

The Household Food Security of Internally Displaced Persons (IDPs): An Applied Study on Abushock IDPs Camp, North Darfur State- Sudan

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Abstract

This research examined the Household food security of the internally displaced persons in Abou Shock IDPs Camp, North Darfur State – Western Sudan. Data were obtained from both primary and secondary sources. Primary data were obtained from a total 140 of respondents who were selected using multi-stage, stratified sampling technique. Secondary data were obtained from published materials like journals, books and other relevant materials. Data were analyzed using a set of statistical tools such as percentage and frequency tables. Additionally, the Chi-Square technique was used to test whether there is a significant difference or not with respect to be food secured or non-secured and the following socio- demographic and economic variables relating to household head: sex, marital status, family size the educational level, food relief received by household, the number of IDP household members earning money and the number of domestic animals the IDP household owned. The results achieved revealed that %47.8 of the IDP households consumed less than adequate food. Further, the IDPs household food security status in the study area was determined by food relief received by household; the family size; the household ownership of domestic animals, and the number of household members earning money. Accordingly, to increase food consumption at the IDPs households, emphasis must be placed on creating employment opportunities that will increase the number of paid workers among its members, enabling them to possess small domestic animals such as goats, sheep, and poultry either through revolving fund or direct free of charge support.

Keywords: north darfur, internally displaced persons, household food security, abu shouk idps camp

1. Introduction:

1.1 Background

The internal displacement is one of the most common and critical humanitarian problem in the world today. Displacement by armed conflicts, civil strife, systematic violations of human rights and natural disasters (floods, desertification, drought, etc.) has become pervasive. The internally displaced persons (IDPs) generally lose their social, legal and economic ties thus suffer considerable physical and psychological hardship . The majority of them are living under the poverty line as they do not have enough income to treat illnesses including malnutrition, respiratory and gastro-intestinal infections, scabies, parasitic infestations and malaria. Further, they face special difficulties not shared with other conflict-affected groups, specifically those associated with food insecurity, food shortages, unsafe water, insufficient healthcare, poor sanitation, poor housing and re-establishing livelihoods in areas of temporary settlement or reintegration in unstable areas where the traditional means of livelihoods are no longer viable.

Natural and man-made disasters are the main reasons for displacement in the region since 1980s. Since war broke out in Darfur in February 2003, the social and physical landscape of the region has changed dramatically due to violence and displacement. The conflict have resulted in the wholesale destruction of rural communities, disruption to the food supply chain, forced migration to urban centers in the region and the emergence of one of

the largest humanitarian aid operations in the world. Of the 7.5 million people residing in the five states of Darfur, 1.7 million are IDPs (OCHA, 2012). While some of the displaced have fled from Darfur into neighboring countries such as Chad, the overwhelming majority now exist as internally displaced persons (IDPs) within Darfur itself. Most of the largest IDP camps in Darfur are located near the main towns of Nyala, El Fasher, El Geneina, and Zalengei, and a trend of increased urbanization is evident (OCHA, 2012).

1.2 Research Objectives

This research aimed at determining the IDPs households' food security status in Abou Shock IDPs Camp, North Darfur State – Western Sudan. And identifying the different factors determining IDP household in the study area.

1.3 The Significance of the Research

Understanding how IDPs cope with fluctuations in their food intake was considered important in enabling the government, humanitarian agencies and NGOs, national and international to come up with most appropriate policy options that are capable of stimulating food security vis-a-vis its socio-economic variables among IDPs. Here is lies the practical significance of the research. Theoretically, it was considered to act as stepping-stone for further research into the other areas not captured in the work and enrich knowledge on the determinants of food security in armed conflicts and other natural disasters affected areas.

1.4 Research Hypotheses

The following hypotheses were put to be tested:

There is no significant difference with respect to be food secured or non-secured and the following socio-demographic variables relating to household head: sex, marital status, family size and the educational level.

