



Original Research Article

Contributions of Non-Wood Forest Products to Household Food Security and Income Generation in South Kordofan State, Sudan

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ABSTRACT

Non wood forest products (NWFP) play a crucial role in the daily life and welfare of people all over the world. The aim of this study was to investigate the contribution of NWFPs to household food security and income generation in South Kordofan State of Sudan. The methods of data collection depended on socio-economic survey of the local communities' in the study area. The questionnaire was used to obtain relevant information from the sample of 60 households were randomly chosen from three villages in the area. Data were analyzed with appropriate statistical tools. The study confirmed that NWFPs contribute greatly in household food security and income generation and it plays an important role in the livelihoods of rural people in South Krdofan State. By selling collected products they are able to meet the basic needs of their families. The study recommended that the governmental, non- governmental organizations and individuals should find some opportunities to improve the use of NWFPs for sustainable household food security; such as the diversification of forest management systems to incorporate locally valuable non-wood forest products, encouraging fruit trees growing in farms, providing market support and supporting small scale forest based enterprises to develop rural communities. It is further recommended that more studies is needed NWFPs.

Keywords

Non-wood forest products, Food security, Income generation, Household, Sudan

Introduction

Non Wood Forest Products (NWFPs) play a major role in many developing countries due to the high concentration of population relying directly on the forest (Soladoye, 1990). According to Okafor (1994) defined NTFPs as forest goods and services providing for wood products. These include poles, fuels, chewing stick, gum, dye, herbs, shrubs, wine, stem fibers, seed, spices,

mushrooms condiments, and so on. The importance of NWFPs contributing to rural livelihoods and alleviating rural poverty is well known. It is estimated that about 60 million highly forest dependent people in Latin America, West Africa and Southeast Asia, with an additional 400 to 500 million people especially communities living inside and on the fringes of forest areas depend on

NWFPs for food, shelter, medicine, cash income etc. Apart from meeting subsistence and cash income needs of the dependent communities, NWFPs also support large number of small to large-scale enterprises engaged in processing and/or trading of NWFP based products (FM, 2011). They supplement household agricultural production, particularly important in reducing the shortages suffered during the "hunger periods" of the agricultural cycle. They help to even out seasonal fluctuations in availability of food. They often contribute essential inputs for household nutrition. They are also valued as components of social and cultural identity. However, these uses and values vary enormously from one area to the next (FAO, 1995). There is lack of awareness among the rural communities regarding income generation of NWFP and its contribution to food security and welfare of the people. Few studies have focused on the links between forest products and household food security and still need to be assessed. In the last two decades the majority of poor households live in rural areas particularly in South Kordofan State depend on NWFPs for food security, national economies and conservation of biodiversity. Therefore, this study aims to examine the contributions of Non-Wood Forest Products to household food security and income generation in South Kordofan State.

Materials and Methods

The study was conducted in Dalanj locality in South Kordofan State which is located in western Sudan between latitudes 29°00'- 32° 00'E and longitudes 10° 00' - 12° 00'N with altitudes of more than 400m above the sea level. The population is about 197,477 persons according to SKC (2010). The majority of them are practicing traditional rain fed agriculture through shifting

cultivation and few of them through modern mechanization (SKC, 2010). The data were the main source of information for this study and were collected through interviews using a structured questionnaire on 60 households were randomly chosen from three villages around Eldalanj locality namely; Elfarshia, Eltogma and karkraia villages, about the role of NWFPs in food security, economic development, type of NWFPs and distribution. Also group discussions were held out in these villages to collect information from the local leaders and staff of Forest National Corporation (FNC) at the state level through checklist about the utilization, consumption and importance of NWFPs income generation and food security for households in the study area. Secondary information for the study was obtained through the review of literature including text books, journals, reports and previous studies. The collected data were analyzed using the Statistical Package for Social Sciences (SPSS) software (Ver. 16.0) by computing descriptive statistics. The results were presented using frequency counts and percentages. Chi – square test was performed to test significant of differences between respondents viewed.

