



Executive Summary: Simple Spatial Surveying Method (S3M) survey in Sudan.

Data collection: June to July & November 2013



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List of acronyms

ARI	Acute respiratory infection
CDC	Centre for Disease Control
CMAM	Community Management of Acute Malnutrition
CSAS	Centric Systematic Area Sampling
CNS	Community Nutrition Surveillance
EBF	Exclusive breast feeding
ENA	Emergency Nutrition Assessment
EPI	Extended programme of immunization
FMOH	Federal Ministry of Health
GAM	Global acute malnutrition
GPS	Global Positioning System
HAZ	Height-for-age z-score
HDSD	Household Dietary Diversity Score
HH	Household
HHS	Household Hunger Score
ICFI	Infant and Child Feeding Index
ITN	Insecticide Treated Net
IYCF	Infant and Young Child Feeding
LCL	Lower Confidence Limit
MICS	Multi-Indicator Cluster Survey
MN	Malnutrition
MUAC	Mid upper arm circumference
NCHS	National Centre of Health Statistics
OTP	Out-patient therapeutic programme
ppm	parts per million
QTR	Quarter
S3M	Simple Spatial Surveying Method
SAM	Severe acute malnutrition
SHHS	Sudan Household health Survey
SMART	Standardized Monitoring and Assessment of Relief and Transitions
SMOH	State Ministry of Health
UCL	Upper Confidence Limit
UN	United Nations
VIP	Ventilated Improved Pit
WFH	Weight-for-height
WHO	World Health Organisation
WHZ	Weight for height z-score
WASH	Water, Sanitation and Hygiene

1. Executive Summary

This is the report of a survey carried out in all 18 states of Sudan by the Federal Ministry of Health and UNICEF with technical support from Valid International and funding from DFID. Data collection took place during June / July 2013 for 14 states and in November 2013 for the remaining 4 states (Khartoum, Red Sea, South and West Kordofan).

The survey used the Simple Spatial Survey Method (S3M), an area based sampling methodology that uses maps for selection of sample points. This methodology was chosen in order to be able to map results and produce results for small areas. For this survey, the size of the area for which results are available is approximately 187km², and results are therefore available at locality and sub-locality level. The objective of the survey was to obtain data for basic health, WASH and nutrition indicators for small areas (at sub-locality level) to allow mapping of results to show geographical areas of highest need and ‘hot-spots’. This will enable better targeting of existing interventions and will inform program expansion. The survey inclusion of health and wash indicators was aimed at facilitating better integrated programming that is necessary for the reduction of child mortality and reduction of stunting. Over time, these indicators are key in measuring impact of child survival programs, such as tracking increases in improved sanitation coverage over time, or reduction in prevalence of diarrhoea.

It was the intention of this survey to quantify results for small areas and to show the variation over space. For this reason results are presented at locality level only and have not been aggregated into national level results.

Data was collected in all states, however it should be noted that some areas were inaccessible due to insecurity. This affected parts of Central Darfur, South Darfur and East Darfur in the Darfur Region, as well as the southern-most parts of West Kordofan, South Kordofan and Blue Nile states. Areas not accessed for data collection are clearly shown on all maps as a grey shaded area and are all towards the south of the country. It should be noted that in some localities, some sample points were accessible when others were not. In this case results are presented for the locality with a note that it is only part of the locality. The area represented can be seen on the maps.

Results maps presented in this report are classified into three groups of low, medium and high for every indicator. Cut-offs used for each indicator are based on international public health recommendations or national program targets. Green colour on the maps indicates a ‘good’ situation (as determined by the cut-offs used), yellow indicates ‘acceptable’ and red indicates a ‘poor’ situation.

All results for every indicator have been mapped. Results clearly show the geographic areas in highest need for all indicators measured. A total of 59 indicators were measured. All national results maps are presented in the full report, together with results for every indicator at locality level. Table 1 is a table of results for 18 core indicators at locality level. Reports at state level contain more detailed state level heat maps.

Key results:

- The advantage of the Sudan S3M is that it measured a range of indicators (health, WASH and nutrition) over small geographical areas, giving results at locality level and lower. It has identified where the children who are most in need in Sudan are living ensuring evidence based equity programming in Sudan.
- More than two million children in Sudan are stunted and unlikely to ever reach their full growth and development potential. With the results of this survey we know where they are living. Stunting refers to a deficit in height relative to age due to a long-term process of linear growth retardation. A child who is stunted by the age of 2 years will not recover his/her lost growth in terms of physical stature as well as intellectual development resulting in life-long irreversible consequences that, on the scale seen in Sudan, will undermine national productivity and development.
- Results show that stunting is widespread affecting children across the country. A prevalence of global stunting of 30% and above is classified as WHO as ‘high’¹. State-level estimates mask huge disparities in most indicators. 128 of the total 184 localities have a stunting rate classified as high² (above 30%). There are pockets of very high stunting rates, found mostly in the eastern states of Red Sea, Kassala and Gedaref, with a high of 73% in Gedaref state. Comparison of stunting between the S3M 2013 and the SHHS 2010 is shown below.
- Sudan has a huge burden of acute malnutrition, or wasting, and the S3M showed that over half a million³ children will suffer from life-threatening severe acute malnutrition during one year. Wasting reflects a deficit in weight relative to height due to a recent and severe process resulting in loss of tissue and fat mass. Global acute malnutrition (GAM) based on WHZ score is defined as < -2 z-scores weight-for-height and/or oedema. GAM based on MUAC is defined as MUAC below 125 millimetres.
- Prevalence of GAM in many areas across the country is classified as critical, which is above 15% as per the WHO threshold for assessing severity of malnutrition, adopted in the national nutrition survey guidelines for Sudan 2012. The map shows that acute malnutrition is a wide-spread public health problem affecting every state, with a concentration in the East (particularly Red Sea), Blue Nile, Central and North Darfur. Red Sea state recorded the highest prevalence’s of malnutrition with all but one locality well above the 15% threshold for a critical situation. These findings are consistent with other survey results from the state (December 2012 SMART surveys in 2 localities, SHHS 2010). In addition prevalence of GAM is higher by MUAC than by weight for height which is unusual for the Sudan context and highlights the critical situation in the state in terms of the number of children at increased risk of mortality.
- Distribution of GAM prevalence based on MUAC follows a similar pattern to WHZ, and areas with high GAM by MUAC include Red Sea, Kassala, North Darfur and South

¹ Physical Status: The use and interpretation of Anthropometry. Report of a WHO expert committee, 1995. Chapter 5, p208 & 212

² Physical Status: The use and interpretation of Anthropometry. Report of a WHO expert committee, 1995. Chapter 5, p208 & 212.

Stunting cut-offs: very high = >40%; high = 30-40%; medium = 20-29%; low = <20%.

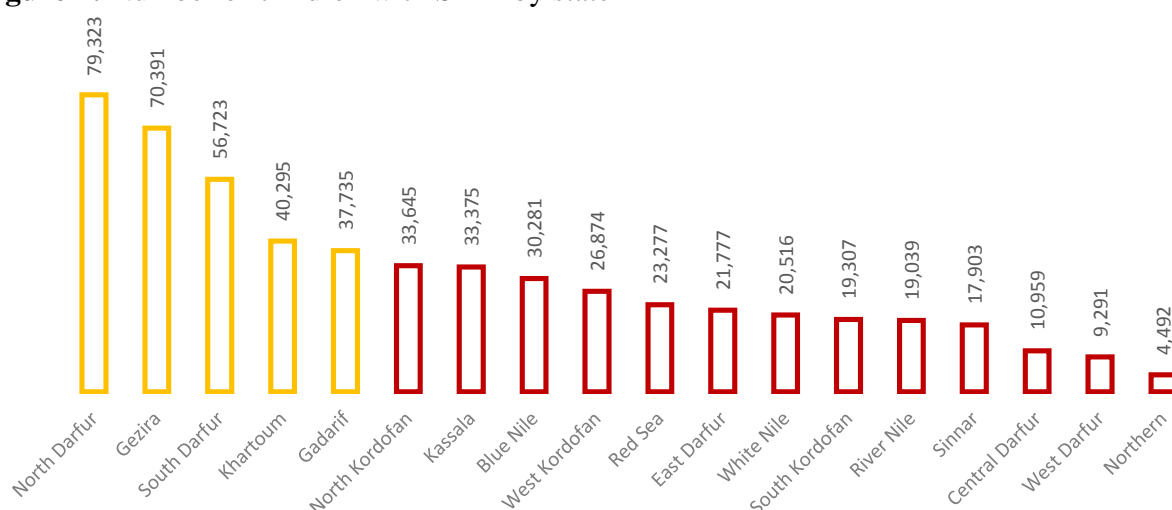
³ S3M prevalence estimates, by MUAC or WHZ (whichever estimate is higher – MUAC in Red Sea, Kassala and South Kordofan; WHZ in all other states) and EPI 2013 population estimates of children 6-59 months. Burden calculated as prevalence + incidence, where incidence = prevalence x 1.6.

Kordofan as well as large pockets in South and East Darfur, Blue Nile and Gedaref states. MUAC is known to be a better predictor of risk of mortality than WHZ, and a better case detection method for severe acute malnutrition in terms of accuracy, precision, sensitivity and specificity, identifying those children at higher risk of near-term mortality. Red Sea State recorded GAM by MUAC up to 47% and SAM up to 19% in Tokar locality. This is a clear indicator of the urgency of the situation in the state.

- Moderate acute malnutrition shows a prevalence of well above 10% across large areas of the country. Overall prevalence of moderate acute malnutrition is lower when measured by MUAC. Some children will recover from moderate acute malnutrition without treatment, however some will progress to severe acute malnutrition at which point, if left untreated, up to 50% will die⁴. This underlies the need for programs aimed to prevent malnutrition, and for coordinated programs that work together for early identification of children most at risk of death in order to treat them and to prevent them from slipping back to severe acute malnutrition after discharge.
- 53 of the 184 Localities in Sudan have a severe acute malnutrition rate (measured by MUAC) that is classified as very critical (above 3%). Highest SAM measured was above 20% in three localities in South Darfur and Red Sea States.
- Results show that severe acute malnutrition measured by weight for height z-score and MUAC is present in every state with a particular concentration in Red Sea, North Darfur and River Nile as well as large pockets in Kassala, Gedaref and Blue Nile.
- Priority areas for intervention for treatment of SAM (by MUAC) are many localities in Red Sea and North Darfur states as well as pockets in Kassala, Gedaref, Blue Nile, South Kordofan and River Nile. Highest prevalences of SAM were recorded in North Darfur (Saraf Omra, Kelemando, Tawilla, El Sereif camp), South Darfur (Tulus and Dmsa) and Red Sea (Tokkar) where SAM prevalence (by MUAC) was more than 19%. It is also important to consider absolute numbers (burden) while planning services so that the most children in need are reached. There are 5 states in Sudan that carry 51% of the SAM burden. Two of these states do not run a CMAM program – Khartoum and Gezira states.
- The number of children with SAM depends on the population number, highly populated states with a lower prevalence still carry a very high burden of children with SAM. Most of the children with SAM are found in North Darfur, South Darfur, Gezira, Kassala, Khartoum and then Red Sea states. These 5 states carry 51% of the total SAM burden in Sudan.

⁴ WHO SAM case-fatality estimation 30-50% (http://www.who.int/nutrition/topics/severe_malnutrition/en/index.html)

Figure 1: Number of children with SAM by state



- Exclusive breastfeeding rates have improved across the country since the last survey and are above 70% in 89 of the 184 localities.
- Maternal under-nutrition is very high in Sudan and up to 62% of mothers in some locations are under-nourished, classified as ‘extreme’⁵ (highest in the Eastern state of Red Sea).
- Household use of iodised salt has improved since the last national survey (SHHS 2010, where the national average was 9.5%). There are 42 localities where more than 50% of households are using iodised salt.
- There are areas of low Vitamin A supplementation. 52 localities recorded coverage of less than 75%, with a low of 2.3% in one locality in South Kordofan.
- At state level, age-appropriate vaccination coverage⁶ is high and Gezira state has the highest coverage at 92.7%. However, there are pockets of low coverage, and a total 65 localities have a vaccination coverage of less than 75% (age-appropriate fully vaccinated). Lowest coverage is 13% in one locality in Red Sea.
- Coverage with improved sanitation facilities and improved sources of drinking water is low in most locations, including towns and cities – use of improved sanitation facilities in 4 localities (out of 7) in Khartoum state is less than 50%.

⁵ MUAC <23cm, >50% classified as extreme, Food Security Nutrition Assessment Unit – Somalia <http://www.fsnau.org/>

⁶ Percentage of children 6-59 months who had received full appropriate vaccinations for their age as per national vaccination schedule.

