas, Barberton, Malelane, Komatipoort, Bulembu, Piggs Peak and in the Nkomazi region of Mpumalanga, north-eastern Swaziland and southern Mozambique. Time Framework: Variable, some are in implementation at present (Badplaas) whilst for others targets still need to be determined.
- 1.4. Mobilisation of adequate financing for tourism marketing and product development in the TBC. Responsibility: TBCSC. Status: Process already initiated. Time Framework: Ongoing.
 - 1.4.1. Harnessing current marketing spend into more cohesive and co-ordinated focus.
 - 1.4.2. Explore financing and support opportunities via the MTA and SATOUR, public-private partnerships, regional and local authorities for financial support for specific marketing initiatives.
 - 1.4.3. Explore opportunities for commercially viable sales of promotional materials, branding rights, etc.
 - 1.4.4. Create commercial advertising opportunities.
 - 1.4.5. Explore international funding opportunities for viable international destination marketing projects.

Appendix F

Project Construction Costs

CONSTRUCTION COSTS –PILANESBERG – MADIKWE CORRIDOR SUBJECT AREA

A-2 Construction of Broad Infrastructure for Heritage Park (R '000)

Item	Size/Description	Unit Price	Total
1 Planning and Designing	7% of sub-total		5,460
2 Construct Inner Road	W=7m (tra), phase I L=60km, phase II L=40km, tar	R0.5mill/km	50,000
3 Construct Fencing	phase I L=200km, phase II L=150km, H=2m, electrified	R80/m	28,000
	sub-total 2+3		78,000
	Contingency 15% of sub-total		11,700
	Grand-Total		95,160

A-3 Development in Molatedi Dam (R '000)

Item	Size/Description	Unit Price	Total
1 Planning and Designing	10% of sub-total(1)		1,433
2 Day & Overnight Resort			
2-1 Site Preparation	total site area 20,000m2	R30/m2	600
2-2 Construct Parking	50 parking lots 1,500m2	R120/m2	180
2-3 Construct Administration Office	floor area 30m2	R4,000/m2	120
2-4 Construct Resting House	w ith restaurant and shop, floor area 150m2	R5000/m2	750
2-5 Construct Chalets	self-catering, 50 chalets, floor area 50m2/each	R185,000 /chalet	9,250
2-6 Construct Camp Site	2,000m2	R500/m2	1,000
2-7 Picnic Area & Recreation facilities			2,000
2-8 Construct Boat House	1 house, floor area 5m2	R1,000/m2	5
2-9 Construct Wooden Pier	L=20m, W=2m	R1,000/m	20
2-10 Purchasing Row boats			100
2-11 Construct Infrastructure	w ater supply (Φ30 L=1km),	R300/m	300
	sub-total(1)		14,325
3 Upgrading of existing tented lodge			
3-1 Upgrading of tents			600
3-2 Rehabilitation of Office w ith Restaurant			250
3-3 Rehabilitation of Toilet			20
3-4 Rehabilitation of Pier			10
3-5 Purchasing Sightseeing Boat			120
	sub-total(2)		1,000
	sub-total(3) sub-total(1)+sub-total(2)		15,325
	Contingency 15% of sub-total(3)		2,299
	Grand-Total		19,056

A-4 Pilanesberg Game Reserve				(R '000)
Item	Size/Description	Unit Price	Total	
1	Planning and Designing	10% of sub-total		2,482
2	Mid-Market Resort & Youth Exchange Center			
2-1	Site Preparation	total area 150,000m ² (except 100,000m ² for Heritage Area)	R30/m ²	4,500
2-2	Construct Parking	2,000m ² (70 parking lots)	R120/m ²	240
2-3	Construct Dormitory	2 stories, floor area 2,000m ² (25 bedrooms, restaurant, meeting room, reception), total site 1,300m ²	R130,000 /room	3,250
2-4	Construct Chalets (for Mid-market, self-catering)	60 units	R170,000 /unit	10,200
2-5	Construct Restaurant Building with Fastfood Kiosk	1,000m ² - indoor & outdoor	R2,500/m ²	750
2-6	Construct Shop	floor area 100m ²	R2,000/m ²	200
2-7	Construction of Multipurpose Sports Field	total area 15,000m ²	R50/m ²	750
2-8	Construct Swimming Pool	25m x 20m	R2,000/m ²	1,000
2-9	Construct Picnic/Camping Fields	15,000m ²	R30/m ²	450
2-10	Construct Cultural/Heritage Area	total cultural/heritage area 50,000m ²	R30/m ²	1,500
2-11	Construct Cultural/Heritage Interpretation Center	building 250m ²	R2,500/m ²	625
2-12	Construct Access Road	L=1,000m W=10m tar	R1.0mill/km	1,000
2-13	Construct Water Supply	Φ30 L=1km	R350/m	350
	sub-total			24,815
	Contingency	15% of sub-total		3,722
	Grand-Total			31,019

Construction Costs - 1 (Pilanesberg - Madikwe Corridor Subject Area) (2)

A-5 Road Transport Upgrading

A-5-1 Upgrading of Road

(R '000)

Item	Size/Description	Unit Price	Total	
1	Planning and Designing	7% of construction		8,400
2	Upgrading of Road	L=100km, W=10 (tar)m	R1,2mill/km	120,000
	Contingency	15% of construction		18,000
	Grand-Total			146,400

A-5-2 Development of Road Signage

(R '000)

Item	Size/Description	Unit Price	Total	
1	Develop Road Signage	200	R1,000/piece	200
	Contingency	15% of development		30
	Grand-Total			230

A-6 Water Supply Development

(R '000)

Item	Size/Description	Unit Price	Total	
1	Planning and Designing	7% of construction		12,250
2	Construction of Water Pipe	Φ150 (average) L=70km	R2,500/m	175,000
	Contingency	15% of construction		26,250
	Grand-Total			213,500

CONSTRUCTION COSTS – KHAYELITSHA SUBJECT AREA

A-1 Development of African Music and Dance Showcase

A-1-1 Development of facilities for African Music and Dance Showcase Facilities

(R '000)

Item	Size/Description	Unit Price	Total
1	Planning and Designing	10% of sub-total	1,956
2	Development of Show case		
2-1	Site Preparation	site area 40,000m ²	R30/m ² 1,200
2-2	Construct Theater	total floor area 2,000m ² (w ith 200 seats, stage, backstage, anteroom, office, lobby, toilet, machine room)	R5,000/m ² 10,000
2-3	Construct Info Center/Interpretation Center/Museum	floor area 500m ²	R5,000/m ² 2,500
2-4	Construct Outdoor Theater	ground area 10,000m ² on lawn	R200/m ² 3,000
2-5	Construct Multi-purpose Building	floor area 300m ² w ith flat floor	R2,000/m ² 600
2-6	Construct Shop/Outlet	floor area 300m ²	R1,500/m ² 450
2-7	Construct Food outlet	floor area 200m ²	R1,500/m ² 300
2-8	Construct Parking and Landscaping	500 bays	R120/m ² 300
2-9	Construct Fencing	H=2m, L=1,000m	R80/m 80
2-10	Construct w ater supply pipe	Φ30, L=300m	R350/m 105
2-11	Construct sew age pipe	Φ300, L=300m	R3,000/m 900
2-12	Construct Electricity Line	underground L=300m	R200/m 60
2-13	Construct Telephone Line	underground L=300m	R200/m 60
	sub-total		19,555
	Contingency	15% of sub-total	2,933
	Grand-Total		24,444

CONSTRUCTION COSTS – VALLEY OF THE OLIFANTS SUBJECT AREA

A-1 Development of WERC (tourist facilities and infrastructures) (R '000)

Item	Size/Description	Unit Price	Total
1	Planning and Designing	10% of sub-total	1,358
2	Construction of WERC		
2-1	Site Preparation	site area 20,000m ²	600
2-2	Construct Visitor Center	floor area 50m ²	100
2-3	Construct Interpretation Center	w ith 200m ² meeting room, total floor area 800m ²	2,000
2-4	Construct Exhibition Hall/Theater	exhibition hall 500m ² , theater 400m ² (100seats), total floor area 1,000m ²	4,140
2-5	Construct Arts & crafts outlet	floor area 200m ²	300
2-6	Construct Restaurant & Shops	total floor area 400m ²	1,800
2-7	Construct Play lot w ith Resting Facility	500m ²	350
	Construct Conference Centre	400m ²	2,400
2-8	Construct Parking	5000m ²	600
2-9	Construct Fencing	H=2m, L=700m	42
2-10	Construct Water Pipe	Φ30, L=500m	150
2-11	Construct Sew age Pipe	Φ300, L=300m	900
2-12	Construct Electricity	underground L=500m	100
2-13	Construct Telephone Line	underground L=500m	100
	sub-total		13,582
	Contingency	20% of sub-total	2,658
	Grand-Total		17,598

A-3 Road and Transport Upgrading

A-3-1 Upgrading of R36 (R '000)

Item	Size/Description	Unit Price	Total
1	Planning and Designing	7% of paving	2,520
2	Paving	Tar (L=30km, W=10m)	36,000
	Contingency	15% of paving	5,400
	Grand-Total		43,920

A-3-2 Improvement of general Road Signage (R '000)

Item	Size/Description	Unit Price	Total
1	Study and Survey of road	50% of setting of road signage	100
2	Setting of Road Signage	Road length 300km, 200signages	200
	Contingency	15% of setting of signage	30
	Grand-Total		330

A-3-3 Preparation of the latest Road Map/Tourist Map (R '000)

Item	Size/Description	Unit Price	Total
1	Study and Survey of road	50% of setting of road signage	250
2	Preparation of Maps	A2 size, 10,000pieces	500
	Contingency	15% of preparation of map	75
	Grand-Total		825