Results and Discussion

Activities of households

According to table (1), the study reveals that majority (90%) of the household heads interviewed were farmers while only 10% of them run their own business and 8.3% were herders.

The results indicated that, rural households earn income from a variety of sources, including agricultural production and NWFPs. Besides other sources of income like raising of livestock and running private business.

Collection and sale of NWFPs

Table (2) indicated that majority 85% of households collected and sale NWFPs. While 15% did not gather, collect and sale of NWFPs contribute greatly to the income and welfare of household, including leaves and medicinal herbs, rearing of goat, sales of fruits and nuts, fuel wood and honey, others include crafts and, catching and processing of meat. This is in agreement with FAO (1992), traded NWFPs satisfies the daily needs and provides employment as well as income.

The analysis of data in table (3) reveals that there are significant differences among respondents $p < 0.001$ according to the ways of marketing for NWFPs. Most respondents 81.7% of households sell their products in the town market at El Delanj locality, while 21.7% of them sell to the village trader, and only 1.7% of the household heads revealed that they did not sell their products. The reason behind that they gain reasonable price in order to meet their basic needs, compared to village traders which give them low price and others who did not sell their products and used in for food.

Table.1 Activities of Households

Activities	Farmers		Herders		Private works	
	Frequency	%	Frequency	%	Frequency	%
Yes	54	90.0	5	8.3	6	10.0
No	6	10.0	55	91.7	54	90.0
Total	60	100.0	60	100.0	60	100.0
DF	1		1		1	
Sig	***		***		***	

NS = insignificant ($p > 0.05$). * = significant (< 0.05). ** = highly significant ($p < 0.001$). *** = very highly significant ($p < 0.0001$)

Table.2 Collection and sale of NWFPs

	Collection and sale of NWFPs	Frequency	%
	Collected	51	85.0
	Not collected	9	15.0
	Total	60	100.0
DF	1		
Sig	***		

Table.3 Ways of marketing

Ways of marketing	village traders		markets		other places	
	Frequency	%	Frequency	%	Frequency	%
Yes	13	21.7	49	81.7	1	1.7
No	47	78.3	11	18.3	59	98.3
Total	60	100.0	60	100.0	60	100.0
DF	1		1		1	
Sig	***		***		***	

Table.4 Income gains from NWFPs

Income gains	Frequency	%
Yes	37	61.7
No	23	38.3
Total	60	100.0
DF	1	
Sig	NS	

Table.5 Contribution of NWFPs to household food security

State of food	Frequency	%
Secure	47	78.3
Insecure	13	21.7
Total	60	100.0
DF	1	
Sig	***	

Income from NWFPs

The results in table (4) express that there were no significant differences between respondents at $p < 0.05$ according to income from NWFPs. About 61.7% of respondents said that the economic gains of NWFPs are enough to satisfy their needs and only 38.3% of them said that there were few gains that were obtained from NWFPs. According to Okafor *et al*, (1994) reported that Non-Timber Forest Products provide food, medicines, fibers and cash for rural households. It is probable that they depend on NWFPs as complimentary resources.

Contribution of NWFPs to household food security

Results in table (5) indicated that most of the respondents 78.3% are food secure, while (21.7%) are food insecure. Food security means having access to sufficient food for a healthy and productive life in the right quantity and at the right time. As stated by Olawoye (1996) NWFPs make significant direct contributions to food security of the

rural population by providing a wide range of food which provide essential nutrients especially at times when other food sources are not available

It can be concluded that Non Wood Forest Product (NWFPs) are important for household which contribute either directly or indirectly to household food security. They contribute directly by providing food for consumption, and indirectly by generating income. The income can then be used to meet their basic needs.

Recommendations

The governmental and non- governmental organizations and individuals should devise new ways for improving the use of NWFPs for sustainable household food security; such as the diversification of forest management systems to incorporate locally valuable non-wood forest products, encouraging fruit trees growing in farms, providing market and supporting small scale forest based enterprises to develop rural communities.

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