Recommendations:

- A. Implement revisions to the Maternal and Child Health Acceleration Plan based on the S3M results, targeting most needy localities.
- B. Produce a phased, costed national CMAM scale-up plan using the S3M results to locate areas in highest need.
- C. Accelerate vaccination coverage of Rota, PCV, MCV1, 2, Penta and meningitis in areas of high prevalence of related diseases.
- D. Revision of the age restriction of Rota vaccine given the reported high prevalence of diarrhoea.
- E. Expand existing efforts in raising mothers awareness and practices related to IYCF, health seeking, danger signs, home treatment, maternal nutrition and micronutrients, and implement extensive awareness campaigns in areas of high need.
- F. Immediately verify and establish reasons for the high prevalence of night blindness among pregnant women and carryout appropriate response based on results.
- G. Further investigate reasons for low up-take of ante-natal care.
- H. Closely monitor the quality of ante-natal care services in terms of midwife performance and mother's satisfaction with services.
- I. Increase the Government employment for midwives at state level.
- J. Ensure availability of sufficient Fefol and Vitamin A in Sudan to cover needs.
- K. Prioritize drinking water projects and expanding them to be based on evidence.
- L. Further investigation of reasons behind the poor use of improved sanitation facilities possibly through a knowledge, attitude, and practices (KAP) study.
- M. Improve hand washing practices through effective hygiene promotion interventions and awareness campaigns.
- N. Provide national leadership to ensure that response based on the S3M results is multi-sectorial and includes coordinated action from different Ministry of Health departments as well as different Government Ministries.
- O. Use results from the Sudan S3M as baseline coverage data for relevant national programs, including the expanded program of immunisation (EPI).
- P. Ensure results are disseminated to all states and all Government Ministries for use for programing.
- Q. Resource mobilisation and advocacy using the S3M results and revised plans.
- R. Continued use of S3M data to produce additional indicators and possible relational analysis to help understanding the situation based on programs' needs.

Table 1: Results for 18 core indicators, by locality (Note: *=-camp/town estimate also included in locality estimate)

State	Locality	Child information							Mothers of children 0 - 5 years							Household information			
		Stunting GLOBAL (6-59mo)	Wasting GLOBAL (WHZ) (6-59mo)	Wasting SEVERE (MUAC) (6-59mo)	Child Vitamin A supplementation (6-59mo)	Age appropriate full vaccination coverage (6-59mo)	Penta valent drop-out rate: Children >= 4 months has PENTA-1 but not PENTA-3 (4-59mo)	Good diarrhoea treatment (6-59mo)	Mean number illness danger signs known by mothers	Exclusive Breast feeding	Mother under nourished (MUAC <230mm)	At least one ANC visit	Four or more ANC visits	Iron-folate for 6 months during last pregnancy	Delivery attended by trained personnel	Adequately iodized salt (>= 15 ppm)	Improved source of drinking water	Improved sanitation facility	Five critical hand washing points (mean)
Key:		>30%	>15%	>3%	<60%	<50%	<50%	>70%	>15%	<60%	>50%	<50%	>50%	<50%	>50%				
Red Sea	Ageeg	61.3	22.7	16.4	88.0	82.1	3.6	41.8	1.5	62.1	47.5	90.7	42.3	1.2	61.6	25.3	75.3	7.3	2.6
	Alganeb Alolib	51.0	20.6	3.5	72.9	12.9	3.4	25.3	1.3	50.0	38.3	60.3	22.6	3.5	67.9	41.5	3.4	5.8	1.5
	Dordaib	43.1	13.6	1.9	90.5	72.5	6.9	7.6	0.8	40.0	31.4	72.5	14.0	0.6	51.3	44.9	17.5	0.5	1.2
	Haia	45.1	24.5	7.1	72.6	51.0	2.1	50.0	0.7	33.3	62.1	48.2	2.0	0.0	38.9	45.1	3.8	1.7	1.2
	Haliab	29.3	28.6	3.4	86.4	44.2	27.7	18.2	0.9	83.3	35.6	60.9	0.0	1.5	34.4	93.9	1.6	3.9	2.1
	Japitalmadin	61.5	10.2	0.0	86.6	73.4	2.8	65.6	1.6	4.8	26.5	91.8	18.4	0.0	94.1	34.4	4.2	0.0	3.3
	Sawaken	57.5	34.4	15.1	77.0	63.0	7.1	14.7	1.1	75.0	23.8	73.2	8.3	0.0	83.5	6.5	9.8	2.1	2.0
	Senkat	69.0	28.7	10.0	7.9	79.3	4.1	4.2	0.7	100.0	45.2	35.2	5.0	0.0	65.8	19.1	0.5	0.0	0.9
	Tokar	53.1	36.4	21.0	90.9	75.4	5.1	9.8	1.5	32.9	40.9	87.8	20.4	8.6	96.4	31.8	7.2	49.5	2.5
	Port Sudan	34.3	13.8	3.1	79.4	85.7	1.1	44.9	1.8	61.5	14.0	96.7	71.1	14.3	98.4	46.4	25.5	73.9	2.9
All state	45.5	20.2	8.5	81.1	77.7	2.8	36.1	1.5	51.2	29.6	87.3	45.9	8.4	83.9	38.7	27.9	44.1	2.5	
Kassala	Aroma	59.6	21.8	9.5	99.7	68.4	8.7	23.2	2.4	23.3	8.0	91.3	28.3	10.2	77.4	73.1	0.0	2.3	3.6
	Hamshkoreb	59.1	16.7	7.7	96.2	79.9	3.4	44.4	1.7	33.3	14.7	85.3	32.2	5.4	82.8	46.5	4.8	0.0	2.3
	Kshmalgirba	46.2	12.7	3.4	98.8	95.7	0.0	98.5	3.9	100.0	25.0	89.8	62.5	11.7	100.0	50.8	17.2	5.5	4.7
	Nahr Atbara	52.8	16.0	2.7	100.0	90.2	2.4	0.0	2.7	100.0	14.1	100.0	46.9	31.3	100.0	87.5	100.0	0.0	4.6
	North Delta	59.2	12.8	4.9	100.0	86.9	0.0	92.6	3.1	4.8	11.6	99.1	32.1	6.3	100.0	80.7	1.3	0.5	3.4
	Rify Kassala	51.7	19.1	2.8	99.2	93.2	3.1	100.0	1.8	43.3	6.3	91.3	38.1	0.6	96.9	71.9	2.5	0.6	2.9
	Rural Halfa	44.9	10.1	0.8	100.0	93.8	2.7	18.0	1.7	10.7	17.2	94.8	44.8	14.1	92.7	30.2	45.3	42.2	2.6
	Talkok	57.0	16.2	4.8	95.7	59.9	26.4	18.9	1.3	62.9	11.0	98.3	22.3	2.0	82.4	78.6	0.0	24.6	1.6
	Wadalhlew	56.5	8.5	1.9	100.0	88.7	0.0	55.3	2.2	81.5	20.0	93.8	67.0	11.3	79.1	96.9	0.0	2.6	3.6
	West Kassala	35.7	11.6	2.0	84.9	79.0	9.2	29.6	1.7	29.4	47.4	100.0	65.1	51.0	46.9	87.5	0.0	2.3	1.5
	All state except capital	54.6	15.2	4.3	97.8	79.0	10.2	45.5	2.2	46.4	13.4	95.8	34.3	8.3	88.8	73.0	13.1	13.0	2.8
Kassala Town	33.9	15.2	1.2	98.2	85.3	2.2	46.4	2.7	42.4	5.7	97.6	61.7	25.7	93.7	66.7	58.4	52.1	3.8	
Hamoshkoreib Town*	58.8	16.7	7.6	96.6	80.1	3.3	45.2	1.8	30.8	15.3	86.1	33.8	5.2	84.8	46.7	4.9	0.0	2.3	
Gedaref	Al Gadaref Wasat	58.1	14.1	2.3	96.3	80.8	5.5	19.0	1.4	75.0	8.6	87.3	43.4	2.1	61.9	62.0	10.6	8.9	2.0
	Al Mafaza	57.1	13.3	2.0	85.9	85.1	1.9	21.8	1.2	50.0	6.3	92.7	52.1	3.1	77.1	33.3	100.0	0.0	1.5
	Albutana	57.0	13.6	2.8	95.0	80.1	5.0	8.0	2.2	34.1	17.3	83.8	33.8	6.7	78.4	28.7	1.4	0.7	1.8
	Alfashaga	35.7	17.9	2.7	90.0	82.1	6.6	17.0	1.3	40.2	10.5	93.6	69.9	21.3	85.3	34.9	91.8	6.5	1.6
	Alfaw	62.2	6.8	0.0	89.9	80.2	5.2	4.5	1.0	35.0	23.7	93.3	49.1	0.0	93.8	14.9	77.2	0.0	1.5
	Algalabat Al Garbiya	41.9	19.5	6.7	94.2	89.5	3.5	7.0	1.8	80.0	7.3	76.0	34.4	0.0	87.5	51.0	33.3	2.1	1.8
	Algalabat Al Shargiya	73.2	3.5	0.0	99.3	92.6	1.7	19.1	1.5	100.0	2.3	82.8	18.0	2.3	90.6	79.7	0.0	0.0	1.7
	Algurisha	73.7	13.9	2.3	88.9	91.3	1.4	27.4	1.9	91.0	7.8	53.8	19.7	3.8	57.2	71.6	0.0	2.8	1.8
	Alrahad	49.2	5.2	0.0	89.2	80.0	9.0	9.4	1.3	37.9	5.2	94.8	51.0	0.0	34.4	20.8	84.4	0.0	1.5
	Basonda	51.9	16.2	4.7	92.9	81.8	6.8	9.7	1.6	79.7	1.8	80.5	25.8	0.5	88.0	66.7	1.3	2.1	1.7
	Gula Alnahal	52.5	14.7	1.2	93.2	90.8	2.7	5.8	2.8	11.1	15.5	91.4	21.1	3.9	67.6	74.2	12.9	1.2	2.3
	All state except capital	52.0	13.2	2.0	92.9	85.5	4.8	16.0	1.5	67.8	8.5	86.4	45.2	10.8	81.6	52.1	46.0	4.0	1.7
	Gedarif Town	30.8	13.2	3.5	82.1	75.9	5.1	8.7	1.1	0.0	4.7	92.2	137.3	11.3	94.6	63.7	64.2	22.6	2.4

