

Direct And Indirect Benefits From the Jalhak Reserved Forest As Perceived By The Respondents in Jalhak Area South Sudan

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Abstract: Local people in the study area have needed products from the forest, and overtime, that demands has increased with the standard of living to which have become accustomed. Timber harvesting tool in renewing or enhancing and improving the diversity and beauty of the forest while providing benefits to community. In the process of cutting trees for wood products, we modify wildlife habitat and alter natural system. Data was collected by the social survey, questionnaire and in addition to the observations and exchange views and ideas, references, scientific papers, GOSS and NGOs reports. The study was showed this forest served as a watershed. Forest also serve as a home (inhabitant) to animals such as birds, wildlife, goats, sheep's and cattle. And also showed forest are of immense economic importance as tourism, income and inhabitants (people living in or close forests) when people visits to the best nature. They enrich the atmospheres by absorbing bad gases (example co2 and other greenhouse gases) and producing oxygen. The study also revealed that the, forest provide substances commercial benefits, including timber, non-timber forest products, water, fodder and building materials. Also the result shows that, the income of the income of local people depends mainly on the Jalhak forest in the study area.

Kew words: Direct benefits of forest, in direct benefits of forest, fuel wood, forest products

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I. Introduction

Forests and woodlands play a central role in the fight against poverty and the `quest for sustainable development. They provide arrange of economic, social, cultural and environmental functions and services. These range from biomass energy, timber and non-timber products that support livelihoods and trade, to the ecological role they play in mitigating land degradation and climate change among others. Forests provide significant social and economic benefits at all levels, especially in developing countries. Economics of people living in forest finger have traditionally been dominated by subsistence agriculture (Godoy, 1993). Forests are one of the most important natural resources of South Sudan. Forest resources play a major role in development of human society in rural areas. Thus, the forest closely interrelated to human beings. The importance of forest products has been increasing day by day for all (FAO, 2003). Forest resources are essential for rural people. They are depending on forests for supply of fodder, fuel, wood, timber, herbs, medicines and other forests products, which are essential for their daily life. Many local populations have understood the multiple benefits for their livelihoods obtained from forests and traditionally they are coming to give protection and conservation of forests for supply of their needs (Gouldle, 1992).

Upper Nile State together with unity and jungle state has up to sixteen gazette forests totaling to 22.518 hectares. The main causes of forest depletion are selective logging of commercially valuable trees. This has caused severe damage to many of the states of the country and especially in Upper Nile State (FAO, 2010). Socioeconomic factors are contributing to alter or delete the forest cover and affect the forest structure and species compositions (FAO, 2003). Other causes of depletion are forest fires, excessive removal of non-timber forest products and population. The local people around a Jalhak forest in Upper Nile have been clearing land for agriculture to meet the food needs of the ever-growing populations. Most forest communities, follows shifting cultivation where they clear a patch of forest, cultivate crops, on it, and following seasons, they move into the new areas and follow the often return to the same area, after New Year (GOSS, 2010).

II. General Objective

The main purpose of this study is to highlight the influence of some socio- economic aspects are forest depletion in Jalhak.

2.1 The specific objectives are:

- To identify the economic activities of local communities around Jalhak reserved forest; determine the direct benefits of Jalhak forest to local people; determine the indirect benefits of Jalhak forest to local people.

III. Study Area

The study area is located in the north-eastern part of the central clay plain of the Upper Nile State in the dry land savanna zone; it lies between latitudes 6 north and 12 longitudes 35 south east. The rainfall about 600 _ 800mm in August, the temperatures range from 30 c in May to 43 c in January (MAF, 2009). Forest covers most areas of the payam with non-wood forest products trees species. The types of forest are natural woodlands, private farms. NTFPs trees are passively maintained as both propagation and management are generally left to nature. Inhabitants consider some of these so valuable sources of income and serve as a type of natural credit (GOSS, 2007).

