

University of Khartoum  
Investment Department

Pre-Feasibility Study  
For



AT SOBA

June 2010

## 1. Introduction: The University of Khartoum

The University of Khartoum (U of K) is significant as to its rise since early last century and its development history. The precursor of the present U of K had been Gordon Memorial College that was established in November 8, 1902 representing the early years of the U of K.

The U of K embraces 19 faculties, 12 institutes, research and training centers, a printing and publishing house in addition to Soba University Hospital, other hospitals, a National History Museum, a farm for research and training and a center for medical and health services.

The U of K has graduated generations of different specializations in medicine, health, engineering, agriculture, veterinary science, humanities, education and others. U of K graduates have been distinct as to their academic performance, which qualifies them to occupy leading and pioneering positions in the Sudanese society. The university also has its contribution in advancing scientific research and in provision of distinct post-graduate programs (i.e., higher diplomas, master and Ph.D. degrees) to serve the Sudanese society and neighboring communities as well.

The U of K is one of the richest institutions in Sudan in terms of land holdings in prime locations both in Khartoum State as well as in other states within Sudan. The U O K has recently embarked on an ambitious scheme to capitalize on those valuable resources in order to generate revenues that are badly needed to develop and upgrade the university. The present pre-feasibility study is one of several projects that the U of K intends to launch.

