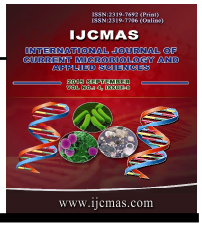
Int.J.Curr.Microbiol.App.Sci (2015) 4(9): 784-788

International Journal of Current Microbiology and Applied Sciences
ISSN: 2319-7706 **Volume 4 Number 9 (2015) pp. 784-788**
http://www.ijcmas.com



Original Research Article

Shagarab land will Change into Desert by Refugees, El-Griba Locality, Kassala State, Sudan

Ismail Mohamed Fangama Abdalla*

College of Forestry and Range Science, Sudan University of Science and Technology (SUST)
**Corresponding author*

A B S T R A C T

The study explores the complex relationships between land cover, environmental change and malpractices of refugees and to identify the nature of environmental impact on the area. The study concludes that change in land cover caused by the presence of refugees is a major cause for concern in this area. At the same time, observed changes in land cover need to be treated with caution, given the often cycle nature of environmental change, and the range of factors associated with it. During the thirty years the vegetation cover changed due to the continuous deforestation. The area of Shagarab changes to bare area, no trees and shrubs and few of unpalatable plants. Lack of charcoal, fuel wood and building materials. That is transported from far distances from Basunda South of Gedaref town and East from Wad-El- Helio. The objectives of this research are to identify the size of deterioration in the area due to the activities of refugees that are: over grazing, cutting down of trees for cooking and building grass huts and to appeal to the international organizations to rehabilitate and combate the desertified area. In order to estimate the cutting down of trees, area cleared for establishing the camp, cultivation, housing, renovation, consumption of firewood and charcoal using the statistical archival methods done by COR (1988), UNHCR and FNC (2003) and Tom (2004). Also the governmental officials' staff of National Forest Corporation and organizational officials staff of rehabilitated areas affected by refugees' activities were interviewed. The result revealed that the total area cleared for housing was 1540.6 ha. While the total cutting down of trees for building and renovation of the huts were 3704540 trees. On the other hand the total consumption of the whole period from firewood was 642490 cubic meters and the charcoal was 6630880 sacks. From the calculation it is obvious that the damage of forest was very serious in the area. The study found out that the damaged on the natural forest resulted in removal of huge number of trees from land. The area became opened then it was exposed to erosion by rainwater and wind.

Keywords

Charcoal, Families, Firewood, Grass huts and trees

Introduction

Shagarab refugees' camps 1, 11 and 111 were established in 1985. They are located South of Khashm-El-Girba about 30 km, 33km and 30 km respectively. The population of three camps was 45589 refugees. The ethnic composition is Beni

Amer and Tigrigna (Berhane, 1989).The refugees came to the camps with their livestock consist of cows, sheep, goats and camels even donkies. They settled in an area about three kilometers from Atbara River. The condition of forests in Shagarab area were covered by crowded and thick trees and shrubs before the arrival of refugees. These trees such as *Acacia seyal, Acacia mellifera, Acacia senegal, Acacia tortalis, Balanites aegyptiaca* and *Acacia nilotica* along the bank of Atbra River and Khors.The grasses present in the area such as *Sourghm sudanese,Hibiscus sp. Ipomeas pp., Justica flava vahl* and *Tribulus terrestris* L. And *Aristolochia bracteolate L.,cadaba glandulosa, Cassia tora,Citrullus spp., Cymbopogon spp.,Ephorbia* and *aegyptiaca* in the past (Adam, 2015).The soil is cracking clay, the climate is semi arid. The activities of refugees depend on herding their livestock and cultivating small lands during rainy season. Large area was cleared from trees and shrubs for housing, building materials, cutting down trees for firewood and charcoal and made fencing for their animals (Suliman, 2015).In addition they renovate their grass huts every five years.

