A working Afghan child – herding animal for livelihood in Pulcharkhi, Kabul, November 2017. Photo: © Joel van Houdt, Oxfam.

MEASURING HOUSEHOLD STRESS

Development of Contextualised multi-sector Coping Strategy Index (mCSI) for Afghanistan

Oxfam developed a multi-sector Coping Strategy Index (mCSI) to provide the humanitarian community in Afghanistan with a tool to assess and monitor the impact of interventions – especially multi-purpose cash grants (MPCGs) – with data collected from Nangarhar, Herat, Kunduz, Kandahar and Kabul provinces. This project has been funded by EU humanitarian aid and Oxfam's internal funds.

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Development of contextualised multi-sector Coping Strategy Index (mCSI) for Afghanistan

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Note: *Please contact* policyandpractice@oxfam.org.uk *for the complete document including the annexes*

Development of contextualised multi-sector Coping Strategy Index (mCSI) for Afghanistan

Executive Summary

Oxfam developed a multi-sector Coping Strategy Index (mCSI) to provide the humanitarian community in Afghanistan with a tool to assess and monitor the impact of interventions – especially multi-purpose cash grants (MPCGs) – with data collected from Nangarhar, Herat, Kunduz, Kandahar and Kabul province. The CSI has been tested in the field to verify its validity as a proxy of overall household stress. This study was conducted over the period of August to December 2017.

The mCSI was developed in three phases. First, a short list of coping strategies based on existing practices in Afghanistan was developed through extensive consultation with humanitarian agencies, sector clusters and relevant technical working groups. Second, 20 focus group discussions were conducted in Nangarhar, Herat, Kunduz, Kandahar and Kabul to receive community input on the proposed strategies list. We also organized participatory exercises with community members to weight each strategy and recommend appropriate severity ratings based on the impact of a household employing a strategy. 2,000 household surveys were conducted afterwards to generate quantitative data to test the validity of each strategy. Finally, the mCSI was prepared to be shared with the humanitarian community and translated into Dari and Pashto.

A parallel study tested both 7-day and 14-day recall periods and found that a 7-day recall is most appropriate for the mCSI due to a strongly observed 'discounting' effect when interviewees were asked to recall frequency usages for longer periods. The final mCSI contains strategies from a wide variety of sectors, and has a positive relationship with 9 different household vulnerability situations; (1) Children not fully immunized; (2) Damaged housing; (3) Pregnant or lactating woman in the household; (4) Humanitarian assistance not received in last 3 months; (5) Disabled member in the household; (6) No current source of income; (7) More than 7 members in the household; (8) More than 3 children under 5 years of age in the household; and, (9) a Chronically ill or disabled head of household. However, the detailed findings of the study also highlight that vulnerability is complex and multi-faceted. For the full mCSI module, please see the following page.

Afghanistan Multi-Sector Coping Strategies Index (mCSI) Module:

#	Coping Strategy	Weight (W)	Frequency (F)	Score (W x F)
1	In the last 7 days, how many days did at least one household member (male or female) rely on less preferred, low quality and less expensive food?	1		
2	In the last 7 days, how many days did at least one household member (male or female) reduced food consumption for small children to eat?	1		
3	In the last 7 days, how many days did the household reduce the total amount of water for domestic use (drinking, washing and cooking etc.)?	1		
4	In the last 7 days, how many days did the household use unsafe water (without boiling/purification) from open sources?	1		
5	In the last 7 days, how many days did the household borrow/rely on help from friends or relatives for staple food or borrow money to spent on food or essential household needs?	2		
6	Is the household living in a partially damaged house; makeshift, overcrowded/collective shelter; tent; space intended for other purpose (e.g., livestock); or in the open air? *Hint: If the household lived in the above mentioned poor shelter in the last seven days, put 7.*	2		
7	In the last 7 days, how many days did at least one household member (male or female) reduce the number of meals eaten, compared to usual frequency of food consumption?	3		
8	In the last 7 days, has the household sold any assets (including livestock, jewellery, furniture, electronics, etc.) due to recent shocks or emergency?	3		
9	In the last 7 days, how many days did at least one additional member (male or female) seek employment or any kind of income source, including daily labour, street vending, or any instance of moving away from home to seek work? *Hint: Refer only to household members over 16 years old.*	3		
10	In the last 7 days, how many days did children (girl or boy) NOT attend school to engage in employment and/or productive household activities (collect firewood, fetch water, housework etc.)?	4		
11	In the last 7 days, did at least one household member delay seeking medical attention for a critical health problem due to recent shocks or emergency?	4		
	Household mCSI Score (Sum of Scores 1 through 11)			

To employ the mCSI in any form of questionnaire, the respondent is asked "on how many days, in the last 7 days, has the household had to adopt the following strategy". This question is repeated for each coping strategy from 1 to 11, with the answers from the respondent recorded in the frequency column of the table. Note that the answer for frequency should always fall between 0 and 7. Even if a household employed a strategy many times on the same day, that day still only counts as 1. To calculate the total mCSI score, the weight of each strategy is multiplied by the reported frequency of its usage, and the total sum of all 11 strategies is added together. There is no absolute threshold for the mCSI score at which we can say that a household is, or isn't, in need or under stress. It is instead generally best to assess the relative position of households either to each other, or to themselves over time. However, as a general

guidance (based on the distribution of mCSI scores observed during the study), a score of 40 could be considered low, 80 medium, and 120 high – these are the benchmarks used in the analysis of vulnerability-mCSI relationships (section 3.6).

Please refer '***Measuring Household Stress: Introducing the Multi-sector Coping Strategy Index (mCSI) for Afghanistan*** (https://oxf.am/2KcgW2B) for further information about mCSI tools and guidelines.

1. Background

Humanitarian aid agencies need a multi-sector method for estimating overall levels of household stress for targeting humanitarian assistance, as well as monitoring the effect of material and cash grants and other forms of aid. However, detailed multi-sectoral assessments can be extremely lengthy (and therefore costly), as well as complicated to generate reliable data and is time-consuming. In addition, emergency assessments need to be done rapidly (and must be repeated and updated frequently). As a result, the use of detailed and comprehensive methodologies is often not possible. Humanitarian aid agencies therefore rely largely on proxy-indicators when undertaking needs assessments. In the case of food security, or other abstract concepts that can't be measured directly (such as women's empowerment or governance), the use of proxy indicators is the only way to measure. Humanitarian aid agencies are therefore increasingly attracted towards using the Coping Strategy Index (CSI), which measures forms of household (or individual) stress through the frequency and severity of behaviours undertaken in response to stresses faced.

1.1. What is coping strategy and coping strategy index?

The CSI was first developed to assess the household food security situation. A coping strategy is an action taken (strategy adopted) by households/individuals when shocks push them beyond the difficulties faced in "normal" times. The index then is a set of questions about the strategies households adopt to cope with the situation of insufficient food. From this origin, the use and analysis of variations of Coping Strategy Indeces have been expanded to measure responses to stress across several domains. A CSI is composed of indicators designed to assess household practices to mitigate, or respond to, stresses faced. The analysis completes in 3 steps;

Step 1: Constructing an appropriate list of coping strategies employed by households in the event of crisis. For application solely within the food security sector, this is done by asking a question "What do you do when you don't have enough food and don't have enough money to buy food"?

Step 2: Counting the frequency of each coping strategy employed within a given timeframe.

Step 3: Assigning weights to each coping strategy based on the severity of the strategy. This is an inherently subjective process, and benefits from use of standard participatory tools (for example, proportional piling) to generate consensus among a diverse group.

The score for each individual coping strategy is calculated by multiplying the frequency and the severity. The total CSI score is the sum of all the individual scores included in the CSI. This constitutes the index value, which can be used for assessing the current situation and measuring the impact of interventions over time.

1.2. Evolution of CSI

The CSI was first developed in Uganda, Ghana and Kenya and is now being used in many parts of the world (Maxwell and Caldwell, 2008). With its proliferation, the CSI method has been altered and adapted as per the objective of the study (Food Security and Agriculture Cluster, 2016; Maxwell and Caldwell, 2008; Anderson, undated). For example, the traditional CSI is more context-based. However, some household coping strategies, especially around food consumption, are more universal and can be applied to multiple contexts. A reduced Coping Strategy Index (rCSI), with fewer but universal coping actions, was developed for application in different contexts.

Livelihood-related coping strategies used in traditional CSIs have been very important to understand the severity of stress. However, contemporary development practitioners are inclined to use consumption-related coping strategies in the CSI (Maxwell, 2017 – Personal Communication). Livelihood-related coping strategies such as selling productive assets like equipment, sex work or drug dealing are indicators of problems, but these are often one-time activities. If it didn't happen during the recall period, then it was missed from the analysis. The consumption-related coping strategies, however, recur much more frequently and are generally discontinued when the situation improves.

In addition, the households adopting livelihood coping strategies always use consumption coping strategies, but the households adopting consumption coping strategies do not always use livelihood coping strategies. Therefore, the consumption coping strategies are preffered for the analysis.

1.3. Use of CSI in Afghanistan

The Afghanistan humanitarian community uses a multi-sector 'Household Emergency Assessment Tool (HEAT)' to assess emergency assistance needs for all emergency responses in Afghanistan (UN OCHA, 2017a). The HEAT tool includes a set of six coping strategies to assess the existing coping capacity in the affected community. These differ slightly from the rCSI with the additional of an extra action around children's labour (Table 1). A 7-day recall period is used to study the household coping strategies.

The Cash and Voucher Working Group (CVWG) in Afghanistan uses reduced CSI (rCSI) for Inter-Cluster Post Distribution Monitoring (PDM) of cash interventions. CVWG uses a 7-day recall period to study the first five household coping strategies in Table 1. The 6th strategy (Send children to work} is in the HEAT tool.

Table 1. Coping indicators used in HEAT tool by Afghanistan humanitarian community, 2017.