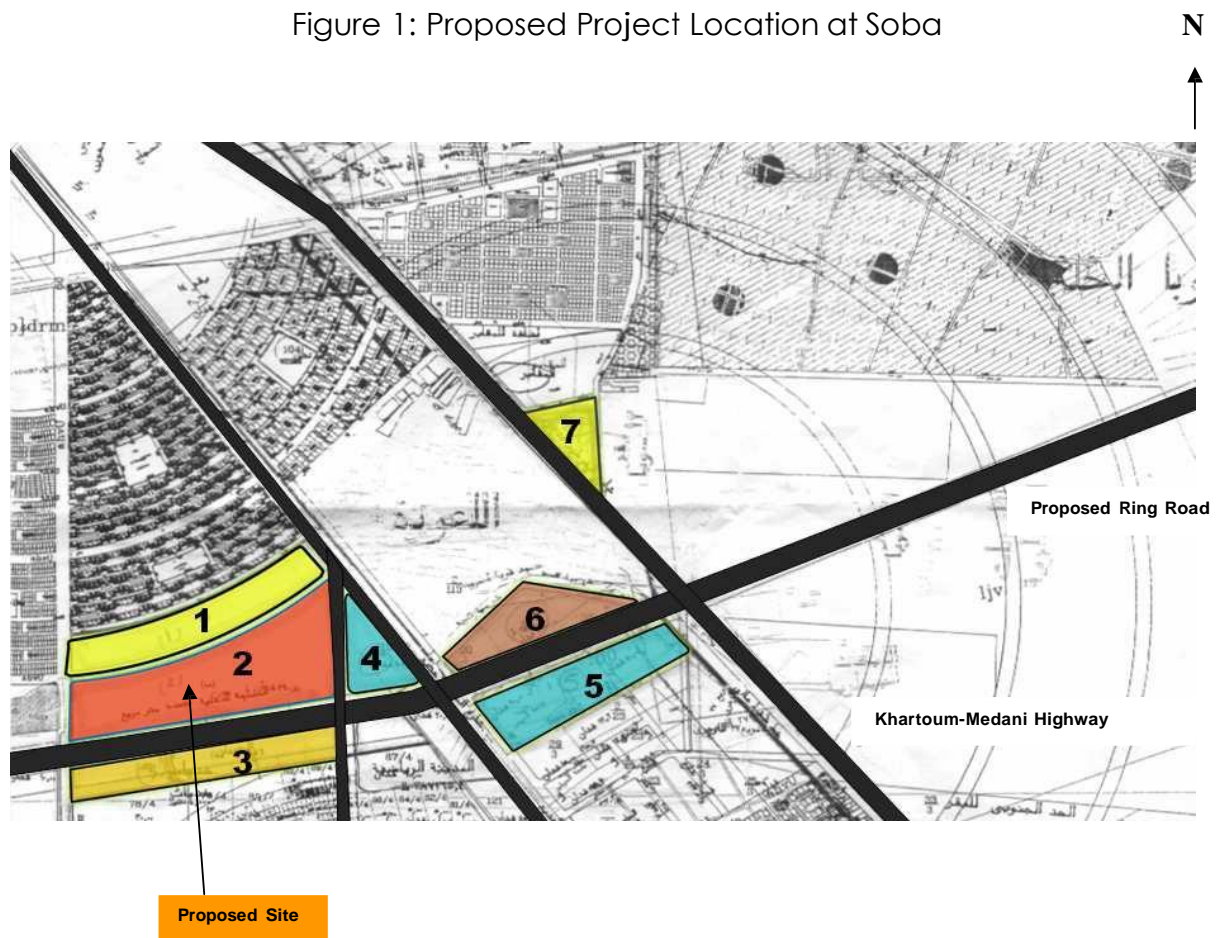
## 2. Project Description and Location

Preliminary market surveys indicate that Khartoum State is lacking severely in terms of entertainment and leisure facilities such as amusement parks, zoos, aquatic parks, sports fields, cinemas, theatres, etc. Hence, the University of Khartoum (U. of K.) intends to develop a leisure complex that responds to this inadequacy and capitalizes on this considerable demand.

Owning some one million square meters of virgin land in Soba, some 15 kilometers from Khartoum's center, the U. of K. is in a position of develop such a complex if sufficient financing is available at reasonable costs. The proposed site

for the project (Figure 1) has a total area of 344,640 square meters. It is bound by the proposed 100-meters ring road that links the new Dubaseen and Soba bridges. Therefore, it is easily accessible from all parts of Khartoum State and also from neighboring states.

Figure 1: Proposed Project Location at Soba



## 2.1. Functions and Spaces

The proposed project is designed to serve as a leisure park complete with subsidiary services such as restaurants, souvenir shops, shopping facilities, etc.

Furthermore, the project will include a science and technology museum, a planetarium to fill a noticeable gap in such important functions in the Sudan. To complement this leisure complex, a motel will be established so as to provide decent accommodation for visitors who intend to spend a weekend or a vacation in this entertaining complex. Table (1) presents the components of the project:

Table (1): Project Components

Item	Description	Total Area (m2)
1	Zoo / African Safari	172,320
2	Aquatic and Amusement Park	103,392
3	Science and Technology Museum	8,500
4	Planetarium	5,140
5	Motel	3,100
6	Health Club (swimming, gym, etc.)	15,500
7	Shopping mall	13,200
8	2 Cinemas	5,400
9	Restaurants and Cafés	3,100
10	Park Administration	1,860
11	Sport Courts and Common Areas	6,900

### 3. Study Assumptions

Tables 2 and 3 below show the assumptions upon which the project pre-feasibility study is based;

Table (2): Project Cost Estimates

Item	Description	Area m2	Rate (\$)	Total
1	Land	344,640	40	13,785,600
2	Construction and Services Cost			48,576,000
3	Total Project Cost Including Land			62,361,600
4	Total Construction Cost Excluding Land			48,576,000



Zone	Components	Areas (m <sup>2</sup> )		Cost per m <sup>2</sup> (\$)	Total Cost	
		Total Area	Built-up Area			
A	62,000 m <sup>2</sup> (18% of total area), includes 10% (i.e., 6,200 m <sup>2</sup> ) for vehicular and pedestrian circulation	1 inct. equip't		3,500		
		te iCi"Ub(Sv ;:po;or;:		4,600		
		Club	15,500	13,000	6,500	
			8,600 m <sup>2</sup>			
B	6,900 m <sup>2</sup> (2% of total area)			1,500	1,500,000	
C	72,320 m <sup>2</sup> (50% of total area)	Zoo	Animal display:	30,000		
			155,000 m <sup>2</sup>			
			Visitors' Facilities:	117,320 m <sup>2</sup>		
D	103,392 m <sup>2</sup> (30% of total area)	recreation and Amusement	Animals Cost			
			Animals Feed, labor, etc			
			Water pools and ponds 11920 m <sup>2</sup> + 3 x 150m <sup>2</sup>	2,400	250	
Total					48,576,000	
Total Project Cost					62,361,600	