There is no significant difference with respect to be food secured or non-secured and the following economic variables relating to household head: reception of food relief received by household, the number of IDP household members earning money and the number of domestic animals the IDP household owned.

1.5 Research Structure

This research is structured as follows: section one is an introductory section shed light on research objectives, hypotheses, significance, and structure. Section two reviews the literature related to study theme, section three presents the methodology, specifically describing methods of data collection, the sampling of respondents, sample size and methods of data analysis. In the fourth section results analysis and interpretation will be presented. Lastly section five offers some concluding remarks.

2. Materials and Methods

2.1 Area of Study

Abu Shouk IDPs Camp is located 2.5 kms Northwest of El Fasher town; the capital of North Darfur State. The camp was established in April 2004 to accommodate the massive influx of 30,000 IDPs from Jebel Si, Korma and Tawilla. After the attack on Tawilla and Korma in November 2004, there were additional influxes of 30,000 IDPs. 65% of the IDPs are from Jebel Si, 15% from Korma, 10% from Tawilla and 10% from Kutum and other areas. The camp was planned by Government of Sudan and Spanish Red Cross (SPRC) it was divided in to two parts, East part which includes 28 blocks, each block divided in to fifteen squares. The other side (West part) divided in to eleven blocks, in each block there are eight squares, in each square there are about 25 families. In the beginning of the crisis, there are 54000 individuals, but now the total number of Abushouk IDPs is approximately 42000 individuals, 70% of them are women and children (Abdallah, 2014).

2.2 Data Sources

The study will basically depend on primary and secondary data to be collected from the study area using a tool of household questionnaire as well as some secondary data particularly from the previous studies and reports on food security. Secondary data were obtained from published materials like journals, books and other relevant materials.

2.3 Sample size

The study population consists of IDPs households in Abu Shouk IDP camp in El Fasher. The sample size (n) is determined according to the following formula:

$$n = \frac{Z_{\alpha}^2 P(1 - P) deff}{d^2}$$

Where, $Z\alpha$, P , and d are, respectively, the value of the standard distribution at the 0.95 confidence level, food insecurity prevalence rate for Darfur, and the absolute precision level. The design effect is included because of using cluster sample which is often chosen as 2. Setting $Z\alpha = 1.96$, $P = 0.26$, according to (World Food Programme, Vulnerability Analysis and Mapping Branch (ODAV), 2007)), and $d = 0.1$, and substituting into (1), we obtain a sample size of approximately 148 IDP households which will randomly be selected from Abu Shock IDP camp in El Fasher,. These households will be interviewed based on the developed questionnaire to collect the data on the variables of interests. The actual received full filled questionnaires were 140 representing almost 95 percent. This posed a limitation to the study. Another limitation of the study is that the survey was conducted during a short period of the year, so it accounts for food consumption during a particular season specifically a week.

2.4 Methods of Data Analysis

Statistical Package for Social Sciences (SPSS) used in calculating and analyzing the data collected. Additionally, Chi-Square Test was applied to test whether there is a significant difference or not with respect to be food secured or non-secured and the following socio- demographic and economic variables relating to household head: sex, marital status, family size the educational level, food relief received by household, the number of IDP household members earning money and the number of domestic animals the IDP household owned.

3. Results and Discussion:

This section presents the findings of the study. Part one presents a descriptive analysis of the data including the distribution of headed household in Abu Shock IDP camp, personal characteristics and the effect of tribal conflicts on food security. Part two discusses the test of significance (Chi-square test) to find a relationship of dependency between the statuses of being food secured IDP household or non-food secured IDP household in Abu Shock IDP camp of North Darfur State.