The study area is composed of many tribes, including the Dinka who are the leading tribe in number. Following the Dinka in number are Boron and their areas are Maban. Adar and Bonj, Shilluk who are found in Jalhak town and west Nile from the Nile and other Sudanese tribes. Jalhak area is of many cultures and traditions, among which are removing the lower teeth in Nuer and Boron which marriage. Dinka marriage is finalized after paying above 35_50 cows for the in laws. While in Shilluk are 11 cows and goats for the laws. While in 11 cows and goats removal lower teeth is almost common among the tribes Dinka, Nuer and Maban. The Shilluk ceased this practice long time ago (GOSS, 2005).

IV. Material And Methods

Secondary data was obtained from the reports, Scientifics papers, textbooks and handbooks, while Primary data collection based on survey, questionnaire, checklist, group discussion and observation. All families constituted reach population (1500) and while household considered as research unit, where 10% was taken as a sample (150).

V. Results And Discussion

Table 1 below showed that 65.3 % male and 34.7% female. Results showed that, there were significant differences among the respondents according to gender of respondents. However results showed. The male is higher than female and this due the absence of female in the war area. They migrate to the safe area in the north of the State. According to society, and work division the girls involved in forest activities and agriculture while the male are responsible of animal rearing.

Table 1 Gender Of Respondents

Gender	Frequency	%
Male	98	65.3
Female	52	34.7
Total	150	100

Significant

Source: research survey, 2015

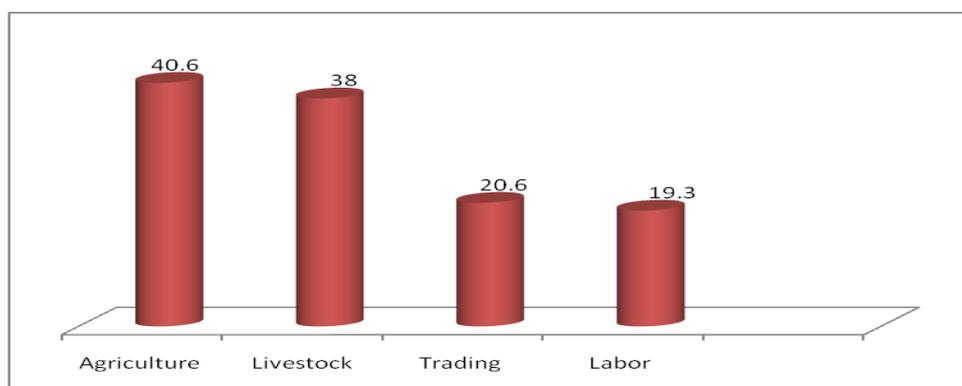


Figure 1 income of the people in study area

Source: research survey, 2015

Figure(1) above showed that 40.6% of the respondents dependence on agricultural products as their source of income, while 38% depend on Livestock(animal rearing) as a source of income generation and 26.6% depend on the trading of goods and animal products and depend on them as a constant source of income. Moreover, 19.3% work as government employee and permanent income. The source of income is diversified and very much related to natural resources (livestock, cattle rearing, wood, and non-timber products and cottage industry products) which together constituted the main sources of income. However, most of people in Jalhak area are associated with cattle rearing depending on animals for their food particularly products from the milk and meat. The ancient human ancestors considered the forest as the area for rearing living. Since then there have been local wisdom about human beings to protect and preserve the forested its environment.

People began life on this planet as forest dwellers. They were food gatherers and depended on the forest for their needs: food, clothing and shelters. They gradually become food growers, clearing a small patch in the forest to grow food. But they continued to depend on timbers, fuel wood, medicine, and fodder.

