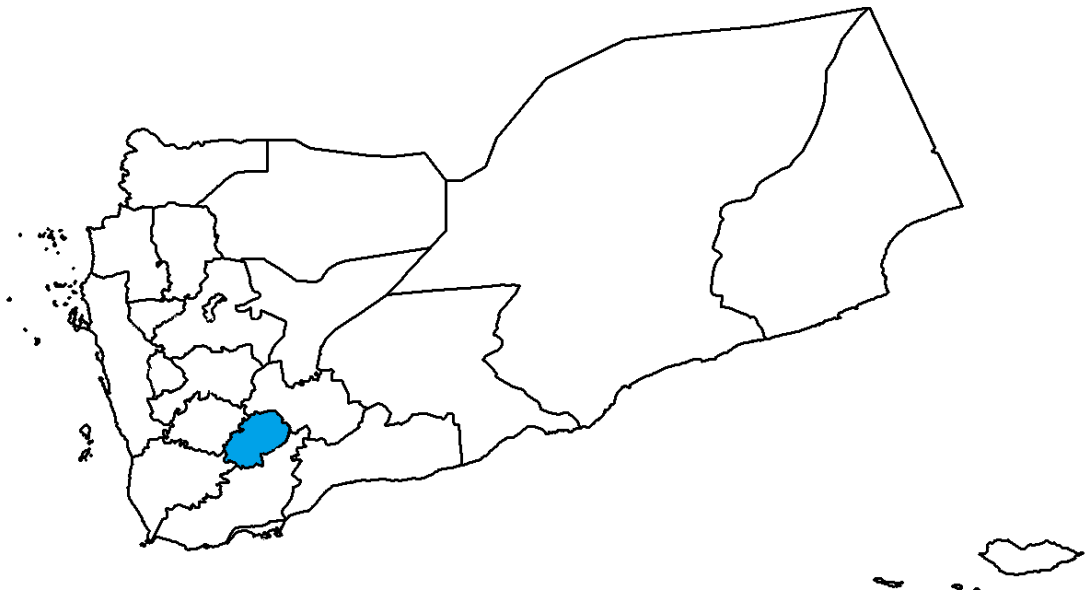
Republic of Yemen

Ministry of Public Health and Population

Nutrition Survey Report

Al Dhale'e Governorate, Yemen

20 to 25 August 2016



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Introduction

Al Dhale'e is one of emerging governorates of Yemen located in the middle part of the country bordered by Taiz and Ibb governorates in the west, Al Baidha and Ibb governorates in the north, Lahj and Al Baidha governorates in the east, and Lahj Governorate in the south with an area of 4,344 square meters and a population size of 698,000 (2.4% of the country population) with a sex ratio of 1.09 male: 1 female. The Governorate is mountainous one interspersed with valleys. The Governorate consists of 9 districts, Juban, Damt, Qa'atabah, Al Shu'ayb, Al Husha, Al Hussein, Al Dhale'e, Jahaf and Al Azariq as seen in figure 1. Al Dhale'e City is the capital of the Governorate.

Figure 1. Al Dhale'e Governorate map

The climate is temperate in summer and tends to be cold in winter. In the highest mountains, the minimum temperature in winter is ranged from 3 to 5 degree Celsius, and the maximum in summer is around 25 degree Celsius. For other mountainous and sub-mountainous areas, the minimum temperature in winter ranged between 10 and 12 degree Celsius, and the maximum in summer is around 32 degree Celsius.

Agriculture and breeding is the most income activity for the Governorate people. Qat and grains are the most cultivated crops in the Governorate. Small part of the population are depending on remittance from immigrant relatives.

Al Dhale'e Governorate contains 183 health facilities (5 hospitals, 9 EmOC centres, 24 health centres and 104 health units), however, 41 of these facilities are not functional including 1 hospital, 1 EmOC centre, 5 health centres and 34 health units.

Between 2009 and 2016, number of schools increased from 419 to 482. The total number of school enrolled students is 172,763 (45.7% are females). However, the education process in the governorates is negatively affected by the frequent protests, strikes and closings of schools

Al Dhale'e has suffered from political crises since 2006 that converted to armed conflicts since 2007. The current ongoing crisis has resulted in huge destruction of infrastructure including roads, bridges, health systems, schools, markets, and houses and forced several thousands of households to be internally displaced. Due to the recent improvements and reduction of conflict incidences the number of IDPs has declined and in April 2016 only 27,654 people were recorded in the governorate among them the majority (25,296 people) came into Al Dhale'e from other governorates. Moreover, 16,104 people have returned back to their home villages in the Governorate. The IDPs who fled into the governorate became additional burden for the limited resources of the area.

The level of acute malnutrition in the Governorate was low before the crisis. However, the recent high and increasing admission for severely acute malnutrition cases could indicate the deterioration of nutritional situation due to both poor consumption and other non-food problems. Typhoid and Paratyphoid Fever, bloody diarrhea, Lower and Upper respiratory infections, Acute Flaccid Paralysis, Malaria, Meningitis, and dengue favor are among the main causes of sickness and morbidity in the governorate. These health problems have increasingly been affecting the population where the medical facilities are being challenged by lack of essential equipment and accessories as well as basic drugs required to provide treatment services.

Due to the crisis, the food consumption level of about 65% of the households in Ad-Daleh is below the acceptable standard of whom two third are under poor food consumption category. In addition to the suffering of the population from lack of diversified food consumption (quality and balanced food

intake), 23% of most vulnerable population had to employ negative coping mechanisms and reduce the amount of food the consume in order to survive through the crisis period.

Assessment objectives

The overall objective of the survey was to assess the current nutrition situation in Al Dhale'a Governorate and key determinants. Specific objectives are:

1. To assess the level of acute malnutrition (wasting), stunting and underweight among children aged 6-59 months in Al Dhale'e Governorate.
2. To assess the prevalence of exclusive breastfeeding among under six months, breastfeeding continuation at 1 and 2 years, children aged 6 to 23 months with proper complementary feeding practices in Al Dhale'e Governorate.
3. To assess the child morbidity through determining the prevalence of diarrhoea, ARI, fever and suspected measles in Al Dhale'e Governorate.
4. To assess the routine polio vaccination coverage among children aged 3 to 59 months, measles vaccination coverage among children aged 9 to 59 months and vitamin A supplementation coverage within the last 6 months prior to survey among children aged 6 to 59 months in Al Dhale'e Governorate.
5. To assess the level of acute malnutrition among women at child bearing age (15 to 49 years) in Al Dhale'e Governorate.
6. To assess the household dietary diversity scoring (HDDS) in the past 24 hours and the food consumption scoring (FCS) in past 7 days in Al Dhale'e Governorate.
7. To assess the mean reduced copping strategy index (rCSI) of households in Al Dhale'e Governorate.
8. To assess the household practice of a set of stress, crisis and emergency coping strategies in Al Dhale'e Governorate.
9. To assess the main income source as well as the monthly income of households in Al Dhale'e Governorate.
10. To assess the household head losing of income sources in Al Dhale'e Governorate due to the current conflict crisis.
11. To assess the education level of household caregivers in Al Dhale'e Governorate.
12. To assess the main household drinking water source, the quality classification of the water sources and the cleanness of drinking water storage in Al Dhale'e Governorate.
13. To assess the household latrine type and the quality classification of sanitation facilities in Al Dhale'e Governorate.
14. To assess the practice of handwashing with water and soap (or soap alternatives) by household care giver in Al Dhale'e Governorate.
15. To assess the crude and under-five mortality rates in Al Dhale'e Governorate during the past 90 days.

Methodology

The whole governorate of Al Dhale'e was assessed as one strata since all districts are located in one ecological zone (Highlands). The Governorate consists of 9 districts, they are Juban, Damt, Qa'atabah, Al Shu'ayb, Al Husha, Al Hussein, Al Dhale'e, Jahaf and Al Azariq. The assessment was taken place during August 20th to 25th, 2016

All clash areas have been excluded from the frame before the selection of clusters. The excluded areas were distribute as the following:

- Qa'atabah District: Villages of Hajlan and Soon in Al Majaneh *Ozla*, villages of Al Qadam, Al Jabha and Al Makhata in Al Amriah *Ozla*, and villages of Ramah and Al Masar in Al A'ashoor *Ozla*.
- Damt District: Al Erfaf village in kanah *Ozla*.and

Study and sampling design

A two-staged cluster cross sectional study was conducted. The methods used, including sampling design and sample size determination were following SMART approach and ENA for SMART software. The sample size was calculated using the parameters as shown in table 2. The sample size was calculated based on achieving statistical significance for anthropometric and mortality objectives. Thus, the highest number from each of the two objectives was selected.

Table 2. Parameters used in the Sample Size Determination

Anthropometry	
Expected prevalence (p)	13.6%
Relative desired precision (d)	4
Design Effect (DEFF)	2
Average household size	7.8
% of U5 in population	18.6%
% Non-response	3%
Mortality	
Estimated crude death rate (CDR) per 10000/day	0.10
Relative desired precision (d) per 10000/day	0.16
Design Effect (DEFF)	2
Recall period in days (RP)	90
Average household size	7.8
% Non-response	3%

The sample size calculated was higher in the anthropometry than in mortality. The calculated sample sizes for households was 485 households. With these numbers of households, the expected numbers of underlive children was 614 children.

The survey has taken place in 30 clusters in each stratum. The number of households in each cluster was calculated as 17 households.

The source of the sample frame used in this survey was Al Dhale'e Governorate Health Office. The frame contains a list of villages and sub-villages with a projection of population that is made based on the of the CSO 2004 Census.

Sampling Procedure (The second stage)

The survey sample consisted of 30 clusters. These clusters were selected following Probability Proportional to Size (PPS) approach using ENA for SMART software.

For all clusters, households were listed and the sample were selected using simple random sampling (SRS). Only in one cluster, all household were surveyed because the cluster village was small with few number of households. The listing and selection process was mead by head of filed team in collaboration of village leaders and attended villagers.

Survey Population and Data Collection Process

The survey population consisted of: 1) anthropometry: children aged 6 to 59, 2) mortality: all people that have lived at the household (currently residing, left, born or died) over a set recall period; 3) IYCF: children 0-24 months; 4) morbidity: children 0-60 months. Age estimation was based on birth or immunization card details and/or supported with events calendar, agriculture and fishing seasons, as well as national and local events (Annex 3: Events Calendar and Annex 4: Age determination job aid).

Six field teams and two data entry persons (Annex 2: August 2016 Al Dhale'e Nutrition Survey Team) were trained for 6 days by the survey manager and the survey field supervisors. The training consisted of anthropometry, filling of questionnaire, and the field procedures following by rigorous standardization exercise (Annex 6: Al Dhale'e Nutrition Survey Standardization Test Report) and field test before commencing the data collection phase. Out of the 6 trained teams, the best 5 teams were selected to complete the data collection over a 6 days period.

Selected households were given a brief overview of the survey and invited to participate. Verbal consent to participate was obtained after the household participant heard the survey overview from the survey team. After consent was given, the survey teams assisted a member from each selected household to complete a questionnaire comprising of 1) background demographics; 2) education of household caretaker; 3) household income; 4) WASH indicators; 5) household food consumption and coping strategies; 6) child vaccination and vitamin A supplementation; 6) child anthropometry; 7) child morbidity; 8) IYCF practices; 9) woman MUAC; and 10) crude and underfive mortality. (Annex 1: Al Dhale'e Governorate Nutrition Survey Questionnaire).

Retrospective mortality data were collected from all randomly selected households, irrespective of presence or absence of children aged 6-59 months. A recall period of 90 days prior to the survey was used.