1	Rely on less preferred food and less expensive food
2	Restrict consumption by adults in order for small children to eat
3	Reduced number of meals eaten in a day
4	Borrow food, or rely on help from friends and relatives
5	Limit portion size at mealtimes
6	Sent children to work

Source: UN OCHA (2017a) and CVWG (2017).

The Food Security Cluster in Afghanistan uses both rCSI and adapted CSI (with 15 livelihoods coping strategies) during the Seasonal Food Security Assessment (Table 2). Unlike other CSIs (CSI and rCSI), the adapted CSI with livelihood coping strategies were collected in a Yes/No format (refer Table below). The CSI score did not include severity and frequency, which makes it difficult to target the most vulnerable groups. In addition, a long (12-months) recall period was used to assess the use of the coping strategies, which is a long period for households to remember the details of coping strategies used.

Table 2. Livelihood coping strategies used by Food Security Cluster (FSC) in Afghanistan for Seasonal Food Security Assessment (SFSA).

In the past 12 months, has anyone in your household used any of the following strategies when facing difficulties to obtain food or cover other expenditures?	
1	Sold house or land
2	Sold more animals than usual or earlier than usual
3	Migrated to look for work
4	Increased daily labour (increase number of days, increase number of working hours)
5	Decreased expenditures on health, education, etc.
6	Increased collection and sale of natural resources
7	Spent savings
8	Sold household assets (appliances, furniture, doors, windows, roof beams)
9	Sold income generating equipment
10	Decreased expenditure on fertilizer, pesticide, fodder, animal feed, veterinary care, etc.
11	Begging/Rely on Charity
12	Withdrew children from school
13	Engaged in illegal activities (opium, theft…)
14	Worked for armed factions
15	Entire household migrated

Source: Food Security and Agriculture Cluster (2016).

The World Food Programme (WFP) in Afghanistan used rCSI for Integrated Food Security Phase Classification (IPC) and used a set of five coping strategies with a universal severity scale 1-3 (Table 3). The CSI score is classified in three groups to explain the household coping strategies:

- CSI= 0-3; No or low coping strategies
- CSI = 4-9: medium coping actions
- CSI ≥10: High coping strategies

Table 3. The rCSI (used by WFP in Afghanistan)

Coping Strategies	Universal Severity Weight
1. Rely on less preferred and less expensive foods	1
2. Borrow food or rely on help from friends or relatives	2
3. Limit portion size at mealtime	1
4. Restrict consumption by adults in order for small children to eat	3
5. Reduce number of meals eaten in a day	1

Source: WFP (2012).

2. Methodologies
The task was completed in three phases.

2.1. Developing framework for the Multi-Sector CSI (mCSI)
The first phase focused on identifying existing formulations of the CSI being used by key stakeholders such as UN agencies, humanitarian clusters, INGOs and NGOs working in different sectors through a series of consultations (Annex 1).

After the in-house discussion, the concept was presented in the Food Security and Agriculture Cluster (FSAC) meeting. The project was also discussed with European Civil Protection and Humanitarian Aid Operation (ECHO) and United Nations Office for the Coordination of Humanitarian Affairs (OCHA) in Afghanistan. Subsequently, one-to-one discussions were conducted with field-based I/NNGOs in Afghanistan to collect more input on the mCSI methodology.

The information collected during one-to-one discussion was presented in a consultation workshop with all relevant NGOs to develop a draft version of multi-sector CSI. The objective of the workshop was to create a consensus. Based on these consultations, a long list of indicators was prepared by pooling relevant indicators used in different sectoral CSIs. This formed the basis for developing the mCSI. The following criteria were used for the selection of coping strategies.

Criteria for selection of coping strategies:
- **Feasibility:** some coping strategies provide good information about household stress, but they are difficult to collect.
- **Availability:** the coping strategies which households can adopt after or before the onset of a crisis.
- **Reversibility:** households can stop the coping strategies when the situation improves.
- **Continuous**: one-off coping strategies are adopted rarely and may not fall within the re-call period, therefore difficult to capture.

2.2. Testing and verification of indicators

Possible study locations were discussed during the one-to-one consultations with humanitarian organisations. Multi-stage Random Sampling was used to select the study locations and households (Annex 2). The fieldwork was conducted by two partner organisations with support from Oxfam staff: *Assistance for Health, Education and Development (AHEAD)* and *Afghan Development Association (ADA)*. AHEAD implemented field studies in 3 provinces (Nangarhar, Herat and Kandahar) and ADA in two provinces (Kunduz and Kabul). These local partners were selected based on their field presence, knowledge and rapport with local actors. These partners were involved in all activities throughout the project cycle.

Before inception of the fieldwork, FGD facilitators and survey enumerators were introduced to the project, trained on facilitation skills and survey techniques, and familiarised with the issues and questions of the household survey. The facilitators and enumerators were also provided training on participatory skills including orientation on DOs and DON'Ts while working with the community. Training handouts, FGD checklists and household survey questionnaires were prepared and translated into Dari and Pashto languages (Annexes 3, 4 and 5). A pilot-testing was conducted in Gozargah in Kabul (Plate 1).

Plate 1. Pilot-testing of field activities, Gozargah, Kabul, September 2017. Photo: Eng. Abdul Munir.

2.2.1. Focus Group Discussion

Data from group discussions were used to generate coping strategy ideas, and to test and validate the strategies defined through the consultations. The relevancy of the indicators listed in the draft mCSI was tested through 20 Focus Group Discussions (FGDs) with community members from the five provinces (Nangarhar, Herat, Kunduz, Kandahar and Kabul) of Afghanistan (Annex 6). Each FGD was conducted with 12-19 community members who were selected to ensure representation in terms of age, occupation, disability and residence status. The two FGDs conducted in each region were split between female and male groups to ensure cultural sensitivity (Plate 2). The relevancy of each indicator in the mCSI was verified through inputs during the FGDs, and new coping strategies were recommended by community members. Data from a participatory sorting exercise and proportional piling (at individual level) was used to generate severity weightings for each strategy.

Plate 2. Focus Group discussion with female group in Imam Sahib, Kunduz (left) and male group in Kunduz city, Kunduz (right), October 2017. Photo: Ms. Marzia Kohistani (Left) and Mr. Sadam Khan (right).

Analysis of results was done for shortlisting strategies for the household survey. Similarly, analysis was done to study the level of agreement on weightings between focus group discussions in aggregate, between urban and rural locations, and between men and women. The levels of agreement were determined through a ranking of the average standard deviations of recommended weightings. The less variation in weightings, the more the level of agreement between different communities about the severity of the strategy.

2.2.2. Household Survey

The second phase involved testing the performance of the indicators in the long list of mCSI through a household survey in order to conduct an analysis to refine the long list of coping strategies down to a final set of strategies (Annex 7). A total of 2000 households were surveyed in the selected five regions of the country. In each of the five regions the survey was conducted in two locations (one rural and one urban). The aim was to interview 100 male and 100 female community members from 10 villages in each of the locations (Annex 8). Purposive sampling was used to select the regions, province, districts and villages based on the criteria below (Annex 2):

- The most disaster prone, crisis affected areas/locations/communities
- Areas with low income and livelihood capacity
- Areas with variations in individual responses among communities in stress
- The communities with relatively high prevalence of negative coping strategies when in stress
- Accessible areas in terms of security and logistics

Within the villages, a random sample technique was used to select the households for interviews. Pencil spin method was used to set the direction and a random number was picked to select the household towards that direction for the survey. Due care was provided to ensure the survey with vulnerable households only. In addition to visual observation, the following criteria were used for the selection of 20 vulnerable households.

- More than 7 members in the household
- More than 3 children who are under 5 years old in the household
- Female headed households (female is a breadwinner)
- Child headed household (under 18 years)

- Elderly headed household (over 60 years)
- Disabled headed household[1] (mental or physical)
- Family members with disability (mental or physical)
- Pregnant or lactating women in the household
- Family member with chronic illness
- No humanitarian assistance received during the last 3 months
- No current source of income[2]
- The family is living in a tent, open space, damaged house, living in someone else's house or in a space intended for livestock or other purpose.
- Recent displacement or forced movement (within the last 90 days)

Data Collection was done in following three aspects during the household survey:
1. Data on whether households meet situations typically assumed to indicate humanitarian vulnerability (for example, the status of the household head, lack of income)
2. Data on the standard Food Consumption Score and reduced Coping Strategies Index.
3. Data on the frequency use of each of the 16 short-listed coping strategies identified.

The collected information was analysed through a series of steps:
1. The prevalence (in usage terms) of each coping strategy candidate was compiled in aggregate.
2. Usage data was then disaggregated by male and female respondents, geographic region, by those households falling within the poor and (separately) borderline food security thresholds, and by households deemed "most vulnerable' (defined as those meeting more than 7 vulnerability criteria as applied by the questionnaire), to check for trends and patterns.
3. the correlation between each coping strategy candidate and (1) the Food Consumption Score, (2) the rCSI, and (3) the Vulnerability Index, which was composed by summing the number of 'vulnerability criteria' met.
4. A correlation was also run with each coping strategy candidate and the total score tested CSI (tCSI[3] - assigned by taking all 16 candidate strategies together), this step was to understand to what extent each of the 16 was driving the overall result.

The database is maintained in Excel and analysis was done using Excel, SPSS and Stata software packages. Descriptive analysis was done to study the general features (mean, standard deviation and variance) of the data. The Analysis of Variance (ANOVA) and paired t-test was calculated to test the statistical difference between the variables, and the correlation coefficient was calculated to study the nature of the relationship between the two variables. In sum, the objective here is to identify, from the long list of coping strategies produced in the first phase, a final set of coping strategies which, when taken together, provide the best proxy for the overall level of household stress across the populations (whilst also been practically measurable). This final set has been proposed as mCSI for Afghanistan.

