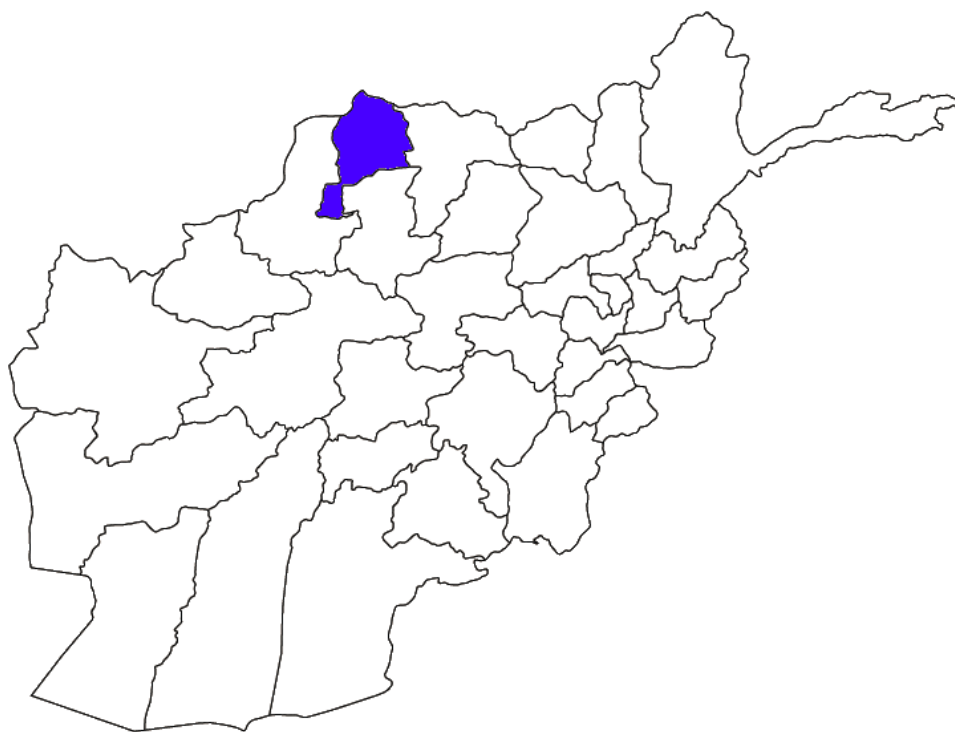




Coverage Assessment (SLEAC Report)

Jawzjan Province, Afghanistan

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Action Contre la Faim

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Executive Summary

The following report presents key findings from one of a series of five provincial coverage assessments in Afghanistan, undertaken as part of a UNICEF funded ACF coverage project¹. The project assessed the coverage of the treatment of severe acute malnutrition (SAM) services across five provinces: Laghman, Badakhshan, Jawzjan, Bamyān and Badghis.

In each province the standard SLEAC (Simplified LQAS² Evaluation of Access and Coverage) methodology was used in order to achieve coverage classifications at district level and coverage estimations at provincial level. The opportunity was also taken to collect qualitative information on the factors inhibiting access to SAM treatment services as well as those acting in favour of access.

SLEAC uses a two-stage sampling methodology (sampling of villages and then of SAM children) to classify the level of needs met in a province, i.e. to what extent severely acutely malnourished (SAM) children are reaching treatment services. By also administering questionnaires to each SAM case found, whether covered (undergoing treatment) or uncovered (not being treated), a SLEAC assessment also provides information regarding factors influencing access and coverage.

It was expected that, due to patterns of insecurity and varying administrative division of provinces across Afghanistan, sampling of villages and SAM cases by district would present both practical and methodological challenges to the implementation of these SLEAC assessments. Therefore, selected provinces were divided into zones for classification rather than each district being classified, as is typically the case for SLEAC assessments. This allowed for classification of coverage with a smaller, and therefore more practically feasible, sample size and also facilitated inclusion of provinces with many smaller districts where province-wide classifications would have been impractical. The districts were grouped together based on factors such as topography and settlement type (urban or rural).

The SLEAC assessment in Jawzjan, conducted in November 2015, was implemented in partnership with Save the Children International (SCI) - which provides technical support to the Basic Package of Health Services (BPHS) implementing partner for the province, Solidarity for Afghan Families (SAF). Due to long term insecurity in two districts and escalated insecurity in four others at the time of the assessment, 6 of the 11 districts in Jawzjan were removed from the scope of the assessment. Of those remaining, the following sampling zones were decided upon:

	District(s)
Zone One	Sheberghan and Khwaja Doh
Zone Two	Aqcha, Fayzabad and Khaniqa

Coverage thresholds of low ($\leq 30\%$), moderate ($>30\%$, $\leq 50\%$) and high ($>50\%$) were agreed prior to the assessment. Using the single coverage estimator, coverage was classified and found to be moderate.

The coverage estimation for Jawzjan province (including data from both zones) is **40.3% (CI 95% 26.93%-53.59%)**. This estimation, as well as the classifications, should be considered as reflective only of the accessible areas within the sampling frame, generally around the major cities of Sheberghan and Aqcha and the major radial highways from these cities and towards Balkh.

¹ Measuring performance and coverage of IMAM programs in Afghanistan: rolling out of the SLEAC methodology

² Lot Quality Assured Sampling

The most commonly cited barrier to access was that caregivers have little information or knowledge of malnutrition and do not recognise when their child is malnourished. Many caregivers of both covered and uncovered cases, who are aware of malnutrition and of the treatment services available, had already had the same child or another child admitted to the program.

Aside from caregivers of previously admitted cases, those of covered cases were generally advised of available treatment services only once they reached the health facility. Qualitative information from uncovered cases also demonstrated the limited level of involvement of community health workers (CHWs) in nutrition activities, including sensitization, screening and referral. Across covered and uncovered cases, there was also a significant gender bias towards more female SAM cases.

In the areas assessed, the cases found included a high number of recovering cases admitted in the program. Further investigation is required to confirm whether this is due to good clinical performance (such as short lengths of stay and early treatment seeking). However, evidence of poor case-finding and repeat and rejected admissions also suggests this may include some incorrect admissions.

Findings that influence coverage positively related to the willingness of caregivers to go to the health facility (notwithstanding very poor security or extreme weather conditions) for treatment of symptoms associated with SAM. There is also generally a good perception of medical treatments amongst caregivers with many having tried enriched meals or medical products from pharmacies to treat symptoms previous to visiting the health facility rather than religious or traditional therapies. There are also constructive roles of community members in sharing information about malnutrition, indicating how important other villagers, friends and relatives in particular are in facilitating a child reaching admission to SAM treatment.

A set of recommendations based on the findings from this assessment were developed in order to support the implementing partners in overcoming the barriers identified, building on favourable factors and increasing coverage. First, improve the effectiveness and enlarge screening and referral, by both re-training CHWs in nutrition and engaging a wider range of actors (such as mothers, health shura and pharmacists) in screening and referral of malnourished children. Second, improve the quality of care provided at clinic level, by reviewing staff work load and resources for nutrition, refresher training in MUAC measurement to ensure accurate admissions, and training all staff in IMAM. This training should aim to ensure at least the minimum information is shared with mothers and to improve the organisation and efficiency of clinics. Third, utilize CHWs and influential community figures (such as mullahs and teachers) to improve the awareness of malnutrition and treatment services by training them in key messaging, distributing information, education and communication (IEC) materials, and encouraging them to share these on a regular basis. Fourth, conduct a more in depth SQUEAC investigation in at least one district, including quantitative data analysis to regularly monitor treatment flow at clinics, and an in depth community assessment to better understand community dynamics and tailor community mobilisation (communication, screening and defaulter follow-up) appropriately. Finally, improve physical access to treatment services through the introduction of mobile clinics, SAM services at sub-centres and training CHWs to support caregivers in finding resources for access.

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Acronyms

ACF	Action Contre le Faim
BHC	Basic Health Centre
BPHS	Basic Package of Health Services
CHC	Comprehensive Health Centre
CHS	Community Health Supervisor
CHW	Community Health Worker
EPHS	Emergency Package of Health Services
FHAG	Family Health Action Group
IMAM	Integrated Management of Acute Malnutrition
IPD	Inpatient Department
MUAC	Mid-Upper Arm Circumference
OPD	Outpatient Department
OTP	Outpatient Therapeutic Program
PNO	Provincial Nutrition Officer
RUTF	Ready-to-Use Therapeutic Food
SAM	Severe Acute Malnutrition
SAF	Solidarity for Afghan Families
SCI	Save the Children International
SLEAC	Simplified LQAS Evaluation of Access and Coverage
SQUEAC	Semi-Quantitative Evaluation of Access and Coverage
TFU	Therapeutic Feeding Unit
UNICEF	United Nations Children's Fund

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1. Background and Objectives

Parts of Afghanistan have high rates of severe acute malnutrition (SAM) above emergency thresholds³, and therefore it is imperative that the health system, with the support of the international community, addresses this challenge. Since 2010 the Basic Package of Health Services (BPHS)⁴ system has included the treatment of SAM, however the response remains inadequate⁵. In 2015, strengthening the nutrition component of the BPHS/EPHS (Essential Package of Hospital Services) remains a challenge for the Ministry of Public Health (MoPH) and the implementing partners. Coverage assessments allow BPHS implementers to assess the performance of their SAM treatment services and to identify practical steps for reform.

The project, of which the current assessment is a part, intends to contribute to improving the performance of IMAM services in Afghanistan, through the provision of in-depth information on coverage, identification of barriers and boosters to access, and definition of recommendations for a durable scale up of nutrition service delivery. Provinces were identified for a SLEAC assessment according to several priority factors including: SAM prevalence rates, proportion of districts with SAM treatment services, existence of past or planned coverage assessments and geographical location.

The National Nutrition Survey (NNS) conducted in 2013 indicates a global acute malnutrition (GAM) rate of 6.3% with SAM at 2.1% in Jawzjan. SCI provide technical and implementation support to SAF (Solidarity for Afghan Families) in nutrition (and other) elements of BPHS and EPHS in Jawzjan. National IMAM reporting⁶ also shows that all 11 districts in Jawzjan have inpatient department (IPD) or outpatient department (OPD) SAM treatment services, making the province an appropriate area for a coverage assessment.

The main objectives of this assessment were to collaborate with Save the Children International (SCI) in order to:

1. Classify coverage of each zone
2. Estimate coverage in the province
3. Identify key factors influencing coverage
4. Outline evidence based recommendations
5. Train partner staff in the SLEAC coverage methodology

2. Context

Jawzjan province in the northern region of Afghanistan is made up of 11 districts and the capital city is Sheberghan, located towards the western region of the province. Jawzjan has a significant secondary city, Aqcha, in the eastern part and there is a major highway connecting the two cities and the neighbouring province of Balkh to the east. At Sheberghan, a north-south highway connects Jawzjan with Faryab to the west and to Sar-e-Pul to the south. The Amudarya River runs along Jawzjan's north, forming the border with Turkmenistan. 69% of Jawzjan province is flat with the rest being mountainous or semi-mountainous and the province covers approximately 10,326km². The total population is estimated to be 531,000⁷, of which around 106,000 (c. 20%)

³National Nutrition Survey 2013

⁴ A Basic Package of Health Services for Afghanistan - (2010/1389) Islamic Republic of Afghanistan, Ministry of Public Health

⁵ See Afghanistan: Back to the reality of needs, (ACF International, 2014) and European Union Final Report Nutrition Assessment (August 2014).

⁶ Source: UNICEF National Nutrition Cluster

⁷ Source: Population data. CSO, 2013

live in urban areas and up to 3% is nomadic⁸. The population is of multiple ethnicity comprising Uzbek and Turkmen majority with also Tajik, Pastun and Arab groups. Livelihoods are mostly agriculture-based; especially cultivation of cotton, sesame and tobacco as well as trade in carpets, silk and jewellery, however, overall the province is economically very poor. Jawzjan province is prone to water related problems of both drought and flooding, and is the only province in Afghanistan with the highest scoring for unmet emergency needs. An estimated 63% of the population also have poor access to safe water⁹.

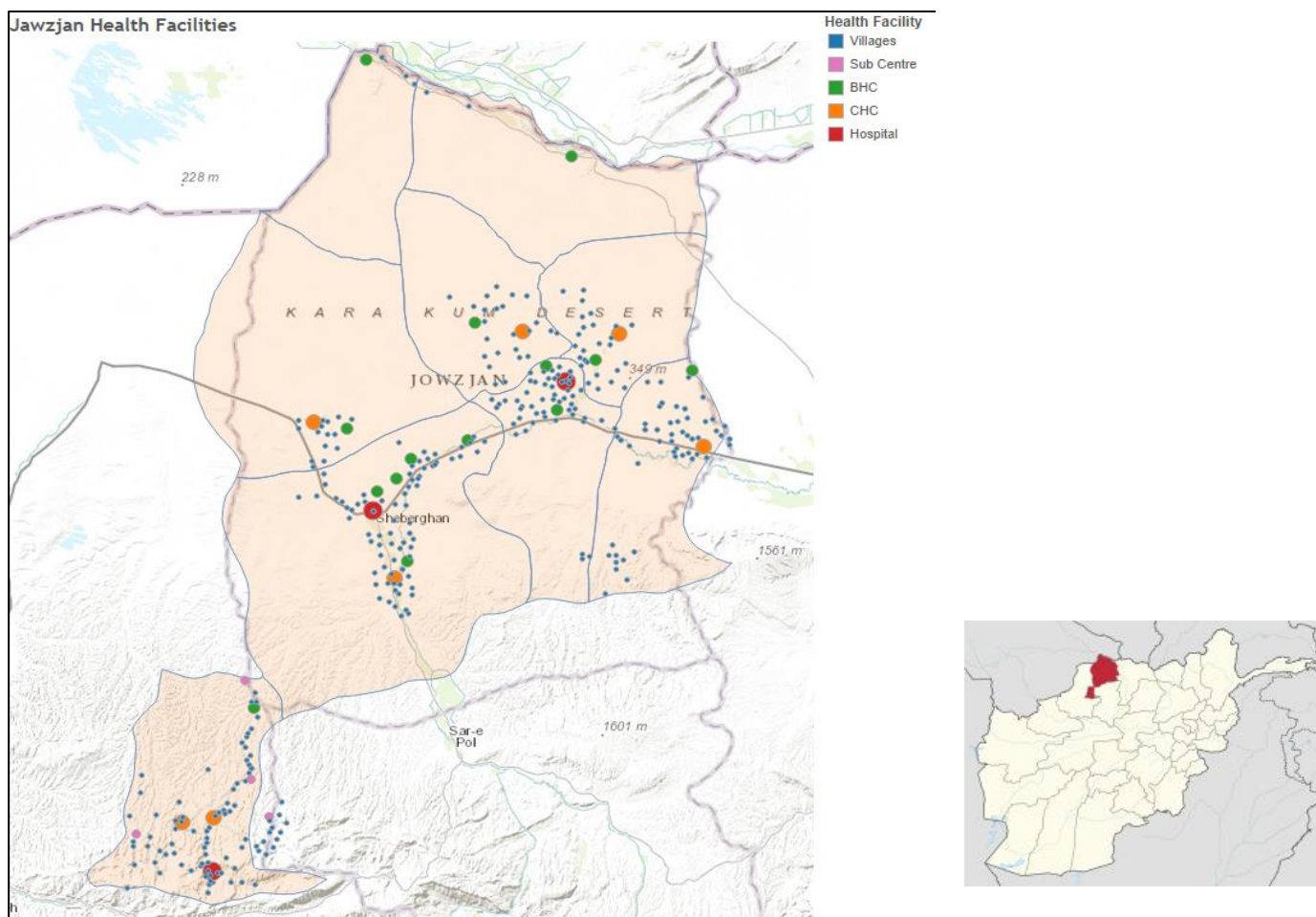


Figure 1 : Map of Jawzjan Province showing villages, BHCs, CHCs and Hospitals

BPHS in Jawzjan province has been delivered by SAF since 2010, with SCI technical support, through a number of clinical sites including one provincial hospital, two district hospitals, eight Comprehensive Health Centres (CHC), 13 Basic Health Centres (BHC) and seven sub-centres, which deliver SAM treatment services in particularly remote or insecure areas. These are labelled in Figure 1. There are also 330 health posts, each with a pair of CHWs (one male and one female), who are supervised by 23 community health supervisors (CHS). SCI have a long running implementation of midwife training programs which has created good staff retention in those roles by recruiting trainees from areas where they will be able to work once trained. There is a special children's hospital in Sheberghan funded by TIKA (Turkish Cooperation and Coordination

⁸ Ministry of Rural Rehabilitation and Development, Jawzjan province profile, 2012

⁹ Overall Needs and Vulnerability Analysis, HRP 2015

Agency), which has a therapeutic feeding unit (TFU) but does not provide SAM treatment services for outpatients.