CONSTRUCTION COSTS – BARBERTON CORRIDOR SUBJECT AREA

A-2 Mountainlands Game Reserve Development			(R '000)	
Item	Size/Description	Unit Price	Total	
1	Planning and Designing	10% of sub-total(1)		5,855
2	Tourism facilities, infrastructures and tourist activities			
2-1	Construct Chalet	self catering for mid-market, 70m ² /each, 50 chalets, site area 50,000m ²	R150,000 /chalet	7,500
2-2	Construct Lodge	full service for mid-market, one lodge 80rooms	R240,000 /room	19,200
2-3	Construct Restaurant/Fast Food Kiosk	floor area 700m ²	R2,500/m ²	1,750
2-4	Construct Shop	for chalets, floor area 200m ²	R2,000/m ²	400
2-5	Construct Swimming Pool	20m x 15m and 25m x 20m total area 800m ²	R2,000/m ²	1,600
2-6	Construct Picnic Site	site area 20,000m ²	R50/m ²	1,000
2-7	Construct Inner Road	L=30km, W=7m, paving(tar)	R0.5mill/km	15,000
2-8	Electrification of Fence	H=2m, L=70km,	R30/m	2,100
2-9	Construct Water Supply	surface water, 80m ³ /day		3,000
2-10	Construct Sew age Treatment Facility	septic tank, 90m ³ (w ater 80m ³ /day x 1.1)		2,500
2-11	Construct Electric Line	L=10km	R200/m	2,000
2-12	Construct Mountain Bike Route	L=10km, W=5m, no paving	R100/m	1,000
2-13	Construct Conference/meeting Building	floor area 500m ²	R2,000/m ²	1,000
2-14	Construct Administration office	floor area 200m ²	R2,500/m ²	500
	sub-total(1)			58,550
3	Game Stocking	Purchase of wildlife especially "Big Five"		10,000
	sub-total(2)	sub-total(1) + 3		68,550
	Contingency	15% of sub-total(2)		10,283
	Grand Total			84,688

A-3 Further Development of Songimvelo Game Reserve (R '000)

Item	Size/Description	Unit Price	Total
1	Planning and Designing	10% of sub-total	4,241
2	Tourism facilities, infrastructures and tourist activities		
2-1	Rehabilitation of existing mining house to tourism use (Msauli Village)	110 houses with 600 beds	R36,000 /lodge 3,960
2-2	Refurbishment of existing Camp/Lodges	for mid-market 10 tents	R50,000 /tent 500
2-3	Construct New Lodges for Mid-market	50 rooms	R240,000 /room 12,000
2-4	Construct New Lodges for Up-market	20 rooms	R385,000 /room 7,700
2-5	Construct Meeting Room	2 meeting rooms w with an office, 150m2/each	R2,000/m2 600
2-6	Construct Sw imming Pool	2 pools, 20m x 15m x 1m/each	R2,000/m2 1,200
2-7	Construct Inner Road	L=20km, W=7m, paving	R0.5mill/km 10,000
2-8	Construct Fencing	H=2m, L=30km, electrified	R80/m 2,400
2-9	Construct new Water Supply	surface water, 20m3/day	1,100
2-10	Construct new Sew age Treatment Facility	septic tank, 22m3 capacity	950
2-11	Construct Electric Line	L=5km	R200/m 1,000
2-12	Construct Mountain Bike Route	L=10km, W=5m, no paving	R100/m 1,000
	sub-total		42,410
	Contingency	15% of sub-total	6,362
	Grand-Total		53,013

A-5-1 R40 improvement project (R '000)

Item	Size/Description	Unit Price	Total
1	Planning and Designing	7% of road construction	280
2	Improvement of R40	Widning of road (L=5km, W=+4m)	R0.8mill/km 4,000
	Contingency	15% of construction	600
	Total		4,880

A-5-2 Upgrading of Road from Elukwatini to Bulembu (R '000)

Item	Size/Description	Unit Price	Total
1	Planning and Designing	7% of road construction	2,800
2	Paving	Tar (L=50km, W=7m)	R0.8mill/km 40,000
	Contingency	15% of construction	6,000
	Total		48,800

A-5-3 Upgrading of Road from Elukwatini to Songimvelo gate (R '000)

Item	Size/Description	Unit Price	Total
1	Planning and Designing	7% of road construction	280
2	Paving	Tar (L=5km, W=7m)	R0.8mill/km 4,000
	Contingency	15% of construction	600
	Total		4,880

A-5-4 R538 improvement project (R '000)

Item	Size/Description	Unit Price	Total
1	Planning and Designing	7% of road construction	1,680
2	Improvement of R538	Widning and Paving of road (L=20km, W=10m)	R1,2mill/km 24,000
	Contingency	15% of construction	3,600
	Total		29,280

A-6-1 Upgrading of Blembo border post (R '000)

Item	Size/Description	Unit Price	Total
1	Planning and Designing	20% of road construction	120
2	Upgrading of Border Post	floor area 300m2	R2,000/m2 600
	Contingency	15% of construction	90
	Total		810

A-6-2 Development of Tourism Signage

Item	Size/Description	Unit Price	Total
1	Setting of Road Signage	200signages	R1,000/piece 200
	Contingency	15% of setting of signage	30
	Grand-Total		230

Appendix G

Terms of Reference for Environmental Survey

Terms of Reference (TOR) for the Basic Survey for Environmental Impact Assessment (EIA) JICA South Africa TPDP Study

1. Background

Through the bilateral government agreement between the Republic of South Africa and Japan, the Japan International Cooperation Agency (JICA), the agency responsible for the implementation of Japanese official technical cooperation programs, is now conducting a study on tourism promotion and development plan for the Republic of South Africa.

JICA Study Team proposed some priority projects in the Study. “The project for upgrading of road between Pilanesberg and Madikwe”, which is one of the projects proposed by JICA Study Team, has the potential to affect the environment.

The full-scale EIA should be implemented by the project proponent in the near future. JICA Study Team will conduct a Basic Survey for the EIA with the Consultant under the following terms of references, in order to obtain basic information for full-scale EIA.

2. Objectives of the Survey

- 1) To prepare basic information for the existing environmental condition in/ around the proposed project site,
- 2) To forecast environmental impacts caused by the implementation of the proposed project,
- 3) To estimate the environmental impacts caused by the proposed project.

3. Scope of Work

The Survey should be carried out in accordance with EIA Guideline of the Republic of South Africa fundamentally. However, the arrangement with DEAT and public participation will be excluded.

3.1 Data Collection of the Existing Condition

(1) Survey Method

The secondary data are obtained from relevant institutions. These data should also be obtained from previous relevant studies and investigations. The Survey shall be conducted mainly using the following methods.

a. Collection of the existing data

The collection of existing data is the most important method for this Survey. The data shall be collected from governmental agencies, libraries, universities, research institutions and other organizations concerned.

b. Interviews

The interviews shall be held with officials in the related governmental agencies, specialists of various fields and people who understand the environmental conditions in the Survey Area well.

c. Preliminary field survey

The preliminary field survey shall be implemented for confirming the present environmental conditions and issues in the Survey Area.

(2) Required information and data

The information and data of the following items are required, and shall be collected and used as a basis to analyze the present environmental features (Table 1).

(3) Mapping

To identify visually the present environmental condition, preparation of each map of every survey item listed above shall be required in accordance with Survey results and data collected.

Table 1 Survey Items

A. Natural environment	
1. Climate	
a. Items	- temperature, humidity, rainfall, wind velocity and direction
b. Method	- data collection (10 years)
2. Geological, Topographic and Soil	
a. Items	- conditions of geology, topography - soil condition, soil erosion (history and present condition) - landslide (history and present condition)
b. Method	- data collection, interviews and field reconnaissance
3. Hydrology and ground water	
a. Items	- distribution of main river systems - conditions of hydrology such as flow pattern, capacity volume - existing drainage system for surface water - river and channel use which may be used for drainage - river system and river use - ground water level and flow
b. Method	- data collection, field reconnaissance
4. Conditions of Flora and Fauna	
a. Items	- inventory of flora and fauna - inventory of valuable flora and fauna excluding livestock - inventory of rare, endanger and protected species - mapping of ecosystem and habitat of fauna and flora
b. Method	- data and information collection, interview and field reconnaissance
5. Landscape	
a. Items	- natural, historical and cultural landscape
b. Method	- field reconnaissance, data collection
B. Pollution	
1. Air Quality	
a. Items	- conditions of air quality and climate and traffic volume
b. Method	- data collection
2. Water Quality	
a. Items	- conditions of water quality on the existing water systems
b. Method	- data collection
3. Noise	
a. Items	- noise level and traffic volume
b. Method	- data collection
4. Vibration	
a. Items	- vibration level (L_{10}) and traffic volume
b. Method	- data collection
5. Solid Waste	
a. Items	- present condition of solid waste collection system and problems
b. Method	- data collection, field reconnaissance
6. Ground Subsidence	
a. Items	- present condition of ground subsidence and its history
b. Method	- data collection, field reconnaissance
7. Offensive Odors	

a. Items	- present condition of offensive odors
b. Method	- data collection, interviews and field reconnaissance
C. Social Environment	
1. Demography and Community	
a. Items	- population, population density, households and family structure - distribution of community - perception of impacted communities - distribution of illegal settlement and slum squatter - minority races and communities
b. Method	- data collection and field reconnaissance
2. Conditions of Economic Activities	
a. Items	- economic activities - income of residents - primary and main industry - distribution of major industrial and commercial facilities
b. Method	- data collection, interviews and field reconnaissance
3. Conditions of Land Use	
a. Items	- distribution of land use - land ownership system and its condition - regional development plan
b. Method	- data collection and field reconnaissance
4. Water Rights and Rights of Common	
a. Items	- fishing rights - water rights - rights of common - community association - regional regulation and restriction
b. Method	- data collection, interviews and field reconnaissance
5. Transportation	
a. Items	- major transportation network - traffic volumes by types of vehicle in each direction
b. Method	- data collection (transportation networks, traffic volume, access road)
6. Infrastructure and Public Facilities	
a. Items	- distribution of major infrastructure and public facilities ex. school, hospital, public market, solid waste disposal site, urban drainage facility, sewage treatment facility, high-voltage electric cable, water pipeline, gas pipe, telephone cable
b. Method	- data collection and field reconnaissance
7. Archaeological and Cultural Assets	
a. Items	- world heritage - locations of archaeological, historical attributes and cultural assets - history and outline of each assets - traditional culture, folklore, art and attraction
b. Method	- collection of their location maps and field reconnaissance
8. Public Health	
a. Items	- present condition of public health
b. Method	- data collection

3.2 Forecast and Evaluation of the Environmental Impact

The collected data shall be analyzed according to the type and properties of the data. The forecast and evaluation of the environmental impacts shall consider technical requirements to obtain a high accuracy.