Measurement Standardization and Quality Control

The survey teams has undergone to a concentrated practical training prior to the survey covering all areas related to the field work including standardisation test of the enumerators. Data quality was ensured through (i) monitoring of fieldwork by field technical supervisors; (ii) crosschecking of filled questionnaires on a daily basis, recording of observations and daily de-briefing and discussion; (iii) confirmation of measles, severe malnutrition especially oedema cases and death cases by supervisors; (iv) daily entry of anthropometric data; (v) doing the plausibility check in daily basis for the overall quality scoring and identification each team quality using 10 scoring criteria (statistical tests), plus ensuring each team was given feedback on the quality of previous day's data before the start of a new day; (v) daily equipment calibration, (vi) additional check done at the data entry level to enable entry only of relevant possible responses and measurements; (vii) continuous reinforcement of good practices.

Clear job descriptions were provided to field teams before commencing the data collection in order to ensuring appropriate guidance in completing the assigned tasks. Field team head was reviewing the filed questionnaires and verify the accuracy of the details before the team was leaving the cluster site, thus minimizing possibility of incomplete data (missing variables) and outlier data. The overall plausibility scores were 3% (excellent) (Annex 5: Assessment Quality Check)

Data Entry and Analysis

The data in the filled questionnaires and mortality forms were entered into an Excel spread sheet created for the purpose of this survey. The spreadsheet contained all required self-check formulas as well as converting dates from Hijri to Gregorian. The anthropometrical data then were copied to ENA for SMART for interpretation to z scores as well as creation of the final plausibility check report and results of nutritional anthropometry status tables and curves. Similarly, the data of mortality were transferred to ENA for the analysis purposes and getting out the final death results with population pyramid.

Household variables and the remaining child-related variables (Vaccination, vitamin A supplementation, feeding practices and morbidity) were analysed using Epi Info (TM) 3.5.3. The anthropometry indices (z-scores) for Weight for Height (wasting), Height for Age (stunting) and Weight for Age (underweight) were generated and compared with WHO 2006 Growth Standards. Children/cases with extreme z-score values were flagged and investigated and appropriately excluded in the final analysis if deviating from the observed mean (SMART flags).

In Epi Info, frequencies and cross-tabulations were used to give percentages, means and standard deviations in the descriptive analysis and presentation of general household and child characteristics. Significances was defined as ($P<0.05$).

The classification the nutritional status using the above indices as well as MUAC was made following the WHO classification (WHO 2006) and (WHO 2013).

For IYCF indicators related to breast feeding and complementary feeding, the WHO guidelines on assessing infant and young child feeding practices were used (WHO 2008).

For the calculation of the value for Minimum Dietary Diversity (MDD), a 7 food group score variable was created. The 7 foods groups used for calculation are 1) grains, roots and tubers; 2) legumes and nuts; 3) dairy products (milk, yogurt, cheese); 4) flesh foods (meat, fish, poultry and liver/organ meats); 5) eggs; 6) vitamin-A rich fruits and vegetables; 7) other fruits and vegetables. Another indicator is the Minimum meal frequency (MMF) which is measuring the child consumption for solid, semi-solid, or soft foods. Minimum acceptable diet (MAD) is combining both MDD and MMF. The methods and analysis for the MDD, MMF and MAD were based as recommended by the WHO (WHO 2008).

The classification of MUAC of Women is not made based on the global one but based on that WFP is using for Yemen. Woman is considered severely wasted if her MUAC is below 21.3 cm, moderately wasted if her MUAC is equal or more than 21.3 cm and below 22.2 cm, and of normal MUAC if the measurement is not less than 22.2 cm.

For sources of drink water indicators, the sources listed in the classification were classified to improved and unimproved sources. Improver drinking water sources are: 1) Water pipelines extended into the house; 2) Water pipelines extended to the backyard of the house; 3) Protected open well; 4) Sealed tank for rainwater harvesting; and 5) Protected spring water. Unimproved sources are: 1) Unprotected open well; 2) Unsealed tank for rainwater harvesting; and 3) Unprotected ground water (wadi, spring running water, etc.). Other sources in the questionnaires are not classified as either improved or unimproved including water trucking, community water points and bottled water.

Sanitation was also classified as improved and unimproved based on the type of latrine. Improved latrines are flush/pour flush latrine and simple covered pit latrine, while unimproved latrines include open pit latrine and defecation in open (in fields, etc.)

Food consumption scores (FCS) were calculated based on the consumption during the last 7 days from the 8 food groups following WFP guidelines. The classification of FCS is not made following the global WFP one but based on the WFP Yemen way as the following:

- Below of equal to 28: Poor food consumption
- Above 28 to 42: Border line food consumption
- Above 42: Acceptable food consumption

The other way of calculation food consumption is made based of the household dietary diversity scoring (HDDS). This scoring is considering the consumption in the last 24 hours from the list of 12 food groups. The scoring is made based on FANTA, while the classification is similar to the one that IPC is using but it still under review[*].

The reduced copping strategy index rCSI scoring was done following WFP guidelines. It made depending on practicing of a list of five copping strategies. The extended list of coping strategies in this surveys was used to determine households who are practicing no coping strategies, stress coping strategies, crisis coping strategies and emergency coping strategies during the last 30 days as shown below:

Stress coping strategies:	Selling households assets/belongings (furniture, jewellery, clothes, etc.)
	Buying food by credit or pawning
	Spending from saving
	Borrowing money
Crisis coping strategies:	Selling of production assets or transport means (sewing machine, car or motorcycle, etc.)
	Consuming the stock of seeds that is reserved for the coming season
	Withdraw children out of school
	Reduce spending on education and health (including drugs)
Emergency coping strategies:	Selling the house or land
	Begging
	Selling the last female of cattle the household has

1. Household food consumption indicator study: summary recommendations for the integrated food security phase classification acute reference table for house hold group classification. This summary brief was prepared by L.Glaeser (FANTA), C. Hillbruner (FEWS NET), A. Mathiessen (WFP Vulnerability Analysis and Mapping [VAM]), and L. Olivera (IPC Global Support Unit [GSU]. 2015

Results and discussion

The survey sample

A total of 568 household were targeted by the survey field teams as shown in Table 3. With less than 1% absence and refusal, data were collected from a total number of 563 households including 753 children and 1102 women.

Table 3. Sampled households, children and women

Targeted households	568
Absence	1 (0.18%)
Refusal	4 (0.70%)
Households with completed questionnaires	563
Households with below 5 years children	390 (69.3%)
Households with below 6 months children	73 (13.0%)
Households with 15 to 49 women	547 (97.2%)
Under 5 years children	753
Under 6 months children	79
6 to 59 months children	674
15 to 49 women	1102
Average household size	8.37

Household characteristics

Background indicators

Man has been found as a head of the household in around 97% of households, while women was found as the main household caretaker in 98% of households. 97% of household head have found married (93% are recently living with their spouses and 4% are not). 71.6% of household caretakers (mostly women) are illiterate, while only 11.5% are with basic and higher education. Details are in table 4

Table 4. Background data on household head and household caretaker

Background indicator	**N**	**% (95% CI)**
The gender of household head		
Man	545	96.8 (94.9 – 98.0)
Woman	18	3.2 (2.0 – 5.1)
The gender of household caretaker		
Woman	552	98.0 (96.4 – 99.0)
Man	11	2.0 (1.0 – 3.6)
Marital Status of Household head		
Married and is living with spouse	524	93.1 (90.6 – 95.0)
Married but has not been living with spouse for 6 months or more	22	3.9 (2.5 – 6.0)
Widow	14	2.5 (1.4 – 4.2)

Background indicator	N	% (95% CI)
Divorced	1	0.2 (0.0 - 1.1)
Single	2	0.4 (0.1 – 1.4)
Education level of household caretaker		
Illiterate	401	71.6 (67.6 - 75.3)
Can read and write	95	17.0 (14.0 - 20.4)
Basic education	32	5.7 (4.0 - 8.1)
Secondary education	21	3.8 (2.4 - 5.8)
Higher education (university, college or institute)	11	2.0 (1.0 - 3.6)

Household income situation

More than 50% of households are dependants on salaries from government or semi-government sectors and on Qat cultivation and/or dealing. One fifth of households are getting their income from the daily casual works. The rest 25% are sharing many different options including remittances, owning small scale businesses, receiving donations from relatives and friends and the social insurance as seen in table 5. About 65% of households reported losing partially or fully their income sources during the current crisis (since March 2015).

Table 5. Main household income source and effect of crisis on it

Indicator	N	% (95% CI)
Household main income source		
Salary for government or mix sector employee	154	27.4 (23.7 - 31.3)
Qat cultivation/Selling	151	26.8 (23.2 - 30.7)
Daily casual work	117	20.8 (17.6 - 24.4)
Remittances from migrants	36	6.4 (4.6 - 8.8)
Small private business (small grocery, taxi driver, livestock dealer, etc.)	27	4.8 (3.2 – 7.0)
Work in the family-owned farm (other than Qat)	22	3.9 (2.5 – 6.0)
Donations and aids from family members/friends	18	3.2 (2.0 - 5.1)
Social insurance (retirement pensions)	14	2.5 (1.4 - 4.2)
Medium size private business (wholesale, big grocery, plastic workshop, water station, gas station, etc.)	7	1.2 (0.5 - 2.7)
Salary for medium or small private sector employee	6	1.1 (0.4 - 2.4)
Salary for large private sector employee (factories or big companies)	2	0.4 (0.1 - 1.4)
Salary for third sector (NGOs) employee.	1	0.2 (0.0 - 1.1)
Large private business (owners of factories and large companies and buildings)	1	0.2 (0.0 - 1.1)
Other	7	1.2 (0.5 - 2.7)
The impact on household income		
Regular salary or income has not been lost	192	34.8 (30.8 – 38.9)
Salary or income partially lost	328	59.4 (55.2 – 63.5)

Indicator	N	% (95% CI)
Salary or income totally lost	32	5.8 (4.1 – 8.2)
Salary or income partially or totally lost	360	65.2 (61.1 – 69.2)

As shown in table 6, the mean household income is YR 66,300 which is equal to USD 220 based on the parallel market price. Around 63% of household are with income that is not enough to make them avoiding any type of copping strategy to assure food availability.

Table 6. Mean monthly household income and distribution based on copping strategies

Income means	Mean (±SD)
Monthly Income in YR (n=538)	66317 (183075)
Monthly income means based on category of copping strategy (in 30 days)	
No copping strategy (n=153)	91041 (302400)
Stress copping strategy (n=160)	63153 (169482)
Crisis copping strategy (n=79)	43380 (69106)
Emergency copping strategy (n=18)	28222 (21345)

Water, sanitation and hygiene

Table 7 shows that the main drinking water source for the majority (72.4%) of households is either water tankers (trucks) or open wells (both protected and unprotected), while only 11.2% of households are using piped water. Only 38.6% of households are using improved water sources and 21.9% are using unimproved sources, while 39.5% are using unclassified sources (tankers, community points (Sabeel) and bottled water)

Household which are not using bottled water have been asked for treatment of water before drinking. Only 7.4% of household reported treatment of water. On the other hand, cleanness of drinking water containers has been observed by enumerators (through presence or absence of algae). In 74% of households. Containers were found clean.

Near to 90% of households were using improved latrine, at the same time, some members in about 5% of household were defected in open air which is improper practice as shown in table 7.

Almost 55% of household caretakers were reporting handwashing with water and soap (or soap alternatives) after toilet, while about 47% have reported handwashing before meal.