3. Methodology

SLEAC is a low-resource method for classifying coverage of feeding programs over wide areas. This methodology was therefore chosen to assess the level of SAM treatment coverage in five provinces across Afghanistan by mapping areas where very high or very low coverage is achieved, and identifying the factors affecting access¹⁰.

SLEAC uses a two-stage sampling process. Stage one samples villages across the area to be classified (in this case zones). The sampling process ensures a random and spatially representative sample. Stage two samples SAM children at village level. This step ensures an exhaustive sampling of all SAM cases in each village selected. Some specific technical considerations were made to adapt the sampling to the Afghanistan context.

3.1. Sampling zones and estimation of required sample size

It was expected that, due to patterns of insecurity and varying administrative division of provinces across Afghanistan, sampling of villages and SAM cases by district would present both practical and methodological challenges to the implementation of these SLEAC assessments. Therefore, selected provinces were divided into zones for classification rather than each district being classified. This brought advantages such as lowering total number of cases needed, facilitating implementation in provinces with numerous small districts, and allowing inclusion of small secure parts of districts that are largely insecure and may otherwise have been excluded (e.g. Aqcha).

In the case of Jawzjan, the remaining five districts were organised into zones, as shown in Figure 2, according to geography with Zone One comprised of two districts in the west of the province and including the provincial capital (Sheberghan and Khwaja Du Koh) and Zone Two in the east including the largest secondary city and the main road access through the province (Aqcha, Fayzabad and Khaniqa) resulting in the following two sampling zones:

	District(s)
Zone One	Sheberghan and Khwaja Doh
Zone Two	Aqcha, Fayzabad and Khaniqa

¹⁰ For more technical information see: Myatt M, Guevarra E, Fieschi L, Norris A, Guerrero S, Schofield L, Jones D, Emru E, Sadler K, Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) / Simplified Lot Quality Assurance Evaluation of Access and Coverage (SLEAC) Technical Reference, Food and Nutritional Technical Assistance III Project (FANTA-III), FHI 360 / FANTA, Washington, DC, October 2012

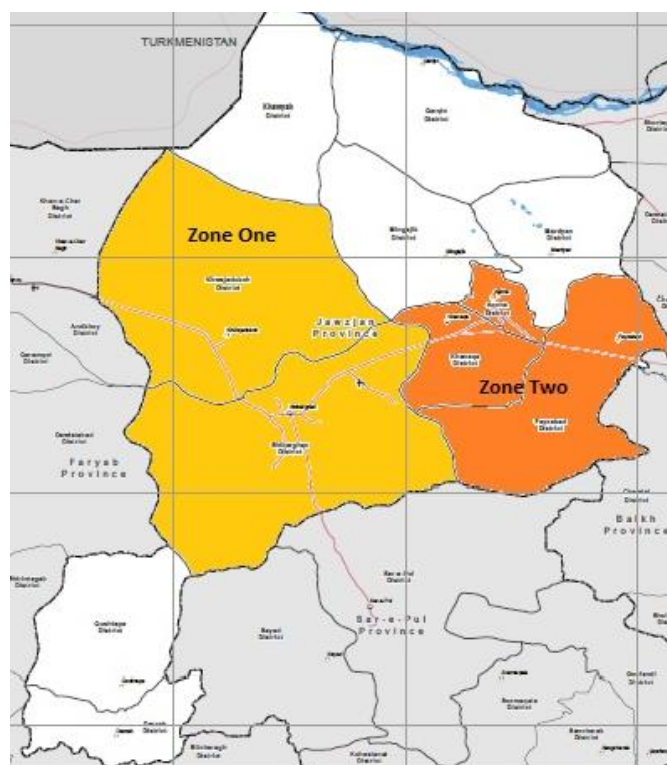


Figure 2: District map showing sampling zones

In order to confirm that we can still reliably estimate coverage at zonal level without having to find an impractical (given time and resources available) number of SAM cases, estimated caseloads were calculated for each zone using population data, SAM rates and % population 6-59 months of age and the following formula:

$$\text{Estimated caseload} = \text{total zone population} \times \text{population 6 – 59 months} \times \text{SAM rate}$$

The SAM rate used for all calculations was 2%, which is the SAM prevalence figure for the province by the NNS and the rate commonly used for coverage assessment sampling calculations. The calculations for the estimated case load are presented in Table 1.

Table 1: Calculations for estimated caseloads, sample sizes required and no. of villages¹¹

Zone	Ave. village population	Total population	Population <59 months	SAM rate	Estimated caseload	Sample size required	Required number of villages to sample
Zone One	1,612	167,699	26,832	2.00	537	40	8
Zone Two	731	168,015	26,882	2.00	538	40	17
Total (all Jawzjan)	966	488,045	81,134	2.00	1,623		

Subsequently, the required sample size was determined using the table provided in the SLEAC technical reference (Table 2) that offers guidance on the sample size required. These are the

¹¹ Source: Population data. CSO, 2013

recommended sample sizes for when using 30% and 70% thresholds. We are using a narrower range (30%-50%) which requires greater accuracy and therefore a larger sample size. However these remain useful as an estimate. We also were conservative when calculating the number of villages to sample.

Table 2: Estimated sample sizes required for classifications based on estimated caseload in service delivery unit (in this case zone) ¹²

Estimated number of cases in the service delivery unit	500	250	125	100	80	60	50	40	30	20
70% standard or 30%/70% class thresholds	33	32	29	26	26	25	22	19	18	15

3.2. Stage One Sampling

The suggested sample size for a SLEAC, according to the technical reference, is 40 cases per delivery unit or unit of classification (zone in this case). However, if the estimated SAM caseload in the zone is small (less than 500) this can be reduced (See Table 2) and still allow for a reliable classification of coverage. Based on this it was calculated that we would require n=40 for both zones since both estimated case loads for both zones are >500.

In order to ensure this number of cases is reached, the number of villages required was calculated using the following formula:

$$n \text{ villages} = \left\lceil \frac{n}{\text{percentage of population} < 59\text{months} \times \text{SAM prevalence} \times \text{average village population}} \right\rceil$$

The numbers of villages that need to be sampled for each zone are also presented Table 1.

In normal conditions, an accurate map, or a comprehensive list of villages would then be used to randomly select the required number of villages to ensure spatially representative sample. However, due to the poor security conditions in Jawzjan, the list of villages was first reviewed by the partner's security focal point, in order to remove villages that were inaccessible by partner staff. Villages that were in areas known to be controlled by AOGs hostile to government and outsiders were removed. In case of any doubt, additional information was sought and the program team (at community level) were consulted to determine if it would be safe to go to each village and conduct the assessment. In the case of Jawzjan, it was appropriate to remove some entire districts from the sampling frame (Darzab, Qarquín, Khamyab, Mardyan, Mingajik and Qush Tepa). By removing villages (and districts) prior to selection it meant that inaccessible villages were not selected, and we were able to best ensure spatial representivity, albeit outside of the insecure areas. In Jawzjan this resulted in 77% of the villages in the province being removed from the sampling frame. In the districts remaining in the scope of the assessment, 60% of villages were removed consisting 42% of villages in Zone One and 76% in Zone Two. See Annex A for a list of the villages and those removed indicated. Many of the villages removed were located in remote areas in the mountains and away from major roads and towns or cities as shown in Figure 3.

¹² Source : SLEAC/SQUEAC Technical Reference

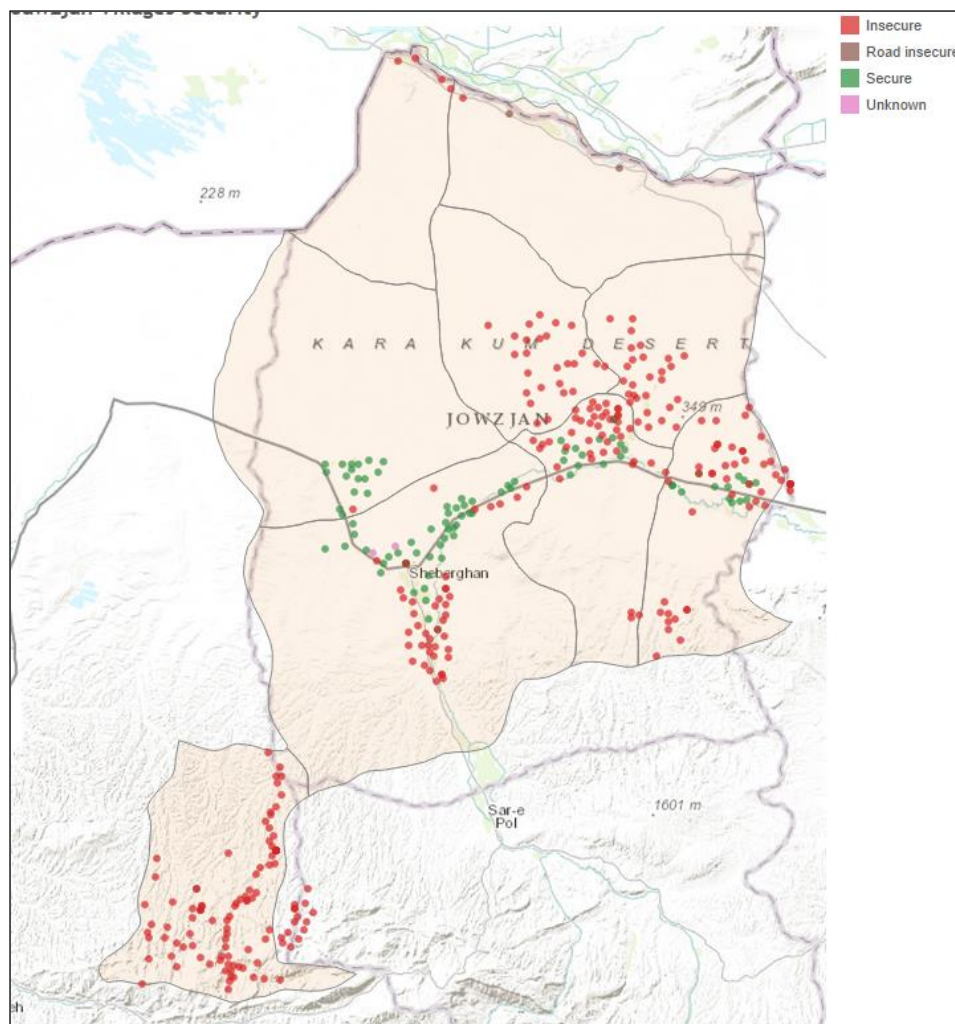


Figure 3: Map with insecure villages marked

This clearly presents a limitation to the current assessment, and must be considered when reading the coverage classification and estimations, and applying them to the whole of a district or the province. That said, perhaps more importantly, the qualitative information collected during caregiver interviews will still provide a useful set of information on factors affecting coverage.

Once the insecure villages had been removed, since a reliable and complete map was not available at the time, the spatial systematic sampling method (or 'list method') was used to select the required number of villages (See Table 1). With this method villages are ordered according to CHC/BHC catchment area, a sampling interval is then calculated as well as a random starting point on the list¹³. This allows for the correct amount of villages to be selected both randomly and produces a spatially representative sample. This process is done for each of the two sampling zones. A list of villages and those selected can be found in Annex A. A photograph of the selected villages and CHCs/BHCs marked on a map by the team for planning purposes can also be found in Annex B.

¹³ See SQUEAC/SLEAC Technical Reference for more details.

3.3. Stage Two Sampling

Once the villages were selected, teams were sent to each village in order to find all SAM cases and to ascertain if they were in the program or not. Recovering cases were also sought and recorded.

A team of 10 enumerators divided into five teams of two were recruited. The enumerators were trained in both door-to-door and active and adaptive case finding by the core supervision team. In village settings, active and adaptive case-finding was used. This involves teams using local knowledge to find suspected cases of SAM and therefore means that they do not need to go to each and every household. The sampling method assumes a level of social cohesion and that community members will know about the existence of SAM children in the village. Photos of malnourished children and packets of RUTF were used to assist the enumerators in finding SAM cases both in treatment and those not covered. In each village, teams continued searching for cases until they were certain that they had found all (or almost all) SAM cases.

Door-to-door case finding involves the teams going to each and every house in a given village. This is more appropriate in an urban setting, where it is assumed that due to the density of the population community members will be less aware of SAM children in the community, and therefore active and adaptive case-finding more difficult.

The case definition used was children 6-59 months old with a mid-upper arm circumference (MUAC) of $<115\text{mm}$ or displaying bilateral pitting oedema, and children currently undergoing treatment. Enumerators were trained in measuring MUAC and testing for oedema. In each household, all children were screened in this way, and it was ensured no children 6-59 months were omitted (due to them sleeping for example). Non SAM cases that were still undergoing treatment (recovering cases) were also sought.

A recovering case is a child that is no longer SAM but has not yet been discharged from the treatment program. A SAM child is classified as a child with a MUAC of $<115\text{mm}$ ¹⁴, however cases are not discharged until a MUAC of $\geq 125\text{mm}$ has been achieved for 2 weeks¹⁵. This means that a child may still be under-going treatment although no longer be defined as SAM.

For each case found, the team ascertained whether the child was admitted into SAM treatment or not. If they were covered then the enumerator asked for proof. This meant they were required to show the packets of RUTF or a treatment card, or alternatively sufficiently describe details of the treatment and location of services (in the case RUTF and treatment cards were unavailable). Once proven, the caregiver was administered with a 'covered' questionnaire. If the SAM child was determined to not be covered the caregiver was administered with a 'non-covered' questionnaire and referred to their nearest treatment service. These questionnaire responses were used as qualitative data about what prevents or facilitates the child's admission to the program. Full versions of these questionnaires can be found in Annexes C and D.

Due to the security risk, close supervision of the teams by the survey leader was not possible during data collection at village level. In order to overcome this, and ensure the highest quality case-finding, certain measures were taken. First, during training were extra exercises such as discussing possible scenarios (for example definitions of covered and uncovered cases) and running through the active and adaptive case-finding process. The team leaders were provided

¹⁴ SAM is also defined in terms of weight-for-height z-scores and the presence of bilateral pitting oedema, but the SLEAC assessment did not use this definition.

¹⁵ Integrated Guidelines for the Management of Acute Malnutrition, Ministry of Public Health/Public Nutrition Department (2015)

with telephone credit so that they could call the survey leader when any issues or questions arose during case-finding. The survey leader also called the team leaders every morning and evening to plan and discuss their activities (such as key informants met, number of children screened and households visited, village size and how village boundaries were defined), relay findings and highlight security related information gathered to inform immediate and ongoing planning. After one full day of case-finding, the core team was brought together and each individual questionnaire reviewed to identify and discuss how they found each case and the caregiver's responses in the context of the assessment. It was not practically feasible to do this in every case but was done when appropriate.