Calculations

Calculation of Coping Strategy Index (CSI):

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[1] Female, elderly, child, or disabled "headed" means that this person is the head and there is no other able-bodied adult/male (bread winner) in the household.
[2] Defined as no earnings, either cash or in-kind, during the last 30 days.
[3] Tested CSI (tCSI) includes the 16 coping strategies studied in the household survey (detail in Section 3.2.1).

$$\text{CSI} = \Sigma(fCS1 \; x \; wCS1) + (fCS2 \; x \; wCS2) + \cdots + (fCSn \; x \; wCSn)$$

Where,
   fCS = Frequency of coping strategy used
   wCS = Weight of coping strategy
   1….n = Number of the coping strategy

Calculation of Food Consumption Score (FCS):

$$\text{FCS} = \Sigma(fFG1 \; x \; wFG1) + (fFG2 \; x \; wFG2) + \cdots + (fFGn \; x \; wFGn)$$

Where,
   fFG = Frequency of Food Group used
   wFG = Weight of Food Group
   1….n = Number of food groups

Percentage of Possible Score (PPS): Percentage of possible score has been calculated to standardise the data for the comparison of indices with unequal number of indicators (rCSI, tCSI and mCSI) as well as scores collected using different recall periods (7-day and 14-day). The calculation was done using the following method:

$$\text{PPS} = \frac{CSI}{\text{possible score for CSI}} \; x \; 100$$

$$\text{Possible score} = \Sigma(wCS1 \; xTDrp) + (wCS2 \; xTDrp) + \cdots + (wCSn \; xTDrp)$$

Where,
   wCS = Weight of coping strategy
   TDrp = Total Days of recall period
   1….n = Number of the coping strategy

Percentage of possible score was then used to analyse the results. Descriptive analysis, correlation coefficient and t-test were performed to interpret the result.

2.2.3. Study on the recall period

A separate study was conducted to study the effectiveness of two different recall periods (7-day vs 14-day recall periods). Out of 2000 households surveyed, 400 households (80 households from each of the five provinces) were interviewed again using the same questionnaire exactly 7-days after the first survey. The only difference was that a 7-day recall period was used during the first survey, while in the second survey with 400 households a 14-day recall period was used. The frequency of response from 7-day and 14-day recall period was then compared.

2.3. Roll-out and dissemination of the mCSI

The third phase was dedicated to the roll-out and dissemination of the mCSI. A workshop was organised to share the findings of the study with the humanitarian community including the Government line ministries, UN agencies, humanitarian clusters, INGOs and NNGOs working in Afghanistan. Cash and Voucher Working Group, including all relevant clusters leads, members and aid agencies, were invited for the workshop. The aim was to consolidate and incorporate the views/feedback from different organisations. Oxfam will develop a strategy for further dissemination of the mCSI and will work together with humanitarian clusters, CVWG, UNOCHA and ECHO to discuss next steps on the use and application of the mCSI in the Household Emergency Assessment Tool (HEAT) and Post Distribution Monitoring (PDM).

The summary of the project output was translated into Dari and Pashto to make the mCSI accessible for local partners.

3. Findings

In the detailed sections below are the findings of the study. This begins with the consultation phase, and then moves to the focus group discussions - in which strategies were validated and assigned severity weightings – and the household survey phase - through which the usage of strategies was examined. Then the analysis used to test the appropriate recall period is presented and the final mCSI of 10 strategies is presented along with discussion and rationale.

3.1. Consultation with aid agencies

A series of meetings were organized and one-to-one discussions with 14 different organisations and clusters were conducted (Annex 1) to secure their suggestion as well as to open the process. General details of consultation have been analysed (Annex 9).

The analysis revealed that most organizations in Afghanistan currently use the rCSI, and often additionally use a context-based longer version of adapted CSI (aCSI). For example, Action Contre la Faim (ACF) was using aCSI with a different number of indicators depending on the context of study (Annex 9). Similarly, the Food Security and Agriculture Cluster is using rCSI and aCSI with 15 livelihood-based indicators for Seasonal Food Security Analysis (SFSA). In addition, other organizations and clusters (such as Health Cluster, Nutrition Cluster, Protection Cluster and associated projects) for whom the food-based rCSI is not quite relevant for their purpose were using sector-based assessment and monitoring tool.

The rCSI was being used with a 7-day recall period in Afghanistan (Annex 9). However, the recall period employed in cases of the aCSI was variable. ACF was using various re-call periods depending on the context of the project. Similarly, considering the nature of information required, the Health Cluster used recall periods of 30-180 days, Nutrition Cluster 14-90 days, and the SFSA 7days-12 months of recall period.

The rCSI is part of the HEAT and PDM tools in Afghanistan. These tools are part of the assessment and monitoring system adopted by ECHO and Cash & Voucher Working Group (CVWG). These tools are widely used by organisations involved in cash-based intrventions and humanitarian organisations in Afghanistan. HEAT and PDM both use rCSI with 7-day re-call period. It was suggested that a 7-day recall period might be appropriate for CSI for coping strategies that recur more often (such as, consumption-based coping), while 14-day or even longer re-call period may deem appropriate for CSI using more serious one-off livelihood coping strategies, such as selling land, engage in illegal work etc.

Organisations were requested to provide their suggestion for the strategies for multi-sector CSI. A total of 45 indicators were suggested by different organisations (Annex 10). The strategies were evaluated based on the criteria set for the selection (Annex 11).

An internal project meeting conducted to discuss the project processes with Oxfam staff and local partners (AHEAD and ADA) of the project. The meeting scrutinised the indicators considering the selection criteria and duplication was removed by combining 2 or more indicators. Finally, the meeting prepared a list of 19 indicators to discuss during the consultation meeting (Annex 12).

The long list of indicators suggested by humanitarian organizations and the suggestion proposed by project team was presented in a consultation workshop with the stakeholders. All the organizations

consulted during one-to-one discussion were invited in the workshop. The indicators and the rationale for proposed action on each of the indicators by project team was explained during the workshop. Based on this, the workshop further discussed and agreed on 16 indicators to evaluate further in the community (Annex 13).

The workshop also discussed and agreed upon the locations for field studies. Considering the suggestions of different organisations, Humanitarian Needs Overview 2017 (UN OCHA, 2017b), Humanitarian Response Plan Mid-Year Review 2017 (UN OCHA, 2017c), food insecurity information (Seasonal Food Security Analysis, 2016) and discussion during the project meeting and consultation workshop, five provinces (Nangarhar, Herat, Kunduz, Kandahar and Kabul) were selected for the field study (Annex 14). The selected provinces represented each of the five main regions of the country.

3.2. Community Validation of Coping Strategies
Following consultations with the humanitarian organisations to identify possible multi-sector coping strategies the suggestions from consultation were compiled and the long list of 16 coping strategies finalised (C.01-C.16 in Table 4).

All coping strategies identified by humanitarian organisation during consultations and in the workshop were endorsed by the community members. In addition, three new coping strategies were also added by the communities (C.17-C.19 in Table 4):

C.17: Selling their children due to poverty/ to buy food/ can't nurture (unable to care for)
C.18: Hand selling and vending in the streets of cities
C.19: Going to other provinces & even foreign countries (Iran & Pakistan) for labouring purposes

Out of the three-additional coping strategies suggested by the communities, C.17 (Selling their children due to poverty/ to buy food/ can't nurture) has been considered as purely a one-off action and therefore not included in further testing through household survey. Although this strategy isn't capturable within the mCSI, the sale of a child is of extreme concern and it is important that this action was also noted by community members themselves. Therefore, the report recommends that the protection cluster, child protection sub-cluster and its members consider methods to identify and monitor similar cases and prioritise assistance accordingly. This is an important example of how a proxy tool such as the mCSI can be generally useful but must always be paired with a common sense understanding of the situation. Other two coping strategies (C.18 and C.19) have been found similar to C.15 (Additional family member attempt to find income source including work (daily labour)), therefore these strategies have been combined with C-15 for further testing. Thus, the number of coping strategies remained the same with changes in the description of one coping strategy (i.e., C.15). This set of 16 coping strategies was studied in household survey as Tested CSI (tCSI).

3.3. Analysis of Severity Weightings
The Tables below present results of the focus group discussions with regards to severity weightings of coping strategies (Tables 5 and 6).

Severity Rating (Table 5): This is the average severity rating proposed by respondent focus groups. It is calculated by taking the average response from three methods of severity estimation: (1) Subjective ranking by the group; and, individualised proportional piling exercise then calculated on the basis of both

(2) relative rank, and (3) percent of overall allocation. The final estimate was then rounded to the nearest whole number.

Table 4. The frequency of mentioning of the individual coping strategies mentioned during the FGDs.

No	Coping strategies	No of FGDs mentioned (Total N=20)
C.01	Rely on less preferred food, low quality and less expensive food with decreased consumption of meat and vegetable	20
C.02	Restrict consumption by adults in order for small children to eat	19
C.03	Reduced number of meals eaten in a day, compared to usual frequency of food consumption	16
C.04	Borrow/rely on help from friends or relatives for staple food or borrow money to spent on food or essential household needs	20
C.05	Limit portion size at mealtimes such that eating less amount of food than usual	17
C.06	Skip whole day without eating	20
C.07	Selling of assets (including livestock, jewellery, phone, furniture, electro-domestics, etc.) due to recent shocks or emergency	20
C.08	Stop sending children going to school to in order to engage them in working for economic gain and/or productive household activities (to collect firewood/fetch water/work etc.)	19
C.09	Living in poor/partially damaged house, makeshift, overcrowded/ collective shelter, tents, open air and space intended for other purpose (e.g., livestock)	18
C.10	Renting temporary accommodation or Living with relatives/friend due to crisis	20
C.11	Send children/family member to relatives/away due to crisis	18
C.12	Reduce total amount of water for domestic use (drinking, washing and cooking etc.)	15
C.13	Use of water from open source without purification due to the shock	14
C.14	Delaying attention for critical health problem from professional health care person or going to non-medical person (traditional healers) due to shock	19
C.15	Additional family member attempt to find income source including work (daily labour)	20
C.16	Begging due to shock	15
C.17	Selling their children due to poverty/ to buy food/ can't nurture	2
C.18	Hand selling and vending in the streets of cities	1
C.19	Going to other provinces & even foreign countries (Iran & Pakistan) for labouring purposes	1

Agreement Rank (Table 6): This number represents the relative level of consensus between focus groups on the estimated severity weighting for each strategy. The lower the number, the higher the level of agreement and consensus surrounding the assigned weighting. The higher the number, the more the level of variation and disagreement between focus groups. This was calculated by taking the standard deviations of the responses to each strategy across the three methods for assigning weightings, then

ranking each strategy by agreement level and method, then finally combining these together by taking the mean ranking.

