Nutrition and Mortality
SMART Survey
Preliminary Report
Helmand Province, Afghanistan
March 2015

Funded by:
OCHA

Prepared by Dr. Baidar Bakht Habib and
Hassan Ali Ahmed

Action Contre la Faim
ACF is a non-governmental, non-political and non-religious organization
ABBREVIATIONS

ACF  Action contre la faim/Action Against Hunger
ACTD  Afghanistan Centre for Training and Development
BHC  Basic Health Centre
BPHS  Basic package of health services
CDR  Crude Death Rate
CHF  Common Humanitarian Fund
CSO  Central Statistics Organization
ENA  Essential Nutrition Action
GAM  Global Acute Malnutrition
HAZ  Height for Weight
HF  Health Facility
HH  Household
IYCF  Infant and Young Child Feeding
MOPH  Ministry of Public Health
MUAC  Mid-upper arm circumference
MW  Measured Weight
OW  Observed Weight
PPS  Probability Proportional to Size
RC  Reserve Cluster
RNA  Rapid Nutrition Assessment
SAM  Severe Acute Malnutrition
SD  Standard Deviation
SMART  Standardized Monitoring and Assessment of Relief and Transitions
USDR  Under 5 Death Rate
WASH  Water, Sanitation and Hygiene
WFP  World Food Program
WH  Weight for Height
WHO  World Health Organization
CONTENTS

1. Introduction.......................................................................................................................... 4
2. Objective of the survey........................................................................................................... 4
   2.1 Broad objective.................................................................................................................. 4
   2.2 Specific objective ............................................................................................................. 5
3. Methodology .......................................................................................................................... 5
4. Primary Results....................................................................................................................... 5
5. Summary of Key recommendation ...................................................................................... 7
   5.1 Nutrition status.................................................................................................................. 7
   5.2 Health status..................................................................................................................... 7
6. ANNEXES ............................................................................................................................... 1

LIST OF TABLES

Table 1: Summary of Nutrition and Health Indicators Results, Helmand, March 2015 ............... 6
ACKNOWLEDGEMENT

ACF would like to thank the following organizations and individuals for their helps and support in carried out this Nutrition SMART survey:

- The community representative who has supported the ACTD teams during the field data collections;
- The multiple National and international Non-Governmental Organization for sharing information on the general situation in Helmand Province;
- Helmand PHD and especially the PNO for their support and authorization of the survey;
- Common Humanitarian Fund (UNOCHA-CHF) for their financial support of the survey;
- ACF teams in Kabul and Paris;
- Afghanistan Center for Training and Development (ACTD) team in Helmand and Kabul, especially Dr. Samiudin, Dr. Ruhollah Malakhial, Dr. Norullah, Dr. Dawlat khan, Dr. Ziarat gul and Haji Said Ahmad;
- ACTD entire data collection teams in Helmand Province for making the whole process smooth.
1. INTRODUCTION

Helmand is one of the 34 provinces of Afghanistan. Located in the southern part of the Afghanistan, the Helmand Basin region is encompassed entirely by mountains - the Hindu Kush to the North, the East Iranian ridges to the West, and the mountains of Baluchistan Province to the East and South. The lower portion of the Basin is located in the worldwide subtropical dry zone. As a result, the area is arid or hyper arid. The lower Helmand Basin receives less than 75 millimetres (3 inches) of precipitation annually. Because winters are colder than it is typical for the subtropical dry zone, the basin more closely resembles the large, continental deserts of Asia than the subtropical deserts found in Northern Africa and the Middle East.

Helmand borders Kandahar, Nimroz, Farah, Ghor and Daykundi provinces. Administratively Helmand has a population of about 894,200\(^1\) and is divided into 14 districts with Lashkargah City being the provincial capital. Demographically the predominant tribe is the Pashtu although there are other minority tribes like the Baluchi, Tajik and Hazaras. The most commonly spoken language in the province is Pashtun.

There are a total of 14 districts in Helmand Province. Only 5 districts out of these 14 districts were surveyed in Helmand province due to security and inaccessibility challenges. The population of these 5 districts represents 38.82\% of the entire population of the Province. According to SMART methodology, the results cannot be extrapolated to the whole province but only representative of the surveyed areas. This is a limitation with regards to having a complete picture of the nutritional status of children under five year’s old and pregnant/lactating women in Helmand province.