3.4. Additional qualitative data collection

In order to go some way in overcoming limitations caused by inaccessibility, some additional qualitative information was also collected to allow some understanding of how coverage is affected in these areas¹⁶. This information was collected through three methods. First informal interviews were conducted by the survey leader with key nutrition staff of SCI (such as Nutrition Manager and Nutrition Co-ordinator, who were also part of the assessment team). These interviews focused on programming structure and overview, the informant's own activities and then further explored in detail information arising relating to challenges with SAM treatment. Second, due to the poor security situation restricting access for the survey team, it was decided to conduct short structured interviews with selected clinical staff and visitors to clinics as close as possible to the affected areas, as outlined in Annex E. Last, detailed discussions took place at each meeting with the field team, and notes from this and telephone conversations were taken.

4. Results

Having sampled all possible selected villages across the province a total of 69 cases were found. Table 3 shows the sample sizes achieved for each zone, including required sample size, number of villages selected and number of villages reached. Due to the volatile security situation at the time of the field work, there were ongoing updates to village level security including discussion with local government authorities, who instructed the teams not to visit two of the villages in Zone Two (Khaniqa District). These were two closely linked villages, and any further impact on the spatial representivity of the sample of villages was thought to be limited. However, this does reiterate that results (classifications and estimates) should be understood as relating only to accessible areas.

¹⁶ See Annex E for further details

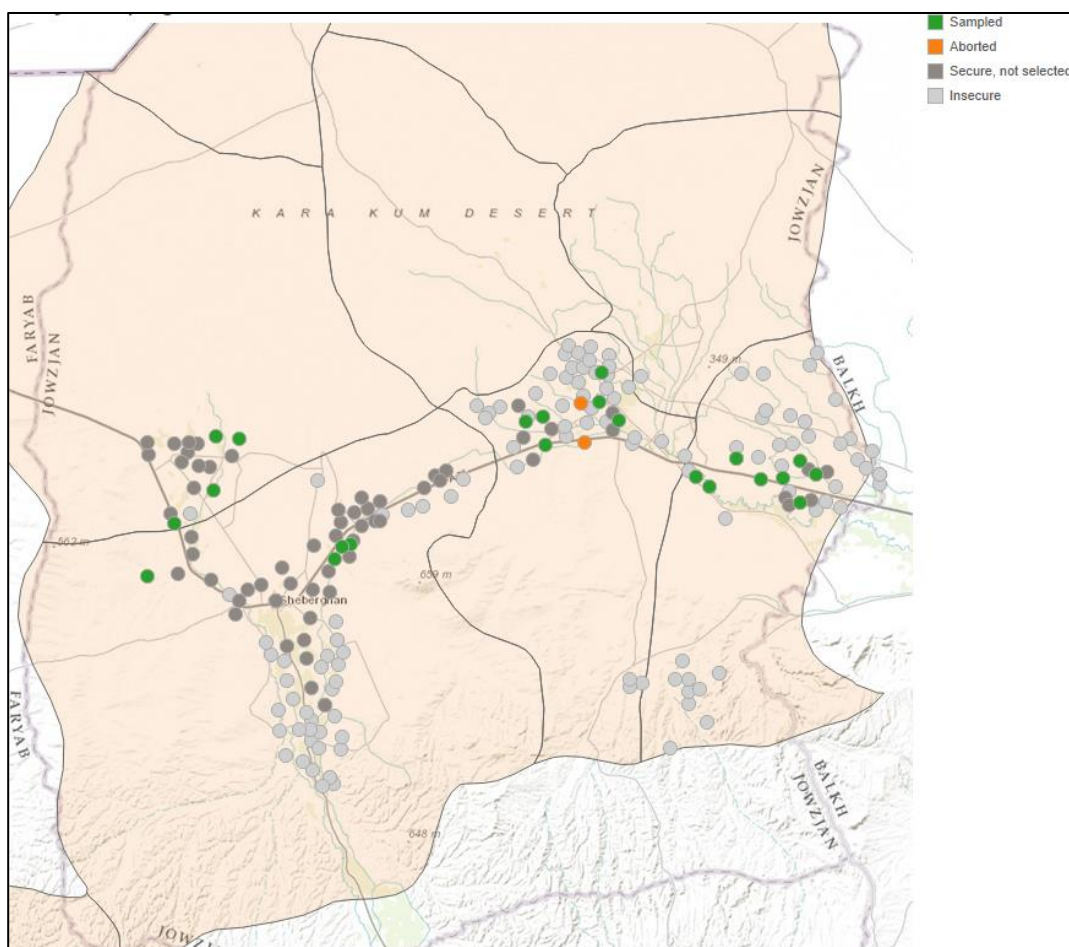


Figure 4: Map showing sampled (green), not selected but part of sampling frame (dark grey), sampled (Stage 1) but aborted (orange) and insecure villages removed from sampling frame (light grey)

For Zone One, the random sampling resulted in a selection of eight less populated than average villages. This reduced the size of the population sampled and across these eight villages only 18 cases were found where 40 were required. Using analysis of precision errors, as presented in Annex F, it was decided that this data could not be used to classify coverage in the accessible areas of this zone. However, the results are included for calculating the provincial coverage estimate.

Table 3: Sample sizes required and sample sizes achieved

Zone	SAM Sample size required	No. of villages selected	No. of villages reached	SAM Sample size achieved
Zone One	40	8	8	18
Zone Two	40	17	15	51
Total	80	25	23	69

There were notably no SAM cases, covered or uncovered found in the district of Sheberghan (part of Zone One), where the assessment teams also reported good knowledge of malnutrition and active participation from CHWs. These three villages are also located near the main road between

Sheberghan city and Aqcha city, very close to two BHCs and within 10-15km from the provincial capital.

Table 4 shows that the gender ratio of the uncovered SAM cases found was significantly skewed toward female cases (also see section 5.2.2 for some additional analysis), and median age of SAM cases found across the province is 14 months (1 year and 2 months). In terms of the condition of cases, the median MUAC of the uncovered SAM cases found across the province was 112mm, without significant variation between zones and the low level of oedema cases is expected for Afghanistan.

Table 4: Age, gender and MUAC and oedema cases per zone

	Zone One	Zone Two	Total Jawzjan
Median age of SAM cases (months)	15	14	14
Male uncovered cases	4	10	14
Female uncovered cases	5	19	24
Median MUAC (mm)	113	110	112
Number of oedema cases	2	5	6

More than half of the covered cases are recovering cases (i.e. $\geq 11.5\text{cm}$ MUAC) resulting in a median MUAC of 11.75cm. Of the 14 cases with MUAC $< 11.5\text{cm}$, all but 2 are female with median MUAC of all covered cases differing significantly between males (12cm) and females (11.2cm). This shows that female children are more affected by acute malnutrition than male children

4.1. Coverage Classification

The most reliable, and widely suited, coverage estimator currently available is the single coverage estimator. The single coverage estimator¹⁷ estimates coverage using recovering cases still being treated (as found during the assessment) and estimates recovering cases not being treated. The number of recovering cases not in the program (R_{out}) are estimated using the following formula where C_{in} = covered SAM cases, C_{out} = uncovered SAM cases and R_{in} = recovering cases in the program¹⁸.

$$R_{out} \cong \frac{1}{3} \times (R_{in} \times \frac{C_{in} + C_{out} + 1}{C_{in} + 1} - R_{in})$$

Table 5 presents of the quantities of covered and uncovered SAM cases and recovering cases found in each zone. This shows the final total of cases used to classify coverage (in accessible areas of each zone).

Table 5: Table showing results from assessment: Covered, uncovered and recovering cases found in each zone and the estimated recovering cases not in the program

¹⁷ For more information see Myatt, M et al, (2015) *A single coverage estimator for use in SQUEAC, SLEAC, and other CMAM coverage assessments*, p.81 Field Exchange 49.

¹⁸ 1/3 is the correction factor calculated using the median length of stay for a treated SAM case (2.5 months) and an estimated length of an untreated episode of SAM (7.5 months). For more information see idem.

Zone	Covered SAM cases (C_{in})	Uncovered SAM cases (C_{out})	Total SAM cases	Recovering cases (R_{in})	Recovering cases not in the program (R_{out})	Total cases ($C_{in} + C_{out} + R_{in} + R_{out}$)
Zone One	3	9	12	6	4	22
Zone Two	11	29	40	11	8	59
Total	14	38	52	17	12	81

The number of recovering cases found currently in the program is notably the same or higher than SAM covered cases, which indicate good case-finding, retention and short lengths of stay. Such data can also be a result of incorrect admissions. However, to confirm this conclusion a quantitative analysis at clinic level to analyse the quality of the treatment cycle for SAM cases admitted (such as retention and lengths of stay), would be necessary.

Classification thresholds were decided prior to the assessment. It was decided that a three tier classification method was most appropriate, providing classification of high, moderate and low. The thresholds were set at 30% (p_1) and 50% (p_2) (see Figure 5). It was determined that these thresholds would be the most useful in distinguishing between poorly performing districts and the better performing districts. Coverage estimations from previous assessments in Afghanistan were used to forecast what levels of coverage we would expect to find.

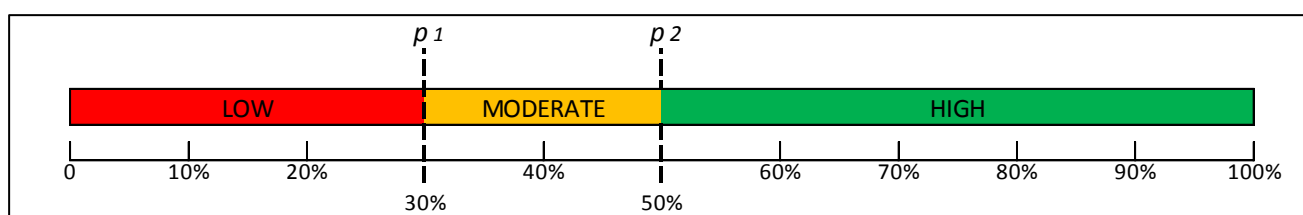
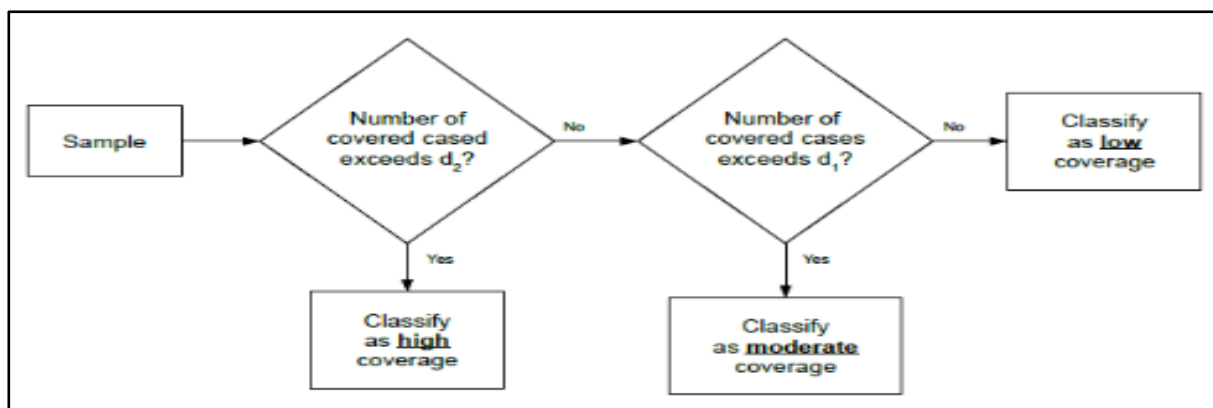


Figure 5: Diagram showing coverage classification thresholds

In order to determine the classification of coverage for each zone the decision rule (d_1 and d_2) for each classification is first calculated using the following formula where n = total cases ($C_{in} + C_{out} + R_{in} + R_{out}$), $p_1 = 30$ and $p_2 = 50$.

$$d_1 = \left\lfloor n \times \frac{p_1}{100} \right\rfloor \quad \text{and} \quad d_2 = \left\lfloor n \times \frac{p_2}{100} \right\rfloor$$

Then following algorithm is then used to determine the classification:



Because so few cases were found in Zone One (22 cases when 40 required), to classify coverage in the zone is less reliable. The calculations of errors are included in Annex F. The low number of cases found is most likely explained by the chance occurrence that all eight villages selected randomly were less populated than the average village population used for sampling calculations. Table 6 illustrates the decision rules for each threshold, the total covered cases ($C_{in} + R_{in}$) and therefore the final classifications.

Table 6: Applying decision rule to determine coverage classifications

	Total cases (n)	d1	d2	Cases covered ($C_{in} + R_{in}$)	Coverage Classification
Zone 1	22	6	11	9	Moderate ¹⁹
Zone 2	59	17	29	22	Moderate

The following map illustrates the classifications.

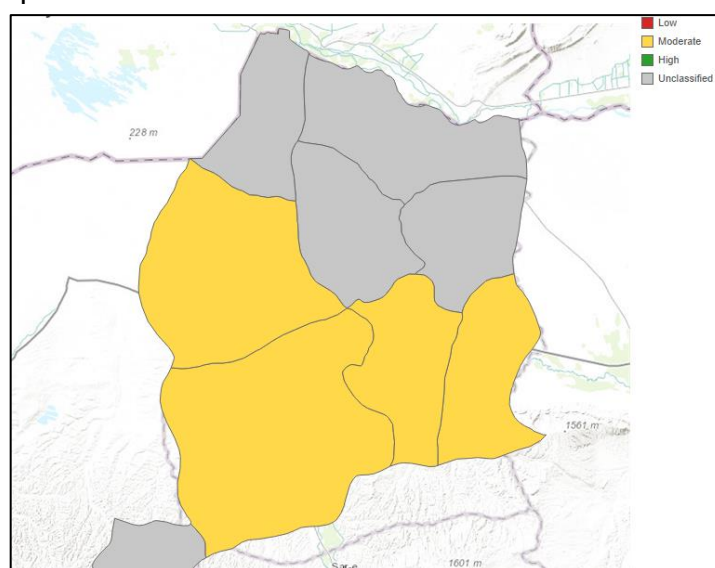


Figure 6 Map showing coverage classifications of districts in Jawzjan Province

4.2. Provincial Coverage Estimation

Provincial coverage estimation (for the secure villages assessed) can also be made. In order to make this more precise, we use a prevalence estimation based on the survey results:

Table 7: Table showing calculations of prevalence rate based on survey data

	Number of villages sampled	Average village population for sampling frame ²⁰	% population under 5 ²¹	Under population sampled villages	5 in Actual SAM (MUAC <115mm or oedema) cases found	Proportion of SAM cases by MUAC<115 or oedema
Zone	8	1,612	0.16	2,063	12	0.582%

¹⁹ Due to the lower than expected sample size reached, classification has been made but with a higher error (13.5%) than normal (10%). See Annex F for the calculations

²⁰ Source: Population data. CSO, 2013

²¹ Source: SCA management

One						
Zone Two	15	731	0.16	1,754	40	2.280%
SUM	23		0.16	3,817	52	1.36%

Therefore based on the actual SAM cases found in the surveyed villages, the % of SAM cases with MUAC <115mm is 1.36% in the surveyed villages.

In order to allocate a relevant weight to each zone in the calculation of the estimation, a weight is calculated based on the estimated SAM population of each zone using the above survey-based prevalence rate. This weighting also takes into account the villages removed from the sampling frame due to insecurity.