State	Locality	Child information							Mothers of children 0 - 5 years							Household information				
		Stunting GLOBAL (6-59mo)	Wasting GLOBAL (WHZ) (6-59mo)	Wasting SEVERE (MUAC) (6-59mo)	Child Vitamin A supplementation (6-59mo)	Age appropriate full vaccination coverage (6-59mo)	Penta valent drop-out rate: Children >= 4 months has PENTA-1 but not PENTA-3 (4-59mo)	Good diarrhoea treatment (6-59mo)	Mean number illness danger signs known by mothers	Exclusive Breast feeding	Mother under nourished (MUAC <230mm)	At least one ANC visit	Four or more ANC visits	Iron-folate for 6 months during last pregnancy	Delivery attended by trained personnel	Adequately iodized salt (>= 15 ppm)	Improved source of drinking water	Improved sanitation facility	Five critical hand washing points (mean)	
Blue Nile	Baw (part)	39.6	25.0	4.4	96.6	89.4	0.0	9.8	2.3	50.0	17.2	67.2	9.4	0.0	20.3	98.4	96.9	0.0	3.2	
	Damazin	45.0	14.5	1.4	98.7	97.0	0.6	29.4	1.1	100.0	12.5	86.5	50.0	21.9	83.3	41.7	99.0	66.7	1.9	
	Giessan (part)	48.8	16.0	6.1	93.8	77.2	5.6	7.4	2.3	55.0	27.6	55.6	39.4	2.0	58.0	51.0	97.6	90.6	2.8	
	Kurmuk (part)	52.9	16.2	2.0	93.1	75.0	6.7	11.8	1.7	89.5	18.8	68.8	42.7	0.0	47.9	91.7	37.5	0.0	2.3	
	Rosairs (part)	51.4	20.3	5.2	92.2	79.3	4.0	9.8	1.7	85.0	15.7	47.3	18.9	2.0	31.8	59.1	85.2	73.2	2.0	
	Tadamon (part)	42.9	14.5	0.0	90.2	67.9	18.2	8.2	1.1	85.7	7.8	68.8	27.3	0.0	63.3	65.6	2.3	0.0	3.2	
	All state except capital	49.8	18.5	4.8	92.9	78.4	5.1	9.3	1.9	78.8	19.1	52.8	28.3	2.4	45.5	57.1	84.9	73.3	2.4	
	Damazin Town	37.9	12.7	2.7	97.9	92.9	1.3	10.9	1.2	87.7	1.3	61.5	14.7	1.4	69.3	63.5	88.8	19.5	1.8	
	Roseris Town	37.0	10.6	2.0	100.0	90.7	2.1	13.1	1.8	77.2	13.2	82.3	52.0	20.0	81.1	77.7	86.3	16.0	2.2	
South Kordofan	Abujebiha (part)	34.1	8.8	2.6	27.7	77.1	4.5	19.7	1.5	64.6	28.8	74.5	23.4	0.7	80.6	41.2	23.4	0.9	1.5	
	Al Tadmoon (part)	46.2	15.3	3.6	69.0	68.7	4.3	61.7	1.5	71.0	41.2	59.3	22.1	1.1	26.8	72.5	60.5	1.1	1.8	
	Alabaseya	39.1	17.2	3.1	72.4	44.5	9.7	59.2	1.8	65.7	15.6	66.7	33.3	0.0	19.8	30.2	30.2	72.9	47.9	2.1
	Algoz	36.9	2.5	2.0	63.2	77.5	3.4	47.9	1.5	72.5	12.7	83.7	51.3	2.6	64.5	35.2	98.5	13.3	1.8	
	Allirri	40.0	7.8	2.6	43.8	62.3	7.1	42.4	2.1	57.6	16.2	87.9	55.2	0.0	94.0	47.9	65.1	0.0	2.0	
	Alreif Alshargi	29.0	11.2	2.4	2.3	92.2	0.6	73.6	2.3	73.7	18.8	94.8	64.6	7.3	54.2	37.5	100.0	1.0	3.5	
	Dilling (part)	39.6	7.6	1.9	0.0	85.0	0.0	16.7	1.7	100.0	6.3	56.3	9.4	3.1	40.6	78.1	100.0	0.0	2.3	
	Gadeir (part)	32.2	4.7	4.7	21.7	67.2	10.3	38.8	2.5	87.2	25.3	92.3	38.6	1.0	76.4	32.8	64.9	0.0	2.6	
	Habeila (part)	26.7	11.9	1.0	0.0	92.6	2.4	78.9	2.2	100.0	16.2	96.9	56.3	4.2	97.9	26.6	55.2	0.0	2.2	
	Rashad (part)	32.3	5.8	0.0	0.0	90.4	5.5	25.7	1.8	19.2	20.8	91.0	56.4	2.6	65.6	11.5	79.5	0.0	1.8	
	All state except capital	35.8	9.5	2.7	34.7	75.2	4.8	47.3	1.8	74.3	23.7	81.2	39.7	2.1	68.1	42.5	61.4	4.1	2.0	
	Kadugli Town	26.0	7.7	3.6	54.2	84.2	2.7	49.7	2.0	45.5	15.7	91.2	71.7	11.1	89.7	52.8	61.0	26.8	3.0	
Talodi Town	35.0	8.5	1.7	46.2	85.1	2.8	62.6	2.4	61.8	12.5	92.8	52.9	2.1	91.3	37.1	95.9	6.9	2.6		
West Kordofan	Abo Zabad	36.0	18.1	1.2	92.8	81.5	1.2	42.2	1.3	76.5	8.3	95.0	58.1	4.4	96.2	37.9	41.4	5.7	1.6	
	Abyei (NOT AAA)	34.1	10.1	1.1	85.7	65.0	8.1	25.9	1.5	73.9	18.1	90.7	47.0	2.2	73.2	25.8	0.3	1.6	2.3	
	Al Khowi	31.1	11.2	1.6	90.1	82.8	3.5	44.1	1.9	75.0	11.8	94.6	58.3	4.0	93.8	28.8	53.1	44.4	2.3	
	Al Odaya	35.1	11.6	2.6	91.6	72.0	16.5	27.7	1.7	77.8	15.9	69.7	29.2	1.0	97.0	5.3	82.9	0.0	1.9	
	Al Salam	32.4	7.9	1.9	63.4	64.0	8.9	14.2	2.5	95.6	14.5	87.5	30.8	1.9	68.6	32.4	5.4	4.6	3.3	
	Aldebab	46.0	13.0	1.0	55.4	38.4	16.7	24.3	1.7	90.2	13.0	91.3	48.7	4.0	65.9	18.9	0.0	0.0	2.8	
	Almearam	52.3	13.6	0.0	40.9	24.3	11.3	39.6	1.3	34.6	28.7	78.9	21.9	2.9	13.4	14.8	0.9	0.0	1.7	
	Alsnout	40.0	11.3	0.2	74.9	71.7	2.8	40.4	1.7	99.0	14.0	87.5	47.7	3.1	78.3	26.2	0.0	0.0	1.5	
	Babanusa	32.1	6.0	0.0	69.0	58.4	7.8	38.3	2.6	82.5	24.9	91.7	38.8	0.0	59.5	31.0	3.8	0.0	3.1	
	En Nuhud	41.1	13.8	2.0	75.2	82.3	7.0	54.0	1.6	45.6	8.8	90.2	18.5	1.1	90.9	11.9	67.4	31.4	2.1	
	Ghebeish	43.6	13.2	1.0	85.1	63.9	11.8	52.9	1.7	55.9	13.6	81.0	44.7	2.4	69.5	12.9	35.1	2.5	1.5	
	Kailak (part)	34.3	7.1	1.2	67.7	65.2	7.2	22.2	1.2	89.1	34.3	93.1	77.2	3.5	55.6	38.7	1.5	0.4	1.1	
	Lagawa (part)	26.6	9.0	1.2	88.6	80.1	2.0	68.9	1.5	96.4	16.4	88.5	57.7	5.0	81.3	9.7	39.5	0.2	1.8	
	Wad Bandah	38.1	19.8	3.2	89.1	38.6	15.0	20.5	1.9	73.6	13.9	87.1	46.2	0.8	70.3	39.6	22.0	1.3	2.2	
	All state except capital	36.7	12.7	1.8	81.4	63.9	9.0	37.5	1.7	77.4	15.7	88.2	47.9	2.7	74.9	25.2	28.6	8.7	2.0	
	Fula Town	24.5	8.1	1.1	82.9	80.1	3.2	51.4	1.9	82.9	12.2	91.6	61.2	21.7	94.4	30.0	4.7	26.3	3.2	

State	Locality	Child information							Mothers of children 0 - 5 years							Household information			
		Stunting GLOBAL (6-59mo)	Wasting GLOBAL (WHZ) (6-59mo)	Wasting SEVERE (MUAC) (6-59mo)	Child Vitamin A supplementation (6-59mo)	Age appropriate full vaccination coverage (6-59mo)	Penta valent drop-out rate: Children >= 4 months has PENTA-1 but not PENTA-3 (4-59mo)	Good diarrhoea treatment (6-59mo)	Mean number illness danger signs known by mothers	Exclusive Breast feeding	Mother under nourished (MUAC <230mm)	At least one ANC visit	Four or more ANC visits	Iron-folate for 6 months during last pregnancy	Delivery attended by trained personnel	Adequately iodized salt (>= 15 ppm)	Improved source of drinking water	Improved sanitation facility	Five critical hand washing points (mean)
North Kordofan	Bara	38.7	9.7	1.5	80.8	74.3	5.7	58.1	2.0	23.4	11.5	93.5	64.1	10.1	96.0	46.1	56.7	0.0	1.4
	El Rahad	53.0	2.5	5.7	65.0	85.7	1.7	60.0	1.4	80.0	3.8	100.0	22.8	2.5	100.0	0.0	76.0	3.1	2.0
	Jebirat El Sheikh	50.0	13.9	0.7	95.0	85.3	2.7	39.2	2.1	44.3	15.6	90.2	35.1	4.7	98.3	4.2	0.6	0.0	1.6
	Sheikan	40.0	12.1	1.0	85.5	84.7	5.4	63.8	1.4	56.2	12.2	93.0	54.0	20.5	96.7	47.9	65.0	8.6	2.0
	Sowdari	34.9	16.3	1.6	88.0	64.7	3.4	15.8	1.5	93.2	11.3	91.4	55.1	17.2	93.1	28.7	11.4	1.4	1.8
	Umm Daam	20.7	22.5	0.0	88.9	85.1	1.8	72.5	1.7	47.4	13.5	92.1	62.5	21.2	98.4	7.6	10.3	0.0	1.6
	Umm Rawaba	43.9	9.9	1.7	81.4	84.1	3.7	37.9	1.5	63.9	8.7	92.4	45.3	9.4	85.5	28.7	47.4	2.1	1.6
	West Bara	46.5	10.2	2.7	60.7	32.0	14.2	68.6	2.2	11.4	29.2	94.7	46.5	0.7	88.7	33.8	4.7	0.0	1.0
	All state except capital	41.6	12.1	1.5	84.8	78.5	4.0	39.9	1.7	60.2	11.3	92.1	49.8	11.9	92.4	30.0	35.8	2.0	1.7
	El Obeid Town	29.1	8.1	1.5	87.9	79.2	4.5	56.3	1.8	42.3	11.1	95.3	73.9	16.9	99.6	46.0	44.1	41.8	2.1
White Nile	Alsalam	44.1	7.1	2.5	53.2	51.7	11.1	13.4	1.9	44.8	24.1	71.9	20.5	3.6	69.1	36.6	18.3	1.0	1.9
	Ed Douiem	44.9	5.8	0.3	76.8	66.0	5.7	9.1	1.9	41.1	7.0	81.9	44.4	4.8	95.1	21.1	0.0	0.0	2.0
	El Gutaina	35.9	9.4	2.0	87.7	81.8	3.6	11.4	2.1	67.3	10.6	92.3	52.5	7.4	98.4	33.3	10.3	10.4	2.4
	El Jabalain	39.5	11.0	3.2	86.5	77.0	7.0	15.0	2.0	68.8	9.7	79.6	49.9	9.1	83.0	17.8	62.1	6.8	2.3
	Guli	40.6	7.6	1.2	92.0	87.0	1.9	15.7	1.8	36.1	14.7	92.0	51.3	21.9	100.0	63.0	44.8	3.1	2.0
	Kosti	40.4	12.9	1.5	97.8	89.8	2.1	8.5	1.8	76.5	11.5	85.1	39.9	0.0	66.2	41.7	85.4	0.6	1.7
	Rabak	42.0	8.5	0.0	93.3	90.7	2.3	2.9	1.6	33.3	17.7	80.4	28.3	0.0	100.0	11.8	0.0	0.0	1.8
	Tandalti	29.7	9.2	2.7	73.0	69.2	8.2	8.1	2.0	54.6	10.9	90.0	47.9	4.2	89.2	1.1	34.2	1.6	2.5
	Umm Remta	33.3	10.2	0.9	80.0	70.0	7.9	14.9	1.7	61.9	5.6	96.9	65.6	20.0	99.4	26.9	53.8	3.1	2.0
	All state except capital	39.1	8.6	1.5	81.0	73.2	5.8	12.8	1.9	53.2	9.9	87.4	50.1	11.1	93.0	30.7	31.8	3.3	2.1
	Kosti Town	25.5	10.1	0.7	93.9	90.8	2.3	8.3	2.0	46.3	8.2	90.5	69.5	20.2	93.9	50.4	40.4	31.9	2.5
Rabak Town	31.0	10.0	0.5	93.0	86.2	2.4	9.4	2.0	62.5	6.9	89.2	59.0	16.0	96.9	35.8	51.7	29.6	2.4	
Sennar	Abu Hajar	39.4	14.9	2.1	96.0	69.4	7.2	9.4	2.0	90.9	13.3	64.5	20.7	5.9	60.4	28.3	14.8	3.9	1.5
	Al Dindir	31.9	11.9	1.3	85.6	75.5	8.8	15.1	2.5	83.8	13.6	79.0	24.6	4.0	65.8	35.2	78.5	6.0	2.2
	Aldali And Almazmoum	32.5	13.3	1.2	88.9	84.0	3.9	3.1	1.6	84.8	10.4	94.5	46.4	15.6	86.2	14.6	25.5	13.5	2.6
	Alsooki	31.3	12.5	1.6	92.3	75.5	7.5	11.2	2.0	95.7	5.1	79.7	36.1	16.8	75.3	38.7	42.2	8.4	1.7
	Sennar	25.2	13.4	1.1	91.1	84.1	2.4	22.4	1.3	31.6	11.4	86.7	44.9	14.5	84.7	10.2	45.3	7.1	1.3
	Sharg Sennar	42.0	15.0	1.7	96.2	79.6	5.0	8.4	1.6	89.4	21.0	76.0	33.0	20.5	61.3	29.3	90.1	17.1	1.2
	Sinja	24.8	4.2	0.0	93.6	95.8	0.0	15.2	1.9	33.3	9.9	91.8	57.6	26.5	97.4	52.1	83.8	5.5	2.2
	All state except capital	32.6	12.8	1.4	91.0	80.4	5.0	10.9	1.8	75.3	11.8	83.9	39.2	14.7	77.3	24.9	46.4	9.5	1.9
	Sennar Town	11.4	8.8	0.3	93.0	89.6	1.0	23.6	2.2	75.6	4.5	92.6	68.3	30.9	96.0	31.4	84.4	59.6	2.2
	Sinja Town	13.4	9.0	1.1	93.9	88.5	1.6	24.8	2.0	67.5	5.4	93.7	76.0	35.1	98.0	53.9	93.3	44.3	2.1