Rural – Urban, and Gender Variation (Table 6): These columns show where systemic variation was found between the responses of rural focus groups, and those of urban focus groups and between groups of male and female community members. This was calculated by comparing average responses between the two categories. Where differences were found to be significant a note was made of who considered the severity of the strategy to be worse, and a number of "+" signs was allocated to indicate how much worse they considered the strategy to be. This same process was repeated to examine Gender variations. Though note that this calculation, and the assigning of + signs to indicate disagreement, is only a helpful estimate to provide a short-hand way to understand the results. It is not a rigorous calculation to the same degree as contained in the detailed statistical sections of this study.

Table 5. Severity rating calculated based on the average weight and average rank assigned by the community members during the FGD.

No	Coping strategies	Weightage based on			Final Severity
		Av. weight	Av. rank	Av. Severity%	Rating Estimated
C.01	Rely on less preferred food, low quality and less expensive food with decreased consumption of meat and vegetable	3	2	4	3
C.02	Restrict consumption by adults in order for small children to eat	1	1	2	1
C.03	Reduced number of meals eaten in a day, compared to usual frequency of food consumption	3	3	2	3
C.04	Borrow/rely on help from friends or relatives for staple food or borrow money to spent on food or essential household needs	2	2	3	2
C.05	Limit portion size at mealtimes such that eating less amount of food than usual	1	2	2	2
C.06	Skip whole day without eating	2	3	3	3
C.07	Selling of assets (including livestock, jewellery, phone, furniture, electro-domestics, etc.) due to recent shocks or emergency	3	3	3	3
C.08	Stop sending children going to school to in order to engage them in working for economic gain and/or productive household activities (to collect firewood/fetch water/work etc.)	4	4	4	4
C.09	Living in poor/partially damaged house, makeshift, overcrowded/ collective shelter, tents, open air and space intended for other purpose (e.g., livestock)	2	3	2	2
C.10	Renting temporary accommodation or living with relatives/friend due to crisis	2	1	2	2
C.11	Send children/family member to relatives/away due to crisis	2	2	2	2
C.12	Reduce total amount of water for domestic use (drinking, washing and cooking etc.)	1	1	1	1
C.13	Use of water from open source without purification due to the shock	1	1	1	1
C.14	Delaying attention for critical health problem from professional health care person or going to non-medical person (traditional healers) due to shock	4	4	4	4

C.15	Additional family member attempt to find any kind of income source, including daily labour/street vending, and any instance of moving away from home to seek work	3	4	4	4
C.16	Begging due to shock	3	3	2	3

The results provide the severity ratings for strategies in the final mCSI, and also factored into elimination decisions in finalising which strategies should be included in the final product (Table 6). During the elimination process, preference was given to strategies for which the severity rating has a high level of overall agreement, as well as agreement between rural – urban and gender groups.

Table 6. Severity weighting, agreement rank, rural-urban variation, and gender variation among 16 coping strategies (Focus Group Discussion, November 2017).

No	Coping strategies	Severity Weighting	Agreement Rank	Rural Urban Variation	Gender Variation
C.01	Rely on less preferred food, low quality and less expensive food with decreased consumption of meat and vegetable	3	14.8	Urban +	Male ++
C.02	Restrict consumption by adults in order for small children to eat	1	10.2	Rural +	Female ++
C.03	Reduced number of meals eaten in a day, compared to usual frequency of food consumption	3	5.7	Neutral	Female ++
C.04	Borrow/rely on help from friends or relatives for staple food or borrow money to spent on food or essential household needs	2	9.0	Neutral	Male +
C.05	Limit portion size at mealtimes such that eating less amount of food than usual	2	5.0	Neutral	Female +
C.06	Skip whole day without eating	3	13.3	Urban ++	Neutral
C.07	Selling of assets (including livestock, jewellery, phone, furniture, electro-domestics, etc.) due to recent shocks or emergency	3	10.8	Urban +	Female ++
C.08	Stop sending children going to school to in order to engage them in working for economic gain and/or productive household activities (to collect firewood/fetch water/work etc.)	4	7.2	Neutral	Male +++
C.09	Living in poor/partially damaged house, makeshift, overcrowded/ collective shelter, tents, open air and space intended for other purpose (e.g., livestock)	2	6.5	Urban +	Neutral
C.10	Renting temporary accommodation or Living with relatives/friend due to crisis	2	4.7	Neutral	Male +
C.11	Send children/family member to relatives/away due to crisis	2	13.7	Rural +	Female ++
C.12	Reduce total amount of water for domestic use (drinking, washing and cooking etc.)	1	1.7	Urban +	Female +
C.13	Use of water from open source without purification due to the shock	1	6.7	Neutral	Male ++

C.14	Delaying attention for critical health problem from professional health care person or going to non-medical person (traditional healers) due to shock	4	6.0	Neutral	Male +++
C.15*	Additional family member attempt to find any kind of income source, including daily labour/street vending, and any instance of moving away from home to seek work	4	6.3	Urban +	Male +
C.16	Begging due to shock	3	14.5	Rural +++	Female ++

3.4. Prevalence of usage

The coping strategies suggested by humanitarian organisations and endorsed by local communities in Afghanistan were tested for prevalence and relative usefulness through a household survey. Two aspects of the usage of coping strategies was studied (Table 7). First, how widely the coping strategy is being used was examined by calculating the percentage of households who reported using each coping strategy. In the Table below (Table 7), a higher percentage of usage indicates that a higher number of surveyed households reported using the coping strategy.

Table 7. Percentage household using the coping strategies and mean frequency of coping strategies used by surveyed households within 7-day re-call period in five provinces of Afghanistan (Household Survey, November 2017).

Coping strategy (CS)	% hhs using CS (Rank)	Mean hh Frequency (DMRT*)
C1. Rely on less preferred food, low quality and less expensive food with decreased consumption of meat and vegetable	98% (1)	4.47 (a)
C2. Restrict consumption by adults in order for small children to eat	83% (5)	2.87 (b)
C3. Reduced number of meals eaten in a day, compared to usual frequency of food consumption	89% (3)	2.9 (b)
C4. Borrow/rely on help from friends or relatives for staple food or borrow money to spent on food or essential household needs	86% (4)	2.59 (c)
C5. Limit portion size at mealtimes such that eating less amount of food than usual	79% (6)	2.56 (c)
C6. Skip entire day without eating	41% (15)	0.78 (j)
C7. Selling of assets (including livestock, jewellery, phone, furniture, electro-domestics, etc.) due to recent shocks or emergency	57% (9)	1.23 (h)
C8. Stop sending children going to school and engage them in working for economic gain and/or productive household activities (to collect firewood/fetch water/work etc.)	52% (12)	1.84 (ef)
C9. Living in poor/partially damaged house, makeshift, overcrowded/ collective shelter, tents, open air and space intended for other purpose (e.g., livestock)	46% (13)	1.8 (fg)
C10. Renting temporary accommodation or Living with relatives/friend due to crisis	45% (14)	1.22 (h)
C11. Send children/family member to relatives/away due to crisis	95% (2)	1.07 (i)
C12. Reduce total amount of water for domestic use (drinking, washing and cooking etc.)	63% (8)	2.3 (d)
C13. Use of water from open source without purification due to the shock	55% (11)	1.97 (e)
C14. Delaying attention for critical health problem from professional health care person or going to non-medical person (traditional healers) due to shock	78% (7)	2.24 (d)

C15. Additional family member attempt to find any kind of income source, including daily labour/street vending, and any instance of moving away from home to seek work	55% (10)	2.37 (d)
C16. Begging due to shock	17% (16)	0.34 (k)
Mean		**2.04**
Standard Deviation		**2.37**
Standard Error		**0.13**
F (df=15)		**425.560 (p<0.001)**

*DMRT = Duncan's Multiple Range Test; hh = household.

Second, how frequently the coping strategy is being used was examined by calculating the frequency of use by a household within the assigned re-call period (7 days in this instance but see also the section comparing recall period durations). A higher frequency indicates more frequent use of the coping strategies within the recall period. This information was also used in making selection and elimination decisions in the process of finalising the mCSI composition.

Regional difference in the usage was statistically significant for all coping strategies (Table 8). However, most coping strategies received similar rank based on usage across the geographical region. For example, C1 and C16 were ranked 1 and 16, respectively, across all five regions. However, the mean frequency of usage was significantly different among the regions. This indicates that the extent of usage of coping strategies was different across the region, but the pattern of usage was similar. In the final construction of the mCSI, a relatively high level of regional variation did play a role in the elimination of a few strategies (in tandem with the other factors considered).

Table 8. Mean frequency of coping strategies within 7-day re-call period in five provinces and among gender groups in Afghanistan (Household Survey, November 2017).