3.1 Frequency Distribution and Percentages of the Respondents: Socio - Demographic Profile

Table 1. Frequency distribution and percentages of respondents by household head age

Age Classifications	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 24-29	13	9.3	9.3	9.3
30-39	37	26.4	26.4	35.7
40-49	34	24.3	24.3	60.0
50-59	36	25.7	25.7	85.7
60+	20	14.3	14.3	100.0
Total	140	100.0	100.0	

Own calculations based on the survey data

Table 1 shows that %26.4 of the IDPs household heads' age lies between (30-39) years, %24.3 lies between (40-49) years, %25.7 lies between (50-59) years and %9.3 lies between (24-29) years.

Table 2. Frequency Distribution and Percentages of Respondents by Household Head Sex

Sex	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	93	66.4	66.4	66.4
Female	47	33.6	33.6	100.0
Total	140	100.0	100.0	

Own calculations based on the survey data

Table 2 shows that %66.4 the IDPs households were headed by male, while %33.6 were female headed.

Table 3. Frequency distribution and percentages of respondents by household head marital status

Marital Status		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	19	13.6	13.6	13.6
	Married	98	70.0	70.0	83.6
	Divorced	6	4.3	4.3	87.9
	Separated	2	1.4	1.4	89.3
	Widowed	15	10.7	10.7	100.0
	Total	140	100.0	100.0	

Own calculations based on the survey data

Table 3 shows that %70 of the households head are married, %13.6 are single, %4.3 are divorced, %1.4 separated, and %10.7 are widowed.

Table 4. Frequency distribution and percentages of respondents by family size

Family Size Classification		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	00-07	70	50.0	53.0	53.0
	08-14	55	39.3	41.7	94.7
	15-22	7	5.0	5.3	100.0
	Total	132	94.3	100.0	
Missing		8	5.7		
Total		140	100.0		

Own calculations based on the survey data

Table 4 reveals that %50 households consist of 7 persons, %39.3 consist of 8- 14 persons. The average family size is seven persons.

Table 5. Frequency distribution and percentages of respondents by displacement reason

Reason of Displacement	Frequency	Percent	Valid Percent	Cumulative Percent
Conflict& Insecurity	124	88.6	88.6	88.6
Environmental degradation	5	5.0	3.6	92.1
Lack of Job opportunities	5	3.6	3.6	97.1
Joint other family members	1	0.7	0.7	97.9
Others	3	2.1	2.1	100.0
Total	140	100.0	100.0	

Source: Own calculation based on sample data.

As expected, conflict and insecurity is the first migration motive, as reported by %88.6 of the respondents. The most widely noted secondary reason causing displacement was environmental degradation as reported by %5.0 of respondents, while labor market problems were frequently the third most important reason for displacement (%3.6). Other reasons and the desire to joint other family members constitute the third and fourth reason for displacement (%2.1 and%0.7 respectively).

3.2 Economic Profile

Table 6. Frequency distribution and percentages of respondents by food consumption classification

Food Consumption	Frequency	Percent	Valid Percent	Cumulative Percent
Poor food Consumption	22	15.7	15.7	15.7
Borderline food consumption	45	32.1	32.1	47.9
Acceptable food consumption	73	52.1	52.1	100.0
Total	140	100.0	100.0	

Source: Own calculation based on sample data.

Table 6 shows that %52.1 of the IDPs households have acceptable food consumption, %32.1 have borderline food consumption, %15.7 have Poor food consumption. This implies that about %47.8 of the IDPs has food consumption less than adequate. Usually IDPs are vulnerable to poverty, low level of income, jobless, etc.; as such they are forced to consume small amounts, low quality and cheap food stuff. On the other hand those who are food secured usually adopt livelihood strategies enabled them to access to adequate food stuff namely, self-employed ones (This situation among other factors may act as a pulling factor for the IDPs to prefer staying at IDPs camps over voluntary return to their places of origin) .

Table 7. Frequency distribution and percentages of respondents by cultivation activity

Do you usually cultivate?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	75	53.6	53.6	53.6
	No	65	46.4	46.4	100.0
Total		140	100.0	100.0	

Source: Own calculation based on sample data.