Table 7. Water, sanitation and hygiene indicators

WASH indicators	N	% (95% CI)
The main household drinking water main source		
Water tanker	202	35.9 (32 - 40.1)
Water from protected open well	104	18.5 (15.4 - 22)
Water from unprotected open well	101	18.0 (14.9 - 21.5)
House connected yard piped water	38	6.8 (4.9 - 9.2)
Water from covered rainwater harvesting tank	36	6.4 (4.6 - 8.8)
House connected piped water	25	4.4 (3 - 6.6)
Water from uncovered rainwater harvesting tank	22	3.9 (2.5 - 6)

WASH indicators	N	% (95% CI)
Water from protected spring	14	2.5 (1.4 - 4.2)
Bottled water	10	1.8 (0.9 - 3.4)
Community point(Sabeel)	8	1.4 (0.7 - 2.9)
Other	2	0.4 (0.1 - 1.4)
Category of the main household drinking water main source		
Improved	217	38.6 (34.6 - 42.8)
Unimproved	123	21.9 (18.6 - 25.6)
Unclassified	222	39.5 (35.5 - 43.7)
Treatment of water before drinking (n=553)	41	7.4 (5.4 - 10.0)
Cleanness od drinking water storage (n=562)	416	74.0 (70.1 - 77.6)
The main facility for defecation		
Flush/pour flush latrine	495	88.2 (85.2 - 90.7)
Defecation in open (in fields, etc.)	30	5.3 (3.7 - 7.6)
Open pit latrine	27	4.8 (3.3 - 7)
Simple covered pit latrine	7	1.2 (0.5 - 2.7)
Other	2	0.4 (0.1 - 1.4)
The type of the latrine		
Improved	502	89.5 (86.6 - 91.8)
Unimproved	57	10.2 (7.8 - 13)
Unclassified	2	0.4 (0.1 - 1.4)
Handwashing practice by household caretaker		
After the toilet (n=562	307	54.6 (50.4 - 58.8)
Before meal (n=563)	263	46.7 (42.5 - 50.9)

Household food security

Two types of food consumption classification have been used. The first is the IPC[†] one which depends on consumption during the last 24 hours has shown that around 82% of households were classified as normal or stressed and only 1.2% at the level of emergency or catastrophe. The second one WFP (Yemen) classification which depends on the consumption during the last 7 days has shown that 60.3% of household were at acceptable level, while the remaining 39.7% were food insecure.

Table 8: Food consumption classification

Food consumption classification	N	% (95% CI)
Household dietary diversity scoring (IPC classification)		
Normal or stressed	460	81.9 (78.4 - 84.9)
Crisis	95	16.9 (14 - 20.3)
Emergency or catastrophe	7	1.2 (0.5 - 2.7)

[†] Integrated Phase Food Security Classification

Food consumption classification	N	% (95% CI)
Household food consumption (WFP Yemen classification)		
Acceptable	332	60.3 (56 - 64.3)
borderline	122	22.1 (18.8 - 25.9)
Poor	97	17.6 (14.6 - 21.1)

Copping strategies were measured using the reduced copping strategy index (rCSI). He mean score in Al Dhale'' was found as 2.3. The average rCSI for those have not practiced copping strategies during the last 30 days was 1.34 while it is ranged between 2.33 and 6.3 for those practiced different level of copping as seen in table 9.

Means of rCSI in different food consumption groupings are shown in the table 9. For the IPC classification, wider gap have been seen between the "normal or stressed" group (1.38) and other groups (6.00 to 6.45). Gap in means has also been seen when the WFP classification was used. The "acceptable" group mean was 1.39 while it increased to 3.24 in the "borderline" group and to 3.83 in the "poor" group.

Table 9. Means of rCSI

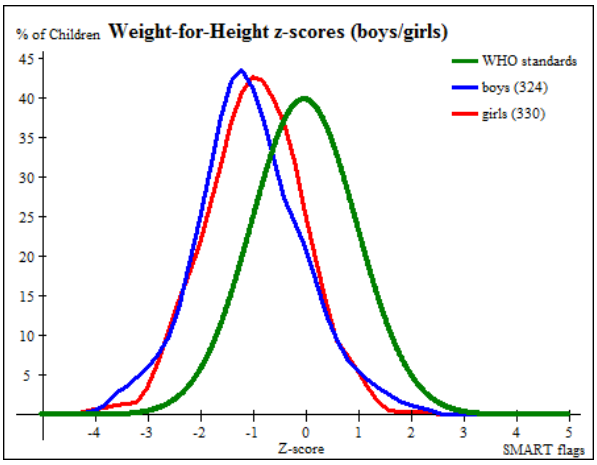
Reduced Copping Strategy Index (rCSI)	Mean (±SD)
Reduced copping strategy index (rCSI) in 7 days (n=543)	2.30 (6.27)
rCSI means based on category of copping strategy (in 30 days)	
No copping strategy (n=153)	1.34 (4.18)
Stress copping strategy (n=167)	2.33 (5.67)
Crisis copping strategy (n=86)	6.30 (10.10)
Emergency copping strategy (n=18)	3.33 (9.20)
rCSI means based on food consumption (IPC classification)	
Normal or stressed (n=444)	1.38 (4.54)
Crisis (n=93)	6.45 (10.14)
Emergency or catastrophe (n=6)	6.00 (11.24)
rCSI means based on food consumption (WFP Yemen classification)	
Acceptable (n=319)	1.36 (4.50)
borderline (n=120)	3.24 (7.06)
Poor (n=95)	3.83 (7.76)

Child Nutrition

Acute malnutrition by WHZ

The survey showed a prevalence of global acute malnutrition (GAM) of 13.5% with no significance differences between girls (13.1% and boys (13.6). Severe acute malnutrition (SAM) prevalence has been found as 2.6% that was higher by more than two times in boys (3.7%) than in girls (1.5%). However, this difference has not statistically been considered as significant (table 10). No single oedema case was reported in the survey. Though there is an overall shift to the left of the study population when compared with the reference population, as per the graphs shown (implying presence of malnutrition). The current GAM classifies Al Dhale'e as 'serious' as per the WHO categorization of the severity.

Figure 2. The survey boys and girls WHZ scores distribution vs the reference



Levels of GAM in Al Dhale'e found by the current SMART survey is almost similar to that found by DHS 2013 (13.6%), however SAM shown by DHS 2013 was higher than that of the current SMART survey (4%). On the other hand, levels of GAM and SAM of the current survey are much higher than that shown by CFSS 2014 (8.7% and 0.9% respectively).

Table 10. Prevalence of acute malnutrition based on weight-for-height z-scores (and/or oedema) and by sex

	All **n = 654**	**Boys** **n = 324**	**Girls** **n = 330**
Prevalence of global malnutrition	(88) 13.5 % (10.3 - 17.4 95% C.I.)	(44) 13.6 % (10.4 - 17.5 95% C.I.)	(44) 13.3 % (9.2 - 19.0 95% C.I.)
Prevalence of moderate malnutrition	(71) 10.9 % (7.9 - 14.7 95% C.I.)	(32) 9.9 % (7.2 - 13.5 95% C.I.)	(39) 11.8 % (7.8 - 17.5 95% C.I.)
Prevalence of severe malnutrition	(17) 2.6 % (1.5 - 4.4 95% C.I.)	(12) 3.7 % (2.1 - 6.4 95% C.I.)	(5) 1.5 % (0.6 - 3.5 95% C.I.)

The table 11 shows that prevalence of both SAM and MAM (by WHZ-score criteria) is higher in young children (6 – 23 months) than in older children aged 24 to 59 months, however the difference is statistically in significant.

Table 11. Prevalence of acute malnutrition by age, based on weight-for-height z-scores and/or oedema

Age (mo)	**Total no.**	**Severe wasting**		**Moderate wasting**		**Wasting**	
		No.	**%**	**No.**	**%**	**No.**	**%**
6-23	222	8	3.6	27	12.2	35	15.8
23-59	432	9	2.1	44	10.2	53	12.3
Total	654	17	2.6	71	10.9	88	13.5
Statistical test		X2=1.339, df=1, P=0.247				X2=1.54, df=1, P=0.215	

Acute malnutrition by MUAC

Table 12 shows that prevalence of MUAC below 12.5 cm (GAM by MUAC) is 6.1% which is a bit higher than that of that found in Lahj Highland in October 2015 (4%), while the level SAM by MUAC (below 11.5 cm) is exactly similar to that of Lahj Highland in October 2015 (0.7). slight but insignificant differences was found between boys and girls.

Unlike the GAM by WHZ, table 13 shows that wasting prevalence by MUAC cutoffs is significantly higher in young children (6 – 23 months) (14.6%) than in older children aged 24 to 59 months (1.9%) (P<0.00). SAM by MUAC has also been found higher in younger children but the difference was not found significant.

Table 12. Prevalence of acute malnutrition based on MUAC cut off's (and/or oedema) and by sex

	All **n = 668**	**Boys** **n = 330**	**Girls** **n = 338**
Prevalence of global malnutrition	(41) 6.1 % (4.5 - 8.2 95% C.I.)	(18) 5.5 % (3.8 - 7.8 95% C.I.)	(23) 6.8 % (4.4 - 10.4 95% C.I.)
Prevalence of moderate malnutrition	(36) 5.4 % (3.8 - 7.6 95% C.I.)	(16) 4.8 % (3.2 - 7.4 95% C.I.)	(20) 5.9 % (3.6 - 9.7 95% C.I.)
Prevalence of severe malnutrition	(5) 0.7 % (0.3 - 2.0 95% C.I.)	(2) 0.6 % (0.1 - 2.4 95% C.I.)	(3) 0.9 % (0.3 - 2.7 95% C.I.)

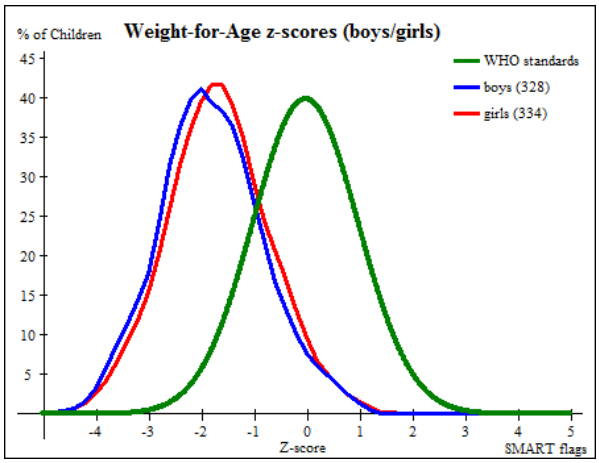
Table 13. Prevalence of acute malnutrition by age, based on MUAC cut off's and/or oedema

Age (mo)	**Total no.**	**Severe wasting**		**Moderate wasting**		**Wasting**	
		No.	**%**	**No.**	**%**	**No.**	**%**
6-23	228	4	1.8	30	13.2	34	14.9
23-59	440	1	0.2	6	1.4	7	1.6
Total	668	5	0.7	36	5.4	41	6.1
Statistical test		X2=2.883*, df=1, P=0.090				X2=46.261, df=1, P=0.000	

* Corrected (Yates)

Underweight

Figure 3. The survey boys and girls WAZ scores distribution vs the reference



The survey has shown an underweight prevalence of 39.6% that is higher in boys (43.3%) than in girls (35.9%) but the difference was not statistically significant. Severe underweight was found as 9.7% with level of 10.4% in boys and 9% in girls. With these levels of underweight that exceed 30%, Al Dhale'a Governorate is classified as 'very high prevalence' according to WHO categorisation of the public health significance.

The overall underweight found by the current SMART survey is almost similar to that found by DHS 2013 (39.4%), but for severe underweight, the DHS has shown higher levels (12.5%). The CFSS 2014 lower levels of underweight (29.5%) and severe underweight (6.1%) than those found by the current SMART survey.