Coping strategies	Regional disparity (Rank)						Gender disparity (Rank)		
	Nangarhar	Herat	Kandahar	Kunduz	Kabul	Overall (Rank) (f-value)	Male	Female	Overall (Rank) (f-value)
C1.	3.6 (1)	5.79 (1)	5.96 (1)	2.72 (1)	4.29 (1)	4.47 (1) (241.18***)	4.54 (1)	4.4 (1)	4.47 (1) (1.843)
C2.	1.29 (3)	3.87 (3)	5.46 (4)	1.75 (3)	2 (7)	2.87 (3) (429.01***)	3.02 (2)	2.73 (3)	2.87 (3) (7.736**)
C3.	1.15 (6)	3.55 (5)	5.69 (3)	1.54 (5)	2.55 (5)	2.9 (2) (617.45***)	2.74 (4)	3.06 (2)	2.9 (2) (10.671**)
C4.	2.25 (2)	3.78 (4)	4.21 (6)	0.92 (10)	1.81 (8)	2.59 (4) (235.54***)	2.96 (3)	2.23 (6)	2.59 (4) (59.134***)
C5.	0.88 (9)	2.73 (8)	5.46 (5)	1.69 (4)	2.06 (6)	2.56 (5) (481.73***)	2.48 (7)	2.65 (4)	2.56 (5) (2.890)
C6.	0.38 (14)	1.04 (15)	1.55 (13)	0.53 (13)	0.42 (15)	0.78 (15) (67.65***)	0.82 (15)	0.74 (15)	0.78 (15) (1.816)
C7.	1.24 (5)	1.73 (12)	1.93 (12)	0.72 (11)	0.51 (14)	1.23 (12) (60.57***)	1.43 (12)	1.02 (13)	1.23 (12) (31.926***)
C8.	0.91 (8)	2.71 (9)	3.62 (9)	1.11 (8)	0.88 (11)	1.84 (10) (129.28***)	1.97 (10)	1.71 (11)	1.84 (10) (5.557*)
C9.	0.54 (13)	1.96 (11)	2.27 (11)	0.49 (15)	3.78 (2)	1.8 (11) (132.27***)	1.81 (11)	1.79 (10)	1.8 (11) (0.025)
C10.	1.26 (4)	1.37 (14)	1.45 (14)	0.63 (12)	1.41 (10)	1.22 (13) (10.81***)	1.31 (13)	1.14 (12)	1.22 (13) (3.240)
C11.	0.66 (12)	2.02 (10)	1.44 (15)	0.53 (14)	0.73 (12)	1.07 (14) (64.32***)	1.19 (14)	0.96 (14)	1.07 (14) (9.443**)

C12.	0.85 (11)	2.85 (7)	3.63 (8)	1.45 (6)	2.75 (4)	2.3 (7) (101.98***)	2.23 (8)	2.38 (5)	2.3 (7) (1.718)
C13.	0.87 (10)	1.61 (13)	3.39 (10)	1.22 (7)	2.78 (3)	1.97 (9) 92.18***)	2.1 (9)	1.84 (9)	1.97 (9) (5.612*)
C14.	1.08 (7)	4 (2)	3.64 (7)	1.01 (9)	1.47 (9)	2.24 (8) (283.68***)	2.49 (6)	1.99 (8)	2.24 (8) (26.283***)
C15.	0.37 (15)	3.25 (6)	5.71 (2)	2 (2)	0.53 (13)	2.37 (6) (509.80***)	2.64 (5)	2.09 (7)	2.37 (6) (19.957***)
C16.	0.14 (16)	0.37 (16)	0.95 (16)	0.03 (16)	0.24 (16)	0.34 (16) (53.02***)	0.29 (16)	0.4 (16)	0.34 (16) (5.848*)

Gender difference in the usage was also statistically significant for some coping strategies (Table 8), but the difference was not as evident as for location. As a result, the mean frequency of usage for many coping strategies was statistically significantly different between male and female groups. Despite this, most coping strategies received similar rank from both male and female groups. Thus, although the difference was statistically "real", the magnitude of the differences was small and pattern of usage is very similar (as seen in Table 8).

3.5. Correlation study

Correlation between the different coping strategies and the rCSI, tested CSI (tCSI) and mCSI was statistically significant (Table 9).

Table 9. Correlation between tested coping strategy index (tCSI) and frequency of coping strategies within 7-day re-call period in five provinces of Afghanistan.

Coping strategies	r-value (Total N = 2000)				
	FCS	rCSI	tCSI	Vul.Index	mCSI
C1	0.136***	0.802***	0.655***	-0.034	0.554**
C2	0.122***	0.776***	0.705***	-0.049*	0.666**
C3	0.081***	0.865***	0.718***	-0.026	0.685**
C4	0.202***	0.588***	0.608***	-0.141***	0.616**
C5	-0.029	0.772***	0.655***	-0.035	0.584**
C6	0.052*	0.327***	0.461***	-0.026	0.352**
C7	0.107***	0.220***	0.366***	-0.029	0.425**
C8	0.044*	0.375***	0.628***	-0.012	0.661**
C9	-0.044*	0.246***	0.314***	0.042	0.292**
C10	0.062**	0.112***	0.239***	0.009	0.134**
C11	0.149***	0.307***	0.430***	-0.018	0.343**
C12	-0.022	0.429***	0.489***	0.053*	0.485**
C13	-0.086***	0.308***	0.373***	0.020	0.372**
C14	0.204***	0.519***	0.688***	-0.067**	0.719**
C15	0.180***	0.540***	0.705***	-0.075**	0.758**
C16	-0.045*	0.282***	0.359***	0.012	0.260**
FCS	-	0.131**	0.159**	-0.072**	0.166**
rCSI	-	-	0.865**	-0.068**	0.798**

tCSI	-	-	-	-0.056*	0.970**
Vul.Index	-	-	-	-	-0.061**
mCSI	-	-	-	-	0.965**

The expected association between coping strategies and FCS and Vulnerability Index were also not evident as the correlation coefficient was generally moderate (r<0.25). The association is "expected" because we would anticipate different proxy measures of household need and stress to increase and/or decrease together. There are a number of possible interpretations for these results, though it's likely that (in large part) the complexity of vulnerability and household mitigation strategies is probably compounding the expected correlations between the different indicators. This means that each indicator is possibly measuring different forms of vulnerability in a different way, rather than measuring one singular form of vulnerability in different ways.

This interpretation of the results underscores the need to use a variety of proxy indicators when conducting assessment and monitoring in the humanitarian sector, and that while valuable, the mCSI should still (as any other tool including the rCSI or FCS) be triangulated to enhance reliability. It is interesting to note that contrary to the expectation, previous studies also reported weaker correlation between tCSI and rCSI with FCS. Study conducted in 23 locations of five African countries (Lesotho, Malawi, Mozambique, Swaziland, Zambia and Zimbabwe) reported the correlation coefficient ranged from -0.010 to -0.400 between CSI & FCS; and from -0.001 to -0.400 betwwen rCSI & FCS (Maxwell et al., 2008). The correlation coefficients (r = -0.079 between CSI and FCS; and r = -0.232 between rCSI and FCS) reported by Vaitla et al. (2015) and (r = -0.510 between CSI and FCS; and r = -0.480 between rCSI and FCS) reported by Maxwell et al. (2013) were also congruent with the result of mCSI. This warrant further studies to understand the factors affecting the association between CSI/rCSI with FCS.

3.6. Selection of coping strategies for mCSI
A series of pilot mCSI were constructed through the elimination of lower performing candidate coping strategies, with a final set of 10 strategies (Table 10) selected for an index. In constructing the final set of strategies to compose the mCSI, the following considerations were made when comparing the relative strengths and weaknesses of each candidate coping strategy:
a. Level of agreement on severity weighting (looking for high agreement across groupings and areas).
b. Level of variation of usage (looking for commonly used strategies across all groupings and areas).
c. A minimum level of prevalence of the action, and indications that the action tends towards continuous rather than one off usage.
d. The strength of correlations between other vulnerability and household status indicators.
e. The prevalence of usage among households in the poor/borderline FCS and most vulnerable categories.
f. Looking for a selection of strategies that maintains the breadth in the final set in terms of a balanced set of strategies by severity weighting and by sector of origin.
g. Looking to consider for elimination actions found to be duplicative, and to retain strategies with the least subjectivity and greatest measurability.

Based on the factors above and the rest of the findings presented, the following 10 coping strategies were proposed for the inclusion in the Multi-sector Coping Strategy (mCSI) for Afghanistan.

The graph below shows the distribution of mCSI scores across the study sample of 2,000 households, and as such, may serve as a reference point for interpreting the severity of mCSI scores across populations. The distribution is skewed to the left, with relatively more households recording modest mCSI scores and a decreasing density of households registering more extreme results (Fig. 1). On the basis of this distribution, mCSI scores of 40, 80, and 120 are identified as benchmarks for the vulnerability analysis in section 3.6.2.

Table 10. Coping strategies elected for mCSI.