2. OBJECTIVE OF THE SURVEY

2.1 Broad objective

This survey was justified by the need to obtain a more up to date nutrition and key health data specific to the area of intervention for BPHS implementers at province level in order to design better intervention strategies that are evidence based.

Afghanistan Center for training and Development (ACTD) was selected to participate in this survey because they are the BPHS implementer of nutrition activities within the BPHS program. Therefore, this has been viewed as a great opportunity of building their capacity on nutrition assessments and surveillance.

\(^1\) CSO Population statistics 2012/13.
2.2 Specific objective

- To estimate the prevalence of under nutrition of 0-59 months children in Helmand province;
- To estimate crude death rate and under five death rate in 5 districts of Helmand province;
- To determine IYCF practice for children 0-23 months in 5 districts of Helmand province;
- To determine the nutritional status of Pregnant and Lactating Women in 5 districts of Helmand Province;
- To estimate measles vaccination coverage among children aged from 9 - 59 months in 5 districts of Helmand Province;
- To estimate Vitamin A supplementation coverage among children aged from 6-59 month in 5 districts of Helmand Province;
- Two weeks recall morbidity & Zinc supplementation;
- To collect key WASH data and indicators.

3. METHODOLOGY

Survey area:
This survey covered 5 out of 14 districts of Helmand Province (Lashkar Gah, Greeshk (Nahri Seraj), Nawa, Nadali and Marjah).

Survey period:
The survey was conducted from 21st February 2015 to 3rd March 2015.

Survey design:
The survey was a cross sectional study with two-stage cluster sampling using Standardized Monitoring of Relief and Transition (SMART) methodology. Villages were considered as the smallest geographical unit (clusters).

Survey population:
Out of (879500²) total population of Helmand this survey covered (341,482³) population. This represents 38.8% of the entire population of Helmand province.

Sample size:
Emergency Nutrition Assessment (ENA) for SMART software delta version 2011 updated November 2014, was used for sample size calculation (parameters used for sample size calculation are in Annex 1).

4. PRIMARY RESULTS

---

² Settled Population of Helmand province by Civil Division , Urban, Rural and Sex-2012-13 (CSO report)
³ Sampling frame for SMART survey March 2015
For the sake of timely presentation of survey results, here below is a preliminary summary of finding with regards to key nutrition and health indicators. The final report will contain the full analysis and will be completed within one month once completion of field data collection.

A total of 1128 children aged 0-59 months were assessed for their nutritional status through anthropometric measurements from 662 sampled households. The data quality analysis is presented in Annex 2 (plausibility check on anthropometric results).

Table 1: Summary of Nutrition and Health Indicator Results, Helmand, March 2015. Results presented in brackets are expressed with 95.0% confidence interval (CI)

<table>
<thead>
<tr>
<th>Index</th>
<th>Indicators</th>
<th>Results (CI 95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under nutrition Children 6-59 months (WHO 2006)</td>
<td>WHZ- scores (n=1128)</td>
<td>Global Acute Malnutrition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight for height&lt; -2 z and/or edema*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Severe Acute Malnutrition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight for height &lt; -3 z and/or edema</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderate acute malnutrition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight for height &lt;-2 z-score and &gt;=-3 z-score</td>
</tr>
<tr>
<td></td>
<td>HAZ- scores (n=1042)</td>
<td>Stunting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Height for age &lt;-2 z-score</td>
</tr>
<tr>
<td></td>
<td>WAZ-scores (n=1137)</td>
<td>Underweight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight for age &lt;-2 z-score</td>
</tr>
<tr>
<td></td>
<td>MUAC (n=1154)</td>
<td>Global Acute Malnutrition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MUAC &lt;125 mm or edema</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Severe Acute Malnutrition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MUAC &lt;115 mm or edema (&lt;115mm)</td>
</tr>
</tbody>
</table>

The survey showed that the Crude Mortality Rate (CMR) and under five mortality rate (U5MR) were 0.11 (95% CI: 0.05 - 0.22) and 0.47 (95% CI; 0.24 – 0.94) respectively. Both CMR and U5MR rates were below the WHO’s emergency thresholds of 2/10,000/day and 4/10,000/day respectively.