Table 14. Prevalence of underweight based on weight-for-age z-scores by sex

	All n = 662	Boys n = 328	Girls n = 334
Prevalence of underweight	(262) 39.6 % (33.3 - 46.2 95% C.I.)	(142) 43.3 % (36.3 - 50.6 95% C.I.)	(120) 35.9 % (28.8 - 43.8 95% C.I.)
Prevalence of moderate underweight	(198) 29.9 % (25.8 - 34.4 95% C.I.)	(108) 32.9 % (27.8 - 38.4 95% C.I.)	(90) 26.9 % (21.7 - 32.9 95% C.I.)
Prevalence of severe underweight	(64) 9.7 % (7.1 - 13.1 95% C.I.)	(34) 10.4 % (7.6 - 14.0 95% C.I.)	(30) 9.0 % (6.0 - 13.2 95% C.I.)

Unlike in acute malnutrition, table 15 shows that underweight is slightly but insignificantly higher in older children (24 – 59 months) (40.9%) than in in older children aged 6 to 23 months (37.1%). Severe underweight has also been found higher in older children but the difference was insignificant.

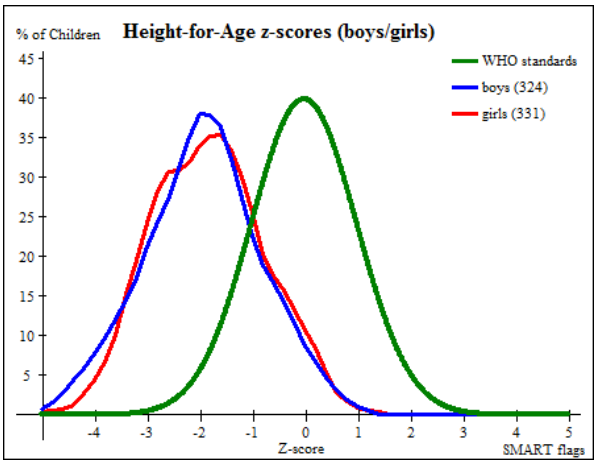
Table 15. Prevalence of underweight by age, based on weight-for-age z-scores

Age (mo)	Total no.	Severe underweight		Moderate underweight		Underweight	
		No.	%	No.	%	No.	%
6-23	224	17	7.6	66	29.5	83	37.1
23-59	438	47	10.7	132	30.1	179	40.9
Total	662	64	9.7	198	29.9	262	39.6
Statistical test		X2=1.675, df=1, P=0.196				X2=0.902, df=1, P=0.342	

Stunting

The survey has shown stunting prevalence of 45.0% that almost is same in boys and girls (44.8% and 45.3% respectively). Severe stunting was found as 15.0% that was higher in boys (17.0%) than in girls (13.0%) but the difference is statistically insignificant. With these levels of stunting that exceed 40%, Al Dhale'a Governorate is classified as 'very high prevalence' according to WHO categorisation of the public health significance.

Figure 4. The survey boys and girls HAZ scores distribution vs the reference



Levels of stunting and severe stunting found by the current SMART survey were much lower than that reported by DHS 2013 (51.9% and 27.5% respectively). However, these levels as reported by current SMART survey are closer to those reported by the CFSS 2014 (44.6% for stunting and 19.8% for severe wasting).

Table 16. Prevalence of stunting based on height-for-age z-scores and by sex

	All n = 655	Boys n = 324	Girls n = 331
Prevalence of stunting	(295) 45.0 %	(145) 44.8 %	(150) 45.3 %

	All n = 655	Boys n = 324	Girls n = 331
	(38.7 - 51.5 95% C.I.)	(37.1 - 52.7 95% C.I.)	(38.5 - 52.4 95% C.I.)
Prevalence of moderate stunting	(197) 30.1 % (26.4 - 34.1 95% C.I.)	(90) 27.8 % (23.5 - 32.6 95% C.I.)	(107) 32.3 % (27.2 - 37.9 95% C.I.)
Prevalence of severe stunting	(98) 15.0 % (10.3 - 21.3 95% C.I.)	(55) 17.0 % (11.4 - 24.5 95% C.I.)	(43) 13.0 % (8.5 - 19.4 95% C.I.)

Table 17 shows that stunting is higher in older children (24 – 59 months) (48.8%) than in in older children aged 6 to 23 months (37.7%). This difference is statistically significant (P<0.01). Severe stunting has also been found higher in older children but the difference was insignificant.

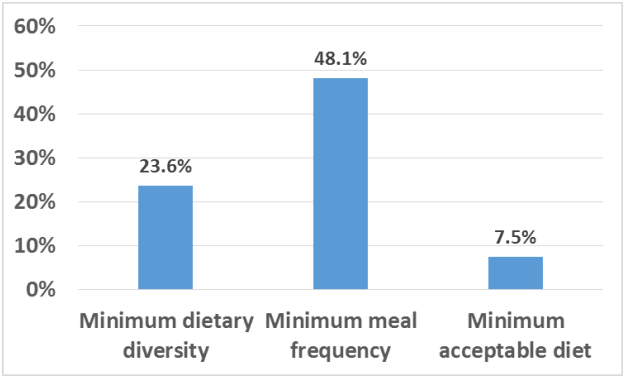
Table 17. Prevalence of stunting by age based on height-for-age z-scores

Age (mo)	Total no.	Severe stunting		Moderate stunting		Stunting	
		No.	%	No.	%	No.	%
6-23	223	26	11.7	58	26.0	84	37.7
23-59	432	72	16.7	139	32.2	211	48.8
Total	655	98	15.0	197	30.1	295	45.0
Statistical test		X2=2.899, df=1, P=0.089				X2=7.419, df=1, P=0.006	

IYCF practices

Among all children aged 0 to 23 months, almost 69% who has been breastfed either exclusively or partially in the previous day to the survey. Although 77.4% and 43.2% of children were continued breastfeeding at 1 and t years respectively, only 27.6% of those under 6 months were exclusively breastfed. This exclusive breastfeeding percentage is higher than the national one (10.3%) and also higher than that found in October 2015 in the neighbour Lahj Highland (11.3%).

Figure 5. Complementary feeding practice in children aged 6 to 23 months



The young child feeding practices has also been found as inappropriate with only 23.6% of children aged 6 to 23 months who are receiving an accepted diversified diets (composed of 4 food groups or more), and less than 50% of breastfed and on-breastfed children who received the age appropriate number of meals, which in total (as shown in figure 5 and table 18, only 7.5% of children are receiving the minimum acceptable diet.

Table 18. IYCF indicators

Indicator	N	% (95% CI)
Breastfed yesterday (n=224)	154	68.8 (71.5 - 81.3)
Exclusive breastfeeding (n=76)	21	27.6 (18.0 - 39.1)
Continued breastfeeding at 1 year (n=53)	41	77.4 (63.8 - 87.7)

Indicator	N	% (95% CI)
Continued breastfeeding at 2 years (n=44)	19	43.2 (28.3 - 59.0)
Minimum dietary diversity (n=225)	53	23.6 (18.2 - 29.7)
Minimum meal frequency (n=214)	103	48.1 (41.3 - 55.0)
Minimum acceptable diet (n=213)	16	7.5 (4.4 – 11.9)

Child morbidity

Table 19 shows the prevalence of diarrhoea, ARI and fever within two weeks preceding the survey, and the expected measles within one month preceding the survey. Diarrhoea has been found high as 48 % which is higher than was reported by the DHS 2013 for Al Dhale'e Governorate (35.6%) and higher than the national level (31.2%). ARI levels was found as 32.1% that is almost double of that reported by DHS 2013 for Al Dhale'e Governorate (18.8%). Fever prevalence was found as 42% that is also higher than that reported by DHS 2013 for Al Dhale'e (26.4%). For expected measles, 42 cases have been found among children aged 9 months and above within one month prior to the survey.

Table 19. Child morbidity

Indicator	N	% (95% CI)
Diarrhoea (n=738)	354	48.0 (44.3 - 51.6)
Acute respiratory infection (n=738)	237	32.1 (28.8 - 35.6)
Fever (n=738)	310	42.0 (38.4 - 45.7)
Expected measles among children aged 6 months and above (n=662)	42	6.3 (4.7 - 8.6)

Vitamin A supplementation and child vaccination

Low coverage of vitamin A supplementation within the last 6 months among children aged 6 to 59 months as shown in table 20 (31.9%) understanding that the last national vitamin A supplementation campaign was conducted on April 2016 jointly with the polio vaccination campaign. The routine polio vaccination was found as 45.7% while it is 59.3% for measles vaccination.

Table 20. Vitamin A supplementation and child vaccination

Indicator	N	% (95% CI)
Vitamin A supplementation within the last 6 months (for children aged 96 to 59 months) (n=671)	214	31.9 (28.4 - 35.6)
Routine polio vaccination among children aged 3 months and above (n=674)	308	45.7 (41.9 - 49.5)
Measles vaccination (by cards) among children aged 9 months and above (n=641)	154	24.0 (20.8 - 27.6)
Measles vaccination (by recall) among children aged 9 months and above (n=641)	226	35.3 (31.6 - 39.1)
Measles vaccination (by cards and recall) among children aged 9 months and above (n=641)	380	59.3 (55.5 - 63.1)

Women nutrition

Using the WFP Yemen MUAC cutoffs for classifying acute malnutrition among women aged 15 to 49 years, table 21 shows that GAM and SAM level are 16.4% and 8.5% respectively. Lactating mothers have lower levels than pregnant women and other women who are neither lactating nor pregnant

Table 21. Acute malnutrition among women at child bearing age

Indicator	Global acute malnutrition N (%) (95% CI)	Severe acute malnutrition N (%)
Women at child bearing age (15 – 49 years) (n=1069)	175 (16.4) (14.2 - 18.8)	91 (8.5) (6.9 - 10.4)
Lactating mothers (n=244)	30 (12.3) (8.5 - 17.1)	17 (7.0) (4.1 - 10.9)
Pregnant women (n=98)	14 (14.3) (8.0 – 22.8)	5 (5.1) (1.7 – 11.5)
Neither lactating nor pregnant (n=716)	130 (18.2) (15.4 – 21.2)	68 (9.5) (7.5 – 11.9)

Mortality

Using a recall period of 90 days, the crude death rate found in Al Dhale'e Governorate is 0.21 (95% CI 0.10 – 0.43) per 10,000 per day. This is higher among males than females (0.28 and 0.13 respectively). Under-five death rate has not been reported in this survey.

Associations of the nutritional status

Acute malnutrition

Acute malnutrition was found associated with food consumption scoring (the WFP one). High level of acute malnutrition was seen in the 'Borderline' group (34.9%) as shown in the table 22. The difference is significant (P<0.01). For severe acute malnutrition, it was found significantly associated with diarrhoea (P<0.05) as shown in table 23.

When MUAC was used to determine the acute malnutrition, the global acute malnutrition was found associated with income (P<0.05). Higher prevalence was found in the lowest, second and middle quintiles than in fourth and highest quintile. It was also found significantly associated with the cleanness of drinking water storage (P<0.05), diarrhoea among children (P<0.001) and fever among children (P<0.05) as shown in table 24.