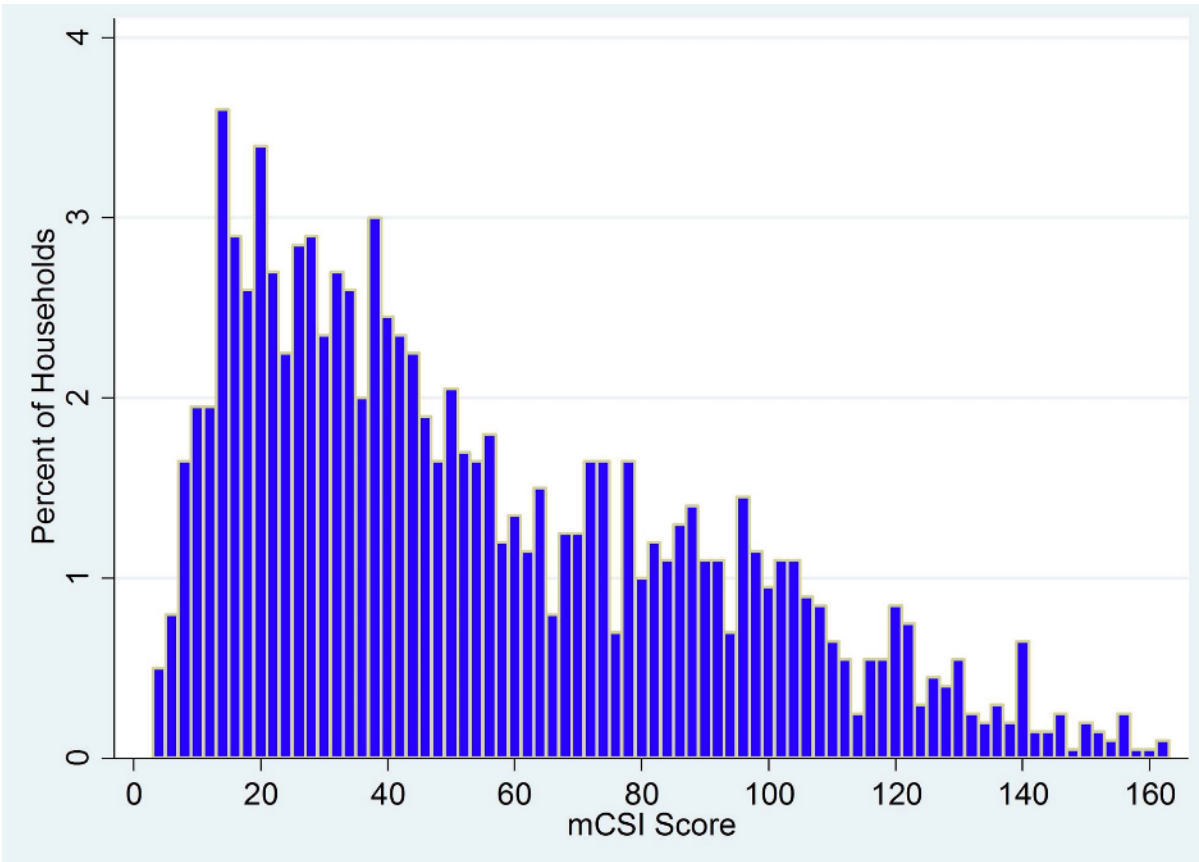|	Coping strategy	Weight
1	C2. Restrict consumption by adults in order for small children to eat	1
2	C3. Reduced number of meals eaten in a day, compared to usual frequency of food consumption	3
3	C4. Borrow/rely on help from friends or relatives for staple food or borrow money to spent on food or essential household needs	2
4	C7. Selling of assets (including livestock, jewellery, phone, furniture, electro-domestics, etc.) due to recent shocks or emergency	3
5	C8. Stop sending children going to school and engage them in working for economic gain and/or productive household activities (to collect firewood/fetch water/work etc.)	4
6	C9. Living in poor/partially damaged house, makeshift, overcrowded/ collective shelter, tents, open air and space intended for other purpose (e.g., livestock)	2
7	C12. Reduce total amount of water for domestic use (drinking, washing and cooking etc.)	1
8	C13. Use of water from open source without purification due to the shock	1
9	C14. Delaying attention for critical health problem from professional health care person or going to non-medical person (traditional healers) due to shock	4
10	C15. Additional family member attempt to find any kind of income source, including daily labour/street vending, and any instance of moving away from home to seek work	3

Figure 1. Distribution of mCSI score among the surveyed households

3.6.1. Rationale of elimination decisions
This section briefly reviews the elimination rationale for each non-included coping strategy.

C1: Rely on less preferred food, low quality and less expensive food with decreased consumption of meat and vegetable

This particular strategy was the most difficult to consider. It was reported as highly prevalent across all five regions, with an average prevalence rate of 98%. It also correlates with the FCS (ranked 4th) and overall tCSI (ranked 5th) which, while still quite low in absolute terms, is fair relative to other strategies. However, the strategy also has the highest level of disagreement regarding it's appropriate weighting (14.8) – meaning that there was a very high level of variation in what different community groups thought was the severity of using this strategy, as well as disagreement between urban and rural, and male and female groups, with urban locations and male respondent groups considering usage to be more severe. As a result, the strategy was assigned a very tentative weighting of 3, which is in contrast to its usual lesser rating in the rCSI. The challenge posed by the lack of effective community agreement on weighting is a concern. A further issue is the very high level of subjectivity in the question, at some level it's very difficult to imagine any household not relying on less preferred foods (and this is, we believe, reflected in the prevalence level of nearly 100%). If the strategy is used by all, then its usefulness to track different levels of overall stress is limited. For these reasons, and since the remaining C2 and C3 strategies also cover a similar type of behaviour, this strategy was recommended for elimination.

C5: Limit portion size at mealtimes such that eating less amount of food than usual
A particularly low correlation with the FCS, and a more or less otherwise duplicate performance throughout the analysis with the strategy C3 *(reduced number of meals eaten in a day, compared to the usual frequency of food consumption)*. Since these two strategies are largely duplicative, with the important difference that C3 is a less subjectively formatted question, the decision was made to include C3 and exclude C5.

C6. Skip entire day without eating
For this action, the results show a high level of disagreement on severity weighting (13.3), which was considered significantly worse in urban locations and slightly worse by female respondent groups. There was also a low prevalence in the sample (40.9%) and low correlation with the FCS and vulnerability index.

C10: Renting temporary accommodation or living with relatives/friend due to crisis.
A low prevalence in sample (44.5%) is matched by low correlation with the FCS and vulnerability index. This action also showed a particularly high level of variation in prevalence between the five geographic regions, all of which fed into the decision to not carry the action from the long-list into the final mCSI set.

C11: Send children/family member to relatives/away due to crisis
Also, a high level of disagreement on severity weighting (13.7), this strategy was considered much worse by female respondent groups, and slightly worse in rural locations. These findings also show a low correlation with the FCS, and the vulnerability index. Lastly, the action appears to tend towards a once off / rare event, rather than a continuous consumption style mitigation behaviour.

C16: Begging due to shock
A very high level of disagreement on severity weighting (14.5) was found for this action. It was considered significantly worse in rural locations and by female respondent groups. The very low prevalence of use in sample (16.7%) indicates that the action may not be a particularly effective measure for inclusion in the final mCSI.

3.6.2. Vulnerability – mCSI nexus
To understand in more depth the relationship between the final mCSI set of 10 strategies and the vulnerability situations included in the household survey tool, a logistic regression was used to estimate the likelihoods that a theoretical household would, at increasing values of mCSI, meet each specific vulnerability criteria.

To conduct this analysis, the vulnerability situation was created as a binary dependent variable (meaning that one may either only answer 'YES' to the vulnerability situation, or 'NO'). Using the outputs of a logistic regression, it is possible to then calculate the likelihood (in percent) that a household will meet (i.e. answer 'YES') to a certain vulnerability situation given a certain CSI score. The associated graph is built to show the percentage change that is expected in the likelihood of each vulnerability situation being met as a households mCSI score moves from reference point of 15 to 40, 80, and finally 120 (Fig. 2).

For example, this analysis estimates that a household has an additional 4% percent chance of containing a pregnant or lactating woman (vulnerability situation 8) as the CSI score moves from 15 to 40, + 11% when moving from 15 to 80, and +16% comparing 15 to 120. Three vulnerability situations did not have a significant statistical relationship with the mCSI and thus could not be included in this analysis. In the case

of V4 and V17, the number of households meeting these conditions in the sample was quite limited in number and this is likely to have resulted in the lack of a statistically significant relationship for this analysis.

(1) V4 - Child-Headed Households, approximately 5% of households
(2) V9 – Family member with a chronic illness, approximately 38% of households
(3) V17 – Household referred by protection agency, approximately 2% of households

In this analysis, we see that the overall likelihood of a household meeting multiple vulnerability categories increases in parallel to increases in the mCSI score (quite simply, there is more on the right-hand side of the graph than the left). Also observed is that the extent of increases in likelihoods, moving from lower to higher mCSI scores, is much larger in terms of percentage growth for those vulnerability situations positively related to the mCSI than for those situations which are negatively related. However, the analysis also demonstrates that interactions between mCSI and the situations which are generally taken by the humanitarian community to indicate vulnerability are complex. Vulnerability itself is multi-faceted and different indicators appear to measure different aspects of vulnerability. Assessment and monitoring must therefore be triangulated and understood in relation to the context and intervention at hand.