Retrospective morbidity data was collected among children 6-59 months (two-week recall) to assess the occurrence of main diseases. The survey established that 17.5% (210 cases) had been sick two weeks prior to survey period. Out of those, 54.8% (115 cases) reported to have had episodes of Cough/ARI, 39.0% (82 cases) fever, 27.1% (57 cases) watery diarrhea, 1.9% (4 cases) bloody diarrhea. Out of the 57 cases that were reported to have watery diarrhea only 5 cases (11.9%) reported to have received zinc supplementation as part of the treatment for diarrhea.

The survey also assessed the supplementation of vitamin A, deworming and vaccination among
children 0-59 months. According to the survey findings 38.3% (383 cases) of children 9-59 months were vaccinated against measles, out of these only 20.8% could be verified by card while the rest were recall and 50.7% (611) of children 0-59 months had received BCG vaccination. Vitamin A supplementation for children 6-59 months 6 months prior to the survey was found to be at 13.2% (145 cases).

5. SUMMARY OF KEY RECOMMENDATION

Some key recommendations have been drawn after the context analysis and the preliminary results from the survey. However, a complete set of detailed recommendations will be presented in the final report.

5.1 Nutrition status

- Prioritize activities addressing chronic malnutrition, high stunting rates, at the community level, through integrated food security, WASH, nutrition and IYCF programs;
- Continue implementing the integrated management of acute malnutrition (IMAM) program and where applicable start up new outreach sites to access as many of the malnourished children as possible;
- Scale up community detection and referral of children with acute malnutrition through community health workers and providing health education to the entire community on symptoms of malnutrition.

5.2 Health status

- Strengthening of outreach services and integrating supplementation in all immunization campaigns;
- Enhanced integration and expanded coverage for nutrition and other health programmes in all basic health centres and health posts;
- Comprehensive analysis on the barriers and boosters to improved health seeking behaviour and the further vigorous campaigns targeting the entire population are required in Helmand province, which should allow their children to better attend existing services;

- Intervention programs for improving water, sanitation and hygiene practices including health education to educate the community on domestic treatment of drinking water and proper disposal of human faecal waste to avoid contamination of water sources. Diarrhea especially contributes much in the morbidity and mortality burden. There is need for mass hygiene promotion, hand-washing practices and diarrhea management skills.
### Annex 1: Sample size calculation for nutrition status using ENA for SMART software (Version 2011 November 2014 update)

<table>
<thead>
<tr>
<th>Estimated GAM&lt;sup&gt;4&lt;/sup&gt;</th>
<th>Precision</th>
<th>DEFF</th>
<th>US Population&lt;sup&gt;5&lt;/sup&gt;</th>
<th>Av. HH size&lt;sup&gt;6&lt;/sup&gt;</th>
<th>Non response</th>
<th>Sample size Children</th>
<th>Sample size HHs</th>
<th>Clusters (15HHs/cluster)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>3</td>
<td>1.5</td>
<td>15.6%</td>
<td>7</td>
<td>6%</td>
<td>627</td>
<td>679</td>
<td>46</td>
</tr>
</tbody>
</table>

### Annex 2: Plausibility check summary

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Missing/flagged data</th>
<th>Overall sex ratio</th>
<th>Overall age distribution</th>
<th>Digit pref. score Weight</th>
<th>Digit pref. score Height</th>
<th>Digit pref. score MUAC</th>
<th>Standard deviation WHZ</th>
<th>Skewness WHZ</th>
<th>Kurtosis WHZ</th>
<th>Poisson distribution WHZ</th>
<th>Overall score WHZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Interpretation</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Problematic</td>
<td>Excellent</td>
<td>Good</td>
<td>Good</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Good</td>
</tr>
</tbody>
</table>

<sup>4</sup> GAM estimate average calculated from Previous SMART surveys. (NNS 2013 Helmand & SMART SCI Kandahar 2014)

<sup>5</sup> Afghanistan Mortality survey, 2010

<sup>6</sup> National vulnerability assessment of Afghanistan -2014