State	Locality	Child information							Mothers of children 0 - 5 years							Household information			
		Stunting GLOBAL (6-59mo)	Wasting GLOBAL (WHZ) (6-59mo)	Wasting SEVERE (MUAC) (6-59mo)	Child Vitamin A supplementation (6-59mo)	Age appropriate full vaccination coverage (6-59mo)	Penta valent drop-out rate: Children >= 4 months has PENTA-1 but not PENTA-3 (4-59mo)	Good diarrhoea treatment (6-59mo)	Mean number illness danger signs known by mothers	Exclusive Breast feeding	Mother under nourished (MUAC <230mm)	At least one ANC visit	Four or more ANC visits	Iron-folate for 6 months during last pregnancy	Delivery attended by trained personnel	Adequately iodized salt (>= 15 ppm)	Improved source of drinking water	Improved sanitation facility	Five critical hand washing points (mean)
El Gezira	El Hasaheisa	65.8	3.8	2.9	100.0	94.5	0.0	5.0	1.1	100.0	0.0	100.0	72.3	0.0	100.0	20.8	100.0	14.7	1.3
	El Kamlin	24.6	9.5	1.6	100.0	96.0	0.0	4.2	1.4	100.0	2.7	94.5	78.9	21.5	100.0	47.3	87.6	7.6	1.3
	El Managil	45.2	9.6	3.8	93.4	92.9	1.1	5.8	1.2	77.5	2.4	27.5	10.7	2.1	99.0	5.2	90.9	8.6	2.0
	Janub El Gezira	22.7	10.1	1.0	94.3	89.6	3.5	13.3	2.2	50.0	6.3	95.4	47.2	12.2	96.3	40.7	83.4	24.0	2.5
	Madani Al Kobra	58.8	20.0	0.0	100.0	100.0	0.0	0.0	2.6	50.0	6.7	93.3	66.7	13.3	100.0	40.0	100.0	66.7	3.0
	Sharg El Gezira	29.6	11.0	1.4	98.6	92.3	0.8	14.9	2.5	39.3	0.5	97.5	82.3	30.9	100.0	23.8	85.2	58.6	3.0
	Umm El Gura	33.3	10.9	3.6	97.4	94.6	0.0	28.2	2.3	70.0	9.2	87.5	37.5	1.2	96.2	27.9	59.3	35.1	2.7
	All state except capital	36.4	9.6	2.6	95.8	92.7	1.5	10.5	1.5	66.2	3.0	51.5	31.4	8.6	98.3	17.2	86.9	16.2	2.1
	Madani Town	26.0	8.1	3.1	98.8	91.6	1.6	31.6	1.9	65.6	2.1	92.1	80.4	16.0	95.9	47.5	94.0	62.9	2.3
Khartoum	Bahari	17.0	11.0	0.4	93.3	92.6	1.0	11.0	0.8	43.1	9.3	97.6	83.8	49.9	100.0	25.3	95.9	89.8	1.6
	Gabel Awlia	17.8	6.4	0.3	70.4	88.8	3.7	30.4	1.5	36.7	5.4	91.6	82.8	42.7	92.3	14.6	91.3	52.7	2.1
	Karrarri	26.8	7.4	2.7	79.7	77.3	4.1	33.8	1.5	41.7	4.4	96.7	77.5	26.8	100.0	10.4	98.0	1.0	2.0
	Khartoum	11.6	7.7	1.2	75.0	96.1	0.0	26.5	1.3	70.3	3.2	93.4	89.4	53.5	91.4	22.7	88.4	82.0	2.6
	Shareg Elnile	23.1	8.0	1.5	76.4	94.4	1.1	16.5	2.4	72.2	4.1	97.4	89.9	52.1	95.3	24.7	77.4	41.8	2.5
	Umbada	20.7	5.1	1.9	87.3	86.1	4.1	11.3	1.2	71.4	10.3	95.1	84.8	19.6	93.6	21.3	96.0	25.1	2.2
	Umdrman	17.5	8.7	0.2	61.0	92.3	0.8	38.2	1.3	67.6	4.1	96.6	86.9	31.6	98.8	23.8	90.0	17.5	2.0
	All state	20.2	8.2	1.3	79.7	89.4	2.2	22.2	1.5	55.2	6.3	95.8	84.4	41.2	96.7	21.0	90.4	47.9	2.1
		Bahari	17.0	11.0	0.4	93.3	92.6	1.0	11.0	0.8	43.1	9.3	97.6	83.8	49.9	100.0	25.3	95.9	89.8
Northern	Alborgeg	50.0	0.0	0.0	100.0	75.0	0.0	0.0	1.0	100.0	0.0	100.0	83.3	16.7	100.0	33.3	100.0	50.0	1.7
	Aldabba	22.1	3.9	0.9	89.9	88.7	1.5	31.7	1.7	20.3	6.8	94.5	67.5	29.1	95.8	30.8	91.9	50.6	2.8
	Algoled	24.4	19.0	0.9	86.5	80.6	2.9	37.0	2.5	59.4	7.8	92.2	62.4	19.0	94.8	26.2	78.2	71.4	3.7
	Dalگو	38.4	12.6	0.0	90.1	92.6	0.4	7.5	1.2	57.1	4.4	100.0	68.3	23.2	100.0	8.5	92.3	37.2	1.8
	Dongola	27.1	11.8	0.3	90.4	87.7	2.8	50.5	1.7	47.1	8.8	97.1	77.8	35.5	98.8	18.8	99.0	50.0	2.6
	Halfa	31.7	3.0	0.0	74.9	88.7	2.2	35.1	1.0	76.0	15.6	97.1	87.2	61.2	93.8	12.7	94.0	53.4	1.7
	Merawi	27.8	8.7	3.2	86.7	83.9	0.6	22.5	3.0	73.6	1.8	97.5	47.1	6.2	98.8	13.7	76.0	51.0	4.0
	All state except capital	29.4	7.3	0.7	82.1	87.4	2.0	33.0	1.5	66.8	10.8	96.6	75.6	41.7	95.8	16.0	90.7	52.4	2.4
	Dongola Town	20.4	7.8	0.6	92.3	91.0	0.8	17.0	2.3	55.6	4.4	92.9	79.2	18.4	100.0	14.4	98.8	75.9	2.8
River Nile	Abu Hamad	25.9	11.9	1.6	83.4	83.5	1.8	17.4	2.7	67.2	2.4	86.9	58.5	34.3	93.0	32.9	79.0	46.0	3.3
	Albuhaira	33.0	26.1	1.5	82.3	89.5	0.4	7.1	1.7	90.0	9.5	86.1	17.3	5.6	97.8	27.1	3.7	11.8	3.2
	Atbara	28.9	21.4	0.0	91.4	78.4	3.3	49.7	2.4	21.1	5.4	95.6	52.0	23.6	97.8	47.4	58.2	31.0	3.6
	Barbar	29.5	9.3	2.8	98.1	87.0	0.4	17.9	3.1	90.6	0.0	92.4	66.7	31.3	96.0	65.4	83.9	50.8	3.7
	Ed Damer	28.5	15.1	2.7	91.2	69.1	1.4	48.1	2.2	68.1	4.6	87.8	43.1	3.7	86.6	44.1	73.3	35.1	3.2
	El Matammah	24.7	13.9	2.3	86.3	86.2	3.6	50.0	2.1	55.8	8.2	89.8	44.2	13.4	98.7	14.2	87.6	63.6	3.4
	Shendi	44.6	21.0	0.5	50.9	44.3	8.0	28.1	2.0	91.0	12.8	71.7	28.6	3.2	71.4	26.7	40.2	14.1	2.4
	All state except capital	28.4	15.2	2.0	86.3	78.3	2.0	29.9	2.4	68.3	4.8	87.9	48.0	18.5	91.3	36.2	68.8	39.9	3.3
	Atbara Town	22.2	10.2	0.0	89.0	82.9	2.0	41.0	2.4	77.4	4.8	94.4	74.6	18.9	96.6	44.4	92.5	66.8	3.9
El Damar Town	22.9	10.5	0.0	85.1	77.3	1.5	29.2	2.6	67.5	3.3	93.8	64.3	9.2	99.2	41.4	90.7	68.3	3.9	

State	Locality	Child information							Mothers of children 0 - 5 years							Household information			
		Stunting GLOBAL (6-59mo)	Wasting GLOBAL (WHZ) (6-59mo)	Wasting SEVERE (MUAC) (6-59mo)	Child Vitamin A supplementation (6-59mo)	Age appropriate full vaccination coverage (6-59mo)	Penta valent drop-out rate: Children >= 4 months has PENTA-1 but not PENTA-3 (4-59mo)	Good diarrhoea treatment (6-59mo)	Mean number illness danger signs known by mothers	Exclusive Breast feeding	Mother under nourished (MUAC <230mm)	At least one ANC visit	Four or more ANC visits	Iron-folate for 6 months during last pregnancy	Delivery attended by trained personnel	Adequately iodized salt (>= 15 ppm)	Improved source of drinking water	Improved sanitation facility	Five critical hand washing points (mean)
North Darfur	Al Fasher	44.0	16.8	4.9	71.7	80.5	3.8	NA	2.7	63.3	17.5	84.1	48.8	10.9	51.8	38.2	67.2	22.0	3.1
	Al Koma	29.6	27.3	9.6	92.1	86.7	8.7	NA	3.8	57.9	16.8	94.5	49.6	2.4	91.2	28.2	2.4	37.6	4.5
	Al Malha	31.4	33.0	3.7	62.2	46.6	12.2	NA	1.0	88.0	43.9	48.5	16.8	0.2	16.0	8.5	68.0	3.2	1.1
	Al Seref	47.6	21.9	7.3	85.6	54.1	6.9	NA	1.6	95.5	25.9	59.3	17.8	1.4	14.1	52.4	27.4	12.9	2.5
	Al Tina	43.3	14.2	0.0	44.4	89.3	0.0	NA	0.9	28.6	26.1	59.7	22.1	9.0	17.3	66.7	31.9	2.8	0.9
	Al Twasha	38.5	30.4	4.1	92.1	83.4	7.4	NA	1.9	90.0	25.3	83.1	23.8	3.8	70.9	16.0	94.0	12.7	2.4
	Allait	41.2	40.5	9.7	89.3	88.7	3.5	NA	1.7	72.2	19.5	82.5	21.1	0.8	87.4	15.8	100.0	23.6	2.4
	Ambaro	33.8	15.7	1.6	81.7	65.4	11.8	NA	1.9	69.2	18.7	64.4	11.6	1.9	9.8	4.9	24.9	0.3	3.4
	Dar Alsalam	34.1	16.7	8.3	91.5	82.7	6.1	NA	2.6	100.0	35.3	95.5	62.5	1.8	44.2	47.3	94.4	5.8	4.2
	Kabbabia	47.9	15.1	2.1	92.5	71.3	5.9	NA	2.2	68.6	17.1	81.4	26.6	1.0	11.8	45.1	28.3	3.1	2.8
	Karnoi	28.5	31.3	0.0	53.9	69.0	4.7	NA	2.3	36.4	24.5	87.0	32.7	1.2	48.2	27.1	51.7	0.0	2.1
	Kelemendo	46.7	21.0	8.9	85.5	84.8	4.0	NA	2.8	79.2	32.4	84.0	31.6	6.6	75.0	52.3	96.5	15.2	4.3
	Kutum	23.4	37.6	2.7	93.5	93.0	3.2	NA	1.5	30.8	23.6	98.4	55.3	4.6	48.0	58.5	8.7	11.4	2.8
	Mallit	29.5	33.5	3.9	77.8	60.8	3.0	NA	1.2	95.5	34.3	55.8	24.0	0.6	21.5	15.8	83.5	0.8	1.0
	Saraf Omra	53.9	12.4	0.0	94.4	59.8	7.6	NA	1.9	100.0	20.3	36.8	3.1	1.8	3.1	43.8	0.0	0.0	2.5
	Tawila	48.2	9.5	3.3	53.7	83.0	0.0	NA	2.2	51.7	9.9	84.3	56.1	7.6	28.1	38.3	46.2	3.6	2.8
	Umkadada	30.7	33.8	3.5	86.4	86.3	1.7	NA	2.0	87.9	19.5	94.8	52.7	3.4	92.4	9.8	67.6	10.7	3.0
	All state except capital	35.2	28.3	5.8	80.4	77.0	5.9	NA	2.1	75.9	26.2	78.8	36.3	3.7	54.7	28.3	60.4	12.9	2.8
El Fashir Town	36.0	16.5	5.8	83.6	82.5	5.3	NA	2.9	59.3	12.8	92.5	56.5	14.2	86.7	28.6	59.2	48.1	3.9	
Zamzam Camp*	42.1	13.7	4.9	80.5	75.0	5.4	NA	3.0	65.8	18.5	85.8	51.6	8.6	52.6	33.3	67.7	31.3	3.7	
El Sireif Camp*	48.2	22.5	7.4	85.2	55.2	7.1	NA	1.6	93.8	26.2	60.1	18.0	1.4	14.0	51.7	26.5	12.2	2.5	
South Darfur	Al Rudoom (part)	32.5	9.7	3.7	90.6	42.1	21.4	9.7	1.1	81.0	8.5	58.1	19.7	1.3	32.8	1.5	23.2	1.3	1.5
	Alwehda	16.9	19.8	2.1	92.7	84.3	4.9	13.6	1.5	100.0	9.4	79.7	44.5	0.0	22.7	62.5	93.8	1.8	2.1
	Bellil	37.1	15.9	0.0	96.0	84.2	0.0	28.3	2.6	66.7	17.9	88.5	43.8	3.1	58.3	82.3	13.5	12.5	3.5
	Buram	26.7	14.7	1.1	70.6	24.9	13.9	7.9	1.6	46.2	25.3	48.6	14.9	0.8	7.3	1.9	0.0	1.0	1.4
	Dimso	46.0	23.1	20.8	82.6	80.4	0.0	37.0	1.2	75.0	13.5	86.5	47.9	0.0	37.5	3.0	37.5	19.8	1.7
	El Salam	47.2	29.1	4.4	74.3	70.1	0.0	3.9	2.5	94.4	11.8	78.4	38.9	9.8	26.1	95.5	27.8	2.3	2.6
	Geriada	0.0	17.7	0.0	61.0	91.3	0.0	14.3	1.9	100.0	0.0	100.0	75.0	8.3	75.0	46.2	33.3	6.1	2.3
	Id Elfirsan	4.8	12.5	1.4	44.3	46.8	21.6	0.0	1.9	84.9	7.8	77.3	39.1	6.3	65.6	37.0	35.4	0.0	1.8
	Kass	38.1	14.5	3.8	78.6	48.9	6.7	34.2	2.2	82.9	8.6	80.9	40.6	5.9	32.9	49.2	47.3	3.1	2.6
	Katila	26.2	22.3	4.6	94.5	84.2	0.0	90.4	1.1	86.7	15.6	67.2	27.7	0.0	31.7	0.0	19.2	0.0	1.6
	Kubum	5.1	10.6	0.0	50.6	53.8	17.3	0.0	1.7	84.0	3.1	88.1	63.8	2.5	76.3	17.4	11.3	4.4	2.4
	Mershing	36.7	16.0	5.9	93.3	77.4	11.3	16.0	1.8	77.5	12.5	100.0	75.0	9.4	15.6	56.3	100.0	0.0	2.9
	Netiga	20.1	12.6	0.0	88.7	37.5	28.7	31.6	2.4	81.8	12.0	44.7	11.2	0.0	4.4	37.3	62.1	5.1	2.5
	Rahad Elberdi (part)	2.3	22.6	0.0	58.4	48.9	12.7	0.0	1.7	37.5	12.9	68.4	19.4	2.6	16.7	57.1	84.6	0.0	1.7
	Toluss	46.7	20.2	23.5	67.4	73.2	0.0	11.1	1.3	0.0	35.5	59.4	22.2	0.0	26.6	1.6	7.8	3.1	1.1
	Um Dafog (part)	6.7	0.0	0.0	48.3	50.0	11.8	0.0	1.3	66.7	0.0	58.3	16.7	0.0	20.0	40.0	10.0	0.0	1.5
	All state except capital	24.5	18.3	3.6	82.7	69.9	7.9	33.7	1.6	79.9	13.0	77.9	41.9	3.2	33.5	31.4	47.4	2.2	2.1
	Nyala Town	29.3	12.9	2.9	93.9	66.2	12.5	18.9	1.5	48.8	6.8	96.1	72.8	15.4	80.3	31.1	15.1	11.6	1.4
Kalma Camp*	47.2	26.4	6.2	76.5	83.2	3.0	15.9	2.1	53.3	15.8	93.6	73.9	4.6	72.2	34.7	74.5	22.0	2.5	