Nine individual vulnerability criteria increase in likelihood as the mCSI score tracks higher:
1. Child not fully immunized
2. Damaged housing
3. Pregnant or lactating woman in the household
4. Humanitarian assistance not received in last 3 months
5. Disabled member in the household
6. No current source of income
7. More than 7 members in the household
8. More than 3 children under 5 years of age in the household
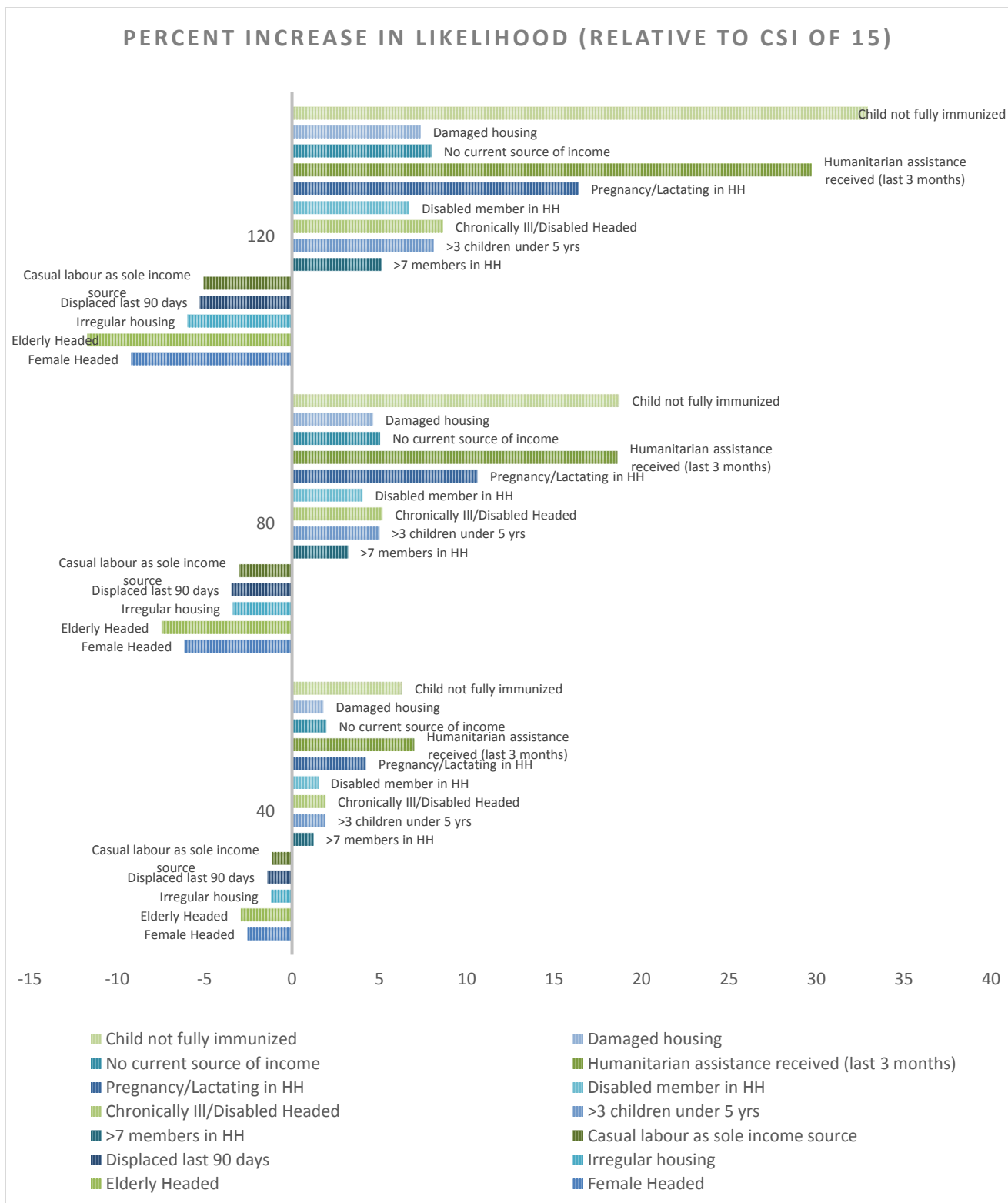9. Chronically ill or disabled head of household

PERCENT INCREASE IN LIKELIHOOD (RELATIVE TO CSI OF 15)

Legend:
- Child not fully immunized
- Damaged housing
- No current source of income
- Humanitarian assistance received (last 3 months)
- Pregnancy/Lactating in HH
- Disabled member in HH
- Chronically Ill/Disabled Headed
- >3 children under 5 yrs
- >7 members in HH
- Casual labour as sole income source
- Displaced last 90 days
- Irregular housing
- Elderly Headed
- Female Headed

Figure 2. Percentage change in the likelihood of vulnerability situations in response to changes in households mCSI score.

Five vulnerability criteria do not follow the common expectation and therefore warrant more analysis:

1. *Elderly headed households, and*
2. *Female headed households*

The two vulnerability criteria related to the age and gender status of household head (contrary to the household head's health and disability condition) appear to decrease in terms of the likelihood that a household falls within this category as the mCSI score increases. This is contrary to common assumptions in the humanitarian community regarding the vulnerability of these households. One possible explanation lays in the challenge of asking questions about household "heads" in the Afghan context. It is highly likely that a good number of respondents answer this question in social and cultural terms, rather than in household economic terms. As such, the answer becomes a matter of seniority or cultural practice, rather than a question of control over household income and resources. In many cases we expect that ederly headed households may in fact have a younger generation who exercise a large degree of control over controlling resources, or in the case of a female "headed" household it may be likely that a male guardian is fulfilling this role. This is not to say that the elderly and women are not often exceptionally vulnerable - common sense would strongly recommend that they are. However, it may be possible that questions about the status of household "heads" may not quite capture this accurately.

3. *Displaced in last 90 days*

The most intuitive reason why a household with a higher mCSI score might be less likely to be a more recently displaced household is that households which were displaced recently may be more likely to still have assets and savings on which to rely. In contrast, households who have persisted through an extended period of displacement often exhaust such initial reserves after some months have passed. Though the study provides little information to interpret this result more definitively, the finding again highlights the need to place quantitative results within the context of an agency's intervention area and goals.

4. *Casual labour as sole source of income*

The relationship between casual labour and increasing mCSI may be a non-linear function which, unfortunately, isn't possible to easily capture in this analysis. We expect that that casual labour as a sole income source might be a relatively likely situation for households with a small to medium mCSI score but may in fact reduce in likelihood amongst households with high or very high mCSI scores. This is because even an insecure and single source of income is still a source of income. The observation that having no income source at all increases in likelihood as the mCSI increases also informs our thinking that a hard to capture non-linear relationship might explain this result.

5. *Irregular housing situation*

The final vulnerability situation which decreases in likelihood as the mCSI score increases is that of an irregular housing situation. This question covered a very broad range of situations within the household survey (including residing in a damaged house, hosted or hosting situation, tent, rented house, or the open air). With quite a lot of variation in the situations captured by the question it's difficult to know which types of irregular housing situations are most prevalent and therefore driving the relationship with the mCSI.

3.6.3. Percentage of possible score

The rCSI estimated higher percentage of possible score than mCSI (45.8% cf 30.9%, respectively) (Table 11). The t-test revealed statistically significant difference between percentage of possible score estimated by rCSI, tCSI and mCSI (Table 12). However, the correlation between rCSI and tCSI (r = 0.865) was less

strong compared to mCSI and tCSI (r = 0.970). This indicates that rCSI, looking only at the food security components of coping, estimates a relatively higher level of the household stress compared to mCSI.

Table 11. Descriptive statistics of rCSI, tCSI and mCSI.

Percentage of possible score	Mean	N	Std. Deviation	Std. Error Mean
rCSI 7-day	45.8	2000	24.32283	0.54388
tCSI 7-day	28.8	2000	16.85810	0.37696
mCSI 7-day	30.9	2000	20.36220	0.45531

Table 12. Correlation and t-statistics of rCSI, tCSI and mCSI.

Comparison	Correlation Coefficient	Paired t-test
rCSI 7-day & tCSI 7-day	0.865 (P<0.001)	59.056 (P<0.001)
rCSI 7-day & mCSI 7-day	0.798 (P<0.001)	45.385 (P<0.001)
tCSI 7-day & mCSI 7-day	0.970 (P<0.001)	-16.651 (P<0.001)

The tested CSI was contextualised for Afghanistan as it was suggested by humanitarian organisations and endorsed by local communities. The mCSI is a further scrutinised sub-set based on statistical analysis of the household responses and community consultations. Very high correlation (with almost a linear relation) between tCSI and mCSI indicates that both indices follow almost the same trend (r = 0.970; P<0.001; df = 1999). This means that there is limited significant difference in outcomes detected in this sample between using one of these tools, as the mCSI is 97% representative to tCSI and vice versa. However, the mCSI, being a shorter, smarter index with much fewer indicators and being contextually verified and available in standard Dari and Pashto forms, has an increased scope for usage within common humanitarian assessments such as HEAT, and monitoring tools including PDMs.

In addition, as compared to food-based rCSI, the mCSI constitutes indicators from different sectors. Multi-sectorality of mCSI is hoped to increase the relevance, uptake and commonality this tool among humanitarian organisation with diverse sectoral priorities.

3.7. Results of study on the re-call period

As in the case of CSI, the re-call period used in different formats of the CSI was also not uniform. Different organisation, programmes, and projects were found to be using different re-call periods. No recent study in the Afghanistan context could be found to suggest which re-call period would be most appropriate for the mCSI. In this context, a separate study was planned to study the appropriate re-call period for CSI.