Table 8: Table showing calculations of weights awarded to each zone

	Total number of villages	% Villages removed	No. villages after review	Average village population	Total population (surveyed)	U5 population	% MUAC <115	Estimated Point SAM case load (MUAC) ²² (N)	weight=N/ΣN
Zone One	104	0.42	60	1,612	97,236	0.16	0.0136	212	0.8220218
Zone Two	120	0.76	29	731	21,053	0.16	0.0136	46	0.1779782
SUM								1,377	1

Having allocated a weight to each zone using the survey data, we can estimate the coverage estimation based on the survey data.

Table 9 Table showing allocation of weights to each zone and calculation of coverage estimation

	Total cases (Cin+Rin+Cout+Rout)	Cases covered (Cin + Rin)	(Cin + Rin)/n	weight* Cin+Rin /n
Zone One	22	9	0.41	0.336281643
Zone Two	59	22	0.37	0.066364755
Total	81	31		40.3%

Finally, a credibility interval must be calculated using the following formula, where coverage = 40.3% and total SAM cases found = 52:

$$\text{Lower and upper credibility intervals} = \text{coverage} \pm 1.96 \times \sqrt{\frac{\text{Coverage} \times (1 - \text{coverage})}{\text{Total SAM cases found}}}$$

²² This estimation does not take the incidence rate into account.

So the lower credibility interval = 26.93% and the upper credibility interval = 53.59%. Therefore the coverage estimation for the accessible villages can be estimated at **40.3% (CI 95%: 26.93%-53.59%)**. It must be noted that this does not represent coverage estimation for the 77% villages (including 6 removed districts) within the province that were removed from the sampling frame due to insecurity.

4.3. Barriers to access

Simple questionnaires, designed to determine reasons why a SAM child was not being treated, were administered to the caregiver of each uncovered case found. From these questionnaires, qualitative information related to how the caregiver accesses health services and the factors preventing them from accessing SAM treatment services was collected. This information is analysed in more detail in the following section. However in each case, primary barrier to access was determined from the responses using very simple decision logic.²³ This allows identification of the most common barriers in each zone, and therefore facilitates prioritization of the most important issues. Collectively (including both zones), the frequency of primary barriers can be shown as follows:

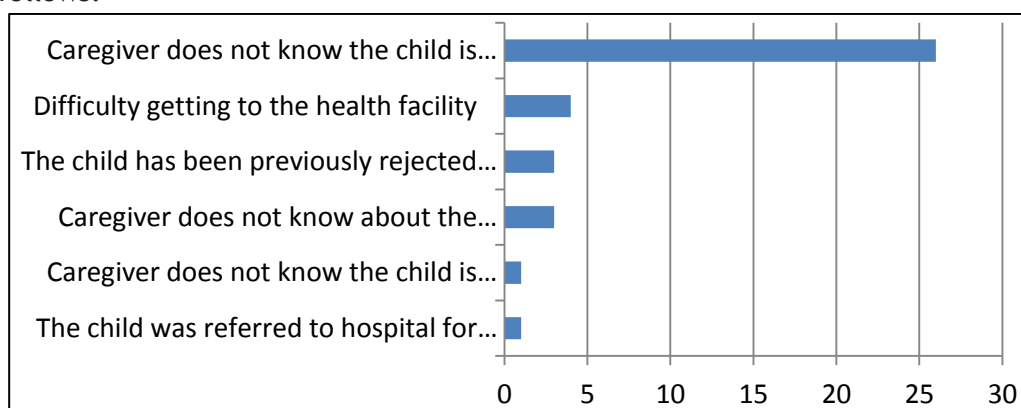


Figure 7: Pareto chart showing primary barriers to access in Jawzjan Province (n=38)

This shows that the primary barrier to access for the majority of caregivers was that they do not recognise their child is malnourished. The small number of caregivers who do not know about the program also suggests that those who know about malnutrition also know about the program. Data relating to this is explored further below.

Challenges faced by caregivers not able to get to the health facility include distance, finances for the journey and insecurity. The median distance for these caregivers is one hour by foot, however, many commented further on extreme weather conditions such as rain and snowfall causing difficulties.

It is also notable here that a child being previously rejected from the program is a primary barrier for three cases. Full information of these cases is not available from the data except that this was between two and six months previously. One of these cases had also been previously admitted to the program, cured and had relapsed.

²³ See Annex G for analysis logic

5. Analysis of factors affecting access and coverage

The following section presents an analysis of the key factors affecting access and coverage as described by findings from all available sources, including survey questionnaires to caregivers of SAM children, additional qualitative information collected to investigate the effect of security on coverage and supplementary interviews with staff.

The barriers presented in figure 7 clearly indicate that the lack of understanding about the condition of malnutrition is negatively impacting access and coverage of SAM treatment services in accessible areas in Jawzjan. A more in depth analysis of the questionnaires administered to both covered and uncovered questionnaires allows for a more detailed view on these factors, and also the emergence of some additional elements related to coverage.

5.1. Key findings from covered questionnaires

The objective of the questionnaire administered for covered cases was to explore what factors influenced the child's admission to the treatment program. Particularly in terms of awareness, the covered questionnaires provide a means to ascertain whether caregivers had knowledge about the child's sickness and how to get treatment, and if not, how they received this information to facilitate admission.

Figure 8 shows the level of knowledge of the child's condition amongst carers of SAM children. Despite not knowing that their child is malnourished (n=26) or even that their child is sick (n=7) these children were still admitted into the program.

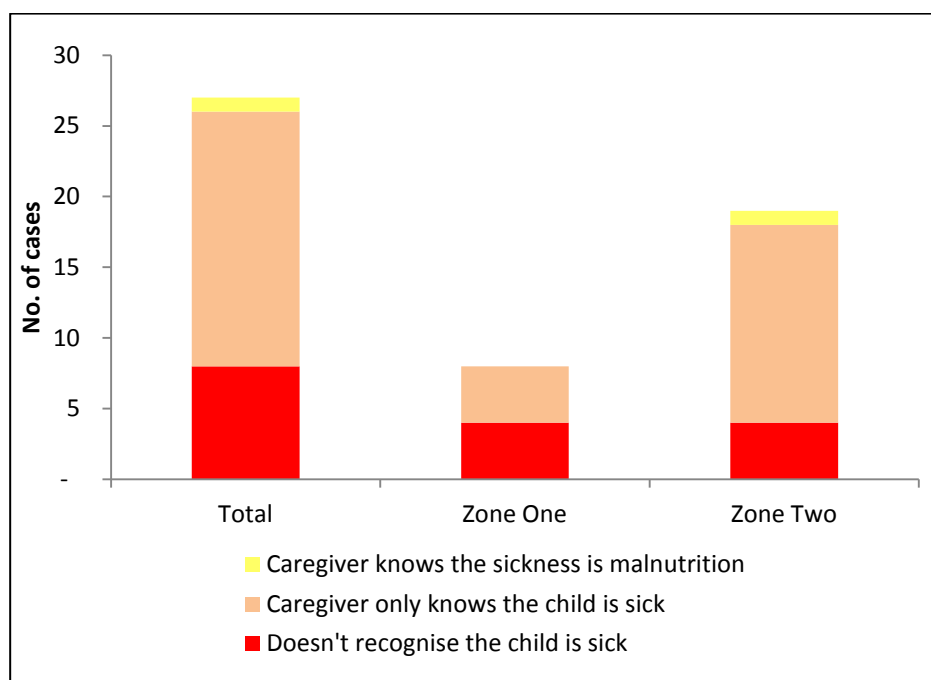


Figure 8: Bar chart showing prior knowledge of condition of child and treatment services amongst caregivers of covered SAM cases (n=31)

The question then remains of how the child came to be admitted if the caregiver does not know that the child is sick, and when knowledge about malnutrition was so poor. Figure 9 illustrates how covered cases were informed of the condition of their child and treatment services available.

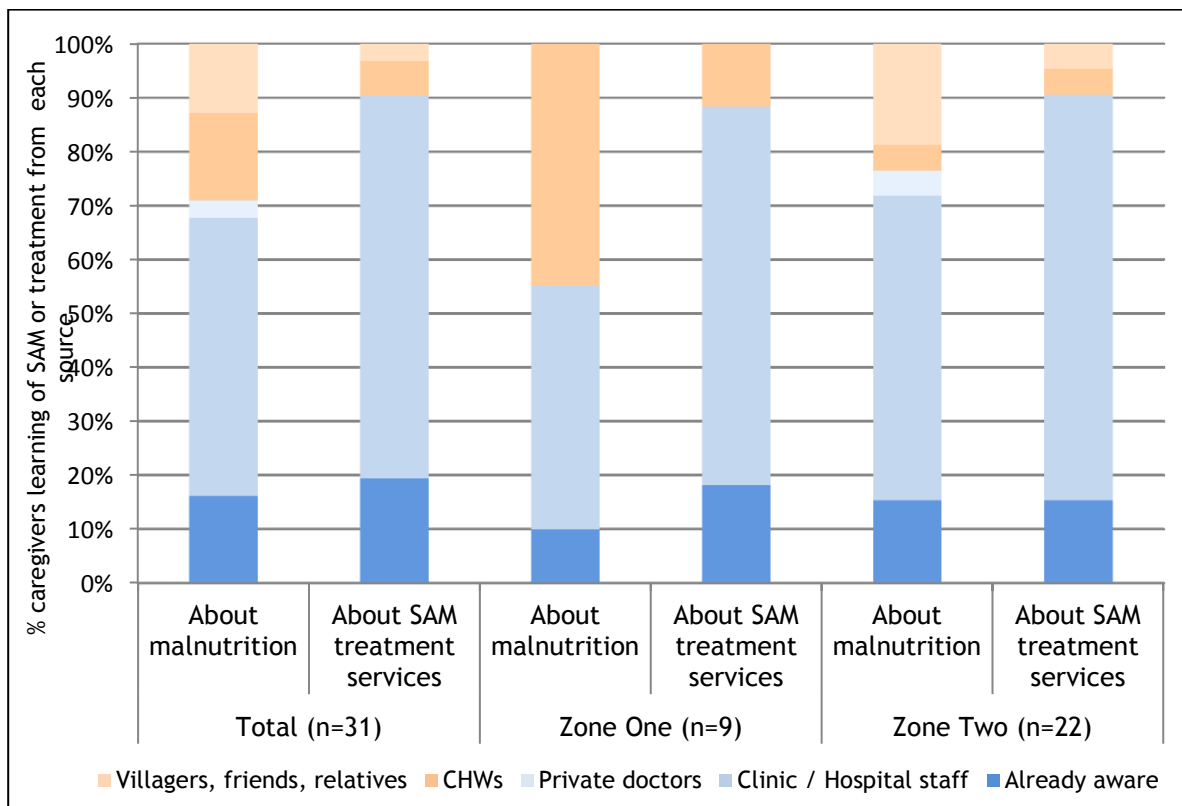


Figure 9: Bar chart showing the source of information about malnutrition and SAM services for covered cases (n= 31)

This information reveals those who gave caregivers information about malnutrition and treatment services. We can see that although **CHWs are sometimes informing caregivers about malnutrition**, they do not always advise them about the treatment available. Across both zones, CHWs informed five caregivers about the child being malnourished. Three of these cases were from a single village, indicating the likely presence of a strong CHW.

Neighbours and relatives also are shown to be sharing information about malnutrition although to a lesser extent and are also not informing caregivers of treatment available. Caregivers were generally only **informed about the treatment service by clinic/hospital staff** once they have reached a health facility.

The number of caregivers already aware about malnutrition and especially about SAM treatment services closely reflects the **number of caregivers who have already had this or another child admitted to the program previously** (i.e. these are the same caregivers).

5.2. Key findings from non-covered questionnaires

The objective of the non-covered questionnaires is to ascertain key factors preventing caregivers from admitting their child into the treatment program. From the responses the primary barrier for each case, as presented in Figure 7 above, provide an overview of the principal reason for not being treated at the time of the assessment. However, there may be several factors at play in each case that prevent the caregiver from admitting a SAM child for treatment.

In addition to the primary barriers, a summary of responses from uncovered cases shows that:

- Around a fifth (19%) of caregivers **do not recognise that their child is sick**
- Around three quarters (73%) of caregivers **do not recognise that their child is malnourished**
- Nearly two thirds (60%) of caregivers are **not aware there are treatment services available**

- Around 76% of caregivers have never been informed about nutrition by a health worker (either at a health facility or by CHW)
- Around one fifth (19%) of caregivers say that they have had a child previously admitted to the program
- Nearly two thirds (63%) of uncovered cases found were female

5.2.1. Lack of understanding about malnutrition

Around 80% of caregivers (30) of uncovered cases (n=38) did understand that their child is sick. And despite many respondents being able to list symptoms related to malnutrition (predominantly diarrhoea, weight loss and fever), only one third (10) recognised the child as malnourished. Further, 76% of caregivers responded that they had never received information about malnutrition. Of those who responded that they had, almost all had also had a child admitted in the program previously, and that this information had come from health staff at health facilities. The question was also asked whether the child had ever been screened. Only one third of caregivers said that their child had been screened, and all of these screenings had been done by staff at health facilities, generally several months previously. Considered with the findings from the covered questionnaires, this reiterates reliance on health facilities for screening and referral and indicates poor case-finding in the community.

Comments added to the questionnaires also confirmed that several caregivers felt that not knowing their child was malnourished was the main reason that they had not been to the program for treatment. Some notes added that the family had thought that the symptoms would get better without treatment, or that they believed the child's thinness may be congenital.

Despite the low awareness of the condition, however, most of the treatments tried or considered by caregivers to treat the symptoms were medical, as shown in Figure 10 below. Similarly to the covered cases, many tried visiting the health facility first. Enriched meals were more commonly tried by caregivers of covered cases, feeding the child with dried milks, shula (a type of rice) or shourba (a type of soup).

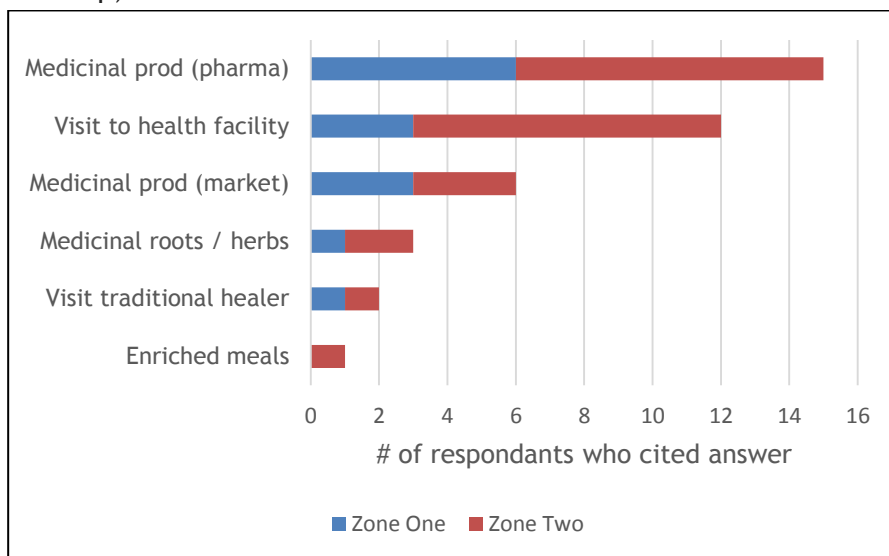


Figure 10: Treatments tried or considered by caregivers of SAM cases not admitted to the program (n=38)

5.2.2. Gender imbalance

Nearly two thirds (63%) of uncovered cases found were female representing a significant imbalance in gender of SAM cases. Furthermore, amongst covered cases, although the ratio of cases is more

equal (58% female), the gender ratio of recovering cases is the opposite with 61% of recovering cases being male.