State	Locality	Child information							Mothers of children 0 - 5 years							Household information			
		Stunting GLOBAL (6-59mo)	Wasting GLOBAL (WHZ) (6-59mo)	Wasting SEVERE (MUAC) (6-59mo)	Child Vitamin A supplementation (6-59mo)	Age appropriate full vaccination coverage (6-59mo)	Penta valent drop-out rate: Children >= 4 months has PENTA-1 but not PENTA-3 (4-59mo)	Good diarrhoea treatment (6-59mo)	Mean number illness danger signs known by mothers	Exclusive Breast feeding	Mother under nourished (MUAC <230mm)	At least one ANC visit	Four or more ANC visits	Iron-folate for 6 months during last pregnancy	Delivery attended by trained personnel	Adequately iodized salt (>= 15 ppm)	Improved source of drinking water	Improved sanitation facility	Five critical hand washing points (mean)
East Darfur	Abukarinka	39.0	14.3	2.8	43.3	86.8	0.0	NA	1.9	88.9	9.2	64.6	45.8	35.9	54.7	51.0	4.2	0.0	2.1
	Adilla (part)	37.1	3.6	1.6	85.1	72.5	4.4	NA	1.0	94.6	10.2	97.7	75.0	0.0	100.0	1.6	0.0	28.1	0.8
	Al Deain	18.9	11.1	3.2	94.2	36.5	18.0	NA	2.1	100.0	21.7	73.3	29.7	0.0	35.0	35.9	0.9	0.0	2.3
	Alfirdos	50.4	21.9	4.7	54.1	22.4	0.0	NA	3.6	76.9	33.0	67.9	34.5	0.0	59.8	0.0	2.6	1.0	4.0
	Asslaya	41.1	27.0	5.7	9.5	97.7	0.0	NA	1.9	53.9	11.4	13.8	12.5	0.0	12.6	61.1	69.4	3.5	2.0
	Aubgabar	31.5	14.6	0.0	74.2	58.6	14.5	NA	1.0	60.0	14.6	70.8	39.6	0.0	34.4	0.0	20.8	0.0	0.7
	Aubmatarg	36.6	10.3	0.0	78.4	83.8	5.4	NA	1.3	46.2	14.8	70.5	31.2	0.0	57.4	13.1	4.9	0.0	1.1
	Sharia (part)	50.3	25.7	6.6	91.9	79.4	6.0	NA	1.9	94.4	11.5	75.0	58.3	0.0	69.8	4.2	52.1	2.1	2.6
	Yaseen (part)	42.6	22.6	5.7	5.8	89.6	0.0	NA	1.8	0.0	9.4	56.3	48.4	45.3	42.2	62.5	25.0	10.9	2.0
	All state except capital	39.9	14.9	3.2	48.2	78.7	2.8	NA	1.7	81.2	12.2	68.6	49.3	17.8	60.2	31.9	12.7	7.9	1.8
Al Deain Town	32.6	13.3	3.9	78.1	81.9	4.1	NA	2.1	93.3	8.7	87.9	72.9	20.5	89.5	27.3	33.8	31.4	2.7	
West Darfur	Algenea	19.5	9.2	0.0	87.5	80.9	1.1	NA	2.8	90.9	4.7	80.4	62.8	28.1	62.8	39.2	41.2	56.9	2.9
	Baida	36.6	9.1	1.2	98.5	80.8	1.8	NA	2.4	100.0	11.5	87.1	57.7	3.6	13.6	72.4	11.1	1.6	2.5
	Forbranga	37.7	14.2	2.3	85.8	58.3	15.1	NA	1.9	63.8	3.9	55.4	20.1	2.3	13.7	3.0	65.7	3.0	2.5
	Gabal Moon	29.9	10.5	0.9	90.9	73.5	9.6	NA	1.9	100.0	6.9	85.0	53.3	6.7	45.3	49.0	56.8	22.2	1.6
	Habilla	50.3	14.6	3.9	93.1	36.3	12.2	NA	1.7	79.5	4.2	72.9	32.4	1.0	7.0	13.7	60.1	1.2	2.4
	Kerenik	32.6	7.6	0.6	84.1	72.2	12.7	NA	2.5	46.6	4.1	86.3	39.2	2.8	47.5	23.9	50.1	15.1	3.1
	Kulbus	42.2	12.6	1.3	97.5	76.6	7.5	NA	2.6	95.4	9.3	19.5	7.0	0.0	3.1	58.6	21.4	0.9	3.1
	Serba	40.8	6.7	2.6	84.8	65.5	9.6	NA	1.8	85.7	3.3	86.5	66.2	16.7	70.3	38.0	19.8	5.6	1.3
	All state except capital	34.8	8.4	1.4	86.4	69.6	9.7	NA	2.1	80.7	4.8	79.5	42.8	5.4	39.0	24.1	34.5	5.1	2.4
	Algenea Town	31.7	7.6	1.2	96.7	80.0	4.4	NA	2.0	58.3	6.9	91.9	71.6	18.6	83.8	33.2	53.5	29.1	2.7
Morne Camp*	49.1	11.9	2.1	97.0	57.2	18.8	NA	2.8	34.4	7.2	96.8	61.4	11.2	79.3	70.7	84.7	51.1	3.3	
Central Darfur	Azoum	50.9	10.6	2.5	91.0	80.8	3.0	NA	2.1	100.0	18.3	72.0	45.2	61.6	22.6	23.5	63.4	3.2	2.9
	Bendsi (part)	39.4	21.8	2.9	85.0	74.2	13.6	NA	2.1	100.0	16.1	53.8	8.6	77.4	33.3	30.1	57.0	12.2	2.6
	Mukjar (part)	45.6	11.3	2.0	93.2	83.1	2.5	10.1	1.7	89.5	15.1	96.8	70.9	22.5	73.3	55.6	37.4	48.5	2.3
	Nertati	49.6	1.9	1.1	84.7	63.5	0.0	NA	1.7	0.0	8.7	27.2	6.5	82.4	6.7	62.9	16.3	29.4	1.6
	Rokiro	53.5	10.1	0.0	92.3	77.6	1.9	NA	1.5	10.0	11.9	88.1	64.4	52.5	57.6	40.7	72.9	67.8	1.9
	Um Dukhun (part)	39.5	11.1	3.3	60.7	74.1	0.7	2.3	1.2	100.0	17.1	73.2	35.4	50.0	37.5	47.5	77.0	9.1	2.0
	Wadi Salih (part)	42.8	10.5	3.5	70.6	60.7	2.0	0.0	1.3	71.9	11.3	81.7	43.4	58.3	37.8	43.3	46.2	7.8	1.8
	Zalingei	34.0	14.6	0.8	73.5	67.8	7.4	20.0	1.7	85.6	9.8	79.5	46.2	42.5	60.3	48.3	46.1	22.2	2.3
	All state except capital	44.9	12.7	2.6	83.7	73.2	5.3	9.6	1.9	94.7	15.5	70.5	38.3	61.6	33.5	32.0	55.9	9.6	2.6
	Zalingi Town	21.8	13.4	1.5	99.4	96.8	0.0	NA	4.6	100.0	2.8	94.6	85.2	20.6	45.1	87.2	68.0	58.0	4.9
Mukjar Town*	45.1	11.1	1.8	93.3	83.6	2.6	9.6	1.7	89.3	15.2	96.9	71.4	23.2	73.2	54.3	36.9	48.4	2.3	
Um Dokhon Town*	41.1	11.1	3.4	60.9	73.1	0.7	2.0	1.2	100.0	18.0	73.8	35.4	49.3	38.6	47.7	76.9	9.0	2.0	

APPENDICES

Appendix 1: Indicators measured

Table 2: Indicators measured with definitions

	Indicator	Definition
1	Wasting GLOBAL (MUAC)	Proportion of children 6-59 months with a MUAC <125mm and/or oedema
2	Wasting MODERATE (MUAC)	Proportion of children 6-59 months with a MUAC <125mm - =>115mm
3	Wasting SEVERE (MUAC)	Percentage of children 6-59 months with a MUAC <115mm and/or oedema
4	Wasting GLOBAL (WHZ)	Percentage of children 6-59 months <-2 z-scores weight for height and/or oedema
5	Wasting MODERATE (WHZ)	Percentage of children 6-59 months <-2 z-scores weight for height and =>-3 z-scores weight for height
6	Wasting SEVERE (WHZ)	Percentage of children 6-59 months <-3 z-scores weight for height and/or oedema
7	Underweight GLOBAL	Percentage of children 6-59 months <-2 z-scores weight for age
8	Underweight MODERATE	Percentage of children 6-59 months <-2 z-scores weight for age and =>-3 z-scores weight for age
9	Underweight SEVERE	Percentage of children 6-59 months <-3 z-scores weight for age
10	Stunting / stuntedness GLOBAL	Percentage of children 6-59 months <-2 z-scores height for age
11	Stunting / stuntedness MODERATE	Percentage of children 6-59 months <-2 z-scores height for age and =>-3 z-scores height for age
12	Stunting / stuntedness SEVERE	Percentage of children 6-59 months <-3 z-scores height for age
13	Child sleeps under an ITN	Percentage of children 0-59 months who slept under an ITN on the night before the survey
14	Vitamin A supplement received	Percentage of children 6-59 months who received Vitamin A supplementation in the 6 months prior to the survey
15	Child of any age has BCG by card or recall	Percentage of children 0-59 months vaccinated for BCG by card, recall or scar
16	Pentavalent drop-out rate	Percentage of children >= 4 months vaccinated for PENTA-1 but not PENTA-3
17	Age appropriate vaccination	Percentage of children 6-59 months who had received full appropriate vaccinations for their age ⁷ (See footnote)
18	Period prevalence of diarrhoea	Percentage of children 6-59 months who suffered from diarrhoea in the 2 weeks prior to the survey
19	Period prevalence of ARI	Percentage of children 6-59 months who suffered from cough and difficult breathing in the 2 weeks prior to the survey

⁷The vaccination schedule in Sudan was used to assess age-appropriate vaccination, as per table below. Rotavirus is included in the National vaccination schedule, however was not included in measurement of fully vaccinated as the vaccine has only been recently introduced (in 2011) and therefore could have biased results for fully vaccinated.