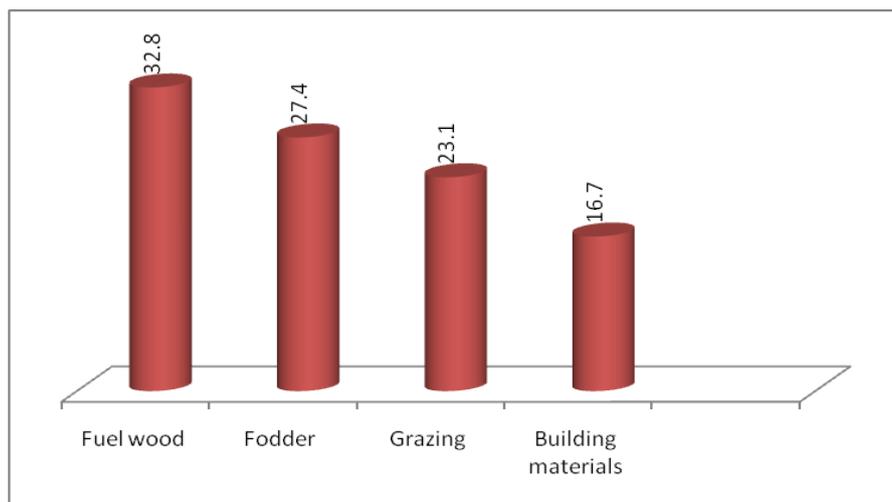


Figure 2 Direct benefits of Jalhak forest

Source: research survey, 2015

The results in figure(2) above showed that, fuel wood, fodder, grazing and building material were reported by the respondents in the Jalhak forest as direct benefits from Jalhak forest, 32.8%, 27.4%, 23.1 and 16.7 respectively. Moreover, results showed that, were significant differences among the respondents according to benefits of forests in the study area. However, people considered the forest as resource materials/ construction of building (houses, bridges, ships, boat, and plywood) and source of food supply (vegetables). Protection source (honey, meat, bird nests) and source of fuel wood, charcoal. Source of income (sale of timber and non-timber forest products) and the source of the drug department (leaves, bark, sap and seeds) and In addition, forests have a major role in contributing to the economies of some countries, especially in rural communities in order to increase its contribution in agricultural production, sustainability and food security.

As findings showed, 32.8% of the respondents a acknowledged the importance of wood, (firewood or charcoal). Wood is an important source of energy for cooking and heating. They prefer smaller stems as these are easier to collect and carry. The wood that they select should be easy to split and have low moisture content to dry faster. Some of the wood is converted to charcoal and used for cooking. Millions of households in the developing world depend on food and fodder from forests to supplement their own and their livestock diets (Sharama, 1992). Meanwhile, 27.4% of the respondents have made clear the importance of the forest in the area, because it provides fodder for the animals fodder from the Jalhak forest considered as an important source for cattle and other grazing animals in the area during a drought. There are many varieties of grasses, trees, and shrubs that support nutrition for livestock. Care is taken to avoid poisonous trees poisonous to cattle. In addition, trees that produce a large crown above the reach of cattle are preferred. Trees are also important in emergencies drought and famine they provide food and cash money. Grazing inside the Jalhak forest is considered one of the direct benefits of the forest in the study area, where local people reliable to feed their animals (cows, sheep and goats), and this was confirmed by 23.1% of the respondents commended the great role of the forest in the provision of fodder in the region, where there is grass, weeds and branches of shrubs and trees of different species of trees, especially Acacias, which is one of the favorites for animals because it contains high production plus its palatably to animals.

Wood is renewable building materials that have a low impact on the environment. Moreover, 16.7% of the respondents were benefited from the Jalhak forest to get their needs of wood, around and building poles in

the construction of housing and animal husbandry. Most of the wood species used in the construction of housing in the area were *Adansonia digitat*, *Borassus aethiopianum*, *Hyphaene thebaica*, in addition to the *Azadirchta indica* and *Acacia seyal*, with less or more than the consumption of these trees rate for the production of wood construction by the population growth in the region rates, this relationship hypothesis was confirmed by one of the FAO, studies linking the growing of the population and excessive cutting of various trees for different uses. According to the study that has been lost 65 million hectares of forests in the developing world 1990—1995 due to the increasing population and over- cutting forests to cover the needs of that region.

