



The Study of some Intangible values of Forests-Case study from Sudan

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Abstract: This study was conducted at Khartoum Sunt Forest during 2012. The main objective of the study was to investigate some intangible values of forests including the recreational and environmental values and draw the attention to these values. Secondary data was obtained from reports, records and related studies. Primary data was obtained from a questionnaire, meetings, field visits and discussion with officials. The study showed that the number of visitors was increasing, the majority of them were students and others came for recreational purposes. They stated that the forest was a good place for enjoyment. The forests absorb dust and smoke, and reduced air pollution.

Key words: recreational purposes, environmental values, enjoyment place, Khartoum Sunt Forest.

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Introduction

Sudan has various types of natural forests as well as plantation forests. Forests play an important role for human well-being in many dimensions and its multiple uses include non-wood forest products, recreation, soil and watershed protection, hunting, biological conservation and other goods and services. Khartoum Sunt Forest was reserved in July 1932 according to the official order of reservation that had been published in the Sudan government gazette NO 563. In 1939 it was declared as a national bird sanctuary. (Mohielden, 1977). The main objective of this study was to investigate the environmental values of Khartoum Sunt Forest and the recreational practices inside the forest. The Problem is that no environmental assessment was done to know Relative humidity in Khartoum State has low value throughout the year with a of 29

the environmental and recreational values of Khartoum Sunt Forest. The forest is exposed to damage by visitors because it regenerates naturally. Urban forest is seen in general and Khartoum Sunt Forest in particular as the most important forest for the city people. The main reasons for establishment of the forest were as a scenery place, home for birds, insects, wildlife, pure air, shade, for artists, nature and environmental studies. The forest is located at approximately between latitudes 15° -8' North and 16° - 39' North and longitude 31° - 35' East and 34° - 24' East, with elevation of 380 meters above sea level, with a total area of 473 feddans (FNC, 2001). The temperature at its maximum in May and June is 46°C and at its minimum in December and January is 13°C. Annual rainfall in Khartoum State is about 161 mm. percent. In a period between mean September and the end of October the flood level

subsidies rather rapidly. In normal years the White Nile left all the forest, by December the topsoil in the whole forest is dry except some areas of the White Nile begins rising in mid-June and reach its climax low grounds. (Hanadi, 1998) *Acacia nilotica* (Sunt) predominates Khartoum Sunt forest on deep alluvial deposits. Very few individuals of *Faidherbia albida* (haraz). *Balanites egyptiaca* (Higlig) and a variety of herbaceous seyal thrive on drier area with thinner silt with areas of deep cracking clay soil. (F. N. C 2001).

Abd el Bagi (1987), highlighted the recreational value of Khartoum Sunt Forest revealed that during the holidays and weekends the records showed that more than (600) persons visited the forest as recreational site. During the weekends the estimate showed that between 400 -500 persons visited the forest mainly in families and groups. Hatim, (2001), highlighted the importance of the forest as natural filter to mitigate the effect of greenhouse gases emissions, a source of biodiversity, as bird's sanctuary area and demonstrated the value of Khartoum Sunt forest assuming that it's the only urban forest in Khartoum State.

Forests are of great importance to mankind in terms of the tangible and intangible values they provide. In addition to providing timber and non-timber forest products, forests are also of great value in mitigating climate change, protecting watershed, and mitigating environmental integrity, (Shadrach, 2010). The recreational values of woodlands are a special case of the larger set of outdoor recreation. As leisure time and population increased in post World War II period a large number of applied studies focused on the

social and environmental benefits of outdoor recreation, (Riccardo, 2003). Environmental and recreational values play an important role in human life especially in urban areas. Many studies attempted to draw attention to the environmental values and recreation importance, also to change the idea that forest worth only its timber or wood products. It is an attempt to highlight the importance of the environmental values and the recreational values of Khartoum Sunt forest (Madina, 2012).

Materials and Methods

For data collection, secondary data was obtained from Official records, files, reports and relevant studies for the literature review. More than five visits were made to Khartoum Sunt Forest, F. N.C Office at Elmogran and Sudanese Environmental Society to clarify some problems and points concerning the recreational and environmental values of the forest. The visits were in Friday, Saturday and other working days to observe the number of visitors to the forest.

Meetings were held inside the forest with farmers, workers and others. The primary data was obtained by a questionnaire and 70 respondents were interviewed. The selection of the target group was random, so they varied in the ages, genders, jobs and educational levels. The questionnaire consisted of different questions, and it was designed on a mixed basis of multiple choice question and free insure questions. For the data analysis, SPSS software was used. The frequency and percentage of each variable is calculated.

Results and Discussion

Table (1) shows that 32 % of respondents were students and 20% employees. This shows that, the forest is a suitable place for study; also it is a recreational place for the employee to spend good time inside the forest.

