
Sudan Central Bureau of Statistics

Sudan National Baseline Household Survey 2009

North Sudan - Tabulation Report
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Sudan National Baseline Household Survey 2009

Tabulation report

Key words: Welfare, socioeconomic indicators, poverty

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Abstract

The central focus of the National Baseline Household Survey for the year 2009 (NBHS 2009) is to provide indicators and reference statistics for the living condition of all Sudanese. The NBHS 2009 was conducted in all the 25 States of Sudan in a uniform way whereas CBS collected and processed the data for the 15 Northern States and the Southern Sudan Centre for Census, Statistics and Evaluation (SSCCSE) had similar responsibility for the 10 Southern States. The current report covers the 15 Northern States of Sudan.

The objective with the present document is to summarize the findings from all parts of the extensive NBHS 2009 survey questionnaire. Hopefully this will inspire for further and deeper special analyses of this vast dataset.

Acknowledgements

The Sudan Central Bureau of Statistics (CBS) would like to express its sincere thanks to the African Development Bank (AfDB) for initiating the National Baseline Household Survey 2009 (NBHS2009) and for being the principal financier. Thanks to United Nations Development Programme (UNDP) and FAO –SIFSIA-North for technical support and co-funding to the national project throughout the whole process. Also thanks to Statistics Norway (SN) for technical support funded by the Norwegian Ministry of Foreign Affairs. Sincere thanks should also be given to the members of the project technical working group (TWG), planning and ensuring coordination for survey in the North and the South and to the professional environment at Khartoum and Al Gezira Universities for their contributions and advices during the project period.

Finally, CBS would like to express its gratitude to all the respondents in the selected households who helped in the process of data collection and to our statistics offices at State level for the service rendered by them for the successful completion of the survey.

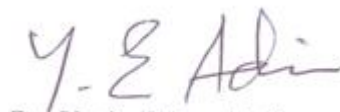
The CBS central implementing team was headed by project manager Mr Elnaeem Suleiman Abbas with Mr Mustafa Pasha responsible for the fieldwork and for professional advices during the production process. Also thanks to the data processing staff headed by Mr Amin Daoud, including Mrs Amna Omer for data programming and to Ms Reem Mohamed Hassan for graphics design.

Preface

The Central Bureau of Statistics (CBS) of the government of Sudan was established to collect, compile, analyse, publish and disseminate statistical information on a wide range of topics. The role of the CBS is to provide and promote accurate, appropriate, high-quality, and timely statistical information for use in both public and private sectors for policy formulation, decision making, research and general public awareness for the advancement of the socio economic status of all Sudanese.

In this respect, a central focus of the National Baseline Household Survey for the year 2009 (NBHS 2009) is to provide indicators and reference statistics for the living condition of all Sudanese. The NBHS 2009 was conducted in all the 25 States of Sudan in a uniform way, with national harmonization of all activities, whereas CBS collected and processed the data for the 15 Northern States and the Southern Sudan Centre for Census, Statistics and Evaluation (SSCCSE) had similar responsibility for the 10 Southern States. Accordingly two tabulation reports will be produced of which the current report covers the 15 Northern States.

In addition to this traditional tabulation report with reference tables covering all sections of the NBHS2009 questionnaire, two analytical reports on poverty are produced (North and South Sudan respectively) as well as a report covering all the 25 states concerning food insecurity. It is our wish that all those working for poverty reduction and economic and social development in Sudan will find these reports useful in designing strategies to direct our nation towards a brighter future.



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1. Background

Accurate, up-to-date, and relevant data from household surveys are essential for governments to make sound economic and social policy decisions. Governments need the data to measure and monitor poverty, employment and unemployment, school enrolment, nutritional status, housing conditions, and other dimensions of living standards

The Sudan Government of National Unity (GoNU) signed a protocol of agreement with the African Development bank April 17th, 2007 concerning institutional capacity building for poverty reduction and good governance project. As a cornerstone of this project it was agreed that a national baseline household survey should be conducted for all the 25 states in Sudan. The Federal Ministry of Finance and National Economy in Khartoum (FMFNE) and the Ministry of Labour, Public Service and Human Resource Development in Juba (MLPSHRD) are the executing agencies for the project with the FMFNE as the leading agency.

The Central Bureau of Statistics in Khartoum (CBS) and the Southern Sudan Centre for Census, Statistics and Evaluation (SSCCSE) in Juba are the implementing institutions. The cooperation between CBS and SSCCSE as well as with other national and international stakeholders was organized through the establishment of a Technical Working Group (TWG) that met at regular intervals of time throughout the project implementation period.

The National Baseline Household Survey 2009 (NBHS) is the third in a series of such surveys undertaken by CBS. The first Household Budget Survey was conducted in 1967 and the second in 1978. The NBHS 2009 sample survey is designed to provide information over a wide range of topics feeding in to socioeconomic statistics for all Sudan after the peace agreement in 2005. The planning of the project was for practical reasons postponed to after the national population and housing census in order to get a sound and scientific sampling frame.

The questionnaire was developed and agreed on by the two institutions and approved by the TWG. Thereafter both an English and Arabic version of the questionnaire was printed. The national survey fieldwork in the North took place in May/June 2009. The same sampling technique for the survey was implemented in the North and the South.

2. The questionnaire

The questionnaire consists of 13 thematic sections for the South and 11 thematic sections for the North, all compiled in a booklet with a total of 34 pages:

- A. Interview / identification
- B. Household members characteristics
- C. Education
- D. Labour force
- E. Anthropometrics for children less than 5 years old (applied only in the South)
- F. Immunization for children 12-24 months old (applied only in the South)
- G. (technical)
- H. Housing
- I. Livelihood and assets
- J. Household health (applied only in the South)
- K. Economic transfers
- L. Cash, credit, savings and shocks

- M. Purchase and consumption
- N. Agriculture
- O. Income (applied only in the North)

In addition a comprehensive field manual (English) was prepared to assist the fieldworkers in filling out each section of the questionnaire. A summary manual was translated to Arabic and used for the training in the 15 Northern States.

The questionnaire was designed for Optical Character Recognition (OCR) using a commonly available software. It was printed on standard 80 grams A4 paper and stapled to a booklet.

3. Sample, weights and response rate

The sample selected for the NBHS2009 was based on a stratified two stage sampling procedure. The preliminary count of households per enumeration area (EA) as well as the cartographic work from the 2008 National Population and Housing Census were used as the sampling frame. The EAs from the census constituted the primary sampling units. For the NBHS2009, the Census EAs were stratified by urban and rural in each State. Some of the sample EAs could not be covered because of security or other problems, in which case they were replaced by EAs within the same geographical areas. In addition, the sample did not include nomadic population due to lack of proper sampling frame for them and problems of accessibility. Also institutional households, camps etc as well as the homeless part of the population were excluded from the sample.

A second sampling stage was conducted by listing all households within the selected EAs in the sample and thereafter selecting a fixed random sample of 12 households to be interviewed. A total sample size of 528 households in each State was distributed into 44 primary sampling units (PSUs).

The sample size was designed to obtain reliable estimates for key survey variables at the State level and for urban and rural domains at the national level, the State 15 level and the State 10 level. The allocation of the sample EAs and the households for the NBHS is presented in table 3.1.

Table 3.1. Allocation of sample EAs and households by State, urban and rural areas. NBHS 2009

State	Total		Urban		Rural	
	EAs	HHs	EAs	HHs	EAs	HHs
State 15	660	7920	205	2460	455	5460
1. Northern	44	528	8	96	36	432
2. Nahr Elnil	44	528	12	144	32	384
3. Red Sea	44	528	32	384	12	144
4. Kassala	44	528	13	156	31	372
5. Gadaref	44	528	12	144	32	384
6. Gezira	44	528	8	96	36	432
7. Sinnar	44	528	10	120	34	408
8. White Nile	44	528	15	180	29	348
9. Blue Nile	44	528	11	132	33	396
10. Khartoum	44	528	35	420	9	108
11. Northern Kordufan	44	528	9	108	35	420
12. Southern Kordufan	44	528	11	132	33	396
13. Northern Darfur	44	528	9	108	35	420
14. Southern darfur	44	528	12	144	32	384

15 Western Darfur	44	528	8	96	36	432
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The total sample for Northern Sudan is not self-weighting since a fixed sample of 528 households was drawn from each state, irrespective of the population size. Therefore, to derive estimates for Northern Sudan, it was necessary to assign a weight to each state level sample. These sample weights were derived using the formula:

$$W_i = \frac{N_i}{n_i} \times \frac{\sum n_i}{\sum N_i}$$

Where:

W_i = the weight

N_i = the number of households in state (i)

n_i = the number of households in the sample from state (i)

The NBHS approach to counting household members is “de jure” that is to say all persons living at least 6 months or more, or intending to live 6 months or more in the household, were counted as members of the households if they were present or not present on the day of enumeration.