Table 22. Associations of acute malnutrition (by WHZ)

Indicator	Global acute malnutrition (by WHZ)		Statistical test
	N	%	
Food consumption (n-641)			X2=11.104, df=2, P=0.004
Acceptable (n=413)	46	11.1	
Borderline (n=136)	30	34.9	
Poor (n=92)	10	11.6	

Table 23. Associations of severe acute malnutrition (by WHZ)

Indicator	Severe acute malnutrition (by WHZ)		Statistical test
	N	%	
Diarrhoea (n=644)			X2=4.362, df=1, P=0.037
Yes (n=317)	12	3.8	
No (n=327)	4	1.2	

Table 24. Associations of acute malnutrition (by MUAC)

Indicator	Global acute malnutrition (by MUAC)		Statistical test
	N	%	
Income quintile (n=646)			X2=10.393, df=4, P= 0.034
Lowest (n=78)	9	11.5	
Second (n=115)	5	4.3	
Middle (n-114)	13	11.4	
Fourth (n=196)	7	3.6	
Highest (n=143)	6	4.2	
Drinking water storage cleanness (n=669)			X2=5.539, df=1, P=0.019
Yes (n=480)	23	4.8	
No (n=189)	18	9.7	
Diarrhoea (n=658)			X2=12.432, df=1, P=0.000
Yes (n=326)	30	9.2	
No (n=332)	9	2.7	
Fever (n=658)			X2=4.485, df=1, P=0.034
Yes (n=281)	23	82	
No (n=377)	16	4.2	

Underweight

Higher levels of underweight an severe underweight were found in households those either improved or unimproved drinking water sources, while lower levels were found in those win unclassified sources ($p<0.01$). Unclassified sources in this survey were mainly 'water tankers' which represented a source for 35.9% of households. Underweight was also found significantly associated with the cleanness of drinking water storage ($P<0.05$), type of latrine ($P<0.05$) and the acute respiratory infection (ARI) among children ($P<0.05$). Both underweight and severe underweight were found significantly associated with the household caretaker practice of handwashing after toilet ($P<0.05$). Statistical tests are shown in table 25 and table 26.

Table 25. Associations of underweight

Indicator	Underweight		Statistical test
	N	%	
Type of drinking water source (n=660)			X2=13.556, df=2, P=0.001
Improved (n=253)	117	46.2	

Indicator	Underweight		Statistical test
	N	%	
Unimproved (n=135)	59	43.7	
Unclassified (n=272)	85	31.3	
Drinking water storage cleanness (n=660)			X2=5.877, df=1, P=0.015
Yes (n=477)	175	36.7	
No (n=183)	86	47.0	
Type of latrine 959			X2=4.753, df=1, P=0.029
Improved (n=596)	228	38.3	
Unimproved (n=63)	33	52.4	
Handwashing after toilet (n=660)			X2=4.565, df=1, P=0.033
Yes (n=360)	129	132	
No (n=300)	35.8	44.0	
ARI (n=652)			X2=6.677, df=1, P=0.010
Yes (n=216)	101	46.8	
No (n=436)	158	63.2	

Table 26. Associations of severe underweight

Indicator	Severe Underweight		Statistical test
	N	%	
Type of drinking water source (n=660)			X2=13.690, df=2, P=0.001
Improved (n=253)	36	14.2	
Unimproved (n=135)	14	10.4	
Unclassified (n=272)	13	4.8	
Handwashing after toilet (n=660)			X2=4.366, df=1, P=0.037
Yes (n=360)	27	7.5	
No (n=300)	37	12.3	

Stunting

As shown in table 27, WASH indicators are the main ones found to have association with stunting. Lowest stunting prevalence was found among children where household are using unclassified drinking water sources (water tankers), while the highest stunting was found in households with unimproved sources (P<0.01). Stunting was also found associated with cleanness of drinking water storage (P<0.05), type of latrine (P<0.001) and hand washing before meal (P<0.05). For children aged 6 to 23 months, stunting was found significantly higher in those have been breastfed the previous day of the survey (P<0.05)

For severe stunting, Lowest prevalence was also found among children where household are using unclassified drinking water sources (water tankers), but the highest severe stunting was found in households with improved sources (P<0.001). Stunting was also found associated with hand washing

before meal (P<0.05). Severe stunting was found associated with food consumption scoring (the IPC one). High prevalence were found in the 'Crisis' group (24.5%) in compare to 'Normal or stressed' group (13.5%). Statistical test are shown in table 28.

Table 27. Associations of stunting

Indicator	Stunting		Statistical test
	N	%	
Type of drinking water source (n=653)			X2=12.578, df=2, P=0.002
Improved (n=251)	122	48.6	
Unimproved (n=135)	73	54.1	
Unclassified (n=267)	99	37.1	
Drinking water storage cleanness (n=653)			X2=5.725, df=1, P=0.017
Yes (n=468)	197	42.1	
No (n=185)	97	52.4	
Type of latrine (n=652)			X2=13.503, df=1, P=0.000
Improved (n=589)	250	42.4	
Unimproved (n=63)	42	66.7	
Handwashing before meal (n=655)			X2=4.262, df=1, P=0.040
Yes (n=291)	118	40.5	
No (n=364)	177	48.6	
Breastfed yesterday (n=217)			X2=5.221, df=1, P=0.022
Yes (n=148)	47	31.8	
No (n=69)	33	47.8	

Table 28. Associations of severe stunting

Indicator	Severe stunting		Statistical test
	N	%	
Type of drinking water source (n=653)			X2=16.129, df=2, P=0.000
Improved (n=251)	54	21.5	
Unimproved (n=135)	19	14.1	
Unclassified (n=267)	24	9.0	
Handwashing before meal (n=655)			X2=4.422, df=1, P=0.035
Yes (n=291)	34	11.7	
No (n=364)	64	17.6	
Food consumption (IPC classification) (n=654)			X2=6.921*, df=2, P=0.031
Normal or stressed (n=554)	75	13.5	
Crisis (n=94)	23	24.5	
Emergency or catastrophe (n=6)	0	0.0	

* Yates' chi-square

Child nutrition in related to mother nutrition

Wasted mothers have higher chance to have acute malnourished children (P<0.05) as shown in table 29 below. Severe acute malnutrition by MUAC was found almost 11 times higher in children of wasted mothers than children of normal mothers (P<0.05) as shown in table 29.

Underweight was found significantly higher in children of wasted mothers than in children of normal mothers (P<0.001). Similarly severe underweight was found significantly higher in children of severely wasted mothers (P<0.05). Severe stunting was also found significantly higher in children of severely wasted mothers (P<0.05) as shown in table 29.

Table 29. Associations of mother and child malnutrition

Indicator	**Acute malnutrition (by WHZ)**		**Statistical test**
	N	**%**	
Severe wasting in mother (635)			X2=5.901, df=1, P=0.015
Wasted (n=37)	10	27.0	
Normal (n=598)	77	12.9	
	Severe acute malnutrition (by MUAC)		
	N	%	
Severe wasting in mother (649)			X2=5.329*, df=1, P=0.021
Wasted (n=38)	2	5.3	
Normal (n=611)	3	0.5	
	Underweight		
	N	%	
Wasting in mother (n=643)			X2=14.864, df=1, P=0.000
Wasted (n=72)	44	61.1	
Normal (n=571)	214	37.5	
	Severe underweight		
	N	%	
Severe wasting in mother (n=643)			X2=4.724*, df=1, P=0.030
Wasted (n=38)	8	21.1	
Normal (n=605)	54	8.9	
	Severe stunting		
	N	%	
Severe wasting in mother (636)			X2=4.952, df=1, P=0.026
Wasted (n=36)	10	27.8	
Normal (n=600)	85	14.2	

* Yates' chi-square

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Annex 1: Al Dhale'e Nutrition Survey Questionnaire

استبيان رقم: .....

الجمهورية اليمنية
وزارة الصحة العامة والسكان
مكتب الصحة العامة والسكان بمحافظة صعدة

مسح الحالة التغذوية والوفيات في محافظة الضالع، أغسطس 2016

استبيان الأسرة (نموذج 1)

أولاً. يتم الشرح للساكنين في المسكن (البالغين منهم) عن المسح والتعريف بالجهة القائمة عليه والأشخاص العاملين فيه (أعضاء الفريق)، ثم بعد ذلك الحصول على الموافقة الشفهية منهم.

الموافقة	1. نعم		
	2. لا		انتقل إلى النهاية

هل الأسرة مقيمة أم نازحة؟		
1.	مقيمة.	
2.	نازحة	

في حال الأسرة المقيمة. هل تقيم معكم اسرة أو اسر نازحة؟			
1.	نعم		في حال وجود اسرة نازحة تعيش مع اسرة مقيمة فينبغي تعبئة بيانات الاسرتين في استبيانين منفصلين عدا استمارة الوفيات فيجب ان تكون استمارة واحدة للأسرتين، وترفق مع استبيان الأسرة المقيمة.
2.	لا		

المديرية	العزلة	القرية/ الحارة

تاريخ المقابلة	يوم		شهر		سنـــــة			
			0	8	2	0	1	6

اسم رب الأسرة:	

فريق المسح رقم		الاسم	التوقيع
	الاسرة والأنثروبومتري		
	الوفيات		
	رئيس الفريق		

بين فيما إذا كان هناك:		
1.	غياب الأسرة عند الزيارة الأولى ويتطلب الأمر زيارة ثانية	
2.	غياب طفل عند الزيارة الأولى ويتطلب الأمر زيارة ثانية*	

* عند غياب الطفل، تستكمل كل بياناته عدا القياسات الإنثروبومترية والأوديما حيث تستكمل عند حضوره.

ملاحظة: البيانات في الغلاف هي للاستخدام الميداني والإداري من قبل أعضاء الفريق.

استبيان رقم: .....

يملئ من قبل رئيس الفريق (تستخدم لإدخال البيانات)

غياب الأسرة حتى بعد الزيارة الثانية (1 نعم ، 2 لا)	
الموافقة (1 نعم ، 2 لا)	

رقم الفريق	

رقم استبيان الأسرة	
الاسرة مقيمة (1) أم نازحة (2)	
في حال الاسرة المقيمة، هل تأوي اسرة نازحة (1 نعم ، 2 لا)	

تاريخ المقابلة	يوم		شهر		سنـــــة				
			Ø	8	2	Ø	1	6	

هل المنطقة حضرية (1) أم ريفية (2)	

رمز القرية / الحارة			رمز العزلة		
رمز المديرية			رمز المحافظة	Ø	3
رقم طبقة المسح			رقم العنقود		

العمل المكتبي

	الاسم	اليوم		الشهر		السنة				التوقيع
إدخال البيانات										
المراجعة										
ترميز أخرى										

الملاحظات

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استبيان رقم: .....

س 001: بيانات عن الأسرة (الأحياء فقط والذين يعيشون حاليا في الأسرة)

H001a	عدد أفراد الأسرة (الأحياء فقط الذين يعيشون حاليا في الأسرة تاريخ المسح)	العدد	
H001b	عدد الأطفال أقل من 5 سنوات (الأحياء فقط الذين يعيشون حاليا في الأسرة تاريخ المسح)	العدد	
H001c	عدد الأطفال أقل من 6 أشهر (الأحياء فقط الذين يعيشون حاليا في الأسرة تاريخ المسح)	العدد	
H001d	عدد النساء بسن 15 – 49 عاما (الأحياء فقط الذين يعيشون حاليا في الأسرة تاريخ المسح)	العدد	

س 002 – س 003: بيانات عن رب الأسرة (الشخص الذي يتكفل بالإنفاق على الأسرة)

H002	ما نوع رب الأسرة		
	1.	ذكر	
	2.	أنثى	
H003	الحالة الاجتماعية لرب الأسرة		
	1.	متزوج ويعيش مع شريكه.	
	2.	متزوج لكنه لا يعيش مع الشريك منذ ستة أشهر أو أكثر.	
	3.	أرمل.	
	4.	مطلق.	
	5.	حانق	
	6.	عازب.	

س 004 – س 005: بيانات عن راعي الأسرة (الشخص الذي يقوم برعاية الأسرة وخصوصا الأطفال)

H004	ما نوع راعي الأسرة		
	1.	ذكر	
	2.	أنثى	
H005	المستوى التعليمي لراعي الأسرة		
	1.	أمي.	
	2.	يقرأ ويكتب.	
	3.	تعليم أساسي.	
	4.	تعليم ثانوي.	
	5.	تعليم عالي (جامعة أو كلية أو معهد).	

استبيان رقم: .....