4. Survey Area

The proposed project, named “the project for upgrading of road between Pilanesburg and Madikwe”, is located in the North West Province. This is existing gravel road, which is around 80 km from Batlhalerwa near Pilanesburg to Derdepoort near Madikwe. The Project is proposed this road shall be paved for the promotion of tourism development of Madikwe area. The Survey Area for natural environment and pollution shall be within 100 m from this road. For the social environment, the related municipalities shall be the Survey Area.

5. Schedule/Timing

Table 2 Schedule/Timing

Items		Weeks					
		1	2	3	4	5	6
1.	Work Plan	x					
2.	Survey Preparation	x					
3.	Survey implementation	x	x	x	x		
4.	Data Analysis		x	x	x	x	
5.	Report Writing			x	x	x	x
6.	Submission of Draft Final Report						x
7.	Checking of Draft Final Report by JICA Study Team						x
8.	Submission of Final Report						x
Target Dates		1/25	2/01	2/08	2/15	2/22	3/01

6. Reporting

The results of the Survey shall be compiled into a survey report including the following items:

- General description (methods etc.)
- List of collected data
- List of persons and organizations interviewed
- Field reconnaissance and investigation report showing;
- Date and site of investigation
- Site description (with maps and/or photographs)
- Investigation items
- Investigation results
- Maps and drawings indicating the specific location, area and distribution etc.
- Statement of environmental conditions in the study area

The Consultant shall submit the study reports to the JICA Study Team in English language. All reports shall be also submitted by Floppy Disk (MS-Word and/or MS-Excel Style).

6.1 Draft Final Report

In advance to the submission of the Final Report, the Draft Final Report including major results shall be submitted to the Study Team for information and checking. The Draft Final Report should be prepared in English, and it should consist of results of previous studies and literature study, and the proposed framework of the Final Report. The Consultant shall submit one (1) set of copy of the Draft Final Report according to the Survey Schedule.

6.2 Final Report

The Consultant shall also submit three (3) sets of the Final Report written in English language to JICA Study Team according to the Survey Schedule.

7. Supervision

JICA Study Team shall supervise the whole work of the Survey and give instruction on every details of time schedule, persons and organizations to visit, items of field survey and reporting.

8. Cost Estimation

The cost estimation shall take into consideration the following;

- all the survey and reporting shall be completed according to the Survey Schedule, and
- the costs shall cover all technical, administrative, transport, consumable materials, taxes, etc. and any other costs incurred by the implementing company in executing the Survey.

(1) Mobilization	
(2) Data and Information Collection	
(3) Interviews	
(4) Reconnaissance Survey	
(5) Mapping	
(6) Analysis and Reporting	

Appendix H

Terms of Reference for Socio-Economic Impact Assessment Survey

Terms of Reference for Socio-Economic Impact Assessment Survey JICA South Africa TPDP Study

1. Background

Through the bilateral government agreement between the Republic of South Africa and Japan, the Japan International Cooperation Agency (JICA), the agency responsible for the implementation of Japanese official technical cooperation programs, is now conducting a study on tourism promotion and development plan for the Republic of South Africa.

In order to take into account socio-economic impacts in the course of the study, the JICA Team will conduct an impact assessment survey with the Consultant under the following terms of references.

2. Objectives of the Survey

- 1) To review the socio-economic conditions of selected Focus Areas and obtain the baseline data and information
- 2) To estimate tourism demand for each Focus Area
- 3) To analyze the socio-economic impacts of tourism development in each Focus Area

3. Scope of Work

The Consultant is responsible for conducting two separate surveys. First survey is the **Economic Impact Assessment Survey** in which current tourism demand and its potential for Focus Areas as well as the economic impact of tourism development in the Focus Areas on the regional economy will be analyzed. Second survey is the **Social Impact Assessment Survey** in the Focus Areas to analyze the impacts of communities and residents, which will be affected by the tourism development.

3.1 Economic Impact Survey

Economic impact survey consists of two distinct surveys, namely Tourism demand survey and Economic impact assessment survey.

1) Tourism demand survey

Since there is no quantitative data on the tourism demand available for the Focus Areas, it is necessary to conduct interviews with tour operators in South Africa, operators of tourist facilities including hotels and other types of tourist accommodations, rent-a-car companies, and other firms and entities engaged in tourism activities. Information and data (for each of these Focus Areas) to be obtained and/or estimated through the interviews shall include at least the following items:

(For each of the Focus Areas)

- Domestic tourism
 - ✓ Estimated current number of domestic tourists per year
 - ✓ Typical length of stay and its variation
 - ✓ Crude estimate of average level of expenditure per tourist per day
 - ✓ Major tourist sites visited (and crude rating/difference of attractiveness among major tourist sites in each area)
 - ✓ Typical profile of tourists and its variation (e.g., family, major origins, weekend visitors or longer-stay vacationers, seasonality, mode of transport, types of accommodations used, etc.)

- ✓ Potential tourism demand (achievable number of tourists per year with successful tourism development and promotion to be undertaken)

Note: the basis of these estimates shall be clarified; it may include comments obtained from the interviews, comparison with tourism demand for other areas, assumptions reasonably set based on the interviews and other reference information, etc. Consultant shall intelligently draw comments from interviewees that will enable these estimates even though interviewees themselves are not clear about these aspects.

- Foreign tourism
 - ✓ Estimated current number of foreign tourists per year
 - ✓ Typical length of stay and its variation
 - ✓ Crude estimate of average level of expenditure per tourist per day spent in each area
 - ✓ Major tourist sites visited
 - ✓ Typical profile of tourists (e.g., source countries, seasonality, group size, mode of transport, types of accommodations used, etc.)
 - ✓ For areas currently visited by very few tourists, provide crude estimate of their potential for foreign tourism, given successful tourism development and promotion to be undertaken

Note: same as above for domestic tourism.

An additional survey shall be necessary for Khayelitsha that, under its present condition, may not have high potential to attract foreign tourists, including examination of its potential to attract volunteers from foreign donor countries and international NGOs. A questionnaire survey (email-based), possibly with selected international NGOs, shall be conducted to examine their similar experiences elsewhere and see whether or not there is such potential for Khayelitsha and under what conditions and to what extent Khayelitsha could possibly generate such demand.

2) Economic impact assessment survey

(i) Definition of Tourism Industry

For the purpose of the economic impact assessment survey, the “tourism industry” shall include hotels and other types of accommodations; restaurants, cafes and bars; tour operators; tourism-related transport services; souvenir and crafts selling; and tourist sites and facilities.

(ii) Employment

Tourism-related employment condition shall be analyzed for each Focus Area, in terms of the numbers of jobs by job type and their age and gender distribution, and average wage level by job type. Direct and indirect employments shall be estimated separately. Direct employment is regarded as the employment in the industries specified above as the “tourism industry”. Indirect employment is employment that is related to the tourism industry through the multiplier effect. For example, staff of tourist accommodations is regarded as direct employment, while suppliers of food to hotels and producers of souvenir and crafts are indirect employment.

(iii) Investment trend

Examine the trend of tourism-related investment, both private and public, for each Focus Area, including that for the construction of tourism-related facilities (e.g., trend of the number and capacity of tourist accommodations, investment in tourist sites such as game

reserves, etc.). Obtain and/or estimate physical numbers of these facilities, and translate them into monetary terms to the extent possible. In addition, obtain operational information on these facilities in terms of room occupancy and profitability to see the extent of their economic performance.

(iv) Multiplier effect

Through the understanding of the economic activities nationwide as well as in and around each of the Focus Areas, analyze qualitatively the impact of tourism development in each area on regional economy, including what economic sectors in which regions are expected to primarily benefit from tourism development of each area. In addition, quantitative link between the number of tourists (or tourist-nights) and the magnitude of major impacts on other economic sectors in the country shall also be analyzed (e.g., increment of 1000 domestic tourists (or tourist-nights) in area XX is estimated to increase the country's agricultural production roughly by the amount of YY Rand, etc.).

(v) Basic information on regional economy

Examine (briefly) the regional economy in and around each Focus Area, in terms of major economic activities, (un)employment situation, general investment trend, activities of SMMEs, land ownership (particularly, any major problems associated with land development and transaction in relation to land ownership), and any other favorable and unfavorable aspects of the regional economy.

3.2 Social Impact Survey

1) Conditions of Focus Areas

Review of social conditions in Focus Areas will basically apply the quantitative analysis with utilizing existing information and data. However, collection of first-hand data may be needed for certain items and unavailability of existing data. Following items are essential to be covered under the survey (tentative). Some items will need to employ qualitative data collection such as interviews with representatives of the Focus Areas.