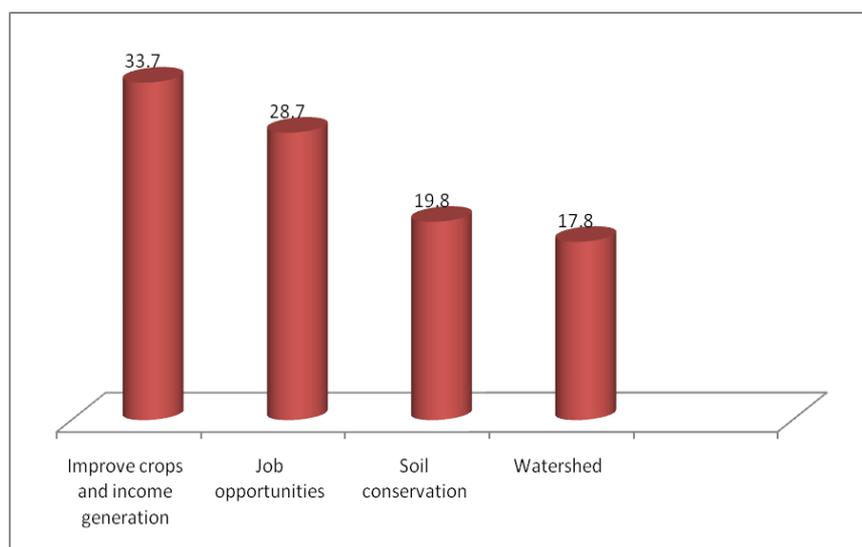


Figure 3 indirect benefits from the Jalhak forest

Source: research survey, 2015

As showed in the results, in figure (3) above, improve crop production and income generation, job opportunities, soil conservation and watershed. Was reported as indirect benefits from the Jalhak forest as perceived by 33.7%, 28.7%, 19.8 and 17.8 respectively. Forests, trees and agroforestry systems contribute to food security, nutrition and livelihoods in several ways, including source of food, fuel, employment and cash income. Forests play a major role in the boosting crop production, which is reflected positively in the improvement of crop production income for famer that was agreed with 33.7% of the respondents.

Job opportunities in a wide range of forestry related fields, including: maintenance and traders and silviculture and reforestation.

Meanwhile, 28.7% of the respondents showed that, the forest provided them with alternative job opportunities. Since, majority of the respondents in the area of low education due to lack of adequate attention to the families in the education to their children, especially girls, in addition to the lack of schools and low of salaries for employees in government sectors, all these reasons promoted many local residents to work on the sale of various forest products in the area to generate money to help them in the care of their families. Moreover, 19.8% of the respondents pointed to the importance of the Jalhak forest in soil conservation and protection against erosion, where it worked to ease the rain water flow, and reduce damage and floods sweeping in rainy season from time to time, in addition to that, forest acted as a regular of groundwater to facilitate the leaking water into the soil.

Some tree species have the ability to return nitrogen to the soil through root decomposition or fallen leaves, such trees are planted to increase the nitrogen of the soil. Eventually, 17.8% of the respondents emphasized the role of the forest as a source to collected rain water, where excavations were frequently inside the forest, working as reservoirs to save water during the rainy season to be utilized during the summer for human and animals and small farms.