Age	Antigen
From birth	BCG
2 months	Pentavalent 1, Polio 1
3 months	Pentavalent 2, Polio 2
4 months	Pentavalent 3, Polio 3
9 months	Measles
9 months and above	All of the above to be fully vaccinated

	Indicator	Definition
20	Period prevalence of fever	Percentage of children 6-59 months who suffered from fever in the 2 weeks prior to the survey
21	Good diarrhoea treatment	Percentage of children who suffered from diarrhoea in previous 2 weeks who were treated with ORS +/- ORS & home fluids +/- home fluids
22	Heard about Shuffaa Al Soghar	Percentage of mothers who had heard the Shuffaa Al Soghar slogan (<i>Slogan is: aham mafee al dar...hayat alshuffa'a alsoghar</i>)
23	Seen Shuffaa Al Soghar picture	Percentage of mothers who recognised the Shuffaa Al Soghar picture when shown
24	Refuses food and drink	Percentage of mothers who reported refusing food and drink as a sign or symptom in their child that would lead them to take the child to a health centre
25	Convulsions	Percentage of mothers who reported convulsions as a sign or symptom in their child that would lead them to take the child to a health centre
26	Severe vomiting	Percentage of mothers who reported severe vomiting as a sign or symptom in their child that would lead them to take the child to a health centre
27	Blood in stools	Percentage of mothers who reported blood in stools as a sign or symptom in their child that would lead them to take the child to a health centre
28	Fever	Percentage of mothers who reported fever as a sign or symptom in their child that would lead them to take the child to a health centre
29	Drowsiness / loss of consciousness	Percentage of mothers who reported drowsiness or loss of consciousness as a sign or symptom in their child that would lead them to take the child to a health centre
30	Difficult / fast breathing	Percentage of mothers who reported difficult or fast breathing as a sign or symptom in their child that would lead them to take the child to a health centre
31	Number of signs mentioned (mean)	Average number of illness danger signs listed by mothers
32	No signs mentioned	Percentage of mothers who could not list any of the 7 IMCI illness danger signs
33	Recommended Infant and Young Child Feeding (IYCF)	Percentage of children aged 0–24 months receiving the recommended infant and young child feeding practices <i>with 'good infant and young child feeding' defined as exclusive breastfeeding in children aged under six months and as age appropriate feeding practices (defined in terms of continued breastfeeding and meal frequency) in older children. Age-appropriate feeding practice is measured using an infant and child feeding index (ICFI - see below)</i>
34	Exclusive Breastfeeding (EBF)	Percentage of children 0-6 months taking breast milk only
35	Infant and Young Child Feeding Index (mean)	Average child feeding score (for IYCF recommended practices) among children 6-24 months ⁸ <i>Based on an age-appropriate score for breastfeeding practices and meal frequency (see footnote). Maximum score for this survey = 4</i>

⁸ Score for Infant and Young Child Feeding Index (ICFI), maximum score = 4. See Appendix 4 for details.

	Age group (months)					
	6-8		9-11		12-24	
	Value	Score	Value	Score	Value	Score
Breast fed (24 hours)	Yes	+2	Yes	+2	Yes	+1
Meal frequency (24 hours)	1	+1	1 or 2	+1	2	+1
	≥ 2	+2	≥ 3	+2	3	+2
					≥4	+3

	Indicator	Definition
36	Continuing Breastfeeding (CBF)	Percentage of children 6-24 months currently breastfeeding
37	Meal frequency diagnostic	Percentage of children receiving meals the appropriate number of times for their age during the 24 hours before the survey* (<i>see footnote</i>)
38	Mother undernourished (MUAC < 230mm)	Percentage of mothers with a MUAC less than 230mm
39	Mothers dietary diversity score	The average number of food groups eaten by mothers during the 24 hours before the survey
40	Plant sources of vitamin A consumed	Percentage of mothers reporting consuming plant sources of Vitamin A during the 24 hours before the survey
41	Animal sources of vitamin A consumed	Percentage of mothers reporting consuming animal sources of Vitamin A during the 24 hours before the survey
42	Iron-rich foods consumed	Percentage of mothers reporting consuming iron-rich foods during the 24 hours before the survey (<i>Iron-rich foods defined as meat / chicken / offal / legumes / pulses</i>)
43	At least one ANC visit	Percentage of mothers reporting at least one ante-natal care visit during their last pregnancy
44	Four or more ANC visits	Percentage of mothers reporting four or more ante-natal care visits during their last pregnancy
45	ANC attended by trained personnel	Percentage of mothers reporting their ANC visit was attended by a trained health care professional (<i>Trained defined as: Doctor / Nurse / trained Midwife / Medical Assistant or Health Visitor</i>)
46	Iron-folate for 6 months	Percentage of mothers reporting receiving iron and folic acid tablets (tablets shown) for six months or more
47	Iron-folate for at least one month	Percentage of mothers reporting receiving iron and folic acid tablets (tablets shown) for one month or more
48	Delivery attended by trained personnel	Percentage of mothers reporting that their last birth was attended by a trained health care professional (<i>Trained defined as: Doctor / Nurse / trained Midwife / Medical Assistant or Health Visitor</i>)
49	Postpartum vitamin A received	Percentage of mothers reporting taking Vitamin A supplementation (capsule shown) during the 6 weeks after their last birth
50	Night blindness during last pregnancy	Percentage of mothers reporting difficulty seeing in the evening or night or suffering from night blindness
51	Adequately iodised salt	Percentage of households with a sample of salt tested as containing equal to or more than 15 parts per million of iodate
52	Household hunger score: Little to no hunger	Households scoring 0 - 1 on the hunger score ⁹
53	Household hunger score: Moderate hunger	Households scoring 2 - 3 on the hunger score (<i>see footnote 9</i>)

⁹ Details for Household Hunger Score:^[8]

Household Hunger Score: Questions	Number of times reported for each question and score. Maximum score = 6.
1. How many times in the last 1 month is there no food in your house because of no access to food	0 time – score = 0
2. How many times in the last 1 month did you or anyone in this household sleep hungry because of no adequate food in your house?	<10 times – score = 1
3. How many times in the last 1 month did you spend a day and a night without eating or having any food at all, you or anyone in your household, because of no adequate food in your house	10 times or more – score = 2

	Indicator	Definition
54	Household hunger score: Severe hunger	Households scoring 4 - 6 on the hunger score <i>(see footnote 9)</i>
55	Household hunger score (mean)	Average household hunger score <i>(maximum score = 6)</i> <i>(see footnote 9)</i>
56	Improved source of drinking water	Percentage of households reporting an improved source of drinking water <i>(Improved source defined as: Piped water to public tap, piped water into dwelling, water station, water tank, hand-pump, protected well, protected spring, bottled water)</i>
57	Improved sanitation facility	Percentage of households reporting an improved sanitation facility as most usually used <i>(Improved facility defined as: Toilet with drain; Toilet with septic tank; Toilet with drain to a hole; Toilet with drain to unknown place; Traditional latrine with cement cover)</i>
58	Sanitary disposal of children faeces	Percentage of mothers reporting sanitary disposal of child faeces <i>(Sanitary disposal defined as: Bathroom / latrine or buried)</i>
59	Five critical hand washing points (mean)	Average number of critical time points for hand washing reported by mothers <i>(Five critical time points are: after defecation; after cleaning child defecation; before eating; before feeding child; before cooking)</i>

Appendix 2: Sample size details

State	Locality	Villages, town or camp surveyed	# of HH	Number of children included
AI Gezira	EL HASAHEISA	villages	192	244
	EL KAMLIN	villages	225	293
	EL MANAGIL	villages	575	926
	JANUB EL GEZIRA	villages	288	408
	MADANI AL KOBRA	villages	32	39
		town	297	421
	SHARG EL GEZIRA	villages	400	577
	UMM EL GURA	villages	192	283
State total			2201	3191
Blue Nile	Baw	villages	64	94
	Damazin	villages	96	157
		town	236	413
	Giassan	villages	513	753
	Kurmuk	villages	96	164
	Rosairs	villages	892	1425
		town	230	389
	Tadamon	villages	128	208
State total			2255	3603
Central Darfur	AZOUM	villages	82	134
	BENDSI	villages	82	125
	MUKJAR	camp	179	332
	NERTATI	villages	73	123
	Rokiro	villages	59	108
	UM DUKHUN	camp	180	328
	WADI SALIH	villages	358	641
	ZALINGEI	villages	457	735
		town	199	366
State total			1669	2892
East Darfur	ABU GABRA	villages	89	146
	ABU KARINKA	villages	195	308
	ABU MATARG	villages	61	111
	ADILLA	villages	110	175
	AL DEAIN	villages	120	198
		town	211	388
	ALFIRDOS	villages	141	212
	ASSLAYA	villages	88	144
	SHARIA	villages	96	165
	YASEEN	villages	64	106

State	Locality	Villages, town or camp surveyed	# of HH	Number of children included
	State total		1175	1953
Gedaref	AL GADAREF	town	269	398
	AL GADAREF WASAT	villages	560	872
	AL MAFAZA	villages	74	125
	ALBUTANA	villages	543	868
	ALFASHAGA	villages	459	722
	ALFAW	villages	150	250
	ALGALABAT AL GARBIYA	villages	96	157
	ALGALABAT AL SHARGIY	villages	127	175
	ALGURISHA	villages	320	505
	ALRAHAD	villages	96	148
	BASONDA	villages	289	410
	GULA ALNAHAL	villages	239	396
	State total		3222	5026
Kassala	AROMA	villages	180	281
	HAMSHKOREB	villages	90	150
		town	224	377
	KASSALA	town	251	393
	KSHMALGRBA	villages	126	180
	NAHR ATBARA	villages	54	68
	NORTH DELTA	villages	212	320
	RIFY HALFA	villages	192	295
	RIFY KASSALA	villages	160	258
	TALKOK	villages	255	399
	WADALHLEW	villages	102	159
	WEST KASSALA	villages	67	111
State total		1913	2991	
Khartoum	BAHARI	Villages	241	339
	GABEL AWLIA	Villages	311	482
	KARRARRI	Villages	248	348
	KHARTOUM	Villages	168	226
	SHAREG ELNILE	Villages	838	1273
	UMBADA	Villages	268	440
	UMDRMAN	Villages	298	472
	State total		2372	3580
River Nile	ABU HAMAD	Villages	346	523
	ALBUHAIRA	Villages	172	257
	ATBARA	Villages	161	245
		Town	271	396
	BARBAR	Villages	148	217
	ED DAMER	Villages	449	710
		Town	243	394
EL MATAMMAH	Villages	401	638	

State	Locality	Villages, town or camp surveyed	# of HH	Number of children included
	SHENDI	Villages	179	306
	State total		2370	3686
North Darfur	Al Fasher	Villages	384	601
		Town	239	387
		Camp	215	362
	Al Koma	Villages	127	189
	Al Malha	Villages	386	562
	Al Seref	Camp	211	375
	Al Tina	Villages	119	180
	Al Twasha	Villages	254	388
	Allait	Villages	127	206
	Ambaro	Villages	212	327
	Dar Alsalam	Villages	207	308
	Kabkabia	Villages	277	461
	Karnoi	Villages	82	118
	Kelemendo	Villages	251	380
	Kutum	Villages	388	608
	Mallit	Villages	379	602
	Saraf Omra	Villages	57	84
	Tawila	Villages	223	365
	Umkadada	Villages	331	552
State total		4469	7055	
Northern	ALBORGEG	Villages	6	8
	ALDABBA	Villages	203	287
	ALGOLED	Villages	154	234
	DALGO	Villages	221	311
	DONGOLA	Villages	231	333
		Town	249	384
	HALFA	Villages	180	238
	MERAWI	Villages	316	446
	State total		1560	2241
Northern Kordofan	Bara	Villages	695	1098
	El Rahad	Villages	62	112
	Jebrat El Sheikh	Villages	371	607
	Sheikan	Villages	404	688
		Town	253	401
	Sowdari	Villages	483	743
	Umm Daam	Villages	65	104
Umm Rawaba	Villages	1019	1673	