The response rate for the NBHS 2009 15 Northern States, including replacements, is 99.9.

4. Training

Training of principal trainers for the 15 Northern states was held in the CBS Training Centre at Khartoum for one week during March 2009. The principal trainers were the 15 CBS Statistical office directors at the states, the members of the technical working group of NBHS, CBS senior staff and academicians. The training was conducted by some members of the TWG as resource persons.

Theoretical and practical training covering all parts of the questionnaire, listing of households, selection of the sample and one day field work in which questionnaires were filled in. The filled in questionnaires were discussed in class in the last day of training.

In each state 12 interviewers and three supervisors were recruited to carry out the field work. They were trained for one week at their respective states during May 2009. The training was carried out in each state by two principal trainers one was the state director and the other from the centre. The training covered data collection techniques, how to fill in the questionnaire, skips, call back, concepts and standards, methods to be followed in listing households in the selected clusters, sample selection of households and quality control forms. A one day field work was carried out and questionnaires filled in were discussed and reviewed in class.

5. Fieldwork

The trained interviewers and supervisors in each state were distributed into three teams. Each field team composed of one supervisor responsible for supervision, guidance, selection of the ultimate sampling units and revision of filled in questionnaires on daily basis; four interviewers responsible for household listing and data collection and a driver. The state NBHS director provided overall supervision and follow up of the field work on daily basis. The field data collection was carried out during the period of 17th May – 30th June 2009.

Teams from the principal trainers had visited the states during the field work period. They met with the interviewers and supervisors in the field and discussed with them the problems faced and progress of data collection.

6. Data scanning and data edits

The questionnaires for the 15 Northern states were scanned centrally at CBS premises in Khartoum. A high capacity scanner and optical character recognition (OCR) software were used. Approximately 96-97% of all characters filled in was automatically interpreted and entered into the software internal database. The scanning procedure included manual on-screen verification of remaining data that could not be automatically interpreted. Finally, the scanned data were exported as ASCII files with corresponding digital images of each questionnaire. The data files were converted, further processed/edited and also tabulated using the software SPSS/PASW.

The NBHS2009 was edited as a combination of post-scanning automated edits and manual back-checks on electronic images (TIF-files) stored for each questionnaire. The latter mainly used for verifying outliers due to possible scanning or fieldworker errors.

The automated edits were pre-programmed to identify and correct consistency errors within each thematic section of the questionnaire and, especially for age related variables (marital status, education and work), also across section checks were applied.

Outliers were defined as outside the range of $MEAN \pm 3 \times STDV$ of actual variable in stratum. Outliers were listed and, unless manual intervention from subject matter specialist, the outliers were automatically imputed to MEDIAN value of stratum.

However, for the very thorough edits of the questionnaire section M (purchase and consumption) additional information on local market prices were used to correct the raw data.

If skip was missing or inconsistent with responses given in the related detailed question, the detailed question response overruled the skip and the skip was adjusted.

The difficulties with achieving consistency between age and level of current school attending was approached by introducing a predefined acceptable age range with upper and lower cut-off for each level of school from Primary 1 to University. People defined too old for a certain school level reported, was corrected to “not currently attending” and the initially reported school level was imputed in the “highest ever school level” variable.

To keep track of the amount and type of edits done, all variables with automated or manual intervention were flagged.

Two cleaned data master files are produced from the NBHS2009. One file with individuals distributed (section B-D) and one file with households distributed (E-O). In addition special files are produced for commodities (section M) used for poverty and food security calculation and for the agriculture (section N) concerning crop production and structures.

There were some challenges encountered in the implementation of the survey:

- Change from Quick Baseline Poverty Survey (QBPS) to the NBHS concept resulted in addition of other modules that inflated the questionnaire which involved much more work and additional funds were required to conduct the survey
- Delay of transfer of field work budget to the CBS statistical offices at the states to almost one month had delayed the start of data collection stage from April to May 2009.
- Due to insecurity situations in some parts of Darfur region; six clusters in South Darfur, three in North Darfur and one in West Darfur were replaced in the same geographical areas. In addition, due to respondents refusal to cooperate with the field work teams in two EAs (clusters) one in each of Blue Nile and Nahr Elnil states, these selected EAs were replaced and the field work was completed.
- The collection of consumption information for some items was made especially hard by the lack of standardized units of measurement in North Sudan. Because, consumption of these items is sourced in non-standardized units (such as heaps, cups, bundles, rubu etc.), it is hard to calculate consumption in standardized comparable units (such as kilograms and litres). Accordingly, the questionnaire allowed respondents to report consumption in non-standardized units. A market survey, conducted at state level, provided specific conversion factors for the non-standardized measurement units. While this was the only feasible solution, it may still be prone to non-trivial measurement errors.

7. Tabulation

Tabulation was done with the software SPSS/PASW. A tabulation program (syntax file), including import of data files, recalculation of variables, labelling and actual tabulation were designed for each of section A-O of the questionnaire. Tables are mainly relative distributions with either persons (section B-D) or households (section E-O) distributed.

Millennium Development Goal (MDG) and other selected indicators are tabulated according to international definitions and compiled in a separate indicator table.

User missing is included in the tables in two ways:

1. If only one variable is distributed horizontally in the table head, user missing is introduced as a separate column in the head ("Not stated"). If user missing is less than 0.5 percent at the State 15 level, the not stated column is omitted.
2. If many variables are distributed in the table head, the occurrence of user missing is commented with a foot-note.

8. Definitions

A household consists of one or more related or unrelated persons sharing living arrangements and pooling their resources – ‘eating from the same pot’. A household should be located in one building or compound - ‘sleeping under the same roof’ - which has one or more rooms and cooking facilities of some kind.

A private household is a subgroup of households – excluding special types of households such as institutional households (hostels, hospitals etc), refugee camps, IDP camps and cattle camps. The NBHS 2009 is including only the private households.

The head of household is the member of the household acknowledged as Head by the other household members either by virtue of his/her age or standing in the household as the chief income earner/takes major decisions. The head has primary authority and responsibility for household affairs.

Respondent is the person from whom information is being obtained, e.g, Head of the household or holding or some adult person appointed by head of household.

Poverty is her defined as persons with the value of monthly total consumption below SDG 114 (Ref. separate poverty report 2010)

The gender gap ratio (GGR) is in this report defined as the proportion of females to males for a specific characteristic such as enrolment, employment etc. The closer this figure is to one, the smaller is the gender gap. A GGR less than one means more male than females are linked to the characteristics measured.