س 006 – س 008: بيانات عن دخل الأسرة

H006	ماهو المصدر الرئيسي لدخل الأسرة؟			
	1.	راتب موظف قطاع حكومي أو مختلط.		
	2.	راتب موظف في قطاع خاص كبير (مصانع وشركات كبيرة).		
	3.	راتب موظف في قطاع خاص متوسط او صغير.		
	4.	راتب موظف في قطاع ثالث (منظمات غير حكومية).		
	5.	عمل بالأجر اليومي.		
	6.	عمل في المزرعة الخاصة بالأسرة (غير القات).		
	7.	زراعة/ بيع/ القات.		
	8.	عمل خاص صغير (بقالة صغيرة، بوفية، تاكسي، بيع مواشي .....)		
	9.	عمل خاص متوسط (بيع جملة، بقالة كبيرة، معمل بلاستيك، محطة مياه، محطة بترول ....).		
	10.	عمل خاص كبير (ملاك المصانع والشركات الكبيرة والعقارات).		
	11.	حوالات (من المغتربين).		
	12.	هبات ومساعدات من الأهل والأصدقاء		
	13.	ضمان اجتماعي (معاشات التقاعد).		
	14.	تسول.		
	15.	أخرى: تذكر		

H007	منذ أبريل 2015 ، هل تأثر دخل رب الأسرة؟			
	1.	لم يفقد راتبه أو دخله المعتاد.		
	2.	فقد جزء من راتبه أو دخله.		
	3.	فقد كل راتبه أو دخله.		

H008	قومي بسؤال الأسرة عن مقدار دخلها بالريال؟ سجل الإجابة كما وردت في واحد أو أكثر من الخانات، واتركي خانة الإجمالي فارغة. اذا كان الدخل هو من تجارة فينبغي حساب الربح فقط وليس رأس المال		مقدار الدخل	
	1.	الدخل اليومي		
	2.	الدخل الاسبوعي		
	3.	الدخل الشهري		
		الإجمالي		

استبيان رقم: .....

س 009 – س 014: بيانات عن الماء والإصحاح البيئي والنظافة

				إنتقل إلى
H009	ما هو المصدر الرئيسي لمياه الشرب في منزلكم؟ (خيار واحد فقط)			
	1.	أنابيب مياه موصلة إلى البيت.		
	2.	أنابيب مياه موصلة إلى فناء البيت.		
	3.	بئر مفتوحة غير محمية.		
	4.	بئر مفتوحة محمية.		
	5.	خزان مغطى لحصاد مياه الأمطار.		
	6.	خزان مفتوح لحصاد مياه الأمطار.		
	7.	سيارة نقل المياه (وايت ماء)		
	8.	نقطة مياه مجتمعية (خزانات السبيل)		
	9.	مياه صحية معبأة (حدة، شملان، كوثر الخ)		H011 ←
	10.	مياه سطحية غير محمية (وادي، عين ماء جاري، الخ)		
	11.	عين ماء محمية		
	12.	أخرى: تذكر		

				انتقل إلى
H010a	هل تقومون بمعالجة الماء قبل الشرب؟			
	1.	نعم		
	2.	لا		H011 ←
	3.	لا أعرف		H011 ←

H010b	ماهي طريقة المعالجة الرئيسية المستخدمة لمياه الشرب (خيار واحد فقط)			
	1.	غلي الماء قبل الشرب		
	2.	استخدام الكلور		
	3.	الترشيح عبر قماش نظيف		
	4.	استخدام مرشح سيراميك أو رمل أو ما شابه (فلتر أو قطارة)		
	5.	ترك الماء ساكنا قبل الشرب لترسيب الشوائب.		
	6.	استخدام الشب (شب الفؤاد)		
	7.	أخرى: تذكر		

H011	للملاحظة: تحقق من توفر نقاط تخزين المياه لغرض الشرب: هل الوعاء الحاوي لمياه الشرب نظيف؟ (عدم وجود طحالب يعني رقم 1 ووجود الطحالب يعني رقم 2)			
	1.	نعم.		
	2.	لا.		

H012	اين تتم عملية قضاء الحاجة (التبرز)؟ (اختر فقرة من التالي)- تحقق من توفر المرافق والممارسات			
	1.	مرحاض - يتوفر فيه صب الماء للتنظيف الذاتي (سيفون أو دلو).		
	2.	مرحاض - حفرة دون غطاء.		
	3.	مرحاض - حفرة مغطاة بطريقة بسيطة (الجاف).		
	4.	قضاء الحاجة في العراء (في الحقول مثلا، الخ.)		
	5.	أخرى: تذكر		

H013	متى تقومين بغسل اليدين باستخدام الصابون أو الرماد أو التراب أو أوراق الشجر أو أي مادة اخرى؟ (ضع علامة أمام أكثر من فقرة إذا قام الشخص بذكرها. يرجى عدم طرح خيارات الإجابة على المستجيب.		1. نعم 2. لا	
	a.	بعد قضاء الحاجة.		
	b.	قبل الأكل.		
	c.	بعد الأكل.		
	d.	قبل الطبخ.		
	e.	قبل إطعام الطفل.		
	f.	بعد التخلص من براز الطفل.		
	g.	بعد التنظيف لمكان المواشي والدواجن.		
	h.	اية إجابات أخرى: تذكر:		

H014	للملاحظة: في نقطة غسل اليدين، تحقق من وجود التالي		1. نعم 2. لا	
	a.	الماء		
	b.	الصابون.		
	c.	الرماد/ التراب/ القضاض/ أوراق الشجر.		

استبيان رقم: .....

س 015 – س 017: الاستهلاك الغذائي وأليات التكيف

		هل تناولت الأسرة أي من الأغذية أو المجموعات الغذائية أدناه. في العمود الأول تكون الإجابة بنعم أو لا (1 أو2) في العمود الثاني تكون الإجابة بالعدد للمرات خلال السبعة ايام الماضية. (سجل صفر في حالة عدم التناول)	H015a هل تناولتها الاسرة خلال الـ 24 ساعة الماضية 1. نعم 2. لا	H015b كم عدد الأيام التي تناولتها الأسرة خلال الـ 7 أيام الماضية (الإجابة هي من 0 إلى 7)
H015	a.	بر، خبز، عصيد، فتة، حبوب أخرى (ذرة، ذرة رفيعة، دخن، شعير)، أرز، مكرونة، معجنات، او اي منتجات مصنعة من الحبوب		
	b.	بطاط		
	c.	خضراوات (الخضراوات الورقية، الطماطم، الفلفل، جزر، دبا..... الخ)		
	d.	فواكه (مانجو، موز , عنب، ..... الخ)		
	e.	لحم (بقري، غنمي)، كبدة، كلاوي ، دواجن		
	f.	بيض		
	g.	أسماك (طازجة ومجففة ومعلبة)		
	h.	فاصوليا، عدس، بازيليا، فول،		
	i.	مشتقات الحليب (لبن، جبن، زبادي، حقين، .....)		
	j.	زيوت/ دهون (سمن، زبدة، زيت نباتي، ....)		
	k.	سكر ، عسل، فواكه مجففة (تمر، زبيب)		
	l.	بهارات، شاي، بن		

		خلال الـ7 ايام الماضية هل صادف أن الأسرة لم تكن تمتلك غذاءاً كافياً أو مالاً كافياً لشراء الغذاء اللازم لها؟	أنتقل إلى
H016a	1.	نعم.	
	2.	لا.	H017 ←

		كم عدد الأيام خلال الـ7 ايام الماضية التي لجأت فيها الأسرة إلى أيا من الإجراءات أدناه بسبب أنها لم تكن تمتلك غذاءاً كافياً أو مالاً كافياً لشراء الغذاء اللازم لها؟	عدد الأيام
H016b	a.	الاعتماد على طعام رديء أو أقل كلفة.	
	b.	اقتراض الطعام أو الاعتماد على مساعدات الأهل والأصدقاء.	
	c.	خفض كمية الطعام المقدم في الوجبات الرئيسية.	
	d.	تقليص وجبات البالغين في الأسرة من أجل توفير الطعام للأطفال	
	e.	خفض عدد الوجبات اليومية	

H017		هل قامت أيا من أفراد الأسرة بالإجراءات التالية لمواجهة شحة الغذاء. يرجى تعبئة كل الخانات كالتالي (0) مطلقا (1) نادراً (مرة أو مرتين خلال الـ 30 يوم الماضية). (2) أحيانا (من 3 – 10 مرات خلال الـ 30 يوم الماضية). (3) دائما (كثر من 10 مرات خلال الـ 30 يوم الماضية).	0. مطلقاً 1. نادراً 2. أحياناً 3. دائماً	
	a.	بيع أصول/ مقتنيات الأسرة (الأثاث والمجوهرات والملابس ..الخ).		
	b.	شراء الطعام بالدين أو الرهن نظراً لعدم امتلاك المال وقت الشراء.		
	c.	إنفاق المدخرات.		
	d.	اقتراض المال.		
	e.	بيع الأصول الإنتاجية أو وسائل النقل (ماكينة الخياطة أو السيارة أو الدراجة ... الخ).		
	f.	استهلاك مخزون البذور المحفوظ للموسم القادم)		
	g.	سحب الأطفال من المدارس.		
	h.	بيع المنزل أو الأرض.		
	i.	التسول.		
	j.	بيع أخر إناث الماشية التي لديها		
	k.	التقليل من الإنفاق على التعليم والصحة (بما في ذلك الأدوية)		

استبيان رقم: .....

س 018 – س 020 : محيط الذراع للنساء بسن الإنجاب (15 – 49 عاما)

		W018	W019	W020
رقم المرأة	الاسم الأول للمرأة	عمر المرأة (بالسنوات)	وضع المرأة الأن: 1 = حامل 2 = مرضع 3= لاحامل ولا مرضع	قياس محيط الذراع (سم) (الميواك) 88.8 = رافض 99.9 = غائب
.1				.
.2				.
.3				.
.4				.
.5				.
.6				.
.7				.
.8				.
.9				.

رقم إستبيان الأسرة: .....

س 021 – س 026 : حالة التحصين وتزويد فيتامين (أ) للأطفال في سن 6-59 شهراً في الأسرة (يجب تدوين كل الأطفال من عمر 0 إلى أقل من 5 سنوات في الجدول أدناه ابتداء بالأصغر سنا)

		C021	C022	C023a	C023b	C024	C025	C026
رقم الطفل	الاسم الأول للطفل	نوع الطفل 1= ذكر 2 = أنثى	رقم المرأة (أم أو راعية الطفل)	تاريخ الميلاد (بالهجري أو الميلادي) للأطفال من سن (0 إلى 59) شهر	عمر الطفل (بالأشهر)	للأطفال بعمر 6 أشهر فأكثر، هل تم إعطاء فيتامين (أ) خلال الستة أشهر الماضية ؟ (إظهار عينة) 1= نعم 2 = لا 3= لا أعرف	للأطفال بعمر 6 أشهر فأكثر هل أخذ الطفل جرعة لقاح الخماسي3/ الشلل3؟ 1= نعم 2 = لا	للأطفال بعمر 9 أشهر فأكثر هل تم تطعيم الطفل ضد الحصبة (حقنة في اليد اليسرى)؟ 1= نعم من البطاقة 2 = نعم بالتذكر 3 = لا أعرف 4 = لم يطعم
.1				يوم شهر سنـــة				
.2				يوم شهر سنـــة				
.3				يوم شهر سنـــة				
.4				يوم شهر سنـــة				
.5				يوم شهر سنـــة				
.6				يوم شهر سنـــة				
.7				يوم شهر سنـــة				

ماذا قالت الام حول عمر الطفل:-

الطفل رقم (1): .....

الطفل رقم (2): .....

الطفل رقم (3): .....

الطفل رقم (4): .....