- Demographic data:
 - ✓ Population (gender, ages)
 - ✓ Households number
- Economic data:
 - ✓ Employment status (gender, age, unemployment rate)
 - ✓ Occupation structure
 - ✓ Income (poverty level)
- Social Environment data:
 - ✓ Education (literacy rate)
 - ✓ Public health (provision of health care service, disease occurrence)
 - ✓ Infrastructure provision (transport, water supply, gas, electricity, waste disposal)
 - ✓ Commercial and cultural service provision (access to shopping center, recreation facilities, and tourists' attractions)
 - ✓ Crime
 - ✓ Pollution
- Cultural Status data
 - ✓ History
 - ✓ Traditional customs and events
 - ✓ Religion
 - ✓ Regional/community structure (tribe, culture/custom, gender role, community group/organization (activity, coverage, funding source, etc.))

- ✓ Family structure (customs, gender roles etc.,)
- ✓ Supports from outsiders (NGOs', donor agencies' activities, coverage, funding etc.,)
- Tourism related data:
 - ✓ Number and types of tourism related industries
 - ✓ Social tourism resources (tradition, food, culture, religion, events, festivals, etc.,)

Note: the basis of these estimates shall be clarified; it may include comments obtained from the interviews.

2) Social Impact Survey

In order to examine the impacts of tourism development in the Focus Areas, interview surveys of community representatives or residents shall be conducted. Same inquiry formats will be prepared and used at four Focus Areas. Following contents shall be covered in the interview (refer to the sample inquiry form).

- Perception of tourism and its development
- Impacts (positive/negative) of tourism to region/communities
- Willingness to participate in the tourism related activities

3) Social Impact Assessment

Based on the findings of above 1) and 2) survey, social impact assessment and development capacity of each Focus Areas shall be examined in both positive and negative aspects in below headings.

- Poverty alleviation opportunities by tourism development
- Regional/Community development opportunities by tourism development
- Living standard (environment) upgrading opportunities by tourism development

3.3 Survey Methodology

The formats for interviews should be prepared for each survey and target groups should also be set for each survey.

1) Targets of Areas

Selected four Focus Areas for the surveys are as follows.

- Badplaas/Barberton/Malelane Area, Mpumalanga
- Madikwe Area, North West
- Valley of the Olifants Area, Northern Province
- Khayelitsha Area, Western Cape

However, survey target areas, other than Khayelitsha, will be narrowed by the Study teams' instruction to:

- Local council area of Barberton only within the greater Badplaas/Barberton/Malelane PATII (*"Potential Area for Tourism Infrastructure Investment"*)
- District council areas of Madikwe and Mankwe within the greater Madikwe PATII
- The total eastern portion of the greater Valley of the Olifants Area, refer to the map attached to this TOR.



2) Target of Interviewee

For the economic survey, interview survey is essential particularly for estimating both domestic and foreign tourism demand. As described earlier, potential interviewees include domestic tour operators, operators of tourist accommodations, rent-a-car companies, and other firms and entities engaged in tourism-related activities. Prior to the interview survey, Consultant shall submit to the JICA Study Team the list of entities to be interviewed along with a survey sheet containing questions and inquires to be asked. These interviews shall be utilized also for estimating tourism development’s impacts.

For the social impact assessment survey, interviewees who may represent the Focus Areas/community will be selected. Sample size will be determined based on the current situation of each Focus Area such as number of communities or committee members upon consultation with Study team.

4. Schedule/Timing

Items	Weeks							
	1	2	3	4	5	6	7	8
1. Work Plan	x	x						
2. DEAT Coordination	x							
3. Survey Preparation	x	x	x					
4. Survey implementation			x	x	x	x	x	
5. Data input and Analysis					x	x	x	x
6. Report Writing							x	x
Target Dates	12/28	1/04	1/11	1/18	1/25	2/01	2/08	2/15

5. Reporting

- 1) Original data and information shall be submitted to the JICA Team in both hard copies and files (Microsoft Excel and Word).
- 2) The final report shall be submitted to the JICA Team in both hard copies and files (Microsoft Word).

Appendix I

Questionnaire for Socio-Economic Impact Assessment Survey

JICA - SOUTH AFRICA PDP SURVEY
SOCIAL AND ECONOMIC IMPACT INQUIRY QUESTIONNAIRE

*DEFINING TOURISM: "all travel for whatever purpose, that results in one or more nights being spent away from home"
 (DBSA 2000)*

Serial number:		Date:	
----------------	--	-------	--

INTERVIEWEE INFORMATION:

Name and surname:			
Age:			
Sex (M/F):			
Marital status (MS/D/W/T):			
Number of family members (interview ee included):			
Organisation:			
Occupation:			
Position:			
Position in region/community - describe responsibilities - (if applicable):			
Postal address:			
Postal code:			
Telephone number:			
Fax number:			
Mobile telephone number:			

OFFICE USE

Name of focus area:			
Name of community:			
Name of surveyor:			

QUESTIONS:

GENERAL TOURISM RELATED QUESTIONS (awareness):
 (To be asked to Community Leaders and Business/tourism service providers)

Question 1: Do you think that tourism is an important economic activity?

Question 1-1: For South Africa?

A Yes:		
B It may be:		
C Don't know :		
D No:		

Question 1-2: For the region?

A Yes:		
B It may be:		
C Don't know :		
D No:		

Question 3: Do you think that tourism development is a solution to the problem of poverty?

A Yes:	
B It may be:	
C Don't know :	
D No:	

Question 4: Do you think that tourism development contributes to peoples' living standard in the region/community?

A Yes:	
B It may be:	
C Don't know :	
D No:	

Question 5: What do you see as tourism potential in your community/region?

	Tourism potential	Reason
1		
2		
3		
4		

Question 6: Please rate the impact that the following tourist resources have on tourism in your community/region (and name and rate any other resources not mentioned in the categories below.)

Description	Very positive	Positive	No impact	Negative	Very negative
1 Nature attraction: (Scenic, fauna, flora, etc.)					
Reason/examples:					
2 Game/w ildlife:					
Reason/examples:					
3 Adventure:					
Reason/examples:					
4 History: (Ruins, museums, etc.)					
Reason/examples:					
5 Culture: (Lifestyle, arts and crafts, music, foods, festivals, events, etc.)					
Reason/examples:					
6 Please list and rate any other resources in your area.					
Reason/examples:					

Question 7: What impact does tourism in your region/community have on:

Description	Very positive	Positive	No impact	Negative	Very negative
1 Job creation? Reason/examples:					
2 Income? Reason/examples:					
3 Infrastructure provision? (Transport, water, gas, electricity, waste disposal) Reason/examples:					
4 Housing? (Including land ownership) Reason/examples:					
5 Training/education opportunity? Reason/examples:					
6 Health? (Access to services, disease occurrences) Reason/examples:					
7 Access to services? (Shopping, recreational, etc.) Reason/examples:					
8 Crime? Reason/examples:					
9 Pollution? (Air, noise, water, etc.) Reason/examples:					
10 Traditional customs and events? Reason/examples:					
11 Religion? Reason/examples:					
12 Language skills? Reason/examples:					
13 Regional/community structure? Reason/examples:					
14 Family structure? Reason/examples:					
15 Social values and morals: Reason/examples:					

QUESTIONS 8 TO 10 IS ONLY APPLICABLE TO COMMUNITY LEADERS
(Not the formal business sector)

Question 8: How many people do you represent in the community?

Approximately:

Question 9: In some regions/communities, families offer services to tourists
 e.g.: Guided tours, accommodation, traditional foods and traditional festivals and special events.

Question 9-1: Which activities do you think are available to tourists in your region/community?

Activities	Yes/No	Description
1 Guided tours in/through the region:		
2 Handcrafts:		
3 Traditional accommodation:		
4 Food and drink:		
5 Traditional festivals/dances and special events:		
6 Other:		

Question 9-2: What percentage of your community members would/could launch a business venture in activities such as:

Activities	Percentage of community that would participate?	Reason
1 Guided tours in the region:	%	
2 Handcraft:	%	
3 Traditional accommodation:	%	
4 Food and drink:	%	
5 Traditional festivals and special events:	%	
6 (i) Other:	%	
6 (ii) Other:	%	

Question 10: Please let us know:

Description	
1 How many of your community members work in the tourism sector?	
Percentage:	% <input style="width: 50px;" type="text"/>
Type of jobs:	<input style="width: 100%; height: 20px;" type="text"/>
2 How many would like to work in the tourism sector?	
Percentage:	% <input style="width: 50px;" type="text"/>
3 What type of services would the community like to provide?	
<input style="width: 100%; height: 100%;" type="text"/>	

Question 11: Which of the following skills are available in your community?
(e.g. traditional cooking & crafts, tour guides, cultural knowledge teaching, resort management, cleaning services, etc.)

Services available	
1	
2	
3	
4	
5	

Services available	
6	
7	
8	
9	
10	

THE REMAINDER OF THE QUESTIONS ARE ONLY APPLICABLE TO THE FORMAL BUSINESS SECTOR
(Not community leaders)

Question 12-1: In the case of a accommodation, please indicate:

1	Total number of beds:	
2	Bed occupancy rate per annum:	

Question 13: What percentage of the services that you provide is directly or indirectly linked to tourism?

Definitions:

Directly involved: A person/organisation delivering a direct service to the tourist (e.g. bed and breakfast, guesthouse, tourist resort, hiking trail,

Indirectly involved: A person/organisation that is a provider to a person/organisation that is directly involved with a product/service. (I.e. tourism is not his/its sole market.)