About the tables:

“0” in the tables means less than 0.5

“ “ means no data available or nil

9. Tabulation highlights

9.1 Indicators summary tables

Table 9.1 Selected MDG indicators derived from the NBHS 2009

Indicator / key figure	Unit of measure	Northern Sudan Regions						
		Total	Northern	Eastern	Khartoum	Central	Kordufan	Darfur
MDG INDICATORS:								
MDG 1.1 Proportion of population below povertyline	Percent	46.5	33.7	46.3	26.0	45.4	58.7	62.7
MDG 1.2 Poverty gap ratio	Percent	16.2	9.4	17.7	6.4	13.8	23.1	24.6
MDG 1.3 Share of poorest quintile in national consumption	Percent	6.2
MDG 1.5 Employment ratio to population 15 years old and above	Percent	41.4	35.9	39.0	37.0	41.3	48.5	45.3
MDG 1.6 Proportion of employed population below poverty line	Percent	42.5	30.1	39.2	21.0	41.5	55.5	58.8
MDG 1.7 Proportion of own account and contributing family workers to total employed 1)	Percent	45.0	39.2	46.7	25.3	36.0	39.8	50.0
MDG 2.1 Net enrolment rate in primary education	Percent	67	83	57	85	67	60	62
MDG 2.3.1 Literacy rate of 15-24 years-olds. Total	Percent	77	88	63	94	77	69	74
MDG 2.3.2 Literacy rate of 15-24 years-olds. Men	Percent	84	91	68	96	84	79	85
MDG 2.3.3 Literacy rate of 15-24 years-olds. Women	Percent	71	86	57	92	70	61	64
MDG 3.1.1 Ratio of girls to boys in primary education	Percent	0.82	..					
MDG 3.1.2 Ratio of girls to boys in secondary education	Percent	N.A	.					
MDG 3.1.3 Ratio of girls to boys in tertiary education	Percent	N.A						
MDG 3.2 Share of women in wage employment in the non-agricultural sector	Percent	17	15	12	19	13	19	22
MDG 6.4 Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years	Percent	N.A						

1) For MDG 1.7, not stated employment status = 8.0 percent

Table 9.2 Other selected key figures. NBHS 2009

Indicator/key figure	Unit of measure	Northern Sudan regions						
		Total	Northern	Eastern	Khartoum	Central	Kordufan	Darfur
Number of households 1)	Household (1000)	4,650	307	726	862	1,234	678	840
Number of persons 1)	Person (1000)	28,707	1,876	4,160	5,455	7,638	4,188	5,388

Notes: 1) The NBHS 2009 sample did not include nomads, camps and other special types of households, and can not be directly compared to the 2008 Census population

9.2 Demography and migration

Definitions – demography and migration

Age is number of completed years at ones last birthday

Sex ratio is the proportion of males to females in a population. If this ratio is less than 100, there is a surplus of females, while if it is more than 100, there is a surplus of males

Orphan is in report defined as a person aged 14 years or below whose mother or father or both are dead.

Dependency ratio is the proportion of population 0-14 years and population 65 years and above to the population 15-64 years old.

Main findings – demography and migration

The total estimated population covered by the NBHS 2009 is 28.7 million persons distributed on 4.7 million households with an average household size of 6.1 persons per household. The sample for the NBHS 2009 does not include population groups such as nomads, people living in camps and homeless people etc and the different concepts used, indicates that no direct comparison should be done between the population counted in the census and the NBHS.

Age structure: The population in the 15 northern states is in demographic terms a young population with a share of 43 percent for population less than 15 years old.

Sex ratio: Of 1.03 indicates that there is slightly more males than female in the total population comprised by the NBHS 2009

Orphans: 4 percent of all children 0-14 years old are orphans.

Dependency ratio: is 86 for the total population i.e for each 100 persons in the age interval 15-64 there are 86 children or elderly persons to be provided for. The dependency ratio for children 0-14 years old and the dependency ration for elderly people 65 years old or more are 79 and 8 respectively.

Migration: Out of all households, 1 percent did migrate across one or more county borders last 12 months. 3 percent of the households do usually migrate during the year to look for work, raise livestock or for other reasons. As much as 8 percent of the households in Kassala State followed by Gedaref and Red sea States with 6 percent and 5 percent respectively do usually migrate during the year.

Urban-Rural distribution: The share of population that live in urban areas is 36 percent.

Household size: The average household size is 6 persons per household with 71 percent of the population living in households of 4-9 members. Less than 0.5 percent lives in single member households and not more than 2 percent live in households with 15 or more members.

Poverty: The share of population living below the poverty line that is derived from the NBHS 2009 survey is 46 percent for the total 15 states of Northern Sudan. The highest share of

people living below the poverty line is found in the Darfur and Kordufan States with 62 percent and 59 percent of the population respectively on the poor side. Relatively better of is Khartoum State with 26 percent of the population living below the poverty line.

Figure 1. Population by age and sex

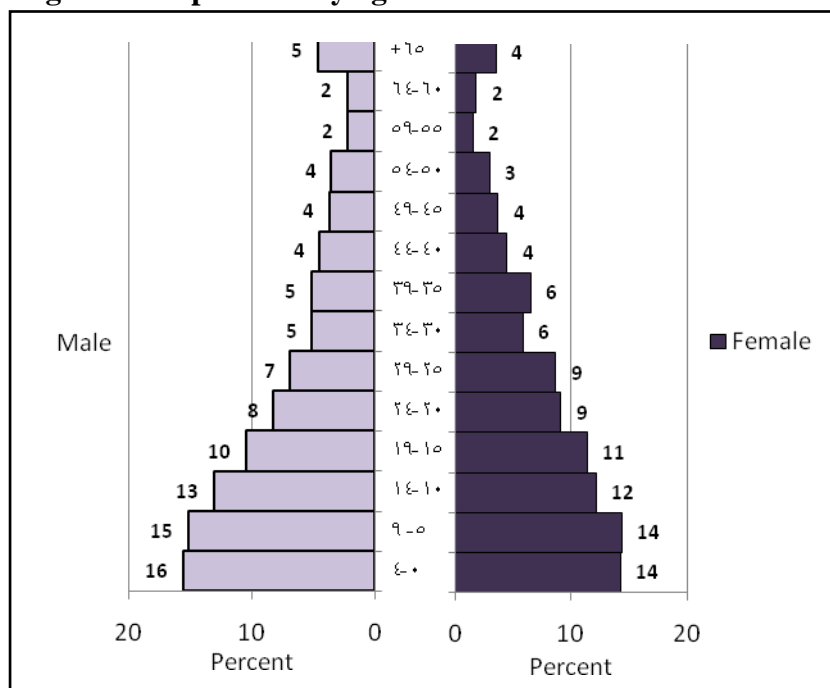
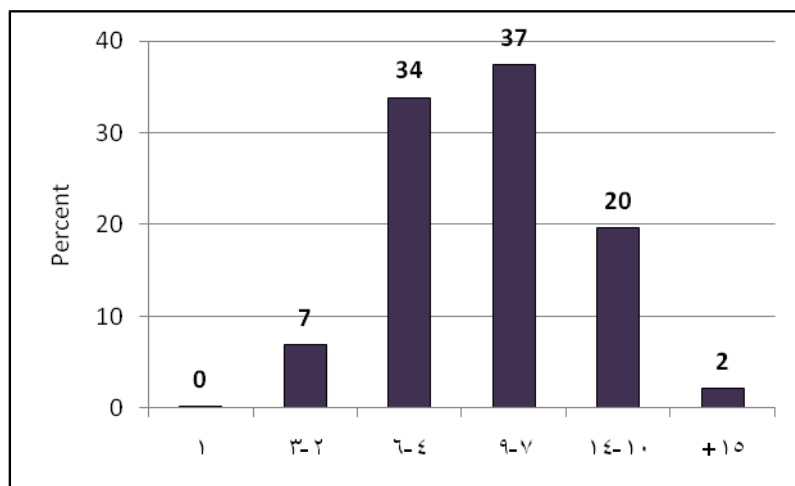


Figure 2. Population by household size (members)



N.B: 0 in the graphs means less than 0.5

For further information on basic demography and migration statistics please refer to annexed tables B1-B6 in the attached annexe 1.

9.3 Education

Definitions – education

Literate: A person who can read and write with understanding a simple sentence in any language.

Primary net enrolment rate: Children in primary school going ages (6-13 years) attending primary school as a proportion of children in primary school going ages (6-13 years)

Secondary net enrolment rate: Children in secondary school going ages (14-16 years) attending secondary school as a proportion of children in secondary school going ages (14-16 years)

Main findings - education

By tradition literacy ratios are calculated for age groups 6, 10, 15 years old and above in Sudan. For international comparability the literacy rate for the population 15 years old and above (adult population) is most commonly used.

Literacy. A share of 62 percent of the population 15 years old or more in the 15 Northern States is literate. Literacy 79 percent of the urban population in this age group is literate compared to 51 percent of the rural population. The range of the literacy rate spans from 81 in Khartoum State to 44 percent and 46 percent in Western Darfur and Kassala States respectively.