Table 7 shows that %53.6 of the IDPs households exercising cultivation in contrast to %46.4. Cultivation is often an important source of income, pre- displacement (Birkeland & Gomes, 2001), for many, and is part of the community identity of rural populations thus they are expected to continue, wherever possible to cultivate whatever land they have access to.

Table 8. Frequency distribution and percentages of respondents by small domestic animal's ownership

Does your Household Own Animals	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	40	28.6	28.6	28.6
No	100	71.4	71.4	100.0
Total	140	100.0	100.0	

Source: Own calculation based on sample data.

Table 8 shows that %71.4 of the IDPs households own domestic animals (e.g. cows, sheep, goats, poultry) compared to %28.6 do not. Small domestic animals (cows, sheep, goats and poultry) constitute one of the major sources of income necessary to purchase some food items not provided by relief agencies. Additionally, these animals contribute directly to many IDPs household food security by providing them with meat, eggs and milk.

Table 9 shows that %69.3 of the IDPs households have persons earning income compared %30.0 do not have. IDPs generally joints some activities which help them to generate income, these include petty trading, informal activities, daily wage jobs, etc. with a few who have fixed salary jobs in government departments. On the other hand the high number of income earners could be justified by the large family size for some households, child

labor or both.

Table 9. Frequency distribution and percentages of respondents by income earners within household

Income Earners		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-2	97	69.3	69.8	69.8
	3-10	42	30.0	30.2	100.0
	Total	139	99.3	100.0	
Missing data	999.00	1	0.7		
Total		140	100.0		

Source: Own calculation based on sample data.

3.3 Part Two Chi-Square Test

Chi-Square test was used to test the association between food security (measured by food consumption) and the relief assistance received by IDP household, headed of IDP households sex; married status, education level, family size; the number of household members earning money; and the ownership of domestic animals by the household at (0.05) significance level.

Table 10. Chi-Square test for the association between the relief assistance received by the idp household and its security status.

Variables	Food Security Status			Total	χ^2	Significance Level
	Poor	Borderline	Acceptable			
Receiving Relief Assistance						
Yes	18	42	65	125	2.058	0.357
No	4	3	8	15		
Total	22	45	73	140		

Significance level 0.05 (significant)

Table 10 reports the Chi-Square Test results of the association between the food security (consumption) and the households' reception of relief assistance. It is obvious that there exists a relationship between the two variables. This conclusion involves rejection of the null hypothesis which assumes inexistence of an association between them. In sum, the two variables are dependent.

Table 11. Chi-Square test for the association between the sex of idp household head and its food security status

Variables	Food Security Status			Total	χ^2	Significance Level
	Poor	Borderline	Acceptable			
Sex						
Male	16	33	44	93	2.593	0.273
Female	6	12	29	47		
Total	22	45	73	140		

Significance level 0.05 (significant)

Table 11 shows that there is no significant relationship between the sex of household heads in Abu Shock IDP camp and the households food consumption status ($\chi^2 = 2.593$, $n = 140$, $P = 0.273$). This result involves the

acceptance of the null hypothesis which implies that the sex of heads of the households and the food consumption variables are independent. In other words, these two variables are not related.

Table 12. Chi-Square test for the association between idp household marital status and its food security status

Variables	Food Security Status			Total	χ^2	Significance Level
	Poor	Borderline	Acceptable			
Marital Status						
Single	1	4	14	19	7.950	0.438
Married	17	34	47	98		
Divorced	1	3	2	6		
Separated	1	0	1	2		
Widowed	2	4	9	15		
Total	22	45	73	140		

Significance level 0.05 (significant)

Table 12 shows that there is no significant associated between the aforementioned two variables ($\chi^2 = 7.950$, $n = 140$, $P = 0.438$). This result involves the acceptance of the null hypothesis which states that the marital status of heads of the households and the food consumption variables are independent. To put it other way, these two variables are not related.