E.g. a company that delivers food and beverages to a restaurant at a tourist resort, or a cleaning service that - amongst others - provide cleaning services to a tourist resort, etc.)

Category	Percentage
1 Directly:	%
2 Indirectly:	%

Question 14: In your opinion, what elements/products/services in your region could increase/decrease the tourism attraction/potential? Why?

Definitions:

Product: Tourist sites (e.g. Table mountain, Nature Reserves, District Six, a cultural village,

a restaurant or pub, hiking trails and adventure sports, museums, etc.), traditional crafts/artwork, etc.

Service: Any service provided to a tourist (e.g. guided tours, vehicle rentals, information centres, places for food and beverages - restaurants, pubs, kiosks, etc.)

1 Increase:	Name	%	Reason
(i) Product(s):		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	

(ii) Service(s):		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
(iii) Other:		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
2 Decrease:	Name	%	Reason
(i) Product(s):		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
(ii) Service(s):		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	
(iii) Other:		%	
		%	
		%	
		%	
		%	
		%	
		%	
		%	

Question 15: Who is your primary clients/customers and how many do you receive per year?

Category	Number
A Domestic:	
B Foreign:	

Please indicate the number of tourists per category and the purpose of their visit purpose for the following (per year).

Question 15-1:

1	Domestic:	No.	Purpose	No.		
	Day visitors:				A Holiday:	
					B Business:	
C Other purposes (specify):						
C(i)						
C(ii)						
2	Domestic:	No.	Purpose	No.		
	Overnight visitors:				A Holiday:	
					B Business:	
C Other purposes (specify):						
C(i)						
C(ii)						
3	Foreign:	No.	Purpose	No.		
	Day visitors:				A Holiday:	
					B Business:	
C Other purposes (specify):						
C(i)						
C(ii)						
4	Foreign:	No.	Purpose	No.		
	Overnight visitors:				A Holiday:	
					B Business:	
C Other purposes (specify):						
C(i)						
C(ii)						
1	Domestic (region/city):					
2	Foreign (country):					

Question 15-2: Where do your clients/customers come from?

Category	Please name (country/regions/cities/etc.)
1 Domestic (region/city):	
2 Foreign (country):	

Question 15-2: Typical length of stay?

Category	No. of days
1 Domestic:	
2 Foreign:	

Question 15-3: In your opinion, what type of accommodation is typically used by the tourist?

Question 15-4: Indicate the major tourism sites in the Focus Area and rate them in order of their tourism attractiveness. (1 being the most attractive.)

	Major tourism sites	Rating
1		
2		
3		
4		
5		
6		
7		
8		

	Major tourism sites	Rating
9		
10		
11		
12		
13		
14		
15		
16		

Question 16: Where does the tourism potential lie in your region?

Category	Current %	Future %
A Domestic:		
B Foreign:		

Question 17: Do you think that your business will increase or decrease during the next 5 years time?

Category	Reason
A Increase:	
B Decrease:	

Question 18: In your opinion, what is the average daily expenditure at your facility?

	Amount	Day visitors	Overnight visitors
1	R 0 - 150		
2	R 151 - 250		
3	R 251 - 450		
4	R 451 - 650		
5	R 651 - 850		
6	R 851+		

INVESTMENT TRENDS:

Question 19: Indicate the major (more than R 5,000,000.00) tourism-related investment in your area.

Category	Name
1 Public:	
2 Private:	

EMPLOYEE PROFILE

Question 20: Please provide a breakdown of your employees per category.

Category	Percentage
1 Managerial:	%
2 Mid level:	%
3 Low level:	%

Question 21: What percentage of your employees work full-time and part-time?

Category	Percentage
1 Full-time:	%
2 Part-time:	%

Question 22: Please indicate the average monthly income of your employees.

Category	Average income
1 Managerial:	
2 Mid level:	
3 Low level:	

Question 23: Please indicate the gender composition of your employees.

Category	Female	Male
1 Managerial:	%	%
2 Mid level:	%	%
3 Low Level:	%	%

Question 24: Please indicate the percentage of employees with tourism related qualification. (e.g. qualifications in hotel management, tourism, tour guides, etc.)

Category	Percentage
1 Managerial:	%
2 Mid level:	%
3 Low Level:	%

Question 25: How much of your services are outsourced to the community?

Type of service	Number of persons involved
(i)	
(ii)	
(iii)	
(iv)	
(v)	
(vi)	
(vii)	
(viii)	
(ix)	
(x)	

Question 26: What qualifications or skills do you think your employees are lacking, in order to perform their jobs according to industry standards i.e. what are their training needs?
(Please indicate training needs by job category (e.g. waiter, receptionist, tour guide, etc.)

1	Job category	Training needs
(i)		
(ii)		
(iii)		
(iv)		
2	General training needs (i.e. for all personnel)	
(i)		
(ii)		
(iii)		

Question 27: Please indicate the source/type of training used/provided in your business.
(Please enter the percentage of your employees trained in each category)

(NQ refers to certification by the South African National Qualifications Authority (SAQA))

Type of training	Percentage	Comment
A No training:	%	
B In-house informal training:	%	
C In-house formal training - not NQ:	%	
D In-house formal training - NQ:	%	
E Private training providers - NQs:	%	
F Hire staff already trained/qualified:	%	
G Other - please expand:	(i)	%
	(ii)	%
	(iii)	%
	(iv)	%
	(v)	%

Question 28: Are there any training programmes or courses which you feel are not available which you would like to see developed or made available to meet the training needs of your organisation?

1	
2	
3	
4	
5	

THE QUESTIONS TO FOLLOW APPLIES TO THE DIFFERENT AREAS AS FOLLOWS:

- Question 29: Pilanesberg/Madikwe
- Question 30: Khayelitsha
- Question 31: Valley of the Olifants
- Question 32: Barberton

QUESTIONS TO TEST POTENTIAL PROJECTS - PILANESBERG/MADIKWE

Question 29: How would you rate the potential for:

Question 29-1: Expansion of the Pilanesberg & Madikwe Game Reserves?

Yes/No	Rating: High/Average/Low	Reason

Question 29-2: Development of midmarket lodges/resorts in expanded reserve?

Yes/No	Rating: High/Average/Low	Reason

Question 29-3: Development of upmarket lodges/resorts in expanded reserve?

Yes/No	Rating: High/Average/Low	Reason

Question 29-4: Development of cultural/heritage tourist facilities in expanded reserve including interpretation centres, restaurants, craft & curio outlets?

Yes/No	Rating: High/Average/Low	Reason

Question 29-5: Development of an international youth cultural exchange centre/resort, including lecture & training facilities, lodges, craft & curio outlets, open gallery for heritage tours, bush walks, etc.?

Yes/No	Rating: High/Average/Low	Reason

QUESTIONS TO TEST POTENTIAL PROJECTS - KHAYELITSHA:	
--	--

Question 30: How would you rate the potential for:

Question 30-1: *Developing and improving interpretation of Khayelitsha "township experience" tours, including signage?*

Yes/No	Rating: High/Average/Low	Reason

Question 30-2: *Developing an African Music Village for the hosting and development of African traditional and contemporary music shows and events, including theatres, music museum, music training facilities, studios, outlets for Music Village memorabilia/product sales, outlets for local craft sales, etc.
(NOTE: This is a new type of attraction for South Africa, blending traditional and modern/sophisticated arrangements at world-level standards.)*

Yes/No	Rating: High/Average/Low	Reason

QUESTIONS TO TEST POTENTIAL PROJECTS - VALLEY OF THE OLIFANTS:

Question 31: How would you rate the potential for:

Question 31-1: Developing a Wildlife Research and Education Visitor/Interpretation Centre, including a state-of-the-art interpretation centre, accommodation, restaurants, craft & curio shops, etc.?

Yes/No	Rating: High/Average/Low	Reason
Where should such a centre be located?		
A Around Phalaborwa:		
B Around Hoedspruit:		
C Other (please specify):		

Question 31-2: Developing a Wildlife Research and Education Route linking pertinent existing and new establishments including signage?

Yes/No	Rating: High/Average/Low	Reason

Question 31-3: Developing a Virtual Reality Wildlife Centre including virtual reality theatre gallery/museum accommodation, restaurants, craft & curio shops, etc.?

Yes/No	Rating: High/Average/Low	Reason
Where should such a centre be located?		
A Around Phalaborwa:		
B Around Hoedspruit:		
C Other (please specify):		

QUESTIONS TO TEST POTENTIAL PROJECTS - BARBERTON:	
--	--

Question 32: How would you rate the potential for:

Question 32-1: Further development of Songimvelo Game Reserve with a "Mountains & Adventure" Theme?

Yes/No	Rating: High/Average/Low	Reason

Question 32-2: Development of the Mountainlands Reserve (south-east of Baberton) with a "Mountains & Adventure" theme?

Yes/No	Rating: High/Average/Low	Reason

Question 32-3: Development of "Mountain and Adventure" activities throughout the area, including rock climbing, hiking, abseiling, 4x4 trails, mountain biking, etc.?

Yes/No	Rating: High/Average/Low	Reason

Question 32-4: Development of the Baberton/Bulembo Scenic Route, including linkages with Swazi culture and crafts?