State	Locality	Villages, town or camp surveyed	# of HH	Number of children included
	West Bara	Villages	107	185
	State total		3459	5611
Red Sea	AGEEG	Villages	169	258
	ALGANEB ALOLIB	Villages	232	332
	DORDAIB	Villages	151	223
	HAIA	Villages	196	284
	HALIAB	Villages	40	53
	JAPITALMADIN	Villages	117	155
	PORT SUDAN	Villages	845	1188
	SAWAKEN	Villages	77	106
	SENKAT	Villages	112	155
	TOKAR	Villages	187	250
	State total		2126	3004
Sennar	Abu Hajar	Villages	159	265
	Al Dindir	Villages	345	567
	AlDali and AlMazmoum	Villages	369	575
	AlSooki	Villages	263	444
	Sennar	Villages	318	501
		Town	280	413
	Sharg Sennar	Villages	319	519
	Sinja	Villages	154	265
		Town	244	386
State total		2451	3935	
South Darfur	AL RUDOOM	Villages	284	502
	ALWEHDA	Villages	120	189
	BELIL	Villages	96	154
	BURAM	Villages	104	178
	DMSO	Villages	66	105
	EL SALAM	Villages	130	215
	GERIEDA	Villages	23	31
	ID ELFIRSAN	Villages	149	266
	KASS	Villages	223	385
	KATILA	Villages	204	315
	KUBUM	Villages	138	239
	MERSHING	Villages	32	53
	NETIGA	Villages	103	183
	Nyala	Town	232	368
		Camp	218	378
	RAHAD ELBERDI	Villages	158	281
TOLUSS	Villages	63	110	

State	Locality	Villages, town or camp surveyed	# of HH	Number of children included
	UM DAFOG	Villages	12	22
	State total		2355	3974
Southern Kordofan	Abujebiha	Villages	412	656
	Al tadmoon	Villages	284	491
	Alabaseya	Villages	84	161
	Algoz	Villages	289	472
	Allirri	Villages	183	301
	Alreif alshargi	Villages	96	184
	Dilling	Villages	64	124
	Gadeir	Villages	254	427
	Habeila	Villages	189	320
	Kadugli	Town	278	456
	Rashad	Villages	78	137
	Talodi	Camp	231	399
	State total		2442	4128
West Darfur	ALGENEANA	Villages	51	89
		Town	219	367
	BAIDA	Villages	205	349
	FORBRANGA	Villages	183	305
	GABAL MOON	Villages	262	437
	HABILLA	Villages	232	388
	KERENIK	Villages	533	892
		Camp	224	360
	KULBUS	Villages	179	286
	SERBA	Villages	178	269
State total		2266	3742	
Western Kordofan	Abo Zabad	Villages	121	191
	Abyei	Villages	377	606
	Al Khowi	Villages	341	555
	Al Odaya	Villages	149	242
	Al Salam	Villages	392	654
		Town	229	403
	Aldebab	Villages	193	325
	Almearam	Villages	73	118
	Alsnout	Villages	288	497
	Babanusa	Villages	116	188
	En Nuhud	Villages	368	588
	Ghebeish	Villages	487	766
	Kailak	Villages	272	433
	Lagawa	Villages	381	669

State	Locality	Villages, town or camp surveyed	# of HH	Number of children included
	Wad Bandah	Villages	426	676
	State total		4213	6911
White Nile	ALSALAM	Villages	345	569
	ED DOUIEM	Villages	362	566
	EL GUTAINA	Villages	377	579
	EL JABALAIN	Villages	260	433
	GULI	Villages	177	285
	KOSTI	Villages	121	195
		Town	274	438
	RABAK	Villages	51	86
		Town	274	418
	TANDALTI	Villages	175	288
	UMM REMTA	Villages	160	245
		State total		2576
	COUNTRY TOTAL		45094	71625

Appendix 3: Cities, camps and localities included in the survey

State	City	Camps / other
White Nile	Kosti and Rabak	-
Gezira	Medani	-
Northern	Dongola	-
River Nile	Atbara and AtDamar	-
Gedaref	Gedaref	-
Kassala	Kassala and Hamesh Koreb	-
Blue Nile	Damazine and Rosaires	12 new villages and 2 large villages in Kurmuk Locality
Sennar	Sennar and Singa	-
North Kordofan	El Obeid	-
South Kordofan	Kadugli	-
West Kordofan	El Fula	-
Red Sea	Port Sudan - Urban S3M	-
Khartoum	Khartoum City - Urban S3M	-
North Darfur	El Fasher (including Abushok and Alsalam)	Zamzam and El Sereif
South Darfur	Nyala (including Otash, Dereige and Alsalam)	Kalma and Gereida
West Darfur	Geneina (including Grinding)	Mornei
Central Darfur	Zalingi (including Hassa Hissa)	Umdukhan and Mukjar
East Darfur	Eddain (including El Neem)	-

Localities **not** surveyed in the S3M (174 were included either in total or part, remaining 10 are below):

	State	Locality	Reason
1	South Kordofan	Al Buram	Inaccessible during S3M
2	South Kordofan	Heiban	Inaccessible during S3M
3	South Kordofan	Kadugli	Inaccessible during S3M (Kadugli town is available)
4	South Kordofan	Talodi	Inaccessible during S3M (Talodi town is available)
5	South Kordofan	Umm Durein	Inaccessible during S3M
6	South Darfur	Nyala North	Surveyed in S3M as part of Nyala town
7	South Darfur	Sharg Jabel Marra	Surveyed in S3M as part of Kass locality
8	South Darfur	Shattai	Surveyed in S3M as part of Kass locality
9	South Darfur	Sunta	Inaccessible during S3M
10	North Darfur	Al Waha	Surveyed in S3M as part of different localities

Appendix 4: References

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- [17] <http://sampsizemethod.sourceforge.net/iface/index.html>

Appendix 5: Survey questionnaires

VILLAGE INFORMATION									
Date _ _ _ _ / _ _ / _ _									
Sample number : _ _ _ _ _ _ Team number: _ _									
Village name: _____					Population number: _____				
Longitude with GPS machine: _ _ ° _ _ '. _ _ ' N									
Latitude with GPS: _ _ ° _ _ '. _ _ ' E									

MINISTRY OF HEALTH - Nutrition Department - National S3M Survey

Household Questionnaire (include every household from the random starting point that has one child or more aged between 0 and 59 months)

Date:		State:		Locality:	
Name of village:		Number of sample point:			
Number of household:		Number of team:			

This part for office use at data entry:					
Name of the reviewer:		Comments:			
Name of data enterer:		Comments:			
Name of reviewer of data entry:		Comments:			

		R1	R2	R3	R4	R5
No	Name	Sex	Age	For everyone 6 years and more		
		1 = Male 2 = Female	Record in completed years	Did you go to school ever in your life? 1 = yes 2 = No	Are you currently at school? 1 = yes 2 = No	Level of education achieved. Basic or Halw a (Koran), write the number of years.
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

How many mothers in the surveyed household?	
How many children 0-59 months in the surveyed household?	

MPI 1	How many family members have completed 5 years or more of education?		<input type="text"/>
MPI 2	How many family members aged between 6 and 14 years are not educated?		<input type="text"/>

Record number of answer in corresponding square

R6	Does this house have electricity?		1 = Yes 2 = No	<input type="text"/>
R7	What is the main fuel used for cooking? Record one answer only - the main fuel used.		1 = Electricity 2 = Gas 3 = Kerosene 4 = Charcoal 5 = Wood 6 = Grass / straw / crops 7 = Dung	<input type="text"/>
R8	What is the floor made from (observation)		1 = Sand / dung / dirt 2 = Other - specify	<input type="text"/>
R9	Does the household own:		R9.1 = Radio	<input type="text"/>
	Read out list and tick all owned		R9.2 = Television	<input type="text"/>
			R9.3 = Fridge	<input type="text"/>
			R9.4 = Mobile / landline	<input type="text"/>
			R9.5 = Bicycle	<input type="text"/>
			R9.6 = Motorbike / Rickshaw (tuktuk)	<input type="text"/>
			R9.7 = Boat with engine	<input type="text"/>
			R9.8 = Car / lorry / truck / tractor	<input type="text"/>
			R9.9 = horse / donkey and cart	<input type="text"/>

MUAC of Mother	Record to nearest mm: ___ ___ ___
----------------	--------------------------------------

Health behaviours

BH	What are the signs and symptoms that would lead you to take your child to the health center		BH.1 = Refuses food / drink / breast	<input type="text"/>
			BH.2 = Convulsions	<input type="text"/>
			BH.3 = Vomiting	<input type="text"/>
	Record all the mother says with a tick in the corresponding square, no prompting.		BH.4 = Bloody diarrhoea	<input type="text"/>
			BH.5 = Fever	<input type="text"/>
			BH.6 = Drowsiness / unconsciousness	<input type="text"/>
			BH.7 = Fast difficult breathing	<input type="text"/>
			BH.8 = Don't know	<input type="text"/>
			BH.9 = Other	<input type="text"/>

WASH				
WS1	Where do you usually get your drinking water? Record with a tick for the main source in the corresponding box			
	Unsafe water source: Water from river, stream, small dam, hafia, lake, puddle, canal, rain, unprotected well, spring, water tankers, donkey carts.		Safe water source: Piped water to public tap, piped water into dwelling, water station, water tank, hand-pump, protected well, protected spring, bottled water	
	<input type="checkbox"/>		<input type="checkbox"/>	
WS2	Type of toilet Record with a tick for the toilet most usually used			
	Improved latrine: Toilet with drain Toilet with septic tank Toilet with drain to a hole Toilet with drain to unknown place Traditional latrine with cement cover		Non-Improved latrine: Drain to another place traditional latrine with no cover - open Hanging latrine Bucket No latrine Other	
	<input type="checkbox"/>		<input type="checkbox"/>	
WS3	How many households share this latrine? Record the number of households who are sharing, if none sharing record 0			<input type="text"/>
WS4	How do you dispose of child faeces			
	Healthy practice: Bathroom / latrine Buried		Unhealthy practice: In drain other than latrine or bathroom In the rubbish Remain on the ground Other	
	<input type="checkbox"/>		<input type="checkbox"/>	
WS5	When do you usually wash your hands?		WS5.1 = After defecation	<input type="checkbox"/>
	Record a tick in the appropriate box.		WS5.2 = After cleaning child	<input type="checkbox"/>
			WS5.3 = Before eating	<input type="checkbox"/>
			WS5.4 = Before feeding child	<input type="checkbox"/>
			WS5.5 = Before cooking	<input type="checkbox"/>
			WS5.6 = Other	<input type="checkbox"/>

Reproductive health				
RH1	During your last pregnancy how many times did you go for ANC? Record number of visits, if none record 0			<input type="text"/>
RH2	When you went for ANC, who saw you?		RH2.1 = Doctor	<input type="text"/>
	Put a tick in appropriate square.		RH2.2 = Nurse	<input type="text"/>
			RH2.3 = Trained midwife	<input type="text"/>
			RH2.4 = TBA	<input type="text"/>
			RH2.5 = Doctor assistant	<input type="text"/>
			RH2.6 = Health visitor	<input type="text"/>
			RH2.7 = Other	<input type="text"/>
RH3	For how many months during your last pregnancy did you take these tablets? Show FEFOL and record number of months. If none record 0			<input type="text"/>
RH4	Who helped during the delivery of your last child?		1 = Doctor 2 = Nurse 3 = Trained midwife 4 = TBA 5 = Doctor assistant 6 = Health visitor 7 = Other	<input type="text"/>
RH5	During the post-partum 6 weeks, did you take this capsule? Show VITAMIN A capsule		1 = Yes 2 = No	<input type="text"/>
RH6	During your last pregnancy did you have any problem seeing in the night or evening / night blindness?		1 = Yes 2 = No	<input type="text"/>
ST	Can I see a sample of your salt which you use for your cooking in your house?		1 = Not iodised 2 = LESS than 15ppm 3 = GREATER than or equal to 15ppm 4 = No salt 5 = Refused to give salt	<input type="text"/>
Food security:				
For the following questions record the number in the corresponding box				
HH1	How many times in the last 1 month is there no food in your house because of no access to food			<input type="text"/>
HH2	How many times in the last 1 month did you or anyone in this household sleep hungry because of no adequate food in your house?			<input type="text"/>
HH3	How many times in the last 1 month did you spend a day and a night without eating or having any food at all, you or anyone in your household, because of no adequate food in your house			<input type="text"/>
Shuffa Alsoghar:				
C4D1	Have you heard of this slogan: <i>aham mafee al dar...hayat alshuffa'a alsoghar</i>		1 = Yes 2 = No	<input type="text"/>
C4D2	Have you seen this image before? (Show mother the sticker)		1 = Yes 2 = No	<input type="text"/>