Micah (2011) mentioned that, refugees cause sudden increases in population density in areas of in-migration, stripping landscapes of natural resources and threatening fragile ecosystems. He added some commentators go so far as to see refugees as 'exceptional resource degraders' who use resources in unsustainable ways due to poverty, lack of knowledge about the environments of host regions and a tendency to see their stay as only temporary. Richard Black,et al (1997) mentioned that, the complex relationships between land cover, environmental change and forced migration in the middle valley of the Senegal River, attempting both to identify the nature of environmental impacts of forced displacement with specific reference to land cover, and to examine the social, political and economic circumstances in which these are exacerbated or reduced.

Problem

Area of Shagrab refugees' settlements is dense, thick and crowded with forests of Acacias, shrubs and grasses before the arrival of refugees in 1985. During the thirty years, the vegetation cover changed due to the continuous deforestation. The area of Shagarab changes to bare area, no trees and shrubs and few of unpalatable plants. Lack of charcoal, fuel wood and building materials. These forest products transported from far distances from Basunda South of Gedaref town and East from Wad-El- Helio. The study has come up with the following objectives: To identify the scale of deterioration in the area due to the activities of refugees that are, over grazing, cutting down of trees for cooking and building grass huts. To appeal the international organizations to rehabilitate and combate the decertified area.

Materials and Methods

In order to estimate the cutting down of trees, area cleared for establishing the camp, cultivation, housing, renovation, consumption of firewood and charcoal using the statistical archival methods done by COR (1988), UNHCR and FNC (2003) and Tom (2004) as follows:

1. The average of one hectare (ha) of natural forest in East, West and South of Gedaref State contains 720 trees (Tom, 2004).
2. An area allocated for housing per family is estimated at 0.13 ha (RSA 2004).
3. Each family is allotted three huts and renovates every five years (UNHCR, FNC, 2003).
4. Number of trees cut down for building

one hut was 60 trees (UNHCR, FNC, 2003).

5. Two cubic meters of firewood is the consumption of a household every year (COR, 1988).
6. One ha of land produces 168 cubic meters of firewood (COR, 1988).
7. Each family of refugees is supplied with two sacks of charcoal per month (Manger of Sefawa Refugees Camp, 1985).
8. One cubic meter of woods produces three sacks of charcoal (Tom, 2004).
9. Interviewed governmental officials of National Forest Corporation and staff of rehabilitated areas affected by refugees' activities (2015).

Results and Discussion

General state of vegetation in Shagrab Camps in 2015

The government officials mentioned that the area is absolutely cleared from trees and shrubs. Only few species presence in the area are scattered at far distance such as *Acacia mellifera*.The refugees are still settled in the area and not patriated.The number of refugees increase due to the rate of growth during the thirty years of settlement and those who arrive every day cross the border to the Shagrab camps. According to the report of the Team Leader for the rehabilitation of the area affected by refugees (2015): the number of refugees in Shagrab camps has reached to 79264 refugees approximately due to the rate of growth and as well as to the refugees who arrive to the camps every years.

Area cleared for camps settlement

The area for settlement is cleared from trees, shrubs and grasses, and three huts were built for each household in about 0.13 ha.The total areas cleared for settlement of about 9117 families equals to 1185 ha, if you multiply 0.13 ha/family by 9117 families.

Cutting down trees for housing

The trees cut down for building huts to each family. They use Dagag, Korki, Matarig and grasses. Each household is allotted three huts. The total numbers of huts are equal to about 27351 huts, if you multiplied 9117 families by three huts for each family. Then the number of trees removed for settlement were equals to 1571180 trees, if you multiply 1185 ha by720 trees/ha. Then the numbers of trees cut down for housing were equals to 1641060 trees that is (27351 huts x 60 trees/hut). The calculation was based on the method of (Tom, 2000). The total trees removed for housing and settlement were 3212240 trees.

Cutting down trees for hut renovation

The huts are renovated every five years because the wood is affected by termites and wood borers. The huts are renovated six times according to their settlement. Then the total huts renovated were 27351 huts multiply by six equals to about 164106 huts. The numbers of trees cut down for renovation were equals to about 9846360 trees, that is (164106 huts x 60 trees/ hut). UNHCR and (UNHCR, FNC, 2003).FNC (2003) archives are used.