Table 13. Test for the association between household head educational level and its food security status

Variables	Food Security Status			Total	χ^2	Significance Level
	Poor	Borderline	Acceptable			
Household Head Educational Level						
Illiterate	3	7	11	21	2.437	0.411
Adult education	0	1	2	3		
Khalwa	3	6	14	23		
Primary/intermediate	7	8	13	28		
Secondary	9	13	17	39		
University	0	10	13	23		
Post university	0	0	3	3		
Total	22	45	73	140		

Significance level 0.05 (significant)

Table 13 reveals an inexistence of a relationship between the two variables ($\chi^2 = 2.437$, $n = 140$, $P = 0.411$). On the basis of this result, we have to accept that null hypothesis which assumes the independency of the household heads education level and the food consumption variables. That is, the two variables are not related.

The Chi-Square results in table 14 indicates a strong relationship between the IDP household food security status and its family size ($\chi^2 = 12.554$, $n = 140$, $P = 0.014$). i.e. there exists strong statistical relationship between the two variables at (0.05) significance level. This result involves the rejection of the null hypothesis which states that there is no relationship between the food security (consumption) and family size at IDP households. Put it other way, we have to adopt the alternative hypothesis which states an existence of a relationship between the two variables. This result could be attributed to fact that as the IDP household family size increases the food aid provided by the humanitarian agencies as well as NGOs, National and International, which contributed positively to IDP household security. Such a result could also be explained by the fact that all family members

including children were expected to contribute positively to household food security through income generating activities run by all family members.

Table 14. Chi-Square test for the association between the idp household family size and its food security status

Variables	Food Security Status			Total	χ^2	Significance Level
	Poor	Borderline	Acceptable			
Family Size						
0-7	10	20	40	70	12.554	0.014
8-14	7	19	29	55		
15-22	4	3	0	7		
Total	21	42	69	132		

Source: Own calculation based on sample data.

Table 15. Chi-Square test for the association between the number of domestic animals owned by idp household and its food security status

Variables	Food Security Status			Total	χ^2	Significance Level
	Poor	Borderline	Acceptable			
the Number of Domestic Animals Owned by IDP Household						
Yes	4	5	31	40	14.791	0.001
No	18	40	42	100		
Total	22	45	73	140		

Source: Own calculation based on sample data.

Table 15 indicates a strong relationship between the IDP household food security status and its ownership of domestic animals ($\chi^2 = 14.791$, $n = 140$, $P = 0.001$). This result involves the rejection of the null hypothesis which states that there is no relationship between the food security (consumption) and the number of domestic animals the IDP household owned. i.e. we accept the alternative hypothesis that implies existence of an association between them. Simply, the two variables are related to each other.

Table 16. Chi-Square Test of the Association between the Number of IDP Household Members Earning Money and Food Security Status:

Variables	Food Security Status			Total	χ^2	Significance Level
	Poor	Borderline	Acceptable			
Number of IDP Household Members Earning Money						
00-02	15	38	44	97	7.744	0.021
03-10	6	7	29	42		
Total	21	45	73	139		

Source: Own calculation based on sample data.

The Chi-Square Test in table 16 indicates a strong relationship between the IDP household food security status and the number of its members earning money ($\chi^2 = 7.744$, $n = 139$, $P = 0.021$). The result involves the rejection of the null hypothesis which assumes inexistence of a relationship between the two variables. Consequently, we must accept the alternative hypothesis that hypothesizes the existence of association between IDPs household food security and the number of IDP household members earning money. In others words, the two variables are related to each other.