الطفل رقم (5): .....

الطفل رقم (6): .....

الطفل رقم (7): .....

رقم إستبيان الأسرة: .....

س 027 – س 030 : القياسات الجسمانية للأطفال بين سن 6-59 شهر في الأسرة (يترك فارغاً للأطفال بسن أقل من 6 أشهر)

			C027		C028	C029	C030
رقم الطفل (كما سبق أعلاه)	الاسم الأول للطفل		عمر الطفل (بالأشهر)	الوزن (كيلو جرام) 88.8 = رافض 99.9 = غائب	الطول (سم) 888.8 = رافض 999.9 = غائب	التوذم (أوديما) في كلا القدمين. 1 = نعم 2 = لا 8= رافض 9 = غائب	قياس محيط الذراع (سم) (الميواك) 88.8 = رافض 99.9 = غائب
.1				.	.		.
.2				.	.		.
.3				.	.		.
.4				.	.		.
.5				.	.		.
.6				.	.		.
.7				.	.		.

رقم إستبيان الأسرة: .....

س 031 – س 034: مراضة الأطفال بين سن 0-59 شهر في الأسرة (كل الأطفال تحت سن 5 سنوات)

			C031	C032	C033	C034
رقم الطفل (كما سبق أعلاه)	الاسم الأول للطفل	عمر الطفل (بالأشهر)	الإسهال خلال الأسبوعين الماضيين 1 = نعم 2 = لا	سعال أو صعوبة في التنفس خلال الأسبوعين الماضيين 1 = نعم 2 = لا	الحمى خلال الأسبوعين الماضيين 1 = نعم 2 = لا	الاشتباه بالحصبة خلال الشهر الماضي (طفح جلدي + حمى + (سعال أو إلتهاب حلق أو إلتهاب الملتحمة) 1 = نعم 2 = لا
.1						
.2						
.3						
.4						
.5						
.6						
.7						

رقم إستبيان الأسرة: .....

س 035 – س 037: دون ممارسة إطعام الأطفال بين سن 0 إلى 24 شهر خلال الـ 24 ساعة الماضية (يترك فارغا للأطفال بعمر أكبر من 24 شهرا)

رقم الطفل (كما سبق أعلاه)	الاسم الأول للطفل	عمر الطفل (بالأشهر)	C035a	C035b	هل تناول الطفل أمس أيا من المجموعات الغذائية أدناه. إبدائي بسؤال اليوم من الوقت الذي استيقظ فيه الطفل صباح أمس وحتى نومه في المساء. إتركي الأم تتذكر وعندما تنتهي قومي بذكر المواد أدناه 1 = نعم 2 = لا 3 الأم لاتعرف							
			هل رضع الطفل من ثدي أمه خلال الـ 24 ساعة الماضية؟ أحيانا لاتكون هناك رضاعة مباشرة لكن لبن الأم يستخرج من الثدي ويعطى للطفل بطريقة أخرى. 1 = نعم 2 = لا	كم عدد المرات التي رضع فيها الطفل و عدد المرات التي أعطى فيها الطفل لبن الأم خلال الـ 24 ساعة الماضية؟	C036a	C036b	C036c	C036d	C036e	C036f	C036g	C036h	C036i
					ماء مع أو بدون سكر	عصيدة أو شبيسة أو خبز أو أرز أو مكرونة أو اي غذاء مصنوع من الحبوب. بطاطا بيضاء أو أية أغذية درنية أخرى.	أي أغذية مصنوعة من الفول أو الفاصوليا أو البازيليا أو العدس أو الفول السوداني أو أي بقوليات أخرى.	الجبن أو الأيسكريم	كبد أو كلى أو قلب أو أحشاء أخرى. أي لحوم بقر أو غنم أو ماعز أو دواجن. اسماك طازجة أو مجففة أو معلبة.	بيض	دبا أو جزر أو بطاطا حلوة جوفها أصفر أو برتقالي. أي خضراوات ورقية داكنة الخضرة. مانجو أو باباي ناضجة.	أي فواكه أو خضراوات أخرى لم تذكر في الخانة السابقة.	أية مشروبات أو أغذية أخرى (عدا حليب الأطفال، وأي حليب اخر، والحقين والزبادي)
.1													
.2													
.3													
.4													
.5													
.6													
.7													

رقم إستبيان الأسرة: .....

س 035 – س 037: دون ممارسة إطعام الأطفال بين سن 0 إلى 24 شهر خلال الـ 24 ساعة الماضية (يترك فارغا للأطفال بعمر أكبر من 24 شهرا)

رقم الطفل (كما سبق أعلاه)	الاسم الأول للطفل	عمر الطفل (بالأشهر)	سجل عدد المرات التي تناول الطفل أمس من كل من المجموعات أدناه. (سجل 0 إذا كان الطفل لم يتناول من اي مجموعة)			
			C037a	C037b	C037c	C037d
			عدد مرات تناول حليب رضع	عدد مرات تناول أي حليب أخر بودرة أو معلب أو حليب مواشي طازج	عدد مرات تناول الزبادي أو الحقين أو الثريب (الثرابة).	عدد مرات تناول الأغذية الأخرى الموضحة في السؤال C036 السابق بشرط ان تكون صلبة أو نصف صلبة أو لينة (كقوام الموز) .
.1						
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رقم إستبيان الأسرة: .....

مسح الحالة التغذوية والوفيات في محافظة الضالع أغسطس 2016م

استمارة رصد أفراد الأسرة خلال 90 يوم من تاريخ المسح (نموذج 2)

مديرية المسح: _____ الحي/ القرية: _____ التاريخ: _____ رقم العنقود: _____

رقم الفريق: _____ رقم استبيان الأسرة: _____ طبقة المسح: _____

م	الاسم	الجنس (ذكر أو أنثى)	العمر بالسنوات	التحق خلال فترة 90 يوم	غادر خلال فترة 90 يوم	ولد خلال فترة 90 يوم	توفي خلال فترة 90 يوم	سبب الوفاة	موقع الوفاة
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

هام: يتم تسجيل كل الأفراد الموجودين حاليا وكل من التحق بالأسرة أو غادرها أو توفى أو ولد خلال فترة 90 يوم من تاريخ المسح

رموز أسباب الوفاة	
1 = الاسهال	5 = سوء التغذية
2 = الحمى	6= العنف / بسبب الصراعات
3= الحصبة	7= أخرى (حدد)
4 = مشاكل في التنفس	

رموز مواقع الوفاة	
1 = في الموقع الحالي	
2= أثناء الهجرة	
3= في آخر مكان سكن فيه	
4 = أخرى (حدد)	

Annex 2: Al Dhale'e Nutrition August 2016 Survey Team

Team No	Name	Title
1	Haitham Saleh Saeed BaTaher	Team Heads
2	Ahmed Mohammed Hussain Al Masri	
3	Abdo Mothanna Nasser	
4	Aref Ahmed Saleh Ali	
5	Saddam Mahmmod Saleh Obadah	
Reserve	Sameer Naji Obadi	
1	Anisa Mohamed	Enumerators
	Maha Mohammed Ali	
	Amna Saleh Mohammed Abdullah	
2	Fatima Ali Bin Ali Abdullah	
	Hanan Ahmed Ali Musallam	
	Fardaws Hamood Al Haj	
3	Huda Abdullah Qaied	
	Enas Abdullah Ahmed	
	Guinea Ali Ahmed Ali	
4	Bushra Abdu Mosa'ad Al Nasab	
	Muna Ahmed Saled Al Habeel	
	Haifa Fahd Ali Dammaj	
5	Dina Saleh Saeed Al Hazmi	
	Hana Ali Mohsen	
	Zainab Hasan Ali	
Reserve	Etab Naji Qasem Al Qateesh	
	Dalal Naji Qasem Al Qateesh	
	Raieda Ali Mosad	
		Title
Dr. Adel Abdulmahmood Al Absi		Field supervisors
Abdu Abdullah Al Nasser		
Sami Nasser Ali Ahmed		
Dr. Galal Hussain Al Zawa'ari		
Sami Mohammed Saeed Al Qala'a		Data entry
Motee' Ahmed Ali		
Wadhah Hasan Mohammed		
Wae'l Abdullah Abo Bakr		
Methaq Nasr Ali		
Nagib Abdulbaqi Ali		Data Analysis and Report Writing
Dr. Mohammed Ali Abdullah Saleh		Survey Executive Manager
Dr. Eyad Saleh Abdullah		Logistic Officer
Dr. Fahd Abdulaziz Al Nadhari		Survey Technical Manager

Annex 3: Calendar of events

Event	Event Date
The commencement of the national dialogue conference	18 Mar 2013
Ansar Allah storming of the Capital Sana'a / Signing the Peace and Partnership Agreement	21 Sep 2014
The escape of Abdrabbo Mansour Hadi to Aden	21 Feb 2015
Arab Coalition Strick on Yemen	26 Mar 2015
Beginning of Hijrij Year	1 Muharram
Anniversary of Isra and Me'raj	27 Rajab
Eid Al-Fitr	1 Shawal
Eid Al-Adha	10 Dhul-Hijjah
Rajab Friday	Frist Friday of Rajab
Unity anniversary	22 May
September Revolution anniversary	26 Sep
October Revolution anniversary	14 Oct
Independence Day	30 Nov

Annex 4: Age determination job aid

جدول مساعد للباحثات يحدد أعمار الأطفال أقل من خمس سنوات بالأشهر الميلادية وما يقابلها بالأشهر الهجرية التقريبية

أسئلة الإنتقالات

العمر بالشهر	العمر بالسنة والشهر: سنة	العمر بالسنة والشهر: شهر	السنوات الميلادية: 2016	2015	2014	2013	2012	2011	السنوات الهجرية: 1437	1436	1435	1434	1433	1432	C023	من C028 وحتى C031	من C032) وحتى C034)
0			8						11								
1		1	7						10								
2		2	6						9								
3		3	5						8								
4		4	4						7								
5		5	3						6								
6		6	2						5								
7		7	1						4								
8		8		12					3								
9		9		11					2								
10		10		10					1								
11		11		9						12							
12	1			8						11							
13	1	1		7						10							
14	1	2		6						9							
15	1	3		5						8							
16	1	4		4						7							
17	1	5		3						5+6							
18	1	6		2						4							
19	1	7		1						3							
20	1	8			12					2							
21	1	9			11					1							
22	1	10			10						12						
23	1	11			9						11						
24	2				8						10						
25	2	1			7						9						
26	2	2			6						8						
27	2	3			5						7						
28	2	4			4						6						
29	2	5			3						5						
30	2	6			2						4						
31	2	7			1						3						
32	2	8				12					2						
33	2	9				11					1						
34	2	10				10						12					
35	2	11				9						11					
36	3					8						10					
37	3	1				7						9					
38	3	2				6						8					
39	3	3				5						7					
40	3	4				4						6					
41	3	5				3						5					
42	3	6				2						4					
43	3	7				1						3					
44	3	8					12					2					
45	3	9					11					1					
46	3	10					10						12				
47	3	11					9						11				
48	4						8						10				
49	4	1					7						9				
50	4	2					6						8				
51	4	3					5						7				
52	4	4					4						6				
53	4	5					3						5				
54	4	6					2						4				
55	4	7					1						3				
56	4	8						12					2				
57	4	9						11					1				
58	4	10						10						12			
59	4	11						9						11			
60	5							8						10			

الشهر	ميلادي
1	يناير
2	فبراير
3	مارس
4	أبريل
5	مايو
6	يونيو
7	يوليو
8	أغسطس
9	سبتمبر
10	أكتوبر
11	نوفمبر
12	ديسمبر