After discussion also with the assessment team, this is most likely due to less attention being paid to the nutritional health of female children, both in terms of everyday care, but also prioritising continuation of treatment to discharge criteria. At the time of the SLEAC assessment the implementing partner had already planned gender sensitisation training for CHWs, which has since been implemented.

5.2.3. Poor case-finding, repeat cases and rejection

The questionnaire for uncovered cases asked whether the child has ever been screened before. Of 38 cases, 12 answered that they had, and that these screenings had been done by staff at health facilities. The other 25 cases had never been screened before. This shows the lack of screening in the community or by CHWs. Many (19) of these 25 cases never screened also said that they had visited their health facility within the last six months, and some (13) even within the last month, suggesting a lack of screening at health facilities as well. The findings from covered questionnaires also shows that screening and referrals do not often happen in the community since information about SAM treatment service is usually acquired only once visiting a health facility or is known from already having had a child admitted previously.

For uncovered SAM cases, seven out of 38 (18%) had been previously admitted to the program. Of these, one had defaulted due to relocation, three were discharged as cured (6 - 12 months previously) but relapsed, and three were said to be discharged not cured stating that the treatment did not help the child. The number of non-cured cases indicates that key messages about using RUTF, may not have been clearly shared at some clinics. Moreover, the number of cases relapsing shows that nutrition related messages are not being effectively shared during treatment.

Discussion with the team also revealed that in some clinics (especially BHCs), visitors often experience overcrowding and long waiting times, which results in limited times for each case with staff. This could result in inaccurate measurement for malnutrition and could contribute to the number of rejected cases. In this case, 4 caregivers say that the reason their child is not admitted is because they have been previously rejected.

5.3. Security-related findings

The implementation of the assessment was clearly restricted due to insecurity. Specifically, in the northern border region and in areas of the south east of the province, there were increased clashes between armed groups at the time of implementation, and increased presence of opposition groups in the community known to be hostile to outsiders (such as the assessment team). This also caused movement of people from these areas to more urban locations in and around Sheberghan and Aqcha cities. Using data from interviews with staff (at management and clinic level), interviews with visitors to clinics²⁴ and comprehensive field notes, an analysis of the effects insecurity has on access was made.

These investigations also revealed information about what types of insecurity are being experienced. This includes the clashes between armed groups and related road closures that also impacted the assessment, as well as more long term effects of political instability and lack of government control causing a reluctance to pass checkpoints and make journeys because of

²⁴ See methodology section

unpredictable hostility. Results also revealed some information about the impact on community access to treatment services and the impact on the provision of treatment services.

Impact on community access

In the village level security review conducted before sampling for the five districts remaining within the scope of the assessment, 60% of villages were removed from the list (42% from Zone One and 76% from Zone Two). In the small urban district of Aqcha (part of Zone Two), this reached as high as 90% with only two villages remaining of the 21 listed. Although the review reflected the risk associated with the assessment team travelling to these villages, this still provides an indication of where AOG presence might influence access to clinics for the community.

In Zone Two, even after removing villages as advised by this review, the security risk in two of the villages sampled was later advised to be too high to visit them. The assessment team was instructed by local government authorities not to visit these two villages. Another village in Zone One was also experiencing increased volatility, but the survey team negotiated safe implementation of the survey before arrival in this village through personal networks.

Additional brief interviews with visitors to clinics in Zone Two (Aqcha, Khaniqa and Fayzabad) allowed us to explore further²⁵. When asked how nearby insecurity affects visitors to their various health facilities, staff said that people were not able to take the road because of checkpoints and threats on the way. Increased insecurity was also linked with women being more restricted to travel alone:

“Most of the visitors are from insecure villages, but based on the security situation they do not want to come to health centers and females without mahram are not authorised to come.”

- Health staff member at Aqcha

Similarly, when visitors at the health facilities were asked what obstacles they face in making their journey to the facilities, more than half (five out of nine) spoke of clashes between AOG and government security forces (ANSF) as a problem:

“Clashes between armed opposition groups and ANSF forces and the closure of roads from both sides”

- a visitor to Faizabad Clinic, from Salar Tapa also highlighted the specific impact on women travelling:

“Our village security is damaged and generally females are not able to get out of home they feared that maybe they will face armed groups during the travel”

- a visitor to Khaniqa Clinic for SAM treatment, from Qilich Abad Ozbikia

Both staff and visitors were also asked about alternatives used by communities when security prevents travel to health facilities. Three out of six staff interviewed said that people use CHS / CHW in these circumstances, but only two out of nine visitors say that they use their local CHW, and six out of nine said they do not know who their local CHW is. These participants say instead that they either use alternative treatments (such as buying medicine from shops or using fortified milk) or simply must wait until security is better before travelling to the health facility.

Impact on provision of services.

Interviews with staff at clinics and from SCI management staff revealed that insecurity also inhibits a range of activities required for operating the OPD SAM sites, specifically those involving movement to district level, such as monitoring, training, supervision activities, and recently

²⁵ See methodology and Annex E

supply of ready-to-use-therapeutic food (RUTF). Many areas in the province are too insecure for any monitoring or supervision to be conducted safely. For example in Qush Tepa and Darzab which are long-term insecure, the last support visit possible was in 2010. Delivery of RUTF is managed through relationships with local shura, which enables the continuation of treatment services. The partner organises delivery by hire car to the shura who oversee delivery to health facilities. In Darzab, the effects of insecurity have severely impacted the health facility (a sub-centre), which is now closed because the staff did not feel safe and left the area.

Also at clinic level, staff were asked whether the functioning of the facility, or the IMAM services were effected by insecurity. Two staff, at two different health facilities, said that insecurity had either caused non-delivery of RUTF to the facility, or had meant that distribution from the facility to visitors was stopped.

5.4. Additional barriers and boosters

Overall, visitation to health facilities in the areas included in the assessment was fairly good. Caregivers of all uncovered cases were asked when the last time they visited the health facility was, and the reason for the visit. With a range of 10 days to 12 months, the median length of time since last visit was 2 months. This indicates willingness to use of the health facilities generally. Figure 11 also shows that most of the reasons why caregivers last went to the health facility are associated with malnutrition.

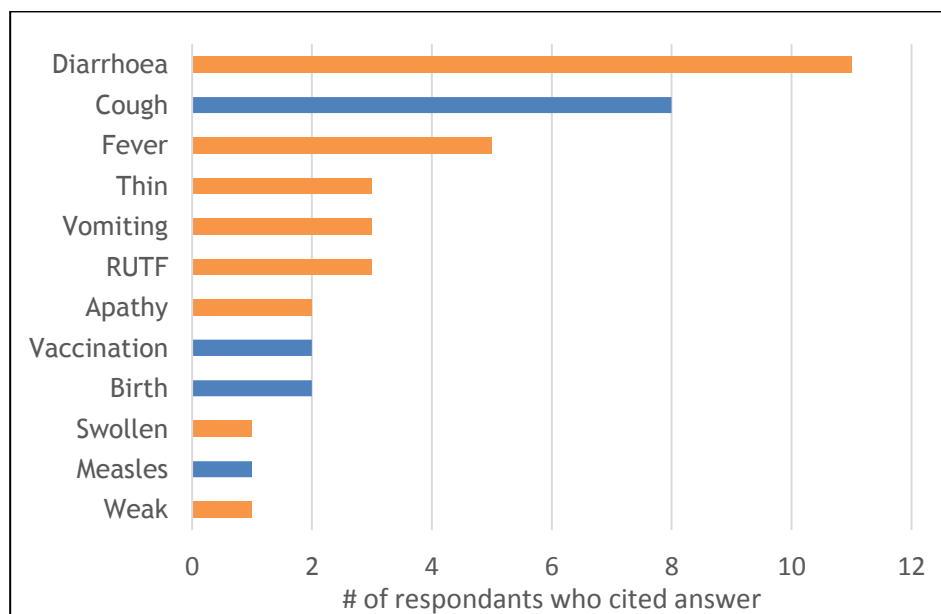


Figure 11: Reasons for last visit to health facility by caregivers of uncovered SAM cases (orange bars indicate reasons, or symptoms, related to malnutrition)

This shows that caregivers are willing to make the journey to health facilities for malnutrition related problems and could reflect a positive perception of the health services. Those who said ‘for RUTF’ were cases who had been previously admitted.

Furthermore, caregivers were asked what the reasons (possibly multiple) are for not going to the health facility when they cannot go. Although the most common response was distance, the median distance for the caregivers surveyed is 1 hour on foot. This distance is within the limits recommended in IMAM guidelines (within 2 hours) however, this is likely to be significantly shorter than for many of the villages removed from the assessment for security reasons.

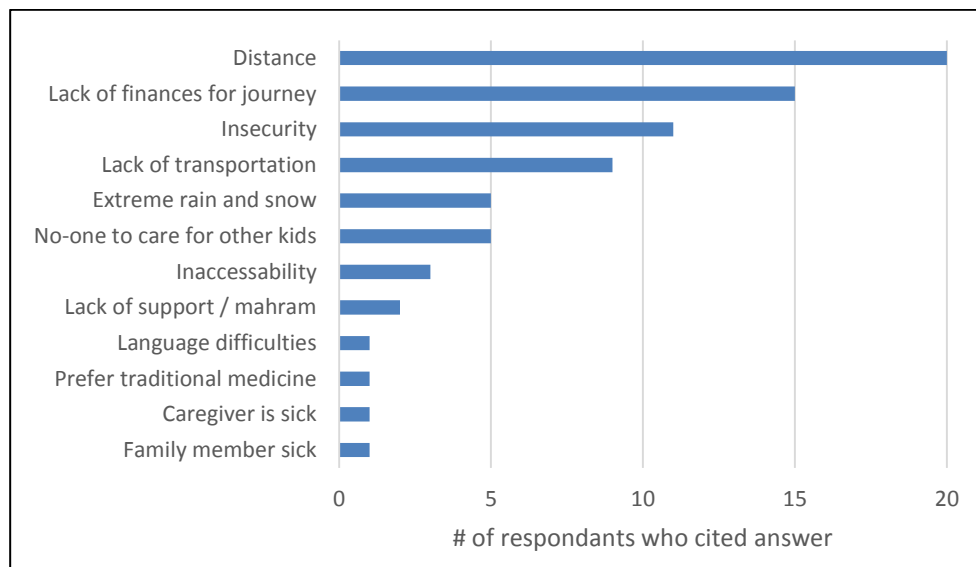


Figure 12: Factors presenting a challenge to accessing health centres as cited by uncovered cases (n=38 but multiple answers given by individuals)

Lack of finances or transportation to make the journey also feature here reflecting the economic challenges in the province. There are also a number of people citing insecurity as a reason for not being able to get to a health facility as can be expected from the findings above. But it is notable that the majority of challenges to access represent physical or practical obstacles rather than preference or cultural factors.

6. Conclusions

Overall, the findings show that, within the areas nearby the cities and main roads, caregivers do use health facilities to address the symptoms of malnutrition, although many are not able to identify that this is the condition the child is suffering. Although there is very little screening or referral activities in the community in these areas, caregivers know about the SAM treatment services, often from previous admission of the same child or of a child that they know. These are the main contributing factors to the moderate coverage in parts of Jawzjan assessed, and an estimation of coverage in the province is **40.3% (CI 95%: 26.93%-53.59%)**. It must be clearly noted however, that this estimation incorporates results only for areas which were deemed secure enough for the assessment to access: less than a quarter of the villages in the province that are situated near the roads and cities. Further analysis on insecure areas shows that coverage in the areas excluded is very likely to be lower than in the more secure areas and therefore likely to reduce the overall coverage of SAM services.

Throughout the assessment various aspects of insecurity have arisen. These have revealed the impact on community access to health services generally inhibiting caregivers from making the journey to the health centre (and particularly women traveling alone), the implementation and monitoring of SAM treatment activities, such as supervision visits and RUTF supply, and implementation of the SLEAC assessment itself. The latter also implies a significant limitation on the results of the assessment, particularly in the reading of the classifications and estimation, which should be understood as relating only to 23% of the villages that were not removed from the sampling frame due to insecurity.

Gender related issues were found not only in relation to the impact of insecurity on community access, but also in terms of child nutritional status. A significantly higher number of SAM cases being female (both covered and uncovered), and a lower number of recovering cases shows a general preference toward ensuring the nutritional well-being of male children and the need for gender sensitisation as already identified by SCI. The involvement of CHWs in any nutrition activities (including screening and referral) is notably absent. Further, since social networks (neighbours, friends and relatives) are shown to be important sources of information leading to admission, they could also be utilised effectively for screening and referral. At clinic level, further quantitative investigation is required to identify the reasons for high numbers of recovering cases, since SLEAC data from the community cannot confirm good case-finding, early treatment seeking or good adherence to protocol. With guidance from these findings, recommendations to improve community mobilisation, programming and monitoring activities are made in the following section.

7. Recommendations

Based on the findings above and further discussions with key stakeholders such as nutrition, management and assessment staff, the following recommendations for improving access and coverage for this newly implemented program have been developed. Some recommendations will act to reinforce activities already planned by SCI.

	Rationale	Suggested Activities
Recommendation 1: <u>Screening and Referral</u> Improve and enlarge screening and referral at community level by improving systems to support and monitor CHW activities and engaging additional actors in screening	Limited involvement of CHWs in screening, referral or sensitization, and lack of engagement with community in screening and referral. Gender bias in care of children.	- Re-train CHWs in MUAC and oedema screening, referrals and sensitization. - Review allocation of CHWs according to up to date population data. - Design suitable incentivisation for cases recruited and retained to cure as currently implemented to encourage follow up of defaulters of the tuberculosis treatment program in Jawzjan. - Train mothers to regularly screen their children. Training can take place during visits to health centres and MUAC tapes should distributed to them. - Train CHWs and other community health actors (such as health shura, vaccinators, pharmacists, maliks) in gender sensitisation²⁶
Recommendation 2: <u>Quality of care</u> Improve SAM treatment service delivery and patient care , including implementing more effective passive screening at health facilities	Evidence of cases visiting facilities without being screened and therefore admitted and rejected cases (possibly incorrectly) as well as relapsed cases, poor delivery of RUTF, and over-worked staff.	- Train clinic staff in nutrition and IMAM guidelines and refresher training in MUAC and weight-for-height measurements. - Ensure systematic screening at clinic level for all children under-5 - Ensure minimum information on treatment is shared with caregivers (e.g. dos and don'ts for treatment, duration of treatment, reasons for admission/non-admission/discharge) - Formally review and record workload of staff members, and ensure nutrition staff have sufficient time to fulfil obligations - Organise clinic so as to allow appropriate time for each visitor and improve experience at clinic for caregivers

²⁶ Training of 58 CHWs on gender in health and nutrition completed January 2016, and training for 142 more CHWs scheduled

Recommendation 3: <u>Awareness of malnutrition and treatment</u> Utilize existing community networks and groups to increase awareness of malnutrition and SAM treatment services	Knowledge about malnutrition (signs and symptoms) and SAM treatment services is poor. Information is not effectively communicated by health staff and CHWs, nor effectively shared amongst community members although effective processes exist for the promotion of other diseases and treatment activities²⁷	- IEC materials (already developed with MoPH) be distributed and use monitored. - Train CHWs to conduct regular nutrition specific (condition and treatment) education sessions with mothers and fathers - Train and engage with key community figures such as family health action groups (FHAG), health shura, vaccinators, pharmacists, maliks, mullahs and school teachers and encourage them to share key messages for recognizing the condition, screening and treatment within the community using sensitisation tools and materials. - Collaborate with health shura to share messages about malnutrition.
Recommendation 4: <u>Monitoring</u> Conduct a SQUEAC assessment to monitor progress after six months of implementation of current recommendations	More in depth investigation of treatment flow and interface between clinic and community activities is required. More effective and efficient monitoring tools needed particularly to monitor effectiveness of activities being introduced (such as use of IEC materials and gender sensitisation training).	- SQUEAC assessment in Faizabad or Khaniqa in six months, further building capacity of core team for SLEAC assessment - PNO and SAF should be involved in training for capacity building and full engagement with recommendations - Include full community assessment to better understand community dynamics and key actors in order to develop a more sophisticated community mobilization (communication, screening and follow-up) plan.
Recommendation 5: <u>Access to health facilities</u> Improve physical access to SAM treatment services in remote areas	Economic, security and geographic barriers prevent cases from being treated at current OPD SAM sites	- Introduce additional mobile clinics that can visit more remote areas - Provide OPD SAM treatment services at additional sub-centres that are located in more remote areas - Train CHWs to support caregivers to source finances for transport and make arrangements that allow them to attend the OPD (such as pooling transportation and childcare).