Yes/No	Rating: High/Average/Low	Reason

Appendix J

Socio-Economic Tables

FOCUS AREA SOCIO-ECONOMIC TABLES

Table J-1 Dominant Language per Focus Area

11 Official Languages	Madikwe	Khayalitsha	Olifants	Barberton
IsiNdebele	0.06%	0.06%	0.05%	0.19%
IsiXhosa	4.46%	97.92%	0.11%	0.36%
IsiZulu	3.36%	0.18%	1.33%	24.67%
Sepedi	0.69%	0.06%	13.51%	0.24%
Sesotho	1.15%	1.08%	2.59%	0.58%
Setswana	88.28%	0.08%	0.07%	0.09%
Siswati	0.13%	0.04%	5.18%	64.42%
Tshivenda	0.04%	0.02%	0.15%	0.05%
Xitshonga	0.78%	0.01%	76.94%	5.23%
Afrikaans	0.29%	0.45%	0.03%	2.81%
English	0.77%	0.11%	0.04%	1.36%

Source: Socio-Economic Impact Assessment Survey, February 2002, JICA Study Team

Table J-2 Educational Level per Focus Areas

	None	Primary (some)	Primary	Secondly (some)	STD10	Higher	Unspecified
Madikwe	23%	0%	35%	28%	10%	3%	1%
Khayalitsha	13%	0%	35%	40%	9%	2%	0%
Olifants	34%	0%	33%	23%	8%	2%	0%
Barberton	34%	0%	34%	22%	8%	2%	0%
National	22%	0%	34%	29%	11%	4%	1%

Source: JICA Study Team based on the 1996 Census Data

Table J-3 Literacy Rate per Focus Areas

Focus Area	Province	National
Madikwe	66.6%	62.0%
Khayalitsha	75.0%	73.8%
Olifants	54.6%	57.3%
Barberton	56.1%	60.8%
		64.0%

Source: JICA Study Team based on the 1996 Census Data

Table J-4 Crime in the Focus Area Provinces
(as a percentage of the national for the year 2000)

Crime Indicator	North West (Madikwe)	Western Cape (Khayalitsha)	Northern (Olifants)	Mupmalanga (Barberton)	National (1994-2001 total)
Murder	2.86%	5.13%	0.68%	1.41%	5.62%
Robbery	7.56%	8.02%	1.16%	2.41%	34.88%
Rape	4.52%	3.92%	1.45%	1.97%	11.29%
Theft from/out of Vehicles	2.12%	6.56%	0.41%	1.76%	45.01%
Illegal possession of fire arms	2.84%	5.27%	0.79%	1.89%	3.20%

Source: Socio-Economic Impact Assessment Survey, February 2002, JICA Study Team

Appendix K

Preliminary Financial Assessment of Priority Projects

1. Pilanesberg – Madikwe Corridor Subject Area

Note that at this planning stage both revenues and expenses used in the analysis are preliminary in nature, and thus the result should be taken as indicative.

1.1 Indicative Cash Flows for Development of Molatedi Dam Area

(1) Case with all the initial costs included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		1,433		-1,433
2003		5,287		-5,287
2004		12,337		-12,337
2005	4,866		4,077	789
2006	5,584		4,287	1,297
2007	6,497		4,540	1,957
2008	7,433		5,224	2,209
2009	7,433		5,443	1,990
2010	7,433		5,443	1,990
2011	7,433		5,443	1,990
2012	7,433		5,443	1,990
2013	7,433		5,443	1,990
2014	7,433		5,443	1,990
2015	7,433		5,443	1,990
2016	7,433		5,443	1,990
2017	7,433		5,443	1,990
2018	7,433		5,443	1,990
2019	7,433		5,443	1,990
2020	7,433		5,443	1,990
2021	7,433		5,443	1,990
2022	7,433		5,443	1,990
2023	7,433		5,443	1,990
2024	7,433		5,443	1,990

Return on Investment (ROI) = 6.9%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

(2) Case with 75% of total initial cost included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		1,075		-1,075
2003		3,965		-3,965
2004		9,253		-9,253
2005	4,866		4,077	789
2006	5,584		4,287	1,297
2007	6,497		4,540	1,957
2008	7,433		5,224	2,209
2009	7,433		5,443	1,990
2010	7,433		5,443	1,990
2011	7,433		5,443	1,990
2012	7,433		5,443	1,990
2013	7,433		5,443	1,990

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2014	7,433		5,443	1,990
2015	7,433		5,443	1,990
2016	7,433		5,443	1,990
2017	7,433		5,443	1,990
2018	7,433		5,443	1,990
2019	7,433		5,443	1,990
2020	7,433		5,443	1,990
2021	7,433		5,443	1,990
2022	7,433		5,443	1,990
2023	7,433		5,443	1,990
2024	7,433		5,443	1,990

Return on Investment (ROI) = 10.4%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

(3) Case with 50% of total initial cost included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		717		-717
2003		2,644		-2,644
2004		6,168		-6,168
2005	4,866		4,077	789
2006	5,584		4,287	1,297
2007	6,497		4,540	1,957
2008	7,433		5,224	2,209
2009	7,433		5,443	1,990
2010	7,433		5,443	1,990
2011	7,433		5,443	1,990
2012	7,433		5,443	1,990
2013	7,433		5,443	1,990
2014	7,433		5,443	1,990
2015	7,433		5,443	1,990
2016	7,433		5,443	1,990
2017	7,433		5,443	1,990
2018	7,433		5,443	1,990
2019	7,433		5,443	1,990
2020	7,433		5,443	1,990
2021	7,433		5,443	1,990
2022	7,433		5,443	1,990
2023	7,433		5,443	1,990
2024	7,433		5,443	1,990

Return on Investment (ROI) = 16.2%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

1.2 Indicative Cash Flows for Pilanesberg Game Reserve Expansion

(1) Case with all the initial costs included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		0		0
2003		2,482		-2,482
2004		5,707		-5,707
2005		22,830		-22,830
2006	8,075		7,009	1,066
2007	9,336		7,573	1,763
2008	10,870		8,218	2,652
2009	12,414		9,603	2,811
2010	12,414		10,023	2,391
2011	12,414		10,023	2,391
2012	12,414		10,023	2,391
2013	12,414		10,023	2,391
2014	12,414		10,023	2,391
2015	12,414		10,023	2,391
2016	12,414		10,023	2,391
2017	12,414		10,023	2,391
2018	12,414		10,023	2,391
2019	12,414		10,023	2,391
2020	12,414		10,023	2,391
2021	12,414		10,023	2,391
2022	12,414		10,023	2,391
2023	12,414		10,023	2,391
2024	12,414		10,023	2,391
2025	12,414		10,023	2,391

Return on Investment (ROI) = 3.9%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

(2) Case with 50% of total initial cost included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		0		0
2003		1,241		-1,241
2004		2,854		-2,854
2005		11,415		-11,415
2006	8,075		7,009	1,066
2007	9,336		7,573	1,763
2008	10,870		8,218	2,652
2009	12,414		9,603	2,811
2010	12,414		10,023	2,391
2011	12,414		10,023	2,391
2012	12,414		10,023	2,391
2013	12,414		10,023	2,391
2014	12,414		10,023	2,391
2015	12,414		10,023	2,391
2016	12,414		10,023	2,391
2017	12,414		10,023	2,391

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2018	12,414		10,023	2,391
2019	12,414		10,023	2,391
2020	12,414		10,023	2,391
2021	12,414		10,023	2,391
2022	12,414		10,023	2,391
2023	12,414		10,023	2,391
2024	12,414		10,023	2,391
2025	12,414		10,023	2,391

Return on Investment (ROI) = 12.4%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

(3) Case with 40% of total initial cost included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		0		0
2003		993		-993
2004		2,283		-2,283
2005		9,132		-9,132
2006	8,075		7,009	1,066
2007	9,336		7,573	1,763
2008	10,870		8,218	2,652
2009	12,414		9,603	2,811
2010	12,414		10,023	2,391
2011	12,414		10,023	2,391
2012	12,414		10,023	2,391
2013	12,414		10,023	2,391
2014	12,414		10,023	2,391
2015	12,414		10,023	2,391
2016	12,414		10,023	2,391
2017	12,414		10,023	2,391
2018	12,414		10,023	2,391
2019	12,414		10,023	2,391
2020	12,414		10,023	2,391
2021	12,414		10,023	2,391
2022	12,414		10,023	2,391
2023	12,414		10,023	2,391
2024	12,414		10,023	2,391
2025	12,414		10,023	2,391

Return on Investment (ROI) = 15.8%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

2. Khayelitsha Subject Area

Note that at this planning stage both revenues and expenses used in the analysis are preliminary in nature, and thus the result should be taken as indicative.

2.1 Indicative Cash Flows for African Music/Dance Showcase

(1) Case with all the initial costs included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		1,140		-1,140
2003		4,560		-4,560
2004		18,744		-18,744
2005	10,582		10,864	-282
2006	14,850		14,194	656
2007	17,943		16,022	1,921
2008	18,985		17,030	1,955
2009	21,118		19,278	1,840
2010	21,118		19,278	1,840
2011	21,118		19,278	1,840
2012	21,118		19,278	1,840
2013	21,118		19,278	1,840
2014	21,118		19,278	1,840
2015	21,118		19,278	1,840
2016	21,118		19,278	1,840
2017	21,118		19,278	1,840
2018	21,118		19,278	1,840
2019	21,118		19,278	1,840
2020	21,118		19,278	1,840
2021	21,118		19,278	1,840
2022	21,118		19,278	1,840
2023	21,118		19,278	1,840
2024	21,118		19,278	1,840

Return on Investment (ROI) = 2.9%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

(2) Case with 50% of total initial cost included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		570		-570
2003		2,280		-2,280
2004		9,372		-9,372
2005	10,582		10,864	-282
2006	14,850		14,194	656
2007	17,943		16,022	1,921
2008	18,985		17,030	1,955
2009	21,118		19,278	1,840
2010	21,118		19,278	1,840
2011	21,118		19,278	1,840
2012	21,118		19,278	1,840
2013	21,118		19,278	1,840