الشهر	هجري
1	محرم
2	صفر
3	ربيع الاول
4	ربيع الثاني
5	جمادى الاولى
6	جمادى الثانية
7	رجب
8	شعبان
9	رمضان
10	شوال
11	ذو القعدة
12	ذو الحجة

للأطفال بين عمر (6 الى 59) شهر نسأل الأسئلة الخاصة بالتحصين (C021 + C022) وتؤخذ القياسات الجسمانية (الأنثروبومترية) (من C024 وحتى C027)

للأطفال من عمر (9 الى 59) شهر - يسأل السؤال الخاص بالحصبة (C023)

جميع الأطفال دون الخامسة - تسأل الأسئلة الخاصة بالفرعية (من C028 وحتى C031)

من عمر (صفر الى 24) شهر - يسأل السؤال الخاص بالرضاعة C032 وسؤال الإطعام C033 وممارسات الإطعام C034

تاريخ الإسناد - يوم السبت - 20/ 8/ 2016م الموافق 17/ 11/ 1437هـ

Annex 5: Al Dhale'e August 2016 Survey Plausibility Check

Plausibility check for: Al-Dhale'e August 2016.as

Standard/Reference used for z-score calculation: WHO standards 2006
(If it is not mentioned, flagged data is included in the evaluation. Some parts of this plausibility report are more for advanced users and can be skipped for a standard evaluation)

Overall data quality

Criteria	Flags*	Unit	Excel.	Good	Accept	Problematic	Score
Flagged data	Incl	%	0-2.5	>2.5-5.0	>5.0-7.5	>7.5	
(% of out of range subjects)			0	5	10	20	**0** (2.1 %)
Overall Sex ratio	Incl	p	>0.1	>0.05	>0.001	<=0.001	
(Significant chi square)			0	2	4	10	**0** (p=0.700)
Age ratio(6-29 vs 30-59)	Incl	p	>0.1	>0.05	>0.001	<=0.001	
(Significant chi square)			0	2	4	10	**0** (p=0.958)
Dig pref score - weight	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**0** (3)
Dig pref score - height	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**2** (8)
Dig pref score - MUAC	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**0** (5)
Standard Dev WHZ	Excl	SD	<1.1	<1.15	<1.20	>=1.20	
.			and	and	and	or	
.	Excl	SD	>0.9	>0.85	>0.80	<=0.80	
			0	5	10	20	**0** (0.96)
Skewness WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	**0** (0.07)
Kurtosis WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	**1** (0.28)
Poisson dist WHZ-2	Excl	p	>0.05	>0.01	>0.001	<=0.001	
			0	1	3	5	**0** (p=0.062)
OVERALL SCORE WHZ =			0-9	10-14	15-24	>25	**3** %

The overall score of this survey is 3 %, this is excellent.

Annex 6: Al Dhale'e Nutrition Survey Standardization Test Report for Evaluation of Teams

						Precision			Accuracy		OUTCOME		
Weight		subjects	mean	SD	max	Technical error	TEM/mean	Coef of reliability	Bias from superv	Bias from median	result		
		#	kg	kg	kg	TEM (kg)	TEM (%)	R (%)	Bias (kg)	Bias (kg)			
	Supervisor	9	14.8	2.3	0.3	0.08	0.5	99.9	-	-0.84	TEM acceptable	R value good	Bias good
	Team 1	9	14.8	2.3	0.1	0.05	0.3	100	0.02	-0.82	TEM acceptable	R value good	Bias good
	Team 2	9	14.1	3.9	12.7	2.99	21.3	41.2	-0.69	-1.53	TEM reject	R value reject	Bias good
	Team 3	9	14.8	2.3	0.3	0.07	0.5	99.9	-0.01	-0.84	TEM acceptable	R value good	Bias good
	Team 4	9	14.8	2.3	0.3	0.08	0.6	99.9	0	-0.84	TEM acceptable	R value good	Bias good
	Team 5	9	14.7	2.3	1	0.24	1.6	98.9	-0.05	-0.89	TEM reject	R value acceptable	Bias good
	Team 6	9	14.9	2.2	6.8	1.82	12.2	28.5	0.17	-0.67	TEM reject	R value reject	Bias good
	Team inter 1st	6x9	14.6	2.9	-	2	13.7	51.2	-	-	TEM reject	R value reject	
	Team inter 2nd	6x9	14.8	2.2	-	0.12	0.8	99.7	-	-	TEM acceptable	R value good	
	inter team + sup	7x9	14.7	2.5	-	0.98	6.7	79	-	-	TEM reject	R value reject	
	TOTAL intra+inter	6x9	-	-	-	2.01	13.7	37.9	-0.09	-0.92	TEM reject	R value reject	Bias good
	TOTAL+ sup	7x9	-	-	-	1.86	12.7	44.8	-	-	TEM reject	R value reject	
Height		subjects	mean	SD	max	Technical error	TEM/mean	Coef of reliability	Bias from superv	Bias from median	result		
		#	cm	cm	cm	TEM (cm)	TEM (%)	R (%)	Bias (cm)	Bias (cm)			
	Supervisor	9	99.1	9.6	0.6	0.26	0.3	99.9	-	-0.24	TEM good	R value good	
	Team 1	9	100	10.5	4.2	1.07	1.1	99	0.97	0.73	TEM reject	R value acceptable	Bias poor
	Team 2	9	99.1	9.6	1.1	0.38	0.4	99.8	0.09	-0.16	TEM good	R value good	Bias good
	Team 3	9	96.3	13.9	33.1	8.94	9.3	58.5	-2.76	-3.01	TEM reject	R value reject	Bias good
	Team 4	9	98.9	9.7	1.7	0.56	0.6	99.7	-0.13	-0.38	TEM acceptable	R value good	Bias good
	Team 5	9	99.1	9.9	2.6	0.64	0.6	99.6	0.06	-0.19	TEM poor	R value good	Bias good
	Team 6	9	99.2	9.6	1	0.34	0.3	99.9	0.14	-0.11	TEM good	R value good	Bias good
	Team inter 1st	6x9	99.4	9.7	-	1.42	1.4	97.8	-	-	TEM poor	R value acceptable	
	Team inter 2nd	6x9	98.2	11.2	-	5.18	5.3	78.7	-	-	TEM reject	R value reject	
	inter team + sup	7x9	98.8	10.3	-	3.06	3.1	89.9	-	-	TEM reject	R value reject	
	TOTAL intra+inter	6x9	-	-	-	5.3	5.4	74.2	-0.27	-0.48	TEM reject	R value reject	Bias good
	TOTAL+ sup	7x9	-	-	-	4.91	5	77.3	-	-	TEM reject	R value reject	
MUAC		subjects	mean	SD	max	Technical error	TEM/mean	Coef of reliability	Bias from superv	Bias from median	result		
		#	mm	mm	mm	TEM (mm)	TEM (%)	R (%)	Bias (mm)	Bias (mm)			
	Supervisor	9	152.6	10.8	6	2.81	1.8	93.3	-	4.56	TEM poor	R value poor	Bias reject
	Team 1	9	153.3	10.4	9	4.16	2.7	84.1	0.78	5.33	TEM reject	R value reject	Bias reject
	Team 2	9	151.2	11.4	8	3.19	2.1	92.2	-1.39	3.17	TEM poor	R value poor	Bias reject
	Team 3	9	150.7	11.5	15	4.06	2.7	87.7	-1.89	2.67	TEM reject	R value reject	Bias poor
	Team 4	9	151.9	11.2	14	4.97	3.3	80.5	-0.67	3.89	TEM reject	R value reject	Bias reject
	Team 5	9	155.8	11.5	7	2.83	1.8	94	3.22	7.78	TEM poor	R value poor	Bias reject
	Team 6	9	149.9	13.5	39	11.74	7.8	24.2	-2.67	1.89	TEM reject	R value reject	Bias acceptable
	Team inter 1st	6x9	151.6	12.4	-	7.37	4.9	64.7	-	-	TEM reject	R value reject	
	Team inter 2nd	6x9	152.6	10.7	-	4.05	2.7	85.7	-	-	TEM reject	R value reject	
	inter team + sup	7x9	152.2	11.4	-	5.29	3.5	78.8	-	-	TEM reject	R value reject	
	TOTAL intra+inter	6x9	-	-	-	8.43	5.5	46.6	-0.44	4.18	TEM reject	R value reject	Bias reject
	TOTAL+ sup	7x9	-	-	-	7.87	5.2	52.3	-	-	TEM reject	R value reject	

Suggested cut-off points for acceptability of measurements				
Parameter		MUAC mm	Weight Kg	Height cm
individual	good	<2.0	<0.04	<0.4
TEM	acceptable	<2.7	<0.10	<0.6
(intra)	poor	<3.3	<0.21	<1.0
	reject	>3.3	>0.21	>1.0
Team TEM	good	<2.0	<0.10	<0.5
(intra+inter)	acceptable	<2.7	<0.21	<1.0
and Total	poor	<3.3	<0.24	<1.5
	reject	>3.3	>0.24	>1.5
R value	good	>99	>99	>99
	acceptable	>95	>95	>95
	poor	>90	>90	>90
	reject	<90	<90	<90
Bias	good	<1	<0.04	<0.4
From sup if good	acceptable	<2	<0.10	<0.6
outcome, otherwise	poor	<3	<0.21	<1.4
from median	reject	>3	>0.21	>1.4

Annex 7: Clusters for Al Dhale'e August 2016 Survey

Cluster	Site (village or zone)	Ozla	District
1	Juban - Harran	Juban	Juban
2	Al Thowyer - Adqar	Al Awdeiah	Juban
3	Hammam Damt - Al Ansa'a	Damt	Damt
4	Old Damt	Damt	Damt
5	Al Dhahera - Al Soraim	Al Dhahera	Damt
6	Kawkaban - Soroor	Kanah	Damt
7	Al Mazob - Habeel Bani Salem	Rob' Al Lahmah	Damt
8	Hamr Al Qawz	Qa'taba	Qa'taba
9	Markaza	Belad Al Yobi	Qa'taba
10	Azab - Habeel Deblah	Al A'ashoor	Qa'taba
11	Al Homaira	Al Amriah	Qa'taba
12	Al Jobara - Wadi Al Qata'a	Al Majaneh	Qa'taba
13	Al Qahra	Al Shoa'ieb	Al Shoa'ieb
14	Al Mashhad	Al Shoa'ieb	Al Shoa'ieb
15	Al Aqla	Al Haseen	Al Haseen
16	Al Shoa'ba	Al Haseen	Al Haseen
17	Dhe Bas	Al Haseen	Al Haseen
18	Al Dhale'e - Dar Al Haid	Al Dhale'e	Al Dhale'e
19	Al Jaleela	Al Dhale'e	Al Dhale'e
20	Laghwal	Al Dhale'e	Al Dhale'e
21	Habeel Al Salama	Al Dhale'e	Al Dhale'e
22	Najd Al Qaflah	Al Dhale'e	Al Dhale'e
23	Al Dhabrain	Jehaf	Jehaf
24	Taqmor	Jehaf	Jehaf
25	Al Dawh	Al Azareq	Al Azareq
26	Al Nasara	Al Azareq	Al Azareq
27	Sakin Saeed	Al Azareq	Al Azareq
28	Hamdan - Al Boraika	Al Haiqi Al A'ala	Al Hosha
29	Al Sabwa - Al Ma'rada	Al Ahtdof	Al Hosha
30	Al Sha'bain	Al Bait	Al Hosha
Reserve clusters			
1	Al Sakra	Al Dhabianiah	Juban
2	Shaddan - Al Hamra	Al Wahaj	Qa'taba
3	Hawf	Al Shoa'ieb	Al Shoa'ieb
4	Haql Al Adhboe' - Al Zalla	Amara Al Olia	Al Hosha

Ministry of Public Health and Population

Al Dhale’e Governorate Health Office