The literacy gender gap ratio for the population 15 years and above is 0.71 with 73 percent of the male population literate compared to 52 percent of the females.

Primary school enrolment. The net primary school enrolment rate for the population 6-13 years old in the 15 Northern States is 67. There is a significant difference between urban and rural population for net primary school enrolment with rates 82 and 60 respectively. Highest net primary school enrolment rate per state is 85 in Khartoum. Kassala and Western Darfur are the states with the lowest net primary school enrolment rates with 48 and 54 respectively.

The net primary school enrolment gender gap ratio is 0.93 with net enrolment of 69 percent of the male population and similar 64 percent for the females.

Secondary school enrolment. The net secondary school enrolment rate for the population 14-16 years old in the 15 Northern States is 22. For the urban population, the net secondary enrolment rate is 37 compared to the rural population rate of 14. The highest net secondary enrolment rate per state are River Nile and Khartoum States with 41 percent and 37 percent respectively. Similar, the lowest net are in Southern Kordufan and Kassala States with rates 9 and 11 respectively.

The net secondary school enrolment gender gap ratio is 1.09 which means there are more females than males net enrolled in secondary.

School attendance ever. A share of 62 percent of the population 15 years old and above in the 15 Northern States is currently attending school or have during the lifetime attended school at some stage. Out of those ever attended school, 15 percent has Primary as highest school level ever attended and 19 percent has Secondary as highest school level ever attended while 7

percent of the population in the actual age group is attending or has attended Post Secondary or University education. A share of 36 percent of the population has never attended school.

There is a significant difference of ever-school-attendance between urban and rural residing population with 79 percent and 51 percent respectively – this also including the 4 percent of the population that attended Khalwa. The share of population 15 years and above that ever attended school spans from 45 percent in Kassala State to 79 percent in Khartoum state.

The ever-attended school gender gap ratio is 0.84 which means there is a significantly larger share of the male population than the female population that ever attended school - respectively 72 percent and 52 percent.

School attendance currently. A share of 34 percent of the population 6 years old and above in the 15 Northern States is currently attending school. Out of those, 24 percent is currently in Primary and 6 percent is in Secondary school while 3 percent of the population in the actual age group is attending Post Secondary education or University. One percent of the population 6 years and above is attending Khalwa.

Urban or rural location does not influence significantly on the share of the 6 years and older population currently attending Primary school. However, the differences of school attending between the urban and rural population increases with higher levels of education with 9 percent of the urban population currently attending secondary versus similar 4 percent of the rural population: For post secondary and higher education 6 percent of the urban population versus 2 percent of the rural were currently attending.

The state with the lowest share of population 6 years old or more currently attending school is Kassala with 24 percent only.

The share of females 6 years and above currently attending school, increases with higher levels of education. For those currently attending Primary school, the gender gap ratio 1.18, while same ratio for both secondary and post secondary is 1.0.

The largest share of population 10 years and above that ever attended vocational training is found in Kordufan and Darfur states with 4 to5 percent of the population ever attended such training.

Figure 3. Population 15 years and above by literacy rate

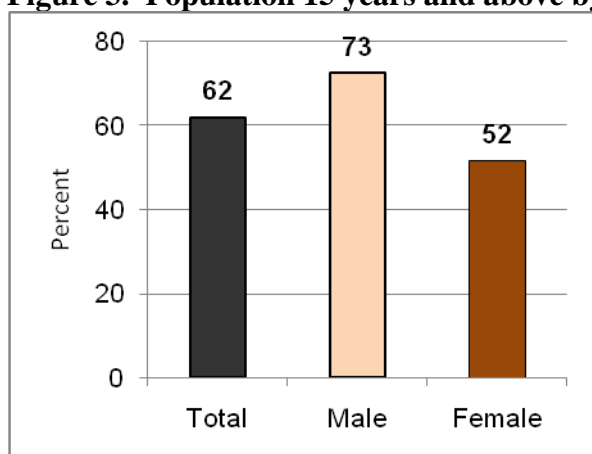
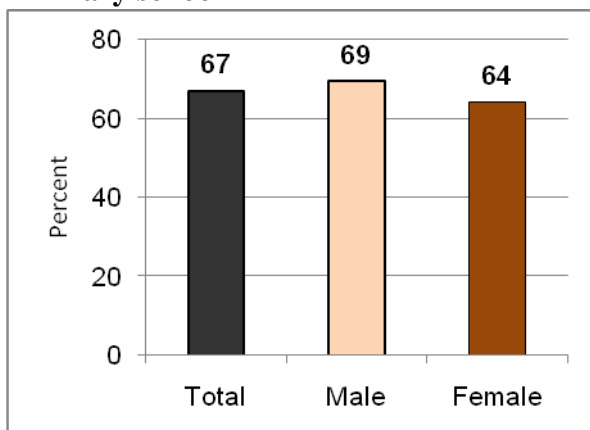
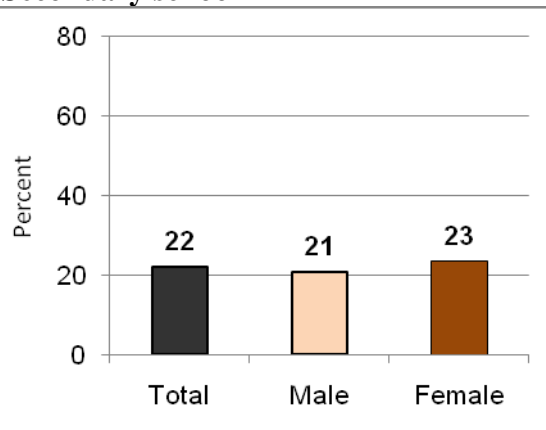


Figure 4. Net primary and secondary school enrolment rates

Primary school

Note: Population 6-13 years old

Secondary school

Note: Population 14-16 years old

For further information on education statistics please refer to annexed tables C1-C7 in the attached annexe 1.

9.4 Labour

Definitions - labour

Work is defined as both formal and informal work, both paid work (in cash, in kind, or barter), and unpaid work contributing to the livelihood of the household, including work on the agricultural holding, not only for the owner, but for family members helping out without pay – and unpaid workers working for others.

Employed is defined as either working or temporarily absent from work during the survey reference period for the population 10 years old and above.

Unemployed is defined as not working during the survey reference period but were looking for work and ready to work during the last 7 days preceding the survey for the population 10 years old and above.

Labour force participation rate: Employed and unemployed persons during the week prior to the survey as a proportion of the population 10 years old and above.

Unemployment rate: Unemployed persons during the week prior to the survey as a proportion the labour force 10 years old and above.

Industry: is defined according to first level of the international standard industrial classification, ISIC revision 4.

Main industry is defined as the industry the respondent worked the longest hours at last week or previously worked.

Employment status for main work is defined on the basis of the job that gives the highest income in cash or kind and has the following categories: Paid employee, Employer, Own account worker, Un-paid family worker and Un-paid working for others.

Economically inactive is defined as not working and not looking for work in the survey reference period for the population 10 years old and above.

Main findings -labour

Sudan national work and labour force data are, by Sudan tradition, calculated for the population 10 years old and above. For international comparability the statistics are also calculated for the population 15 years old and above.

Labour force. The labour force refined participation rate for persons 15 years and above in the 15 Northern States is 48 percent with 73 percent and 23 percent for males and females respectively. The male population in the age group 35-54 years old has the highest labour force participation with 96 percent of this group included in the labour force. Compared to the males, female labour force participation rate is low for all age groups with levels ranging from 29 percent for those 35-44 years old to 14 percent for those 65 years old or more. The youngest age group 15-24 years old, including both male and female, has the lowest participation in labour force with 30 percent.

Labour force participation rate of the population 15 years and above is lowest in Northern State with 39 percent and highest with 65 percent in Northern Kordufan State.

Un-employment. The un-employment rate for persons 15 years and above in the 15 Northern States is 13 percent, with 9 percent for males and 23 percent for female. The un-employment rate is 10 percent in urban and 13 percent in rural settings.