Diet Diversity						
		Household	Child 1	Child 2	Child 3	Child 4
DD1	Cereals:	_ _	_ _	_ _	_ _	_ _
DD2	Roots and tubers:	_ _	_ _	_ _	_ _	_ _
DD3	Carrot / Pumpkin	_ _	_ _	_ _	_ _	_ _
DD4	Green leafy veg	_ _	_ _	_ _	_ _	_ _
DD5	Any other veg	_ _	_ _	_ _	_ _	_ _
DD6	Papaya / Mango	_ _	_ _	_ _	_ _	_ _
DD7	Other fruits	_ _	_ _	_ _	_ _	_ _
DD8	Meat or chicken	_ _	_ _	_ _	_ _	_ _
DD9	Offal	_ _	_ _	_ _	_ _	_ _
DD10	Eggs	_ _	_ _	_ _	_ _	_ _
DD11	Fish	_ _	_ _	_ _	_ _	_ _
DD12	Legumes and pulses	_ _	_ _	_ _	_ _	_ _
DD13	Dairy products	_ _	_ _	_ _	_ _	_ _
DD14	Oils and fats	_ _	_ _	_ _	_ _	_ _
DD15	Sugar / honey / candy	_ _	_ _	_ _	_ _	_ _
DD16	Soft drinks / tea / coffee	_ _	_ _	_ _	_ _	_ _

Children 0-59 months

Child ID	AGE	SEX	ANT1	ANT2	ANT3	ANT4	DIA	ARI	FEV	DT	ITN	IMM1	IMM2	IMM3	IMM4	IMM5	IMM6	IMM7	IMM8	VITA	BF1	BF2	MF	
	Record age of child in months	Record sex of child 1 = Male 2 = Female	MUAC (to the nearest mm) Record for children 0-59 months If <115mm refer to nearest OTP/ HC. If <125mm refer to SFP/ HC.	WEIGHT (to the nearest kg) Record for children 0-59 months	HEIGHT (to the nearest mm) Record for children 6-59 months	Bi-lateral ODEMA 1 = Yes 2 = No If yes refer to nearest OTP/ HC	In the last 2 weeks has this child suffered from (read out list) Diarrhoea 1 = Yes 2 = No Cough with difficult breathing 1 = Yes 2 = No Fever 1 = Yes 2 = No			For any child who suffered from diarrhoea How do you treat your child 1 = ORS 2 = ORS + home fluids 3 = Home fluids only 4 = Medicine 5 = Nothing 6 = Other 7 = Don't know	Did (CHILD) sleep under a LLITN last night? 1 = Yes 2 = No	Has the child received the following vaccinations (ask to see vaccination card) 1 = YES with card 2 = YES history 3 = No 4 = Don't know 5 = Not appropriate for this child BCG (scar) DPT1 + Hib1 + HepB DPT2 + Hib2 + HepB DPT3 + Hib3 + HepB OPV1 OPV2 OPV3 Measles								Has the child received Vitamin A in the last 6 months? 1 = Yes 2 = No	is (CHILD) breast feeding now? 1 = Yes 2 = No 3 = Not applicable	Did (CHILD) have any food or drink other than breast milk? 1 = Yes 2 = No 3 = Not applicable	How many times did this child eat mashed, pureed, solid or semi-solid foods since this time yesterday? Not including liquids or breast feeding.	

عدد الاطفال بالاسرة المبحوثة من 0-59	شهر
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هذا الجزء لاستخدام المكتب فقط :

_____	MPI.1 اي فرد من افراد الاسره اكمل 5 سنوات او اكثر في التعليم
_____	MPI.2: اي فرد من افراد الاسره من 6 – 14 لم يدخل المدرسه

ضع رقم الاجابة في الصندوق المخصص

_____	1= نعم 2= لا	R6: بيتكم فيهو كهرباء ؟
_____	1 = كهرباء 2 = غاز 3 = جازاكيروسين 4 = فحم 5 = حطب 6 = قشاقصب\بقايا المحاصيل 7 = ذبالة البهايم	R7: الحاجه الاساسيه البتتجسوا بيها الاكل شنو ؟ اجابه واحده فقط
_____	1 = تراب- رمله – ذباله – روث البهايم 2 = اخري حدد.....	R8: بلاط الارضيه(يمكن بالملاحظه):
_____	R9.1 راديو R9.2 تلفزيون R9.3 تلاجه R9.4 موبايل او تلفون ثابت R9.5 عجله R9.6 موتر- ركشه R9.7 مركب بي مكنه R9.8 عربيه – شاحنه – لوري- تراك R9.9 كارو بي حصان او حمار	R9: عندكم في بيتكم الاتي: قراءة كل الخيارات اذا كانت الاسره تغتني احد الخيارات المذكوره ضع علامة ✓ في المربع المقابل

قياسات الام: المواك بالملم _____
السلوك الصحي:

<p>BH.1 اذا رفض الاكل/الشراب /الرضاعة BH.2 تشنجات BH.3 طراش شديد BH.4 دم في البراز BH.5 حمي BH.6 دوخة/فقدان الوعي/كسلان BH.7 سرعة او صعوبة في التنفس BH.8 لا اعرف BH.9 اخري</p>	<p>BH شنو الاعراض والعلامات البتخليكي تودي الطفل العيان للمركز الصحي اكتب كل ما تذكره الام ولا تقرأ لها الخيارات ضع ✓ في المربع المقابل</p>
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المياه و اصحاح البيئة: WASH

<p>WS1: في اغلب الاحيان بتجيبو موية الشراب من وين اكتب ✓ للمصدر الرئيسي في الصندوق المخصص</p>	
<p>المصادر المياه المحمية: ماء عبر ماسورة (شبكة عامة) النداخالمني ماء عبر ماسورة (شبكة عامة) النداخالحوش ماء عبر ماسورة (شبكة عامة) ماسورة مياه عامة ماء عبر ماسورة (شبكة عامة): دونكي - صهريج - مضخة يدوية (كراجة) بنر سطح محمية/مغطاه نبعمحي مياه معبأه في قوارير (موية صحه)</p>	<p>مصادر المياه الغير محمية: مياه (نهر-جدول -سد - حفير -بحيرة -بركة -قناة -امطار - ترعة) غير بنر غير محمي نبع غير محمي مياه منقوله عبر بية تانكر \ كارو</p>
<p>_____</p>	<p>_____</p>
<p>WS2: نوع المراض\ المستراح\ الادبخانه عندكم شنو ضع ✓ في الصندوق المخصص للمراض الاكثر استخداما</p>	
<p>مراحيض غير محسنه: سيفونالماكن اخر مراضبلاد يمدون غطاء (مفتوح) مراضتخمير جردل لا يوجد اخري _____ __ </p>	<p>مراحيض محسنه: سيفونالشبكته مجاري عامه سيفونالحوضتخمير سيفونالمرحاض حفرة مراض حفرة محسنة تهوية سيفونالماكن غير معروف مراضبلاد يغطاه اسمنت _____ __ </p>
<p>_____</p>	<p>_____</p>
<p>WS3 مراضكم ده كم اسره بتشاركم فيهو اكتب عدد الاسر المشاركه اذا ما مشترك اكتب صفر</p>	
<p>_____</p>	<p>_____</p>

WS 4 كيف ستتخلصي من براز / فسحة طفلك الصغير	
ممارسات صحية: استخدم الماء الفلحمام/ المرحاض وَضْعُ/غُسْلُ في الحمام/ المرحاض دفن	ممارسات غير صحية: وَضْعُ/غُسْلُ في مجرى التصريف أو المصرف ألق في القمامة (النفايات) تُرْكُ في العراء أخرى
__	__
WS5 عادة بتغسل يديك متين ضع علامة √ في المربع المقابل للاجابة المذكوره	
WS5.1 بعد قضاء الحاجة __ WS5.2 بعد تنظيف الطفل من التبرز __ WS5.3 قبل الاكل __ WS5.4 قبل اطعام الطفل __ WS5.5 قبل الطبخ __ WS5.6 اخري __	

الصحة الانجابيه:

__	RH1 : اثناء حملك الاخير كم مره مشيتي للمتابعه اكتب عدد الزيارات و اذا لا لم تذهب ضع صفر
RH2.1 دكتور RH2.2 ممرضه RH2.3 دايه مدربه RH.2.4 دايه تقليديه RH.2.5 مساعد طبي RH.2.6 زايه صحيه RH.2.7 اخري	RH2 لما مشيتي للمتابعه الكشف عليكي منو ضع √
__	RH 3 الحبوب دي (الفيول) اخديها لمدة كم شهر اكتب العدد اذا لم تاخذ اكتب صفر
=1 دكتور =2 ممرضه =3 دايه مدربه =4 دايه تقليديه =5 مساعد طبي =6 زايه صحيه =7 اخري	RH 4 الولدك منو بولدك الاخير
=1 نعم =2 لا __	RH5 خلال فترة النفاس (6 اسابيع) اخدي الكبسوله دي وربها كبسولة فتامين أ
=1 نعم =2 لا __	RH6 في حملك الاخير كان عندك مشكله عدم شوف /طشاش بالليل/بالمغرب/عمي ليلي

اختبار الملح:

1 = غير ميودن (ما مضاف ليهو يود) 2 = اقل من 15 ppm __	ST ممكن اشوف عينه من الملح البتستخدميهو للاكل في بيتكم
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3 = أكثر من أو يساوي 15 ppm
4 = لا يوجد ملح بالمنزل
5 = رفض

الامن الغذائي: الاسئلة التاليه ضع العدد في الصندوق المخصص

HH1	كم مره فيالشهر الماضيحدثعدموجودطعامفيالمنزليسببعدمإمكانيةالحصولعليه؟	__ __
HH2	كم مره فيالشهر الماضيحدثأننمتاوايفردمنأفرادالأسرةجائعابسببعدموجودطعامكافيالمنزل؟	__ __
HH3	كم مره فيالشهر الماضيحدثأنقضيتيوموليلتبدو ننتناو لأيطعاموايفردمنأفرادالأسرةبسببعدموجودطعامكافيالمنزل؟	__ __

برنامج الشفع الصغار:

C4D1	سمعتي بي الشعار ده (اهم ما في الدار الشفع الصغار)	1 = نعم 2 = لا	__
C4D2	شفتي الصوره دي؟ وريها الصوره	1 = نعم 2 = لا	__

التنوع الغذائي للأسره: هذه الاسئله للام و كل طفل 6-59 شهر علي حداضع علامة √ في الصندوق المخصص لكل اذا تناولت الام او الطفل الوجبة المذكورة

الطفل الرابع	الطفل الثالث	الطفل اللتاني	الطفل الاول	الام	منأمبارح ذي المواعيد دي وحتنالأنهلنتناولتي (الام و الاطفال 6- 59 شهر) ايطعامأوشرايحتويعلناأمنالآتي (أسألعنكلطفأعلنحده)
__	__	__	__	__	DD1 أيمنالحبوبالغذائية (ذرة/قمح/دخن ... إلخ)
__	__	__	__	__	DD2 الدر نياتأوالنباتاتالجزريةالآخري (بطاطس/بصل/كسافا/يامبي)
__	__	__	__	__	DD3 أيطعاميحتويعليلالجزر/القرع/
__	__	__	__	__	DD4 أيمنالخضروواتالورقيةالخضراءالداكنة او الداكنه الخضره (الجرجير/الخدره/السلج ... إلخ)
__	__	__	__	__	DD5 اي من الخضروات الآخري
__	__	__	__	__	DD6 أيفواكهالصغراء مثل بابايا, مانجو, برتقال, ليمون, تفاح
__	__	__	__	__	DD7 أيفواكهآخري
__	__	__	__	__	DD8 أيمناللحومالحمرأوالبيضاء (البقر/ الضان / الغنم/دجاج /الجرادأوالعندأوالسلطعونأوايحشراآخري)
__	__	__	__	__	DD9 الكبدأوالكلاويأوالقلوباوكمونية (أمفتت)
__	__	__	__	__	DD10 ببيض
__	__	__	__	__	DD11 الاسماكطازجةأوجافةأوطعمةبحرية
__	__	__	__	__	DD12 البقولياتأوالمكسرات (القولالسوداني/ العدس /القول/الفاصوليا ... إلخ)
__	__	__	__	__	DD13 منتجاتالبان (جبنة/زبادي/وغيرها)
__	__	__	__	__	DD14 أياكلمضافإليهاالدهونمثلالزيتأوالسمنأوالقشدة
__	__	__	__	__	DD15 السكرأوالعسلأوالحلويات (كيك/بساطموغيرها)
__	__	__	__	__	DD16 مياهمحلاةأومنكه (عصير/شاي/قهوة/شوربة/مياهاغازية/ أي شرابمضافإليهاالتوابلأوالبهارات)