²⁷ source: interviews with health centre staff

Annexes

Annex A - Full list of villages in Jawzjan Province

The highlighted villages are those that were sampled. NB, the villages are not ordered according to health centre catchment area as they were when the sampling was done.

District Name	Village Name (in alphabetical order)	Population	Village removed from sample frame (1= yes, 2= no)	Hospital (1= yes, 2= no)	CHC (1= yes, 2= no)	BHC (1= yes, 2= no)	sub-centre (1= yes, 2= no)	Initially selected for sampling (1= yes, 2= no)	Removed from final sample (1= yes, 2= no)
Aqcha	AQCHAH City Nahia 01	17000	2	1	2	2	2	2	2
Aqcha	AQCHAH City Nahia 02	11859	2	2	2	2	2	1	1
Aqcha	BATE KOT	440	1	2	2	2	2	2	2
Aqcha	BEASH AROQ AWALMEYA	1165	1	2	2	2	2	2	2
Aqcha	BEASH AROQ AWLAM	818	1	2	2	2	2	2	2
Aqcha	BEASH AROQ WATANI	2154	1	2	2	2	2	2	2
Aqcha	HAIDAR ABAD	3484	1	2	2	2	2	2	2
Aqcha	HAIDAR ABAD SHENWARI	89	1	2	2	2	2	2	2
Aqcha	JEZA	1532	1	2	2	1	2	2	2
Aqcha	KHARABAT KOCHA	1411	1	2	2	2	2	2	2
Aqcha	KOLYA QAL	1177	1	2	2	2	2	2	2
Aqcha	KOTANA QAR	647	1	2	2	2	2	2	2
Aqcha	MANGARAQ SURKH	201	1	2	2	2	2	2	2
Aqcha	NOW ABAD HAIDAR ABAD	221	1	2	2	2	2	2	2
Aqcha	QAMARAQ BALA	1716	1	2	2	2	2	2	2
Aqcha	QAMARAQ PAYAN	1225	1	2	2	2	2	2	2
Aqcha	QAMARAQ WATANI	389	1	2	2	2	2	2	2
Aqcha	SAQAS KOL	329	1	2	2	2	2	2	2
Aqcha	SHAIRAK	1747	1	2	2	2	2	2	2
Aqcha	YANGARAQ TURKMANYA	3101	1	2	2	2	2	2	2
Aqcha	YANGARAQ UZBEKI	1567	1	2	2	2	2	2	2
Darzab	ANBAJ	270	1	2	2	2	2	2	2
Darzab	AQ BALAQ SAR DARA	715	1	2	2	2	2	2	2
Darzab	AQ CHASHMA	395	1	2	2	2	2	2	2
Darzab	AQSAI MUGHUL	999	1	2	2	2	1	2	2
Darzab	AQSAI SAR DARA	597	1	2	2	2	2	2	2
Darzab	AQSO DARA	292	1	2	2	2	2	2	2
Darzab	ARCHA TO	1028	1	2	2	2	2	2	2
Darzab	ATAH TALA KHAN	124	1	2	2	2	2	2	2
Darzab	AWLA QADAGH	477	1	2	2	2	2	2	2
Darzab	AWLAD	1619	1	2	2	2	2	2	2
Darzab	BADAM LAIK	196	1	2	2	2	2	2	2

Darzab	BE BE MARYAM	833	1	2	2	2	2	2	2
Darzab	BERON SONA	1382	1	2	2	2	2	2	2
Darzab	BOLAK QESH LAQ	423	1	2	2	2	2	2	2
Darzab	CHAGHR	101	1	2	2	2	2	2	2
Darzab	CHAKABA	424	1	2	2	2	2	2	2
Darzab	CHAKNA AJRAM	32	1	2	2	2	2	2	2
Darzab	CHAKNA BASH QADAQ	328	1	2	2	2	2	2	2
Darzab	CHAKNA PAITOW	687	1	2	2	2	1	2	2
Darzab	CHAKNA QARAYE	1220	1	2	2	2	2	2	2
Darzab	DARZAB City Nahia 01	1826	1	1	2	2	2	2	2
Darzab	HALQANI	2517	1	2	2	2	2	2	2
Darzab	IBRAHIM BAI	592	1	2	2	2	2	2	2
Darzab	JADA BALAQ	260	1	2	2	2	2	2	2
Darzab	KAR KHANA	324	1	2	2	2	2	2	2
Darzab	KHALGAN	503	1	2	2	2	2	2	2
Darzab	KHOJA ASHKARA	824	1	2	2	2	2	2	2
Darzab	KHOJA GUL	575	1	2	2	2	2	2	2
Darzab	KHOSH AB	308	1	2	2	2	2	2	2
Darzab	KHOSHTAR BALAQ	1121	1	2	2	2	2	2	2
Darzab	KOMALY	486	1	2	2	2	2	2	2
Darzab	KOQAQ	199	1	2	2	2	2	2	2
Darzab	MAIMANA QESH LAQ	564	1	2	2	2	2	2	2
Darzab	MUGHUL	2093	1	2	2	2	2	2	2
Darzab	PADA SAI	327	1	2	2	2	2	2	2
Darzab	PAITOW	2571	1	2	2	2	2	2	2
Darzab	PAITOW MASJED ZIA	722	1	2	2	2	2	2	2
Darzab	PASTA MAZAR	743	1	2	2	2	2	2	2
Darzab	PER GHAREB	635	1	2	2	2	2	2	2
Darzab	PER GHAREB CHAKAB	240	1	2	2	2	2	2	2
Darzab	QARA GHUNJ	869	1	2	2	2	2	2	2
Darzab	QARA YURT SAR DARA	579	1	2	2	2	2	2	2
Darzab	QARASTON	523	1	2	2	2	2	2	2
Darzab	QARASTON BERON SONA	374	1	2	2	2	2	2	2
Darzab	QARASTON SUFLA	633	1	2	2	2	2	2	2
Darzab	QARAYE	1769	1	2	2	2	2	2	2
Darzab	QARGHAN	239	1	2	2	2	2	2	2
Darzab	QAZAL GHUCH	1334	1	2	2	2	2	2	2
Darzab	QAZAL QESH LAQ	800	1	2	2	2	2	2	2
Darzab	SAR DARA	2958	1	2	2	2	2	2	2
Darzab	SAR DARA MASJED SOFI DOST M.	322	1	2	2	2	2	2	2
Darzab	SHAB JAI	482	1	2	2	2	2	2	2
Darzab	SHAIR MANGO	416	1	2	2	2	2	2	2
Darzab	SHOR ALIK	385	1	2	2	2	2	2	2

Darzab	SHORAK	273	1	2	2	2	2	2	2
Darzab	TA KAMAR	219	1	2	2	2	2	2	2
Darzab	TASH JAWAZ	1592	1	2	2	2	2	2	2
Darzab	TASH MASJED	1387	1	2	2	2	2	2	2
Darzab	TASHLO QATAN	288	1	2	2	2	2	2	2
Darzab	YOUZ BEGI	1201	1	2	2	2	2	2	2
Fayzabad	ALI ABAD	1097	2	2	2	2	2	1	1
Fayzabad	AWONPEKAL	910	1	2	2	2	2	2	2
Fayzabad	BALCHAN	89	1	2	2	2	2	2	2
Fayzabad	BEAZGAG ARABYA	460	1	2	2	2	2	2	2
Fayzabad	CHAKUSH	173	1	2	2	2	2	2	2
Fayzabad	CHAR BAGH	707	1	2	2	2	2	2	2
Fayzabad	CHAR BAGH YANDARK	326	1	2	2	2	2	2	2
Fayzabad	DARA GOK SEYA SHAKAR QOUL	300	1	2	2	2	2	2	2
Fayzabad	FAZEL ABAD NOW WARID	165	1	2	2	2	2	2	2
Fayzabad	FAZEL ABAD WATANI	173	1	2	2	2	2	2	2
Fayzabad	GARJAG	1462	1	2	2	2	2	2	2
Fayzabad	HAFT MAZAR SHAKAR QOUL	510	1	2	2	2	2	2	2
Fayzabad	HAIDAR ABAD	190	2	2	2	2	2	1	1
Fayzabad	HAIDAR ABAD BEAZGAG	1468	1	2	1	2	2	2	2
Fayzabad	HAIDAR ABAD WATANI	1402	2	2	2	2	2	2	2
Fayzabad	JAR SAI SHAKAR QOUL	97	1	2	2	2	2	2	2
Fayzabad	JOWI WAZIR	226	2	2	2	2	2	1	1
Fayzabad	KHAIR ABAD	230	2	2	2	2	2	2	2
Fayzabad	KHANUMI	1132	1	2	2	2	2	2	2
Fayzabad	KHULMI HA SHAKAR	925	1	2	2	2	2	2	2
Fayzabad	KOKAL DASH	1545	2	2	2	2	2	1	1
Fayzabad	KOKALDASH KOHNA	116	2	2	2	2	2	1	1
Fayzabad	KOKALDASH WATANI	1253	2	2	2	2	2	1	1
Fayzabad	KOSHKAK	1478	1	2	2	2	2	2	2
Fayzabad	KOSHKAK PAYEN DAHI	1167	1	2	2	2	2	2	2
Fayzabad	MAMLAQ	2937	1	2	2	2	2	2	2
Fayzabad	MARDEYAN BALA	1495	1	2	2	1	2	2	2
Fayzabad	MARDEYAN WATANI PAYEN	1450	1	2	2	2	2	2	2
Fayzabad	MARKAZ WOLLUS WALY	2749	2	2	2	2	2	1	1
Fayzabad	NAQELIN CHAR BAGH	19	1	2	2	2	2	2	2
Fayzabad	NASRAT ABAD	1448	1	2	2	2	2	2	2
Fayzabad	NOW ABAD	952	2	2	2	2	2	1	1
Fayzabad	NOW ABAD GARJAG	1310	1	2	2	2	2	2	2
Fayzabad	NOW ABAD JOWI WAZIR LAB DARYA	263	1	2	2	2	2	2	2
Fayzabad	NOWA QOUL HAIDAR ABAD	101	1	2	2	2	2	2	2
Fayzabad	NOWA QOUL QAMCHAQ	244	1	2	2	2	2	2	2
Fayzabad	NOWARAD NASRAT ABAD	241	1	2	2	2	2	2	2

Fayzabad	QAB CHAQ WATANI	1432	1	2	2	2	2	2	2
Fayzabad	QAMCHAQ AFGHANIYA	1288	1	2	2	2	2	2	2
Fayzabad	QARA BOYEN	399	1	2	2	2	2	2	2
Fayzabad	QARAWOL SHAKAR QOUL	369	1	2	2	2	2	2	2
Fayzabad	QEZEL HALQA SHAKAR QOUL	236	1	2	2	2	2	2	2
Fayzabad	QEZEL KOTAL SHAKAR QOUL	155	1	2	2	2	2	2	2
Fayzabad	SANIS	748	2	2	2	2	2	2	2
Fayzabad	SAR ASIYAB	170	1	2	2	2	2	2	2
Fayzabad	SEA DARAKHT	341	2	2	2	2	2	2	2
Fayzabad	SHAH SALIM	752	1	2	2	2	2	2	2
Fayzabad	SHAH WALI SHAKAR QOUL	20	1	2	2	2	2	2	2
Fayzabad	SHAIKH ABAD	638	1	2	2	2	2	2	2
Fayzabad	SHESHA KHANA AFGHANYA	1087	1	2	2	2	2	2	2
Fayzabad	SHESHA KHANA ARABYA	1459	2	2	2	2	2	1	1
Fayzabad	SHESHA KHANA TURKMANI	537	1	2	2	2	2	2	2
Fayzabad	SHESHA KHANA UZBEKI	1302	2	2	2	2	2	2	2
Fayzabad	TARAGHLY SHAKAR QOUL	104	1	2	2	2	2	2	2
Fayzabad	TEMORIYA SHAKAR QOUL	373	1	2	2	2	2	2	2
Khamyab	BOZARAQ	4403	1	2	2	2	2	2	2
Khamyab	CHOPAL TAPA	712	1	2	2	2	2	2	2
Khamyab	DAHAN HAJI	1509	1	2	2	2	2	2	2
Khamyab	NOW ABAD	662	1	2	2	2	2	2	2
Khamyab	QARNAS	8270	1	2	2	1	2	2	2
Khaniqa	ALAK RABAT AWALAM	1162	2	2	2	2	2	2	2
Khaniqa	ALIYALE WATANI	1305	2	2	2	2	2	2	2
Khaniqa	ALYALI MAHAJER	952	2	2	2	2	2	1	1
Khaniqa	AWGAM	1023	2	2	2	2	2	1	1
Khaniqa	BAKAWOL MUQURI	1531	1	2	2	2	2	2	2
Khaniqa	BANDA ARUQ	809	1	2	2	2	2	2	2
Khaniqa	BATE	507	1	2	2	2	2	2	2
Khaniqa	BATE KOT AFGHANYA	904	2	2	2	2	2	2	2
Khaniqa	BEASH KAPA SORKH	1673	1	2	2	2	2	2	2
Khaniqa	BEASH KAPA WATANI	1544	1	2	2	2	2	2	2
Khaniqa	CHAKUSH	1101	1	2	2	2	2	2	2
Khaniqa	CHAKUSH KOR KORAK	155	1	2	2	2	2	2	2
Khaniqa	CHAKUSH SARBAND	650	1	2	2	2	2	2	2
Khaniqa	CHOOB BASH	721	1	2	2	2	2	2	2
Khaniqa	GUL HA	247	1	2	2	2	2	2	2
Khaniqa	KAF GEER	377	2	2	2	2	2	2	2
Khaniqa	KALATA SHAKH BALA	1522	1	2	2	2	2	2	2
Khaniqa	KALTA SHAKH PAYEN	829	1	2	2	2	2	2	2
Khaniqa	KHAN ABAD ARABYA	753	2	2	2	2	2	1	1
Khaniqa	KHAN AQA	3306	1	2	2	1	2	2	2
Khaniqa	KHAN AQA ARABYA HULYA	400	2	2	2	2	2	2	2