The female population un-employment rate is higher than male for all age groups, with a ranging from 32 percent for females 15-24 years old to 14 percent for females 45-54 years old. The youngest age group 15-24 years old, including both male and female, has the highest total un-employment with 20 percent.

Un-employment for the population 15 years and above is lowest in Blue Nile State with 4 percent and highest in Northern Kordufan State with 22 percent.

Main industry. 27 percent of the total active labour force 15 years old and more in the 15 Northern States have crop farming and horticulture as their main industry, while 22 percent was occupied in other services, not further specified.

While farming and horticulture dominates clearly as the main industry in the rural areas, the labour force in urban areas are mainly in industries such as miscellaneous services, wholesales/retail and repair, construction, professional and technical services and education with shares ranging from 27 percent for other services to 7 percent for construction. However, the urban population has a share of 5 percent in agriculture.

Employment status. The employment status for the labour force 15 years old and above in the 15 Northern States is 41 percent employees, 34 percent own account workers, followed by unpaid family worker , employer and unpaid family worker with 11 percent, 6 percent and

less than one percent respectively. A total of 8 percent of the labour force 15 years old and above did not state their employment status.

57 percent of the labour force in the urban areas is paid employees compared to 33 percent in rural areas.

Economically inactive. A total of 50 percent of the population 15 years old and above in the 15 Northern States are economically inactive. The percentage of male and female economically inactive are 26 percent and 74 percent respectively. The two main reasons for economic inactivity are due to full time homemaker/housewife and full time student.

Figure 5. Population 15 years old and above by labor force participation

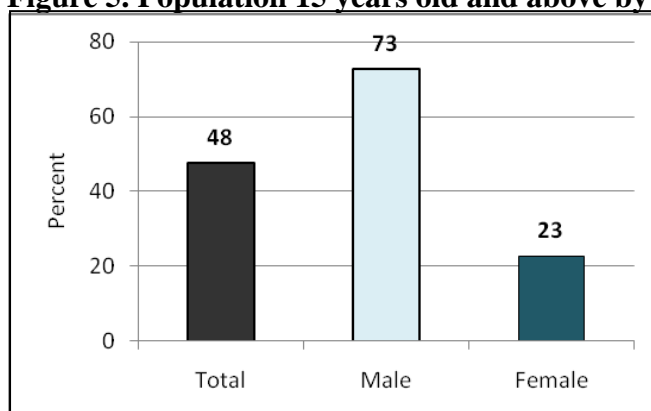
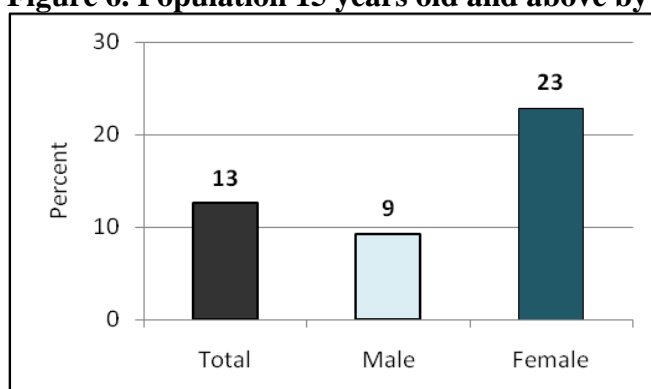


Figure 6. Population 15 years old and above by un-employment rate



For further information on work, labour force and employment statistics please refer to annexed tables D1-D7 in the attached annexe 1.

9.5 Housing

Definitions - housing

Safe /improved water sources. are here defined as filtering stations with common network/stand pipe (koshk), mechanical boreholes with common network/standpipe (koshk), deep boreholes(donkey) without network, deep boreholes (donkey) with network, hand pumps and sand filters with common network stand pipe (koshk).

Main findings - housing

Type of dwelling. 39 percent of all private households are accommodated in tukuls/gottya followed by 33 percent and 19 percent in one-floor houses made of mud and similar houses made of bricks respectively. While tukul is the dominant dwelling type in rural areas, most of the one-floor houses made of bricks are located in urban areas.

Number of rooms used for sleeping per household. 34 percent of the households had one room for sleeping, while 4 percent of the households had 5 or more rooms for sleeping.

8 percent of the private households have only one person per sleeping room, while 24 percent of the private household had 5 or more persons per room for sleeping.

Tenure status for main dwelling. 89 percent of all households owe their dwelling while 5 percent are renting. Ownership to the dwelling is the dominant tenure status in rural areas with 95 percent of all private households. In the urban areas a share of 75 percent of the private household owes their dwelling while 15 percent are renting. Highest share of private households renting their dwelling are in Khartoum and Red Sea States with 20 and 13 percent respectively.

Drinking water supply. 59 percent of all households have access to improved drinking water. The share of households with access to improved drinking water source range from 87 percent of the households in Northern State to 33 percent in Red Sea State.

Distance to main source of drinking water. While 28 percent of all private households spent no time to fetch water either due to tapped water in the dwelling or other near by source, 12 percent of the households had the main drinking water source 60 minutes walk or more away. In Northern Kodufan and Northern Darfuhr 36 and 26 percent of the household had 60 minutes or more of walking distance to the main water source.

Main source of energy for lighting. Paraffin lamp and electricity are the most used source for lighting in the private household. The share of private households with paraffin lamps and public electricity as main source of lighting is 30 percent and 29 percent respectively.

It is a significant difference between urban and rural areas concerning main source for lighting. In urban areas 58 of the private households has public electricity as main source for lighting, while similar for rural areas is 15 percent. The range of use of electricity for lighting spans from 66 percent of the private households of Khartoum State to 5 percent similar in Northern Darfur State.

For all the private households in the 15 Northern States, 14 percent of all the households use firewood as main source for lighting and another 14 percent have no energy used for lighting at all.

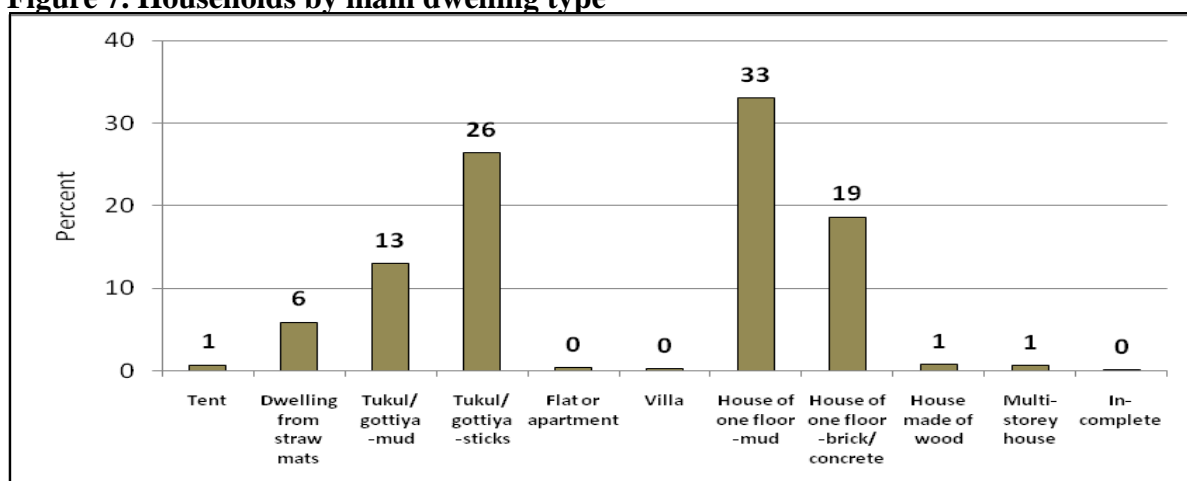
Main source of energy for cooking. Firewood is the main source of energy used for cooking with 54 percent of all private households in the 15 Northern States using this source. Firewood is far less used for cooking in urban areas compared to rural areas with 17 percent and 70 percent of the households using fire wood for cooking respectively. The range of use of fire wood as main source for cooking spans from 5 percent of the private households in Khartoum State to 94 percent of the households in Western Darfur State.

In urban areas, gas and charcoal are the main energy source most frequently used for cooking with a share of 50 and 32 of the private households respectively.