Table 1: Occupation of the respondents

Occupation	Frequencies	Percentage %
Employee	14	20
Farmers	4	13
Police& Security	9	6
Students	22	32
Labors	13	18
Agric- engineering	8	11
Total	70	100

Table 2: Age categories of respondents

Categories	Frequencies	Percentage %
15 – 25	21	30
26 – 35	27	39
35 – 45	10	14
46 – 55	6	9
56 – 65	6	8
Total	70	100

Age distribution of the respondent's in table (2) indicates that the age of the majority of the respondents was between 26- 35 years which represents 39% of the total numbers

of the respondents. This indicates that the majority of the respondents were young people (youth).

Table 3: Sex composition

Sex groups	Frequencies	Percentage %
Male	44	63
Female	26	37
Total	70	100

The analysis and composition of the respondents shows in table (3) that 63% of

the respondents were male while 37% were the female.

Table 4: Education levels of respondents.

Education levels	Frequencies	Percentage %
Illiterate	1	1
Khalwa	2	3
Primary school	7	10
Secondary school	18	26
University	32	46
Post graduate	10	14
Total	70	100

Table (4) shows that 46% of the respondents were university students. That means most of the visitors are students, and they are well educated. While 26% of the visitors have secondary school level of education .So from the above mentioned percentages, the

visitors were well educated and they know the benefits of Khartoum Sunt Forest as a recreational area and they can investigate the intangible and environmental values of the forest.

Table 5: Numbers of visits to the forest

Number of visit	Frequencies	Percentage %
Zero time	1	1
Once	12	17
Twice	11	16
Three	6	9
Many times	40	57
total	70	100

Table (5) indicates that the forest is under focus and always is being visited repeatedly by many people. 57% of the respondents mentioned that they visited the forest more than three times. From the above results, it is

clear that the forest has environmental and recreational values to the people. It has a unique position as one of the green areas in Khartoum State.

Table 6: Purpose of people visits to the forest

Purpose of visit	Frequencies	Percentage %
For recreation	33	47
To study	20	29
For fishing	11	17
For others	6	7
Total	70	100

From table (6) 47%of people who have been asked at collection time stated that they visited the forest for recreation while

29% said that they were student and they came to study.

Table 7: Forest as a good place for enjoyment

Answer	Frequencies	Percentage %
Yes	50	71
No	20	29
Total	70	100

Table (7) shows that the majority of the respondents 71% said that Khartoum Sunt Forest is considered as the most beautiful natural place , so this result match with the

study done by (Hatim ,2001) , also they stated that they came for swimming , watching birds and wildlife animals , and fishing , while 29 % mentioned that the forest is noisy and crowded.

Table 8: Khartoum Sunt Forest has very good Environmental values

Answer	Frequencies	Percentage %
Yes	62	89
No	8	11
total	70	100

Table (8) reflects that the forest has a very high environmental value, so that 89% of respondents stated that. The forests have a very high environmental value especially in Khartoum State. Khartoum is a big crowded city; forest reduced the emission of gases like CO₂, absorb dust and smoke, reduce air pollution. Also forest contributes in reducing

noises, in addition it is considered as habitat for migratory birds and some wildlife as well as domestic animals. This agrees with Hatim (2001).Khartoum Sunt forest protects the eastern bank of the White Nile and stops the soil movement. While 11% of the respondents said that it has no environmental values.

Table 9: Khartoum Sunt Forest has recreational values

Answer	Frequencies	Percentage %
Yes	63	90.
No	7	10.
total	70	100

The data of this table indicate that about 90%of the respondents said the forest has a very high recreational values while only 10% said that it have no value.

Conclusion

As a result from observations, interviews and visits to Khartoum Sunt forest the number of the visitors increased in Fridays and Saturdays. The majority of respondents were willing to visit Khartoum Sunt Forest from different places for recreation, swimming, watching birds. The forest has environmental values like absorbing dust and smoke, refresh the air and reduced the air pollution.

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دراسة بعض القيم غير الملموسة للغابات - دراسة حالة من السودان

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المستخلص

أجريت هذه الدراسة في غابة السنط - الخرطوم خلال العام 2012. حيث كان الهدف الأساسي للدراسة هو معرفة بعض القيم غير الملموسة بالنسبة للغابات بما في ذلك القيم البيئية والترفيهية ومن ثم لفت الانتباه عن هذه القيم . البيانات الثانوية تم جمعها من خلال التقارير والسجلات والدراسات السابقة ذات الصلة . أما البيانات الأولية تم الحصول عليها من خلال الاستبيان والاجتماعات والزيارات الميدانية والمناقشة مع بعض المسؤولين . أوضحت الدراسة ان عدد الزوار في حالة ازدياد وأن معظمهم من الشباب فئة الطلاب والبعض الآخر جاء لاغراض الترفية . وأن الغابات مكان للمتعة.