Firewood consumption

Refugees cooked their Angaira (type of food used instead of bread) and other types of food using firewood in traditional stoves. Each family consumed two cubic meters of firewood every year. There was (12-fold increase) in consumption of firewood. The total consumption of firewood during their resident was equals to about 637020 cubic

meters, which is (30 years x 2 cubic meters x 9117 families). Using the archive of COR (1988) as reported. When we change the consumption of firewood into trees the result is 637020 cubic meters divided by 168 cubic meters/ha and multiplied by 720 trees/ha equals to about 2730086 trees.

Charcoal consumption

Refugees used charcoal for making coffee and tea. They drink a lot of coffee during the day according to their culture. The total consumption of charcoal was equals to about 6564240 sacks of charcoal, where (9117 families x two sacks/family/month x12 sacks/year x 30 years). If we change the consumption of charcoal to removal of trees the result is 6564240 sacks divided by 3 sacks/ha, and 168 cubic meters/ha, and multiply by 720 trees/ha equals to about 937748509 trees.

Additional consumption of forest products

The study find out that there is additional consumption of forest products in the area due to increase of refugees given the rate of growth and the new arrival of refugees which is equal to about 13675 refugees, that is 2735 families. The area cleared for refugees settlement was 355.6 ha, number of grass huts was 8205. Trees cut down for building the huts were 492300 trees. The consumption of firewood was 5470 cubic meters while the consumption of charcoal was 66640 sacks.

The misuse of forests by refugees had negative impact on forest recourses, serious devastation of forest, was carried out due to the increase of needs for forest products such as fire wood, charcoal, building materials and grazing. The growing number of refugees due to arrivals to Shagarab has aggravated the situation. The huge number of refugees exerted more pressure on the available meager trees and consequently increases the environmental degradation of the whole areas with different features such as increasing soil degradation and disappearance of trees in the area. There degradation has also affected the native population.

Recommendations

The study has come out with the following recommendations:

1. Strict enforcement of laws and regulations that control cutting down of trees in particular area.
2. Encourage the participatory approach during the rehabilitation of such deteriorated area.
3. Establishment of large plantations in refugees' area to provide them with the necessary fuel wood and building materials.
4. Refugees belong a plenty of livestock, in this case the provision of grazing grass is necessary by scatting seeds of grass ding the rainfall season.

References

Adam,A.A.(2015). Director of forest. Personal contact. Showak.

Berhane, W. (1989). Hand Book of the Refugees Settlement Administration, Showak, Gedaref State. Eastern Sudan. Commissioner of Refugees. (1988) Refugee's situation in the Sudan. Annual report. Khartoum, Sudan.

ElTom, M.A. (1985).The Problem of Resource Management in the Sudan.

Suliman, O.E (2015). The team Leader of the Rehablitation of areas affected by refugees in Eastern Sudan. Personal

Contact.Showak.
Environmental Monograph series, No.4 pp 55-72 Institute of Environmentof Studies, University of Khartoum.Sudan.
El Hawari, B.H. (2004). The Director of Refugees Settlement of UM Rakuba camp. Doka. El Gedaref State (Personal contact).
Micah S. M. (2011). Violence against People and the Land: The Environment and Refugee Migration from China's Henan Province, 1938–1945. Department of History Georgetown University Washington, DC 20057-1035, USA Email: msm92@georgetown.edu
Tom, M.A. (2004). The director of Gedaref Forests State (Personal contact). Manger of Sefawa Refugees camp (1985) Report.
Fangama, I. M. (2013). Impact of Refugees on Forest Cover, Gedaref Eastern Sudan. Scholars press,ISBN:978-3-639-51293-9,Germany.
Tom, M.A. (2004). The director of Gedaref Forests State (Personal contact). Manager of Sefawa Refugees camp (1985) Report.
Richard Black,et al (1997). Refugees, land cover and environmental change in the Senegal River Valley. Geo Journal, Vol. 41, No. 1 (January 1997), pp. 55-67
United Nation High Commissioner for Refugees and National Forest Corporation (2003). Environmental projects, The Refugees and their Impacts on Natural Resources, The case of Sudan, on the Occasion of x11 World Forestry Congress. Quebec, Canada September 21-28