Main type of toilet facility. Private pit latrines are the most common toilet facility used by 51 percent of all private households I the 15 Northern States. 37 percent of all private households have no toilet facility at all of which 12 percent in urban areas and 48 percent in rural areas. Private flush toilet is installed in 12 percent of the urban private household.

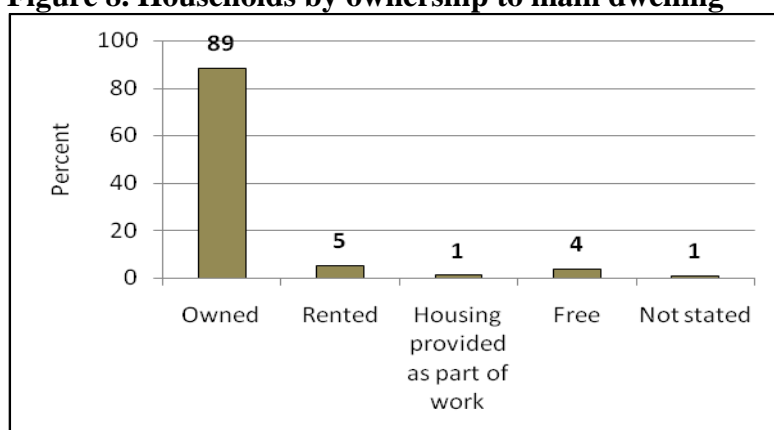
Solid waste disposal. Burning and throwing waste on a heap are the most common ways that private households deal with solid waste disposal with 29 and 26 percent of the households respectively. However, in urban areas 41 percent of the private households use skip-bins for solid waste disposal.

Figure 7. Households by main dwelling type



N.B: 0 in the graphs means less than 0.5

Figure 8. Households by ownership to main dwelling



For further information on housing please refer to annexed tables H1-H13 in the attached annexe 1.

9.6 Livelihood and assets

Definitions –livelihood and assets

Main source of livelihood is in this report defined as the activity that contributed the most to the household's income in cash or kind.

Main findings – livelihood and assets

Main source of livelihood. 34 percent of all private households have crop farming as main source of livelihood, followed by 30 percent with main source wages/salaries and 16 percent with owned business enterprises. Compared to 49 percent of the rural private households with livelihood mainly based on crop farming, only 6 percent of the urban private households had similar livelihood basis.

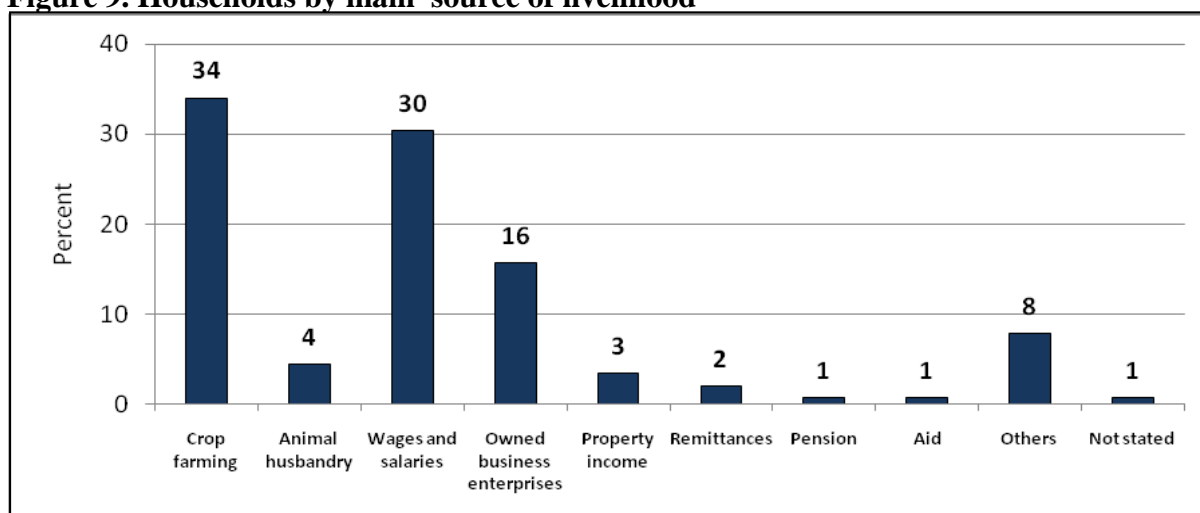
Ownership to means for transport. 37 percent of all private households own one or more animal for transport purposes. Motor vehicles and motor cycles are owned by 7 percent and 3 percent of the households respectively. 9 percent of the households own one or more bicycles. Ownership to motor driven transport means is dominating in urban areas while opposite, animals for transport is abundant in rural areas.

Ownership to means for communication. 52 percent of all private households own one or more telephone. For households with ownership to television, telephone or computers there is a significant difference between urban and rural households, while ownership to transistor radio is more evenly distributed over urban/rural. 9 percent of the urban located households have ownership to computers. The range of households with ownership to telephones spans from 85 percent in Khartoum State to 15 percent in Western Darfur.

Ownership to items for cooling. Refrigerator, fan or air cooler/air conditioners are owned by 21, 26 and 7 percent of the households respectively. Ownership to such items is significantly higher in urban areas than in the rural located households.

Ownership to mosquito nets. 47 percent of all households owe one or more mosquito net. The range of the share of households owing mosquito nets spans from 17 percent in Khartoum to 77 percent in Western Darfur.

Figure 9. Households by main source of livelihood



For further information on household livelihood and assets please refer to annexed tables I1-I3 in the attached annexe 1.

9.7 Economic transfers

Definitions – economic transfers

Economic transfer. Is Cash or kind received by the household from Government, organizations or persons living outside the household.

Value of kind received: Is the respondent's estimate of how much he/she would have to pay if a similar service/item should be bought at the market

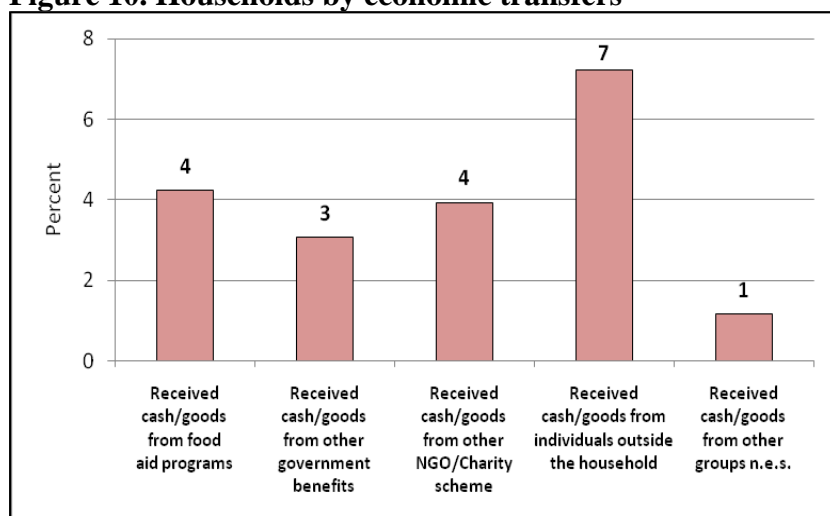
Main findings – economic transfers

The most significant source for economic transfers to the households, both urban and rural, for the 15 Northern states is cash or kind received from individuals living outside the household with 7 percent of all households received.

There are significant regional differences in number of household receiving economic transfers from aid programs with as much as 41 percent of all households in Northern Darfur to less than 0.5 percent in several of the Northern and Central states. Blue Nile State has the largest share of households receiving economic transfers from Governmental programs or from private persons living outside with 15 and 29 percent of the households receiving from these sources respectively.

The majority of the households that received economic transfers, 64 percent, received less than SDG 500 last 12 months prior to the survey. Only 1 percent of all households that received economic transfers, received similar SDG 10 000 or more.

Figure 10. Households by economic transfers



For further information on economic transfer please refer to annexed tables K1-K2 in the attached annexe 1.