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2014	21,118		19,278	1,840
2015	21,118		19,278	1,840
2016	21,118		19,278	1,840
2017	21,118		19,278	1,840
2018	21,118		19,278	1,840
2019	21,118		19,278	1,840
2020	21,118		19,278	1,840
2021	21,118		19,278	1,840
2022	21,118		19,278	1,840
2023	21,118		19,278	1,840
2024	21,118		19,278	1,840

Return on Investment (ROI) = 10.3%

Note: Based on 20 years of revenue stream
Source: JICA Study Team

(3) Case with 30% of total initial cost included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		342		-342
2003		1,368		-1,368
2004		5,623		-5,623
2005	10,582		10,864	-282
2006	14,850		14,194	656
2007	17,943		16,022	1,921
2008	18,985		17,030	1,955
2009	21,118		19,278	1,840
2010	21,118		19,278	1,840
2011	21,118		19,278	1,840
2012	21,118		19,278	1,840
2013	21,118		19,278	1,840
2014	21,118		19,278	1,840
2015	21,118		19,278	1,840
2016	21,118		19,278	1,840
2017	21,118		19,278	1,840
2018	21,118		19,278	1,840
2019	21,118		19,278	1,840
2020	21,118		19,278	1,840
2021	21,118		19,278	1,840
2022	21,118		19,278	1,840
2023	21,118		19,278	1,840
2024	21,118		19,278	1,840

Return on Investment (ROI) = 17.2%

Note: Based on 20 years of revenue stream
Source: JICA Study Team

3. Valley of the Olifants Subject Area

Note that at this planning stage both revenues and expenses used in the analysis are preliminary in nature, and thus the result should be taken as indicative.

3.1 Indicative Cash Flows for Wildlife Education and Research Centre (WERC)

(1) Case with all the initial costs included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		272		-272
2003		1,086		-1,086
2004		16,240		-16,240
2005	14,969		13,115	1,854
2006	16,058		13,883	2,175
2007	16,856		14,356	2,500
2008	17,408		15,161	2,247
2009	17,965		17,575	390
2010	17,965		15,815	2,150
2011	17,965		15,815	2,150
2012	17,965		15,815	2,150
2013	17,965		15,815	2,150
2014	17,965		17,575	390
2015	17,965		15,815	2,150
2016	17,965		15,815	2,150
2017	17,965		15,815	2,150
2018	17,965		15,815	2,150
2019	17,965		17,575	390
2020	17,965		15,815	2,150
2021	17,965		15,815	2,150
2022	17,965		15,815	2,150
2023	17,965		15,815	2,150
2024	17,965		17,575	390

Return on Investment (ROI) = 8.4%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

(2) Case with 75% of total initial cost included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		204		-204
2003		815		-815
2004		12,180		-12,180
2005	14,969		13,115	1,854
2006	16,058		13,883	2,175
2007	16,856		14,356	2,500
2008	17,408		15,161	2,247
2009	17,965		17,575	390
2010	17,965		15,815	2,150
2011	17,965		15,815	2,150
2012	17,965		15,815	2,150
2013	17,965		15,815	2,150

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2014	17,965		17,575	390
2015	17,965		15,815	2,150
2016	17,965		15,815	2,150
2017	17,965		15,815	2,150
2018	17,965		15,815	2,150
2019	17,965		17,575	390
2020	17,965		15,815	2,150
2021	17,965		15,815	2,150
2022	17,965		15,815	2,150
2023	17,965		15,815	2,150
2024	17,965		17,575	390

Return on Investment (ROI) = 12.9%

Note: Based on 20 years of revenue stream
Source: JICA Study Team

(3) Case with 50% of total initial cost included (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2002		136		-136
2003		543		-543
2004		8,120		-8,120
2005	14,969		13,115	1,854
2006	16,058		13,883	2,175
2007	16,856		14,356	2,500
2008	17,408		15,161	2,247
2009	17,965		17,575	390
2010	17,965		15,815	2,150
2011	17,965		15,815	2,150
2012	17,965		15,815	2,150
2013	17,965		15,815	2,150
2014	17,965		17,575	390
2015	17,965		15,815	2,150
2016	17,965		15,815	2,150
2017	17,965		15,815	2,150
2018	17,965		15,815	2,150
2019	17,965		17,575	390
2020	17,965		15,815	2,150
2021	17,965		15,815	2,150
2022	17,965		15,815	2,150
2023	17,965		15,815	2,150
2024	17,965		17,575	390

Return on Investment (ROI) = 20.9%

Note: Based on 20 years of revenue stream
Source: JICA Study Team

4. Barberton Corridor Subject Area

Note that at this planning stage both revenues and expenses used in the analysis are preliminary in nature, and thus the result should be taken as indicative.

4.1 Indicative Cash Flows for Mountainlands Game Reserve Development

(1) Case with the initial costs excluding area-wide developmental work (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2004		46,050		-46,050
2005	15,564		13,847	1,717
2006	18,867		15,803	3,064
2007	21,950		17,207	4,743
2008	23,848		17,911	5,937
2009	23,848		18,292	5,556
2010	23,848		18,292	5,556
2011	23,848		18,292	5,556
2012	23,848		18,292	5,556
2013	23,848		18,292	5,556
2014	23,848		18,292	5,556
2015	23,848		18,292	5,556
2016	23,848		18,292	5,556
2017	23,848		18,292	5,556
2018	23,848		18,292	5,556
2019	23,848		18,292	5,556
2020	23,848		18,292	5,556
2021	23,848		18,292	5,556
2022	23,848		18,292	5,556
2023	23,848		18,292	5,556
2024	23,848		18,292	5,556

Return on Investment (ROI) = 8.6%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

(2) Case with 75% of the initial cost used for (1) above (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2004		34,538		-34,538
2005	15,564		13,847	1,717
2006	18,867		15,803	3,064
2007	21,950		17,207	4,743
2008	23,848		17,911	5,937
2009	23,848		18,292	5,556
2010	23,848		18,292	5,556
2011	23,848		18,292	5,556
2012	23,848		18,292	5,556
2013	23,848		18,292	5,556
2014	23,848		18,292	5,556
2015	23,848		18,292	5,556
2016	23,848		18,292	5,556
2017	23,848		18,292	5,556

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2018	23,848		18,292	5,556
2019	23,848		18,292	5,556
2020	23,848		18,292	5,556
2021	23,848		18,292	5,556
2022	23,848		18,292	5,556
2023	23,848		18,292	5,556
2024	23,848		18,292	5,556

Return on Investment (ROI) = 12.4%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

(3) Case with 60% of the initial cost used for (1) above (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2004		27,630		-27,630
2005	15,564		13,847	1,717
2006	18,867		15,803	3,064
2007	21,950		17,207	4,743
2008	23,848		17,911	5,937
2009	23,848		18,292	5,556
2010	23,848		18,292	5,556
2011	23,848		18,292	5,556
2012	23,848		18,292	5,556
2013	23,848		18,292	5,556
2014	23,848		18,292	5,556
2015	23,848		18,292	5,556
2016	23,848		18,292	5,556
2017	23,848		18,292	5,556
2018	23,848		18,292	5,556
2019	23,848		18,292	5,556
2020	23,848		18,292	5,556
2021	23,848		18,292	5,556
2022	23,848		18,292	5,556
2023	23,848		18,292	5,556
2024	23,848		18,292	5,556

Return on Investment (ROI) = 15.9%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

4.2 Indicative Cash Flows for Further Development of Somgimvelo Game Reserve

(1) Case with the initial costs excluding area-wide developmental work (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2004		25,675		-25,675
2005	8,555		7,653	902
2006	10,266		8,569	1,697
2007	11,977		9,243	2,734
2008	12,833		9,868	2,965
2009	12,833		10,060	2,773
2010	12,833		10,060	2,773
2011	12,833		10,060	2,773
2012	12,833		10,060	2,773
2013	12,833		10,060	2,773
2014	12,833		10,060	2,773
2015	12,833		10,060	2,773
2016	12,833		10,060	2,773
2017	12,833		10,060	2,773
2018	12,833		10,060	2,773
2019	12,833		10,060	2,773
2020	12,833		10,060	2,773
2021	12,833		10,060	2,773
2022	12,833		10,060	2,773
2023	12,833		10,060	2,773
2024	12,833		10,060	2,773

Return on Investment (ROI) = 7.5%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

(2) Case with 75% of the initial cost used for (1) above (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2004		19,256		-19,256
2005	8,555		7,653	902
2006	10,266		8,569	1,697
2007	11,977		9,243	2,734
2008	12,833		9,868	2,965
2009	12,833		10,060	2,773
2010	12,833		10,060	2,773
2011	12,833		10,060	2,773
2012	12,833		10,060	2,773
2013	12,833		10,060	2,773
2014	12,833		10,060	2,773
2015	12,833		10,060	2,773
2016	12,833		10,060	2,773
2017	12,833		10,060	2,773
2018	12,833		10,060	2,773
2019	12,833		10,060	2,773
2020	12,833		10,060	2,773
2021	12,833		10,060	2,773
2022	12,833		10,060	2,773

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2023	12,833		10,060	2,773
2024	12,833		10,060	2,773

Return on Investment (ROI) = 11.3%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

(3) Case with 60% of the initial cost used for (1) above (thousand Rand)

Year	Gross revenue	Expense		Net cash flow
		Initial investment	Operating expenses	
2004		15,405		-15,405
2005	8,555		7,653	902
2006	10,266		8,569	1,697
2007	11,977		9,243	2,734
2008	12,833		9,868	2,965
2009	12,833		10,060	2,773
2010	12,833		10,060	2,773
2011	12,833		10,060	2,773
2012	12,833		10,060	2,773
2013	12,833		10,060	2,773
2014	12,833		10,060	2,773
2015	12,833		10,060	2,773
2016	12,833		10,060	2,773
2017	12,833		10,060	2,773
2018	12,833		10,060	2,773
2019	12,833		10,060	2,773
2020	12,833		10,060	2,773
2021	12,833		10,060	2,773
2022	12,833		10,060	2,773
2023	12,833		10,060	2,773
2024	12,833		10,060	2,773

Return on Investment (ROI) = 14.6%

Note: Based on 20 years of revenue stream

Source: JICA Study Team

Appendix L

Nkomazi Wilderness



"Cradle of Life"

SCIENTIFIC EDEN

Introduction

Nkomazi Wilderness lies 3 hours drive from Johannesburg, within an area known as the Wild Frontier of Mpumalanga. It is close to the picturesque town of Barberton, the Kruger National Park, Barberton, Wakkerstroom, and the lake district of South Africa, Pilgrims Rest, and Sabie, the Blyde River Canyon and Gods Window. It lies on the edge of the escarpment, partly nestled in the section of the Mpumalanga Drakensberg, famed worldwide as the rugged Barberton Mountainlands (the oldest mountain range on Earth) and partly in the Komati grasslands, (the most threatened biome in the world) forming a major water catchment area. *Nkomazi* is protected by the surrounding green-clad foothills of the *Makonjwa Mountains* of the escarpment and the blue-green clad foothills of the *Hlumuhlumu Mountains* of Barberton.