Khaniqa	KHAN AQA ARABYA SUFLA	364	2	2	2	2	2	2	2
Khaniqa	KOMAK MANSOOR	1173	2	2	2	2	2	1	1
Khaniqa	KOTANA QAR	807	1	2	2	2	2	2	2
Khaniqa	KUMAK HAKIM	1286	1	2	2	2	2	2	2
Khaniqa	KUMAK OMER KHAN	1495	1	2	2	2	2	2	2
Khaniqa	LAGHMANI	583	1	2	2	2	2	2	2
Khaniqa	MESRIYA	858	1	2	2	2	2	2	2
Khaniqa	QADOGH SHAHID	168	1	2	2	2	2	2	2
Khaniqa	QALICH ABAD	1489	1	2	2	2	2	2	2
Khaniqa	QARA BOYEN ARABYA	286	2	2	2	2	2	1	1
Khaniqa	QARA BOYEN HULYA	905	1	2	2	2	2	2	2
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Khaniqa	QARA POYEN TAZA NAHAR	96	1	2	2	2	2	2	2
Khaniqa	QAZEL GARDAB	147	1	2	2	2	2	2	2
Khaniqa	QAZELMEYQAQ TURKMANYA	201	1	2	2	2	2	2	2
Khaniqa	SEYA KAMAR SUFLA	423	1	2	2	2	2	2	2
Khaniqa	SHAH MIRZA	933	1	2	2	2	2	2	2
Khaniqa	SORKH KHAN ABAD	401	1	2	2	2	2	2	2
Khaniqa	TAZA NAHR	428	1	2	2	2	2	2	2
Khaniqa	YANGI QALA	2801	2	2	2	2	2	2	2
Khaniqa	YANGI QALA AFGHANYA	196	1	2	2	2	2	2	2
Khaniqa	ZADRAN	382	1	2	2	2	2	2	2
Khaniqa	ZARGAR KOCHA	807	1	2	2	2	2	2	2
Khawaja Du Koh	AITROQ	1381	2	2	2	2	2	2	2
Khawaja Du Koh	ARAB QARLAQ	2118	2	2	2	2	2	2	2
Khawaja Du Koh	AYMAQ HULYA	1403	2	2	2	2	2	2	2
Khawaja Du Koh	AYMAQ KOHNA	244	2	2	2	2	2	2	2
Khawaja Du Koh	AYMAQ SUFLA	925	2	2	2	2	2	2	2
Khawaja Du Koh	CHOBASH KHORD AFGHANIYA	645	1	2	2	2	2	2	2
Khawaja Du Koh	CHOBASH KHORD TURKMANIYA	1399	2	2	2	2	2	2	2
Khawaja Du Koh	HAQ ABAD MAHJEREN	97	2	2	2	2	2	2	2
Khawaja Du Koh	KHOJA DOKOH NOW ABAD	480	2	2	1	2	2	2	2
Khawaja Du Koh	KHOJA DUKOH AFGHANIYA	75	2	2	2	2	2	2	2
Khawaja Du Koh	LAB JAR TAYEFA BAI	445	2	2	2	2	2	2	2
Khawaja Du Koh	MANGAJEK	1125	2	2	2	2	2	2	2
Khawaja Du Koh	MARKAZ WOLLUSWALY	5359	2	2	2	2	2	2	2
Khawaja Du Koh	MASJED KHALIFA QAZEL AYAQ	1259	2	2	2	2	2	1	1
Khawaja Du Koh	NAZAR ABAD	224	2	2	2	2	2	2	2

Khwaja Du Koh	QARBA QAROUGH	672	2	2	2	2	2	1	1
Khwaja Du Koh	QAZEL AYAQ KALAN	1240	2	2	2	1	2	2	2
Khwaja Du Koh	RAHMAT ABAD MAHJEREN	350	2	2	2	2	2	1	1
Khwaja Du Koh	SALTAN KALAN	1425	2	2	2	2	2	1	1
Khwaja Du Koh	SALTAQ AFGHANIYA	345	2	2	2	2	2	2	2
Khwaja Du Koh	SALTAQ KHORD	1071	1	2	2	2	2	2	2
Khwaja Du Koh	SHAKARAK BAZAR	1105	2	2	2	2	2	1	1
Khwaja Du Koh	TAFAN TURKMANYA	689	2	2	2	2	2	2	2
Mardyan	ALIM KAIK BALA	1156	1	2	2	2	2	2	2
Mardyan	ALIM LAIK	1563	1	2	2	2	2	2	2
Mardyan	ALIM LAIK HAIDAR ABAD DEHLI	122	1	2	2	2	2	2	2
Mardyan	ARANJE GHASHA	892	1	2	2	2	2	2	2
Mardyan	CHAPAK ARANJE AFGHANIYA	763	1	2	2	2	2	2	2
Mardyan	CHAPAK ARANJE GANJ	949	1	2	2	2	2	2	2
Mardyan	CHAPAK ARANJE WATANI	675	1	2	2	2	2	2	2
Mardyan	CHAPAK ISLAM TAWAR BAFT	1187	1	2	2	2	2	2	2
Mardyan	CHAPAK LOLY	1137	1	2	2	2	2	2	2
Mardyan	CHAPAK YAZ KHAN	946	1	2	2	2	2	2	2
Mardyan	CHAPAK YULDAYE	805	1	2	2	2	2	2	2
Mardyan	CHAPAK YULDAYE AFGHANIYA	140	1	2	2	2	2	2	2
Mardyan	FAROOQ QALA AFGHANIYA	493	1	2	2	2	2	2	2
Mardyan	FATEH ABAD AFGHANIYA	1471	1	2	2	2	2	2	2
Mardyan	FATEH ABAD WATANI	1944	1	2	2	2	2	2	2
Mardyan	HUNDO KUSH AFGHANIYA	639	1	2	2	2	2	2	2
Mardyan	HUNDOKUSH TURKMANYA	2054	1	2	2	2	2	2	2
Mardyan	JANGAL ARAQ MAHJER	6047	1	2	2	1	2	2	2
Mardyan	JANGAL AREKH WATANI	515	1	2	2	2	2	2	2
Mardyan	KHAN ARAQ	876	1	2	2	2	2	2	2
Mardyan	KHAN SHOR QALA	266	1	2	2	2	2	2	2
Mardyan	MARDEYAN	1889	1	2	1	2	2	2	2
Mardyan	MARDEYAN PARMASHA	763	1	2	2	2	2	2	2
Mardyan	MARDEYAN TURKMANIYA	1120	1	2	2	2	2	2	2
Mardyan	QOUREQA TURKMANYA	895	1	2	2	2	2	2	2
Mardyan	RAROOQ QALA TURKMANIYA	1132	1	2	2	2	2	2	2
Mardyan	SAILBORD SALTOEYA	491	1	2	2	2	2	2	2
Mardyan	SALTAQ TURKMANAY	1787	1	2	2	2	2	2	2
Mingajik	AIR KALAY	565	1	2	2	2	2	2	2
Mingajik	BALJA ABDULRAHMAN	561	1	2	2	2	2	2	2
Mingajik	CHAR CHANGHO	3292	1	2	2	2	2	2	2
Mingajik	DALY ISLAM ABAD	313	1	2	2	2	2	2	2

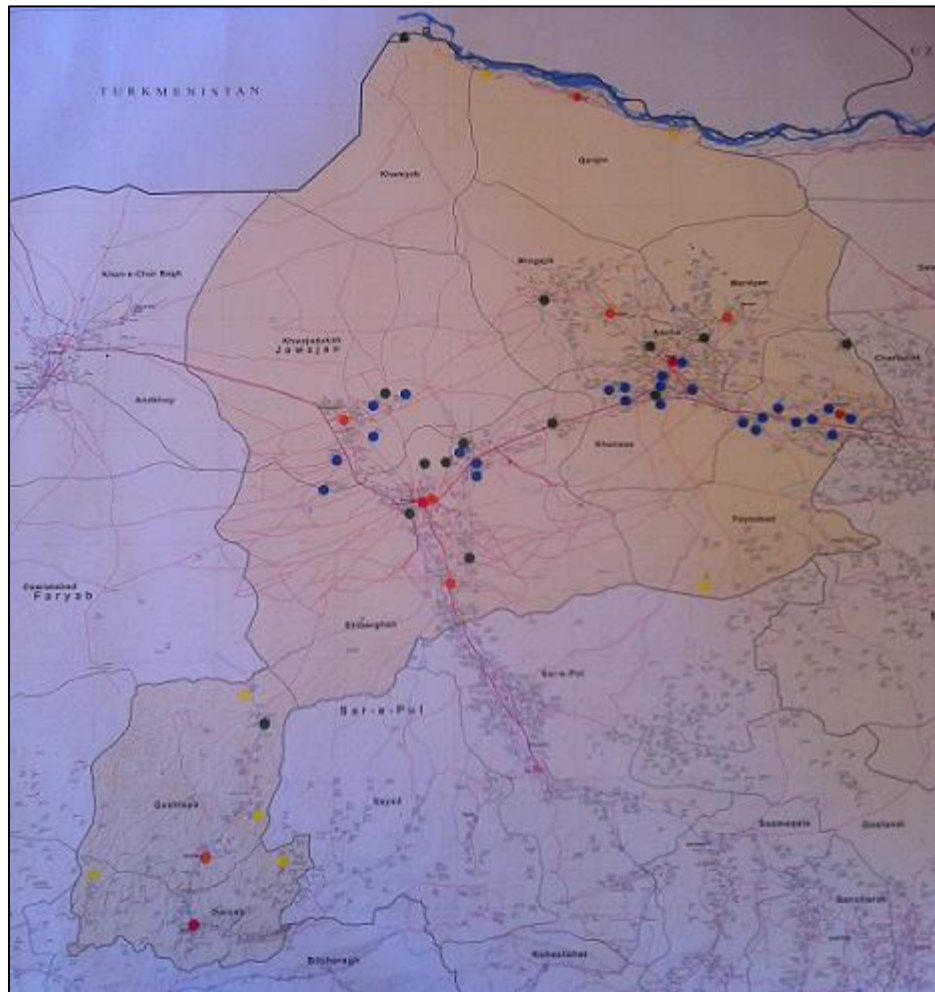
Mingajik	DALY MAHJER	1163	1	2	2	2	2	2	2
Mingajik	DALY WATANI	983	1	2	2	2	2	2	2
Mingajik	HABAS	1484	1	2	2	2	2	2	2
Mingajik	HAIDAR ABAD AFGHANIYA	1331	1	2	2	2	2	2	2
Mingajik	HAROON AWAL	2016	1	2	2	2	2	2	2
Mingajik	HAROON DOUM	1274	1	2	1	2	2	2	2
Mingajik	ISLAM AQ MAIDAN NOW ABAD	474	1	2	2	2	2	2	2
Mingajik	ISLAM AQ MAIDAN WATANI	428	1	2	2	2	2	2	2
Mingajik	JAJA BACHA ARIEQ	651	1	2	2	2	2	2	2
Mingajik	JOWI BALJA CHAGLI	590	1	2	2	2	2	2	2
Mingajik	JOWI HOWRAZ DOWLAT BAI	569	1	2	2	2	2	2	2
Mingajik	JOWI SHAH KHAN	723	1	2	2	2	2	2	2
Mingajik	KALAK	505	1	2	2	2	2	2	2
Mingajik	KHATAB	608	1	2	2	2	2	2	2
Mingajik	MANGAJEK ALLA BARN	1685	1	2	2	2	2	2	2
Mingajik	MANGAJEK FARARI	1361	1	2	2	2	2	2	2
Mingajik	MANGAJEK QOUL GHAJAR	1075	1	2	2	2	2	2	2
Mingajik	QARA DAK	1414	1	2	2	2	2	2	2
Mingajik	QAZAN KALAK	567	1	2	2	2	2	2	2
Mingajik	QAZAN NAROW	1168	1	2	2	2	2	2	2
Mingajik	QAZAN NAROW UZBEKY BALA	731	1	2	2	2	2	2	2
Mingajik	QAZAN NAROW UZBEKYA PAYEN	833	1	2	2	2	2	2	2
Mingajik	QOU TENLI WATANI	1438	1	2	2	1	2	2	2
Mingajik	QOUD CHANGHAWI MAHJER	3597	1	2	2	2	2	2	2
Mingajik	QOUD CHANGHO WATANI	904	1	2	2	2	2	2	2
Mingajik	QOUSHNAILI MAHJER	1186	1	2	2	2	2	2	2
Mingajik	SAFAR WALI AWAL	1517	1	2	2	2	2	2	2
Mingajik	SAFAR WALI DOUM	764	1	2	2	2	2	2	2
Mingajik	SHAIKH ARZI	1304	1	2	2	2	2	2	2
Mingajik	SULTAN ARIEQ	2066	1	2	2	2	2	2	2
Qarqin	DENAR	8239	2	2	2	2	2	2	2
Qarqin	KOK	1808	2	2	2	1	2	2	2
Qarqin	QARQIN City Nahia 01	7642	2	2	1	2	2	2	2
Qarqin	SHOR TEPA	7016	2	2	2	2	2	2	2
Qush Tepa	BAI SAR	1508	1	2	2	2	2	2	2
Qush Tepa	CHAKHMA CHAQOUR	1510	1	2	2	2	2	2	2
Qush Tepa	CHAKHMA CHOQOUR SUFLA	1452	1	2	2	2	1	2	2
Qush Tepa	CHAKNA JAR QADOUQ	1248	1	2	2	2	2	2	2
Qush Tepa	CHEHL GAZY BAI SAR	1080	1	2	2	2	2	2	2
Qush Tepa	GARDAN	1381	1	2	2	2	2	2	2
Qush Tepa	GARDAN SUFLA	1327	1	2	2	2	2	2	2
Qush Tepa	HAJI GHULAM NABI	344	1	2	2	2	2	2	2

Qush Tapa	HASHOR QOUL	231	1	2	2	2	2	2	2
Qush Tapa	HOWS BEYELY SUFLA	186	1	2	2	2	2	2	2
Qush Tapa	HOWZ BAYELY	152	1	2	2	2	2	2	2
Qush Tapa	JAR QADOUQ	1396	1	2	2	1	2	2	2
Qush Tapa	JAR QADOUQ NOW ABAD	655	1	2	2	2	2	2	2
Qush Tapa	KAPCHA QALA	1151	1	2	1	2	2	2	2
Qush Tapa	KHAN AQ	1424	1	2	2	2	2	2	2
Qush Tapa	KOH CHAR BAI	430	1	2	2	2	2	2	2
Qush Tapa	MAIMANA YOWL	450	1	2	2	2	2	2	2
Qush Tapa	MARKAZ WOLLUSWALY QOUSH TEPA	785	1	2	2	2	2	2	2
Qush Tapa	MOULAWA	230	1	2	2	2	2	2	2
Qush Tapa	MUGHUL	474	1	2	2	2	2	2	2
Qush Tapa	NOW ABAD	669	1	2	2	2	2	2	2
Qush Tapa	NOW ABAD TURKMAN QADOUQ	618	1	2	2	2	1	2	2
Qush Tapa	PESTA MAZAR	442	1	2	2	2	2	2	2
Qush Tapa	QADOUQCHA	234	1	2	2	2	2	2	2
Qush Tapa	QAZAL KOTAL	205	1	2	2	2	2	2	2
Qush Tapa	SHAIR BAIG	1506	1	2	2	2	2	2	2
Qush Tapa	SHAIR BOK SUFLA	1271	1	2	2	2	2	2	2
Qush Tapa	SHOR QADOUQ	70	1	2	2	2	2	2	2
Qush Tapa	SHOR QADOUQ UZBEKYA	567	1	2	2	2	2	2	2
Qush Tapa	SOZMA	123	1	2	2	2	2	2	2
Qush Tapa	TARAGHLY AFGHANIYA	337	1	2	2	2	2	2	2
Qush Tapa	TARAGHLY CHARSHALY ARAB	1183	1	2	2	2	2	2	2
Qush Tapa	TARAGHLY HOTAK HA	372	1	2	2	2	2	2	2
Qush Tapa	TARAGHLY KHOWJAGI QESHLAQ	1413	1	2	2	2	2	2	2
Qush Tapa	TARAGHLY MALLAYE QESHLAQ	1519	1	2	2	2	2	2	2
Qush Tapa	TARAGHLY YA TARAKI HA	334	1	2	2	2	2	2	2
Qush Tapa	TASHA KHOR	536	1	2	2	2	2	2	2
Qush Tapa	TURKMAN ALDE	511	1	2	2	2	2	2	2
Qush Tapa	TURKMAN WALDITASH KOTAL	521	1	2	2	2	2	2	2
Qush Tapa	ZARD TEPA	1142	1	2	2	2	2	2	2
Shibirghan	AFGHAN TAPA TURKMANYA	1376	1	2	1	2	2	2	2
Shibirghan	AFGHAN TEPA AFGHANIYA	531	1	2	2	2	2	2	2
Shibirghan	AFGHAN TEPA ARABYA	1045	1	2	2	2	2	2	2
Shibirghan	AIMAQ TANKA	1017	2	2	2	2	2	2	2
Shibirghan	ALTA KHOWJA	2733	2	2	2	2	2	2	2
Shibirghan	AREQ AFGHANIYA	1509	1	2	2	2	2	2	2
Shibirghan	ASHRAF	798	2	2	2	2	2	2	2
Shibirghan	BABA ALI	3407	2	2	2	1	2	2	2
Shibirghan	BABA DAHQAN	377	1	2	2	2	2	2	2