9.8 Cash, credit, savings and shocks

Main findings - cash, credit, savings and shocks

Use of cash and borrowing of money. 94 percent of all households used cash during the last 7 days prior to the survey. 55 percent of the households have one or more member that borrowed money the last 12 months prior to the survey of which 50 percent of the urban located households and 57 percent of the rural households. The share of households that were borrowing is varying over regions with 66 percent of the households in Northern Kordufan on the high side and similar 28 percent in Read Sea State on the low side.

92 percent of those households that borrowed obtained their loans from family or other individuals.

55 percent of the households that borrowed money last 12 months borrowed less than SDG 500. Only 1 percent of the households borrowed more than SDG 10 000.

73 percent of the households that borrowed money last 12 months, borrowed for consumption needs.

Severe shocks. There are significant differences concerning exposure for shocks in urban areas compared to rural areas. The most common type of shock in urban areas is severe illness and accidents as reported by 16 percent of the urban households. In the rural areas, the most frequent reported shock is livestock died or stolen with 35 percent of the rural households reporting.

54 percent of all households exposed to shocks estimated the monetary value of the losses to be between SDG 1000 to SDG and another 8 percent of the households estimated similar the value to be SDG 10 000 or more.

Coping strategies. Searching spiritual help and receiving help from family and friends are the most common strategies for coping with severe events/shocks in Northern Sudan. Also spending cash/savings and working more/longer hours is frequently found.

Figure 11. Households by use of cash, credits and savings

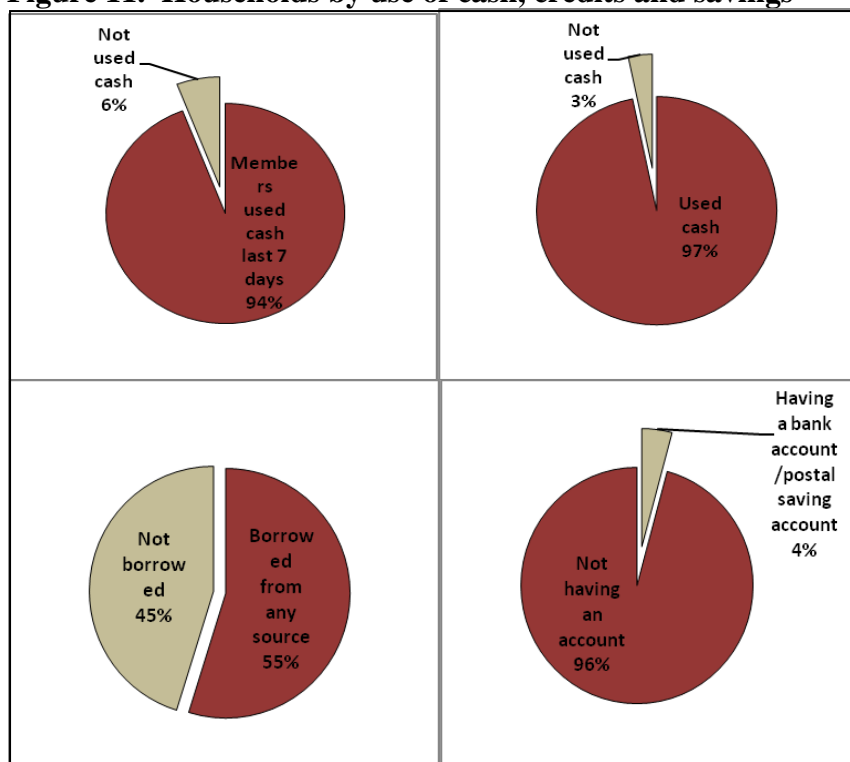
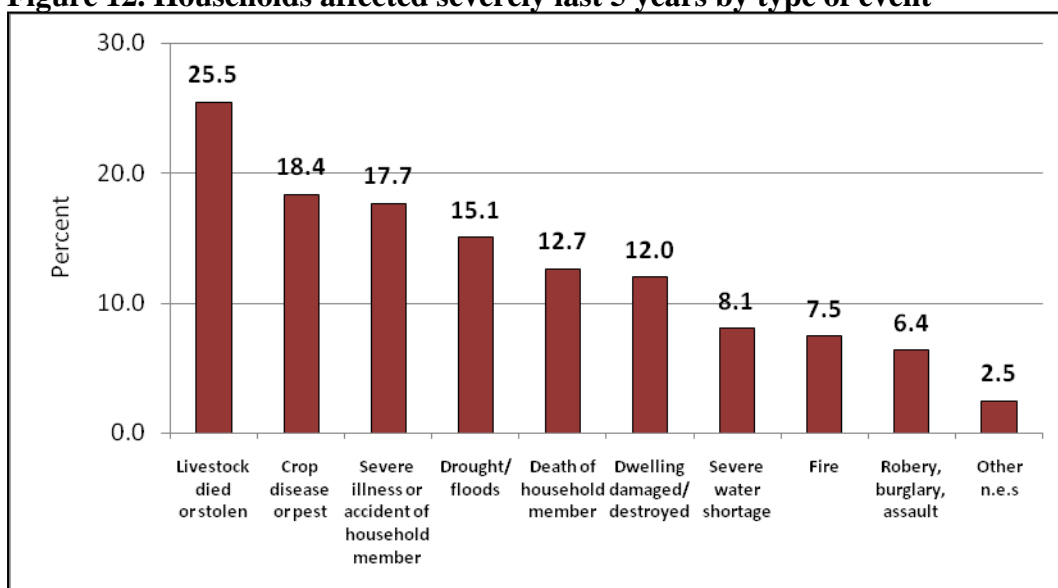


Figure 12. Households affected severely last 5 years by type of event



For further information on cash, credits, savings, shocks and coping strategies please refer to annexed tables L1-L8 in the attached annexe 1

9.9 Purchase and consumption

Definitions – purchase and consumption

Monthly total per capita consumption is the monetary value (SDG) of goods and services consumed from purchase, own production, own stock and gifts per person.

Main findings – purchase and consumption

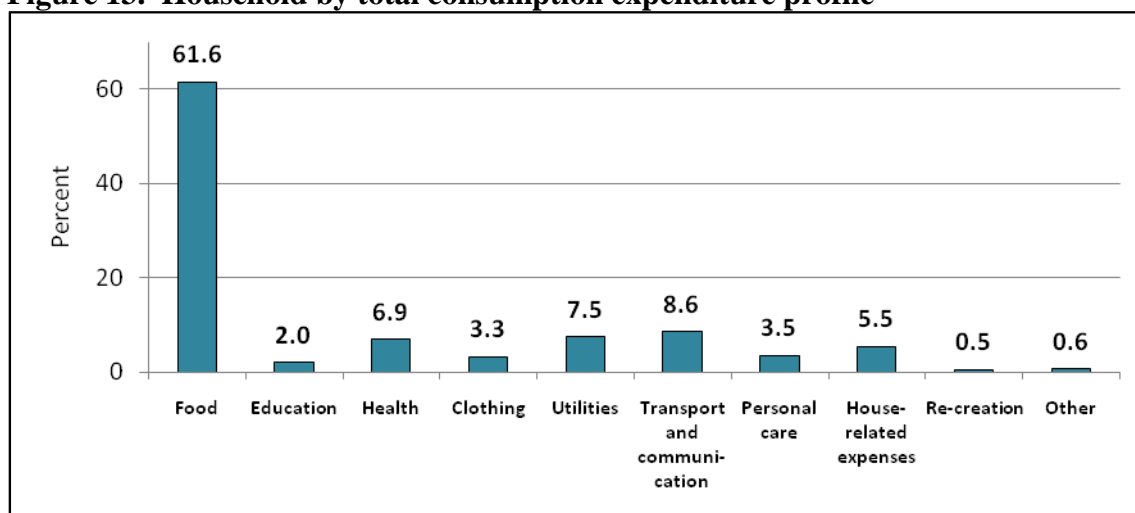
Household per capita monthly total consumption. The average monthly total household consumption is SDG 148 where urban households consumption is SDG 197 and similar rural household consumption is SDG 122.

Khartoum is the State with the highest average household consumption, SDG 205 with Northern Darfur State on the low side where consumption is at the average 105 SDG per capita per month – well below the poverty line calculated similar to SDG 113.8.