Table 2 products gained from the Jalhak forest

Products gained from the forest	Frequency	%
Charcoal	76	50.7
Firewood	60	40
Sawn timber	31	20.7
Total		

Significant

Source: research survey, 2015

Results showed that, were significant differences among the respondents according to products gained from the forest. Table (3) showed that, 50.7%, 40%, and 20.7% respectively. As mentioned 50.7% of respondents were using charcoal on a daily basis of the woods, for ease of getting it, and practiced a lot of families' coal trade for big return from work. The increase of demand for coal is one of the main threats to Jalhak forest and will lead to forest removal if the situation continues in the future, especially in the absence of plans, protection and even, making the forest depends on the natural regeneration. In the study area, the current demand for cooking fuels. The current rate of charcoal production follows production sites in the Melut area and the mushrooming charcoal business is negatively impacted forest in the study area and other parts of the State. Studies showed that demand for charcoal rises with urbanization and population growth, as does the pressure on forests and woodlands, most of which are poorly managed and prone to degradation. When researcher asked the respondents about charcoal gained from the forest in the area, the respondents mentioned that, they use a lot of coal in all cooking process in the daily life.

As well, 40% of the respondents confirmed wood as one of the most forest products in the study area, and through this field the researcher noted that wood is the main source of basic energy for domestic and commercial purposes, and also essential in construction of schools, homes, and places of worship. The forest inspector in the study area needs to exert more efforts to meet the demand for firewood in the recent period as the population increase due to the displaced from fears of recent war. As well as, 20.7% of respondents have access to forest products, wood fuel, wood and sawdust from the small business saws in the study area. These saws were illegal and did not followed the forest laws where a commercial saws owned by individuals, which do not get the wood used in it from the forest authorities in the region, where they get it from wood traders often in agreement with the traders without involving of the forest authorities.

VI. Conclusion and Recommendations

Most of the respondents agreed on the importance of the forests in the region as it generated income through the sale of wood and non-wood forest products and provide employment in addition to fodder as well as economic and environmental benefits. Residents in the Jalhak area depend on various sources of occupations to generate income, such as agriculture, trading and labor, due to poor academic qualification and education. Agriculture was a main craft for residents in the study area. Jalhak residents were rearing different kinds of cattle as cows, sheep's and goats. Local residents in the study area were acknowledging by different types of tree species and aware of the benefits of forests an extension, and community forestry. There is also a general agreement and consensus about the value of trees for wood supply and protection.

The local population in the study area planted trees around houses as a kind of decoration included: *Azadirachta indica*. *Albizia lebbek* Community forests have many benefits and decrease the pasture on Jalhak forest and could represent a bomber wind around villages, in addition to the environmental and economic benefits. Respondents pointed out that, the forest was facing a lot of problems such as over-cutting and overgrazing. Cultivation of trees, establishment of the community forests and cultivation of fruits trees were suggested by the respondents to overcome, these constraints allocating adequate budget for different activities and training of forest staff to realize sustainable management and raising the awareness of people about the care of the Jalhak forest were the main recommendations.

References

- [1]. Anyadike, R. N. C. (2007). Sustainable Methods for the Social and Environmental Sciences. Spectrum, Ibadan.
- [2]. FAO, (2003). Wood Energy, Climate and Health: International Export Consultation. Field Documents No 58. Bangkok, Thailand.
- [3]. FAO, (2010). Guidelines on Sustainable Forest Management in Dry Lands of Sub Sharan Africa, Rid Zone Forests and Forestry Working. Rome, Italy.
- [4]. Godoy, R. A. and Bawa, K, S. (1993). Economic Value and Sustainable Harvest of Plants and Animal of the Tropical Forest: Assumption, Hypothesis and Methods.
- [5]. GOSS, (2005). Agribusiness in Southern Sudan.
- [6]. GOSS, (2007). Southern Sudan Development plans.
- [7]. GOSS, (2010). A legal and Institutional Policy Framework. Juba, South Sudan.
- [8]. Goudle A, (1992). The Human Impact on the Environment. Balance well publisher. UK.
- [9]. MAF, (2009). Ministry of Agriculture and Forestry. Upper Nile State, Malakal, Southern Sudan.
- [10]. Sharama, N. P, (1992). Managing the World's Forests Looking for Balance between Conservation and Development Kendall/ Hunt Publishing Company.

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