5. Concluding Remarks

This study examined factors influencing internally displaced persons (IDPs) households' food security with emphasis on Abu Shouk IDPs camp of North Darfur State as case study. The results achieved revealed that the IDPs household food security status in the study area was determined by food relief received by household; the family size; the household ownership of domestic animals, and the number of household members earning money. Based on the findings of this study, the following recommendations were offered:

1. There is a need to provide skills and financial support to men; specially the youth who as well as women headed households and venerable families in order to strengthen their existing income generating initiatives.
2. Enabling the IDPs households to possess small domestic animals such as goats, sheep, and poultry either through revolving fund or direct free of charge support.
3. Families with low food consumption should be prioritized with food assistance.
4. Special consideration should be given to women IDPs, the most conflict affected group by providing them with some training courses, raising awareness and capacity building, health care, education, livelihood programme activities, and appropriate technology.
5. Assist the government of the Sudan and its partners to facilitate voluntary returns of the IDPs to their origin villages.

References:

- Abdallah, S. I. (2014). Livelihood Assessment in Darfur IDP Camps: A Case Study Abushouk IDPs Women, North Darfur, Western Sudan. *ARPN Journal of Science and Technology*, 4(8). Retrieved from <http://www.ejournalofscience.org>.
- Alix-Garcia, J. (2012). Displaced Populations, Humanitarian Assistance and hosts: A framework for Analysing Impacts on Semi-Urban Households. *World Development*. <http://dx.doi.org/10.1016/j.worlddev.2011.06.002>
- Birkeland, N. M. & Gomes, A. U. (2001). Angola: Deslocados in the Province of Huambo. In: M. Vincent & B. R. Sorenson (Eds.), *Caught between Borders: Response strategies of the internally displaced* (pp. 17-47). London: Pluto Press.
- Engku A. (2011). Cross Religious and Social Interaction: A Case Study of Muslims and Buddhists in Kampung Tendong, Pasir Mas, Kelantan. *Asian Social Science*.
- Delgado, E. H., & Laegreid, T. (2001). Colombia: Creating peace amid the violence. The church, NGOs and the displaced. In: M. Vincent & B. R. Sorenson (Eds.), *Caught between Borders: response strategies of the internally displaced* (205-223). London: Pluto Press.
- Guimarães, M. T., Michele, G. C., Daniele, P., Carvalho, Tatyana, Sampaio R., Lourdes, C. M., Alfésio, L. F. B., & Luiz, A. A. P. (2015). Influence of environmental contamination on pregnancy outcomes. *Environmental Science and Pollution Research*. <http://dx.doi.org/10.1007/s11356-015-4704-3>
- International Disaster Response Law, 2012.
- Metallinos-Katsaras, Elizabeth, Aviva, M., & Kathleen, G. (2012). A Longitudinal Study of Food Insecurity on Obesity in Preschool Children, *Journal of the Academy of Nutrition and Dietetics*. <http://dx.doi.org/10.1016/j.jand.2012.08.031>
- Nyahende, Veronica, R., Asangye N. B., & Benedicto, C. (2015). Survey on the Assessment of the Current Actual Expenses Incurred by Students on the Meals and Accommodation within and around the Campuses: The Case of Tanzania Higher Education Students' Loans Beneficiaries. *Higher Education Studies*.
- Office for the Coordination of Humanitarian Affairs (OCHA). Sudan: Darfur IDP Camps, February 2012.
- Omidvar, N., Mahmoud, G. T., Rasoul, S., Fatemeh, M., & Mohammad J. A. S. (2013). Food Insecurity and Its Sociodemographic Correlates among Afghan Immigrants in Iran. *Journal of Health Population and Nutrition*. <http://dx.doi.org/10.3329/jhpn.v3i13.16828>
- Payne, L. (1998). Food shortages and gender relations in Ikafe settlement, Uganda. *Gender and Development*, 6, 30-36. <http://dx.doi.org/10.1080/741922625>
- Rebecca, H. Coping with displacement: problems and responses in camps for the internally displaced in Kitgum, northern Uganda. *Intervention* 07/2009.
- Schubert, J. (1954). The Stimulus Value of the Szondi Pictures: A Theoretical and Empirical Study. *Journal of*

Projective Techniques. <http://dx.doi.org/10.1080/08853126.1954.10380537>

United Nations (1998). *The Guiding Principles on Internal Displacement*.

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