Table 3: Project Components. Areas and Cost Estimates



Figure 2: Illustrative Segment of a similar Aquatic and Amusement Park

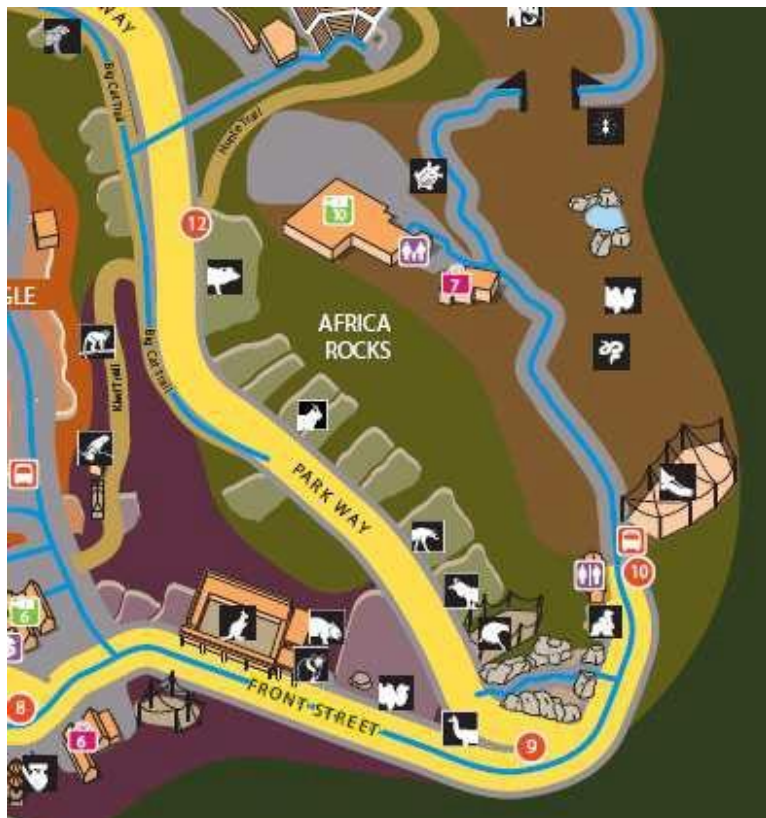


Figure 3: Illustrative Segment of a similar Zoo



Table (4): Finance Components

Finance Estimates	
Project Cost Estimate	\$62,361,600
Cost of Land	\$13,785,600
Land Cost To Construction Cost Ratio	0.22
Equity to Loan Ratio	0.22
Required Finance	\$48,576,000

Table (5): Expected Annual Income

Component	Expected Number of visitors	Revenues (SDG)
1- Museum and Planetarium	60,000	600,000
2- Zoo	72,000	1,800,000
3- Aquatic and Amusement Park	180,000	3,600,000
4. Sport courts	36,000	720,000
5. Health club	72000	3,600,000
6. Shopping Mall and Cinema		6,000,000
7. Restaurant, Cafes, Souvenir Shops		2,400,000
8. Motel	3,600	720,000
Total (SDG)		19,440,000
Total (US \$)		7,776,000

Table (6): Operating, Maintenance, Management Costs, and Expected Net Income

Item	Amount
Income	\$7,776,000
Maintenance & Operating	\$3,550,000

Cost	
	\$4,226,00
NOI year 1 (Revenue)	0
Tax Rate	10.0%
Taxes	\$422,600
	\$3,803,40
CFAT (Revenue after Taxes)	0

#### 4. Extraction and Analysis of Economic Indicators

Based on the above-mentioned assumptions, the following part of the study shows the general calculations of the investment analysis. It gives the details of expected income, costs, and loan repayment. The analysis assumptions form a basis for the extraction of the economic indicators of the investment as a criterion for decision-making. Table 6 shows details of these indicators. The indicators are shown for both the total capital and equity. Taxes are also considered in the economic indicators.

Table (8): Economic Indicators for the Project (Cost of Finance 5.5%)

Item	Total Capital Calculations	Equity Calculations	Total Capital After Tax
ΣCF	186,116,472	121,510,392	170,434,715
P.V. Of Total Capital (Initial Investment)	-62,361,600	-13,785,600	-62,361,600
ΣDCF	90,267,230	40,434,550	72,284,780
NPV of Total Capital	27,905,630	26,648,950	9,923,180
IRR of Total Capital	14.3%	22.43%	13.2%
Profitability (With Discounting)	144.7%	293.31%	115.9%
Profitability (Without Discounting)	298.4%	881.4%	273.3%

The payback period of the project is derived by dividing the amount of the invested amount by the annual expected revenue. The following table (9) shows the expected payback period for the project.

Table (9): Payback Period of Investment

Item	Years
Pay Back Period without Considering Taxes	<b>14.76</b>
Pay Back Period Considering Taxes	<b>16.40</b>

Based on the economic indicators shown in Tables 8 & 9 the project is considered feasible given the above-mentioned project assumptions.