Shibirghan	BAKAWOL AFGHANIYA	158	1	2	2	2	2	2	2
Shibirghan	BAKAWOL KHURASAN	580	2	2	2	2	2	2	2
Shibirghan	BAKAWOL TURKMANYA	245	2	2	2	2	2	2	2
Shibirghan	CHAQCHE	756	2	2	2	1	2	2	2
Shibirghan	CHAQCHE NAQELIN	58	2	2	2	2	2	2	2
Shibirghan	CHAQCHE TAGHAN AREGH TURKMANYA	672	2	2	2	2	2	2	2
Shibirghan	CHAR PAIKAL	357	1	2	2	2	2	2	2
Shibirghan	CHAR SHANBA	734	2	2	2	2	2	1	1
Shibirghan	CHEHL JOWI NOW ABAD	206	1	2	2	2	2	2	2
Shibirghan	CHEHL MARD	175	2	2	2	2	2	2	2
Shibirghan	CHOOB BASH KALAN	1481	1	2	2	2	2	2	2
Shibirghan	EID MUHALA BEASH KAPA	147	2	2	2	2	2	2	2
Shibirghan	ENOL MAL	270	2	2	2	2	2	2	2
Shibirghan	GULGON TOGHE	507	1	2	2	2	2	2	2
Shibirghan	HASSAN ABAD	1255	2	2	2	2	2	2	2
Shibirghan	HASSAN ABAD NAQELIN	240	2	2	2	2	2	2	2
Shibirghan	HASSAN TABEN GHAZGI	1122	2	2	2	2	2	2	2
Shibirghan	IRAGHLY	1421	2	2	2	2	2	2	2
Shibirghan	ISLAM JOWI	1443	2	2	2	2	2	2	2
Shibirghan	JAGDAILAK	387	1	2	2	2	2	2	2
Shibirghan	JALAL ABAD	2713	2	2	2	2	2	2	2
Shibirghan	JOGHE	130	1	2	2	2	2	2	2
Shibirghan	KAKA KENT	1489	1	2	2	2	2	2	2
Shibirghan	KAKRTAK JAR UZBEKYA	277	1	2	2	2	2	2	2
Shibirghan	KHATON QALA	733	2	2	2	2	2	2	2
Shibirghan	KHOJA BOLAN AFGHANYA	493	1	2	2	2	2	2	2
Shibirghan	KHOJA BOLAN ARABYA	558	1	2	2	2	2	2	2
Shibirghan	KODI	774	1	2	2	2	2	2	2
Shibirghan	LAB JAR KHURASAN	469	2	2	2	2	2	2	2
Shibirghan	LAB JAR QURAISH	1087	2	2	2	2	2	2	2
Shibirghan	LAB JAR SHAIKE AFGHANIYA	931	1	2	2	2	2	2	2
Shibirghan	LALA KOT SULIMAZAN AFGHANIYA	536	1	2	2	2	2	2	2
Shibirghan	LALA KOT SULIMAZAN UZBEKYA	262	1	2	2	2	2	2	2
Shibirghan	MAGOTE AFGHANIYA CHAR JUFT	488	1	2	2	2	2	2	2
Shibirghan	MANGOTE AFGHANIYA	247	1	2	2	2	2	2	2
Shibirghan	MANGOTE ARABYA	828	1	2	2	2	2	2	2
Shibirghan	MARANJAN	1179	2	2	2	2	2	2	2
Shibirghan	MASER ABAD	4868	2	2	2	1	2	2	2
Shibirghan	MIR SHAKAR HULYA	208	1	2	2	2	2	2	2
Shibirghan	MIR SHAKAR SUFLA	268	1	2	2	2	2	2	2
Shibirghan	MURGHAN	763	1	2	2	2	2	2	2
Shibirghan	NAKAR ABAD	1357	2	2	2	2	2	2	2

Shibirghan	NOOR TOGHA YA SEA SHANBA	58	1	2	2	2	2	2	2
Shibirghan	ORA MAZ	979	2	2	2	2	2	2	2
Shibirghan	QAM SAI	1000	2	2	2	2	2	1	1
Shibirghan	QAM SAI SHANI KHAIL	143	2	2	2	2	2	2	2
Shibirghan	QANJOGHA	1486	2	2	2	2	2	2	2
Shibirghan	QANJOGHA TURKMANIYA	542	2	2	2	2	2	1	1
Shibirghan	QAQARAN	260	1	2	2	2	2	2	2
Shibirghan	QARA BOYEN	317	1	2	2	2	2	2	2
Shibirghan	QARA KENT	1788	2	2	2	2	2	2	2
Shibirghan	QOCHEN	1294	1	2	2	1	2	2	2
Shibirghan	QOUL BANDI	431	1	2	2	2	2	2	2
Shibirghan	SEA SHANBA AFGHANIYA	181	1	2	2	2	2	2	2
Shibirghan	SEA SHANBA UZBEKYA	866	1	2	2	2	2	2	2
Shibirghan	SHAKAR KON	564	1	2	2	2	2	2	2
Shibirghan	SHBIRGHAN City Nahia 01	48233	2	1	2	2	2	2	2
Shibirghan	SHBIRGHAN City Nahia 02	36141	2	2	2	2	2	2	2
Shibirghan	SHBIRGHAN City Nahia 03	31188	2	2	2	2	2	2	2
Shibirghan	SHOLJAR AFGHANIYA	297	1	2	2	2	2	2	2
Shibirghan	SHOLJAR ARABYA	570	1	2	2	2	2	2	2
Shibirghan	SHOR AFUGH	682	1	2	2	2	2	2	2
Shibirghan	SHOR AFUGH AFGHANIYA BEKAL	111	1	2	2	2	2	2	2
Shibirghan	SOFI QALA	702	2	2	2	2	2	2	2
Shibirghan	SULTAN KOT	22	2	2	2	2	2	2	2
Shibirghan	TAGHAN AREGH AFGHANIYA	646	2	2	2	2	2	2	2
Shibirghan	TAR NOW AFGHANIYA	273	1	2	2	2	2	2	2
Shibirghan	TARNOW UZBEKYA SHABIYA AFGHANI	134	1	2	2	2	2	2	2
Shibirghan	TONUKEYA UZBEKYA	2754	2	2	2	2	2	2	2
Shibirghan	YAKA BAGH	2313	2	2	2	2	2	2	2
Shibirghan	YANGI AREGH	4313	2	2	2	1	2	2	2
Shibirghan	YATEM QALA	384	2	2	2	2	2	2	2

Annex B - Photograph of map with CHCs, BHCs, subcentres and selected villages marked by assessment team



Annex C - Questionnaire for cases in the programme (English version)

SAM CASES IN THE PROGRAMME / COVERED SAM CASES

Date: _____	Name of Child: _____	MUAC: _____
District : _____	Age: _____	Oedema? (+, ++, +++): _____
Village : _____	Sex: _____	
Enumerator/Supervisor name: _____		

- 1 How did you first know that your child was malnourished?

- 2 Did you try to treat your child before visiting the OTP programme?

☐ Yes, How?

☐ No
- 3 How did you hear about the programme?

- 4 Which factors encouraged you to enrol your child in OTP programme?

- 5a Is this the first time your child has been admitted them into OTP/TSFP programme?

☐ If Yes (go to 6)
☐ No, how many times has your child been admitted before?

- 5b Why has s/he returned to the programme?

☐ A. The child discontinued treatment and then returned. Why discontinued?

☐ B. The child was cured and relapsed. Why was he relapsed?

- 5 Do you have other children admitted in the programme?

☐ Yes, how many children? (Sick)-----
☐ No

Annex D - Questionnaire for cases not in the programme (English version)

SAM CASES NOT IN THE PROGRAMME / NON-COVERED SAM CASES

Date: _____	Name of Child: _____	MUAC: _____
District : _____	Age: _____	Oedema? (+, ++, +++): _____
Village : _____	Sex: _____	

Enumerator/Supervisor name:

1a Do you know that your child is malnourished?

☐ Yes ☐ No

2a Do you think that your child is sick

☐ No (go to 3) ☐ Yes, do you know what illness? _____

2b What are the symptoms your child is suffering from?

☐ i. Vomiting

☐ ii. Fever

☐ iii. Diarrhea

☐ iv. Weight loss

☐ v. Loss of appetite

☐ vi. Apathy

☐ vii. Swelling

☐ viii. Hair loss

☐ ix. Skin lesions

☐ x. Other, specify: _____

2c What treatment have you tried, or what treatment are you going to try to recover the illness?

☐ i. Medicinal roots / herbs

☐ ii. Enriched meals

☐ iii. Fasting

☐ iv. Medicinal products (bought at market)

☐ v. Medicinal products (bought at pharmacy)

☐ vi. Prayer

☐ vii. Visit traditional healer

☐ viii. Visit to health facility

☐ ix. No treatment

☐ x. PlumpyNut (RUTF) from market

☐ xi. Other, specify: _____

3a Are you able to take your child(ren) to the health facility easily?

☐ No ☐ Yes

3b When was the last time? _____

3c What was that for? _____

3d When you cannot go, what are the main reasons?

☐ i. Too far; Walking distance _____

How many hours? _____

☐ iii. Inaccessibility (seasonal flooding, etc.)

☐ v. Lack of support / mahram

☐ vii. Refusal by husband / family

☐ ix. Caregiver is sick

☐ xi. Too busy; reason: _____

☐ xiii. Afraid to stay in the hospital (distance from home, cost)

☐ xv. Staff in Health Facility are rude and not welcoming

☐ ii. Insecurity

☐ iv. Lack of transportation

☐ vi. Lack of finances for the journey cost

☐ viii. A family member is sick

☐ x. No one to take care of the other children

☐ xii. Prefer traditional medicine

☐ xiv. Health Facility is always closed.

☐ xvi. Other, specify: _____

4a Have you received any information about nutrition, malnutrition?

☐ No ☐ Yes

☐ If Yes which information? -----

From whom you have received this information? _____

4b has your child ever been screened? (MUAC, Weight / Height)

☐ No ☐ Yes, screened: Where? _____ By whom?

When? _____

5 Has your child previously admitted in OTP or SFP or TFU programs?

☐ No (go to 6) ☐ Yes

Why are they no longer in the programme? _____

☐ Defaulter; Why? _____ When? _____

☐ Discharged cured ; ☐ Discharged non-cured ; When? _____

☐ Other reasons : _____

6 Do you know that there is a programme at the health facility to treat malnutrition? Do you know how it works?

☐ No ☐ Yes, how do you know? _____

7 Why have you not taken your child to be treated at the health facility?

- | | |
|---|---|
| ☐ i. Difficulty getting to the health facility (see 3b) | ☐ ii. Do not believe the programme will help |
| ☐ iii. Don't know how to get child admitted to the program. | ☐ iv. Lack of finances for the treatment |
| ☐ v. Ashamed to be admitted in the programme | ☐ vi. Prefer traditional medicine |
| ☐ vii. Afraid to stay in the hospital (distance from home, cost) | ☐ viii. The problem is not serious enough |
| ☐ ix. The child was previously rejected; when? | ☐ x. Lack of RUTF at clinic |
| ☐ xi. Other, specify: _____ | |

Thank the carer and provide with a referral slip.

Any additional comments/observations:

Annex E - Security Study Outline: Jawzjan

Justification: Certain areas are inaccessible for the SLEAC team (due to insecurity), therefore in an effort to gain an understanding of coverage in these areas, and specifically if and how the insecure nature of these areas affects access to facilities for patients and the functioning of the facilities themselves.

Overall Question: How does insecurity affect access to health care (and in particular SAM treatment)?

Methodology

- Qualitative through structured interviews
- Two sets of informants at three health facilities will be targeted including health facility staff and residents
- 3 health facilities that provide IMAM services shall be visited where surrounding villages are insecure
- 2 Staff members (ideally 1 nurse/midwife and 1 doctor who are engaged with IMAM) and 2-4 patients (men and women, preferably come for nutrition treatment) should be interviewed.

Ethics and considerations

- Security is a sensitive issue and these questions must not be administered if there is any risk is deemed to come to either the interviewees or interviewers.
- Interviewees must give verbal consent before the interview begins.

Key Questions

Mothers / clients

Are you here for the screening or nutrition program?

- Journey:
 - How did you get here today?
 - How long did it take?
 - How much did it cost you?
- What obstacles do you face in getting to the clinic?
 - If insecurity affects your use of the health facilities, how? And how do you decide whether to make the journey?
 - When you cannot reach health facilities, what alternatives do you use? And do you use your CHW?

Staff

Do you work with the nutrition programs here?

- Have you ever closed the OTP? Why? When? And for how long?
- Does insecurity affect the running of the OTP? How?
- Is RUTF supply ever affected? When? For how long?

- What do the community do when they are not able to visit the facility?
- Are CHW and outreach activities affected by insecurity in the area?

Annex F - Calculation of error ratios for reliability test of classifications

The suggested sample sizes in the SLEAC manual are suggested as such because it is known that with a certain SAM population (denominator) a certain sample sizes gives acceptable estimations. When the sample size is not met, the errors can be determined to see if they are acceptable and for transparency. When calculating errors on the estimated case load we initially used, we calculate the ratios between the required and achieved sample sizes with 10% error as shown in the table below.

Table 1: Calculation of 10% error ratios by sampling zone using original numbers

	Initial case load	Old n	actual n	SQRT old	SQRT actual	Ratio SQRT	10% Error
Zone One	537	40	22	6.32456	4.69042	1.34840	13.48400
Zone Two	536	40	59	6.32456	7.68115	0.82339	8.23387

In this case, as expected the 10% error is high for Zone Two and not within acceptable limits.

When using prevalence rate calculated from survey data after villages removed due to security review, the errors are still outside acceptable limits:

Table 2: Calculation of 10% error ratios by sampling zone using survey data

	N (using prevalence 1.36%)	old n	new n	actual n	SQRT new	SQRT actual	Ratio SQRT	10% Error
Zone One	212	40	34	22	5.8124745	4.69041576	1.23922	12.39223
Zone Two	46	40	22	59	4.6526399	7.68114574	0.60572	6.057221

Annex G - Logical analysis for derivation of primary barriers from non-covered questionnaires

The following diagram represents the hierarchy of barriers that prevent children from reaching admission to the SAM treatment program. This logic allows allocation of a single barrier to each case and is based on the flow of standard form non-covered questionnaires for coverage assessments.