Out of the total average per capita consumption, 62 percent is used for food and beverages.

Bread and cereals are for all breakdowns and all states, with a possible exception of Western Darfur, the food type that is dominating the household per capita spending on food with a range from 21 to 33 percent of total expenditure on food. For the total Northern Sudan, pulses and meat are the most commonly purchased food types in addition to bread and cereals 17 percent and 15 percent of the total food consumption expenditures per capita respectively. Share of per capita food consumption expenditures on milk, cheese and eggs is particularly high, 19 percent, in Red Sea State.

Figure 13. Household by total consumption expenditure profile



For further information on purchase and consumption please refer to annexed tables M1-M2 in the attached annexe 1

9.10 Agriculture

Definitions - agriculture

Agriculture households: Is in this report defined as households where one or more members are owing or using any of agriculture-, forest or pasture land.

Main findings - agriculture

Agricultural households (those owing or using agricultural land) constitute a total of 47 percent of all households in Northern Sudan. The largest share of agricultural households, with or without livestock, are found in the Kordufan and Darfur States where as much 82 percent (Southern Kordufan) are agricultural households. Khartoum and Red Sea are the states with the lowest share of agricultural household with 4 and 5 percent of all households respectively.

Ownership is the domination land tenure status with 68 percent of all households in Northern Sudan. Highest share of households with rented land, 38 percent, is found in Al Gezira State.

Farm repair, i.e. investments for repair of structures and preparation of lands, is the most frequently reported purpose for annual farm inputs with a share of 58 percent of all agricultural households. Only 7 percent of the agricultural households did spend on fuel or lubricants last year.

The most commonly grown cereal is sorghum, followed by millet with respectively 59 percent and 35 percent of the agricultural households growing these cereals. Sorghum is grown in abundance in all states, while millet is the dominating grown cereal in Kordufan and Darfur states. Only 5 percent of the agricultural households are growing wheat. However, the production is clearly concentrated to the Northern State with as many as 68 percent agricultural holdings in this state growing wheat.

Root and tubers are not commonly grown in Northern Sudan.

Groundnut is the most commonly grown type of bean/peas, and concentrated in Gezira, Kordufan and Darfur states with up to 79 percent of the agricultural households reporting production of this crop type in Southern Darfur.

The agriculture in Northern Sudan is basically integrated in the marked economy. A total of 93 percent of all agricultural households in Northern Sudan did harvest crops last year prior to the survey and as many as 73 percent of the agricultural households also did sell part off or the whole of the harvest.

58 percent of all households own one ore more types of livestock or poultry. The most commonly owned animals/birds are donkeys/mules and goats each with 36 percent of all households reporting. For the total Northern Sudan only few households are owning camels and horses, however these types of animals are clearly more frequently present in Western and Southern Darfur and to the Red Sea state.

The number of animal/birds owned is for most of the households less than 100 lives. For horses and donkeys less than 5 lives per household is the normal situation.

Figure 14. Households by agricultural and husbandry activity

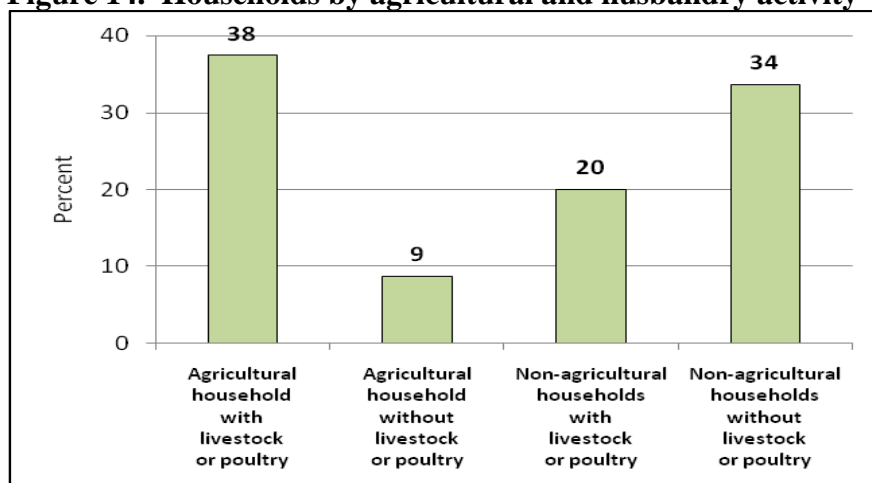


Figure 15. Households with agriculture by tenure status of land under cultivation

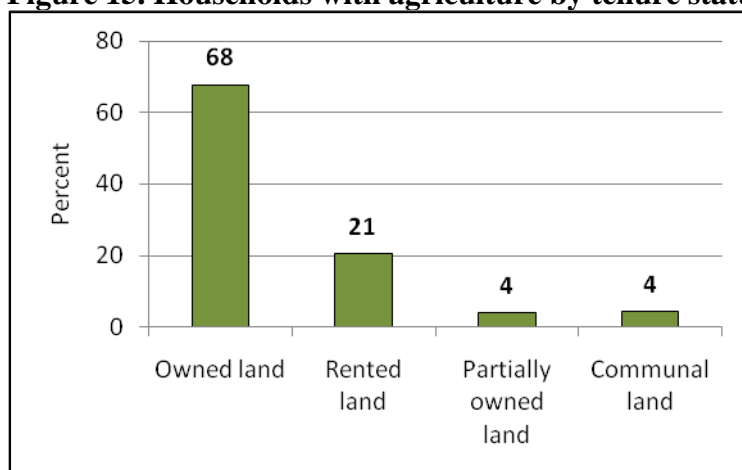
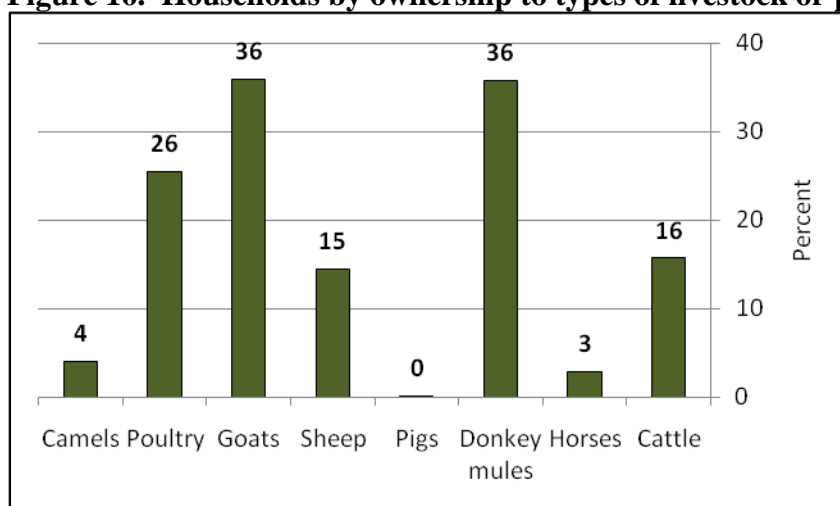


Figure 16. Households by ownership to types of livestock or poultry



N.B: 0 in the graphs means less than 0.5

Note: Same household may own several types of animal

For further information on agriculture please refer to annexed tables N1-N16 in the attached annexe 1 and the figures 14-16 below

9.11 Income

Definitions - income

Income: Is in this publication defined as the monetary value (SDG) of cash and kind received as salary/compensation for work or through remittances, subsidies, gifts or as interest on capital etc. It is the total income from all members that is added up to the household income and split on agricultural income and non-agricultural income depending of the source.

Main findings - Income

The NBHS 2009 survey was fielded in April – May at time of the year when planting rather than harvesting is dominating agricultural activities in Northern Sudan. This may partly explain that as much as 76 percent of all households did report any income from agriculture the last month prior to the survey, while similar for the last 12 months 53 percent of all households did not have agricultural income.

For non-agricultural based income 19 percent of all households reported no income last month prior to the survey and similar 13 percent of the households for the last 12 months.

The quality, both with regards to number of households reporting and the reliability of the monetary value of income reported needs to be further explored and is not published in this report.