As a result of this unique position on the escarpment, the almost 1000 meters elevation difference between the grasslands and the mountain plateau, as well as its soils and temperate climate, *Nkomazi* represents a kaleidoscope of Africa's many habitats. The reserve is unique in its ability to support both highveld game on the high-lying grassland areas (springbok, eland, oribi and blesbok) and lowveld game in the low-lying bushveld areas (giraffe, rhino, lion, buffalo, elephant). It is able to offer warm-water fishing on the grasslands and cold-water fly-fishing in the clear mountain streams. Waterfalls and rock pools are impressive whilst the rolling grasslands support large herds of free roaming wildlife, making it a game-viewing haven. Due to the tremendous habitat diversity, *Nkomazi* can offer a range of eco-tourism activities from technical diving to game viewing, river-rafting, birding, fly-fishing, mountain climbing, horse riding, hiking, botany, zoology, palaeontology, geology and culture.

Nkomazi Wilderness protects a diversity of rare and endangered species – including 10 rare animals, 8 red data species, 1 rare bird species, 5 endangered birds, and 20 protected plant species. The 15 kilometre stretch of the Komati River running through *Nkomazi* is also rich in life and is the only place in South Africa where all six species of the Catlet family (fish) occurs.

Most South Africans do not yet appreciate the special importance that *Nkomazi* and the surrounding Barberton Mountainlands (known to geologists as the Barberton Greenstone Belt) enjoy on the world stage. Since the 1960s the area has attracted a steady pilgrimage of leading scientists from as far as the US, Britain, Canada, Germany, France, Australia, China and Russia. For this is the Cradle of Life. It is here that ancient life gained a foothold on Earth billions of years ago, leading to the great diversity of life we know today.

Here, where great natural beauty and the most ancient of histories meet, the *Nkomazi* conservation project is quietly unfolding. With the help of modern techniques of game re-location, *Nkomazi* is currently returning wild animals to a region where they once roamed in great abundance. Already 4000 head of game are to be found here and, through careful rehabilitation, *Nkomazi* has been restored to its former glory – a wildlife haven that forms part of a planned 170 000 hectare Trans-frontier Park and potential World Heritage Site.

Nkomazi has no malaria and is free of major human and animal diseases such as TB, foot and mouth, sleeping sickness and anthrax. Its temperate climate, abundant clear fresh water, diverse habitats and high carrying-capacity veld combine to make it a game breeder's paradise.

Ecological Treasure Trove

South Africa occupies only 1% of the Earth's land surface, yet it has the most complete fossil record on Earth and more species of mammals than North and South America or Europe and Asia combined. It is one of only two Mega diversity countries on the African continent and the only one in the world not situated in the tropics.

The Barberton Mountainland has a plant biodiversity higher than that of the entire Kruger National Park and second only in South Africa to the Cape Fynbos and succulents (the world's richest floral kingdom). The ancient geological base of *Nkomazi* underlies a rich diversity of 2,500 plant species, 410 bird species and roughly 80 animal species. The sub-region holds 75% of all terrestrial bird species, 80% of all raptor species and 72% of all mammal species in southern Africa. It is home to the well-known Barberton daisy, the spectacular Pride-of-de-Kaap and beautiful proteas, which are remnants of the Cape Fynbos.

Within the Barberton Mountainland, *Nkomazi* conserves a significant part of the Barberton Greenstone Belt, world famous for its Archean geology, which represents a staggering 3.5 billion years of earth's natural history and evolution. The age of the rocks exposed in this small area covers the interval from 3,550 million years ago to about 3,220 million years ago, a natural history spanning over 320 million years. It is unique in the spectacular exposures and diversity of rock types present. It is home, for example, to the hottest volcanic rocks ever to erupt on the face of the planet, named "Komatiites" after the Komati River.

The area has come to be recognised in the world of earth science as a unique living laboratory, assisting researchers to understand the history and evolution of earth from its very beginning. Here they can study the most well-preserved and least-altered old Achaean volcanic and volcanic sedimentary rocks and processes on Earth. Since 1885 scientists have teased out information from these rocks, which, once decoded, read like a book.

The sequences in the Barberton Greenstone Belt record a unique picture of the birth of the early oceans, the first atmosphere, the first life to appear on the planet, evidence of the birth and formation of the first continent, crustal formation on the Earth 3.4 to 3.5 billion years ago and sedimentary sequences. It shows 4 layers of impact-produced debris from ancient giant meteorites that struck the Earth, proof that the moon influenced the tides billions of years ago from fossilised evidence of the first tidal currents, hot bubbling mud pools, geysers, ash clouds and pillow lavas.

Chemical deposits of silica, iron and barite have revealed critical information about the composition of the early ocean and atmosphere and shows that the Earth was a very different place then. The Barberton Greenstone Belt is the only place on Earth where the entire history of the ancient ocean floor can be studied revealing a unique 7-kilometre record of sedimentary rocks showing evidence of the sea and ancient beaches, estuaries, rivers and sand dunes. The rocks reveal that when there was no oxygen, life started here as single cell bacteria (*Archaeospheroides barbertonsis*). The thin sedimentary deposits which accumulated from the erosion of the first continent, record flooding of the volcanic surfaces by the early oceans and colonization of these surfaces by mats composed of primitive microbes, the most ancient known life forms on Earth. Today, this Cradle of Life is home to 85% of the missing fossil record and accounts for 3 billion years of natural evolution on Earth, previously unknown to science.

Each of the 4 meteorite impacts evident in this region was larger than the meteorite that struck Earth 65 million years ago killing the dinosaurs to extinction. The first debris layer provides evidence of the oldest and largest known meteorite ever to strike Earth. There is no other place on Earth where scientists can go to recover information about this important formative period of Earth history. Virtually everything that we have learned about the early Earth and its development derive from studies of rocks within this small area of South Africa. As testimony to its scientific value, over 3,600 scientific publications have been recorded on the area's geology between 1885 and today.

Cultural Treasure Trove

The Barberton Mountainland is of considerable historical interest. Neolithic or Iron Age activities dating back to 40,000 BC, have been recognised by archaeologists, with evidence of the oldest known mines on Earth. Other early human activity date back to Palaeolithic

times and there is evidence that Stone Age man manufactured primitive artefacts from siliceous cherty and quartzitic layers found in the Barberton mountains. Legend has it that the Dravidians mined gold here 2000 years ago. As a result there are ancient ochre and gold mines, stone terraces, circular structures, celestial calendars as well as Bushmen paintings. The Voortrekkers colonised the area in the early 1800's. It was also a battleground between Mzilikazi (who fled the terror of Shaka) and Dingaan (the brother of Shaka ordered to kill the fleeing king). More recently the discovery of gold in the district in 1872 led to the founding of the town of Barberton in 1884 and the development of a significant early gold mining industry where the country's first stock exchange was built. There are Boer war battle sites and concentration camps. It is here too where the author Sir Percy Fitzpatrick lived at the time he wrote his South African classic, *Jock of the Bushveld*. The region has the potential to develop a wide range of additional attractions of an historical, cultural as well as scientific nature.

No other name more aptly describes the Eastern Mpumalanga region within which *Nkomazi* is situated than the "Wild Frontier" (from Badplaas, Barberton to Komatipoort).

Wild in its wildlife and stunning wilderness, scenic and rugged landscapes, mountains, valleys and waterfalls, in its pioneering past and in the rich and mysterious cultural heritage its content unmatched by any other.

Frontier today to Swaziland, Mozambique and the Kruger National Park. A major Frontier in the past, which saw South Africa's first stock exchange, the tallest building in the then Transvaal and a colourful history of Dravidian traders, Kung Bushmen, Zulu and Swazi wars, Voortrekkers, concentration camps, Boer and English commandos, Paul Kruger millions and Victorian fortune seekers, adventurers, prospectors, gold miners, big game hunters, coach robbers, smugglers and wagon trails.

Today *Nkomazi* is a frontier to the future. "The true frontier for humanity is life on Earth". This dictum forms part of a global realization that the bio-diversity of a country is part of its National heritage and as such is the frontier of the future – an asset of great international, national and local value. Here in South Africa, Mpumalanga is regarded by many as the true symbol of Africa. The real Africa. Its vivid scenic beauty, dramatic landscapes, thunder storms, rolling savanna, bushveld, wildlife, massive beasts, relaxed atmosphere and its fascinating cultural history.