Observed value was consistently less than expected score for both tCSI and mCSI at 14-days recall period (Fig. 3). Percentage of Possible Score (PPS) was calculated to standardise the tCSI and mCSI scores collected using 7 and 14-day recall period. Compared to 7-day re-call period, the 14-day recall period estimated low score for both tCSI and mCSI (Table 13). Loss of re-call capacity of respondent could be one of the reason for this. Similarly, mCSI estimates are higher than tCSI estimates during both 7 and 14-day re-call periods. All the correlations between indices (tCSI and mCSI) and re-call periods (7 and 14-day) were strongly and significantly associated (Table 14). Mean PPS values were statistically different in all comparisons, which suggest that the mean PPS estimated by 14-day recall period was significantly lower than estimated 7-day recall period.
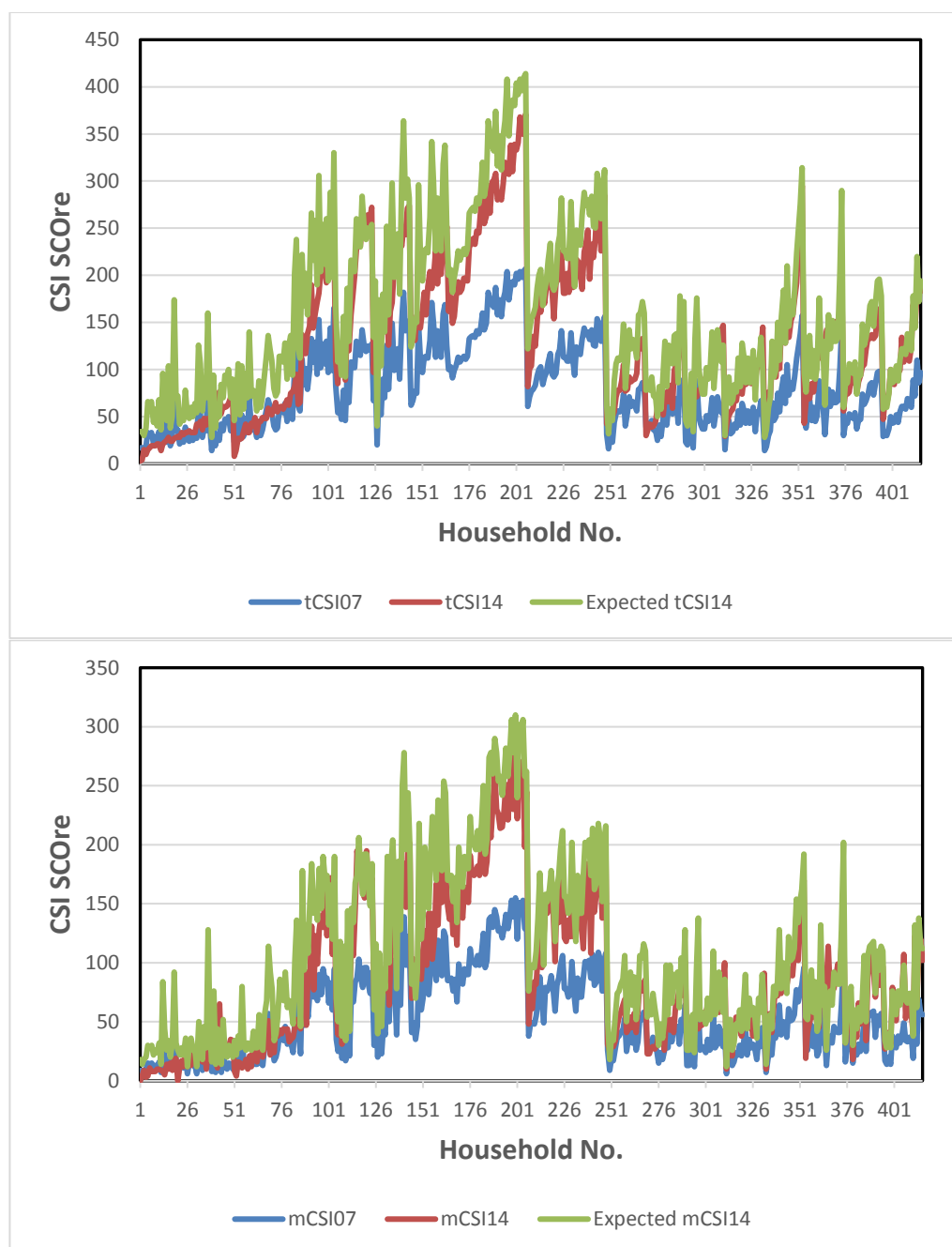
Figure 3. Comparison of tCSI, mCSI and Expected mCSI score at 7 and 14-day recall periods.

Table 13. Descriptive statistics of rCSI, tCSI and mCSI.

Percentage of possible score (PPS)	Mean (PPS)	N	Std. Deviation	Std. Error Mean
tCSI 7-day	28.4	416	16.1137	.7900
tCSI 14-day	23.3	416	14.5670	.7142
mCSI 7-day	30.4	416	20.3730	.9989
mCSI 14-day	24.9	416	17.8631	.8758

Table 14. Correlation and t-statistics of rCSI, tCSI and mCSI.

Comparison	Correlation Coefficient	Paired t-test
tCSI 7-day & mCSI 7-day	0.967 (P<0.001)	-6.491 (P<0.001)
tCSI 7-day & tCSI 14-day	0.937 (P<0.001)	18.550 (P<0.001)
mCSI 7-day & mCSI 14-day	0.938 (P<0.001)	15.759 (P<0.001)
tCSI 14-day & mCSI 14-day	0.975 (P<0.001)	-6.820 (P<0.001)

With the 14-day re-call there is a fairly substantial, and consistent, "discount rate" being applied where people estimate lower frequency usages as time goes by and the impact becomes less important for them. It means that the 14-day and 7-day recall results can't be compared by simply dividing by 2. Given the discount rate appears somewhat consistent, the 7-day recall is preferred on the basis that it is easier for memory, less effected by mental discounting, and therefore more likely to be accurate.

7-day recall period does not capture the coping strategies taken before or after this short re-call period. Therefore, longer re-call period may be suitable for programmes with long-term development objectives (Assil, 2017). Similarly, planning that requires analysis of information over longer period of time may also need a longer re-call period. But the humanitarian planning and decision is based on the current situation, which is more accurately available from 7-day re-call period.

4. Presentation of the study results

The study outcomes were shared with the humanitarian community, including: the Government line ministries, UN agencies, humanitarian clusters, INGOs and NNGOs working in Afghanistan. A workshop was organised in Kabul to present the findings of the study. The discussion was facilitated to consolidate and incorporate the views/feedback from different organisation. Based on the suggestions from the partcipants following amendments have been made.

- **C.01 (Rely on less preferred food, low quality and less expensive food with decreased consumption of meat and vegetable)**
  This eliminated strategy was considered important by participants as this was the only strategy for assessing the quality of food consumed by the members in the household. Further examination revealed that inclusion of this strategy in the mCSI slightly increased the correlation with FCS, rCSI, tCSI and vulnerability Index. Inclusion of this strategy did not undermine the strength of the Index. Therefore, despite the associated subjectivity and relativey disaggrement among communities as to the appropriate weighting of the strategy, it has been included in the mCSI. The strategy has been re-phrased as - *"Rely on less preferred food, low quality and less expensive food"*.

  The severity weightage of the strategy has been assigned 1 after a technical consideration and debate of the following factors. (1) There was a very high level of relative disagreement between communities as to the appropriate severity weight. (2) In comparison to other strategies weighted at 2 and 3, this strategy cannot be considered on par in terms of more objective measures of impact (for example, to consume less preferred food is difficult to consider as severe as to consume no food at all). (3) with reference to existing practice, the weightage assigned for this strategy in similar tools (rCSI of WFP) is 1.

- **C.02 (Restrict consumption by adults in order for small children to eat)**
  This strategy has been re-phrased as - *"Restrict consumption by adults (male and female) in order for small children to eat"* to capture the restricted consumption by both female and male members in the family.

- **C.08 (Stop sending children going to school to in order to engage them in working for economic gain and/or productive household activities (to collect firewood/fetch water/work etc.)**
  In order to capture the information whether children (irrespective of boys or girls) are stopped from going to school, this strategy has been re-phrased as - *"Stop sending children (girls or boys) going to school in order to engage them in working for economic gain and/or productive household activities (to collect firewood/fetch water/work etc.)"*.

- **C.13 (Use of water from open source without purification due to the shock)**
  This strategy is concerned with the use of unsafe water due to crisis. In order to capture this information, this strategy has been re-phrased as - *"Use of unsafe water (without boiling/purification) from open sources"*.

- **C.15 (Additional family member attempt to find any kind of income source, including daily labour/street vending, and any instance of moving away from home to seek work)**
  Looking for job by family members as such is a normal practice. This strategy is concerned about capturing the information whether additional family members are looking for jobs due to crises. Therefore, to make the meaning more explicit, this strategy has been re-phrased as - *"Additional family member attempt to find any kind of income source, including daily labour/street vending, and any instance of moving away from home to seek work due to crisis"*.

As a result, the number of strategies in mCSI increased to 11 (please refer the table in section 6).

5. Multi-sectorality of coping strategies proposed in mCSI
So, how multi-sectoral is mCSI? The coping strategies in the proposed mCSI have represented the coping strategy of most of the humanitarian sectors in Afghanistan (Table 15). It is certainly not possible for the 11 coping strategies of mCSI to capture all the coping strategies of all sectors. However, representation of coping strategies of different sectors is fairly balanced (Table 15).

Table 15. Multi-sectorality of coping strategies proposed for mCSI.

	Coping strategy	Humanitarian Clusters (sectors)						Currently
		FSAC	Nutrition	Health	WASH	Shelter	Protection	Used by
1	C1. Rely on less preferred food, low quality and less expensive food with decreased consumption of meat and vegetable	√√	√	√				HEAT, PDM, FSAC
2	C2. Restrict consumption by adults in order for small children to eat	√√	√	√				HEAT, PDM, FSAC
3	C3. Reduced number of meals eaten in a day, compared to usual frequency of food consumption	√√	√	√				HEAT, PDM, FSAC
4	C4. Borrow/rely on help from friends or relatives for staple food or borrow money to spent on food or essential household needs	√√	√	√				HEAT, PDM, FSAC
5	C7. Selling of assets (including livestock, jewellery, phone, furniture, electro-domestics, etc.) due to recent shocks or emergency	√				√	√√	FSAC
6	C8. Stop sending children going to school and engage them in working for economic gain and/or productive household activities (to collect firewood/fetch water/work etc.)	√			√	√	√	PDM, FSAC
7	C9. Living in poor/partially damaged house, makeshift, overcrowded/ collective shelter, tents, open air and space intended for other purpose (e.g., livestock)			√	√	√√	√	Shelter/NFI Cluster
8	C12. Reduce total amount of water for domestic use (drinking, washing and cooking etc.)		√	√	√√	√		WASH cluster
9	C13. Use of water from open source without purification due to the shock		√	√	√√	√		
10	C14. Delaying attention for critical health problem from professional health care person or going to non-medical person (traditional healers) due to shock		√	√√			√	Health Cluster
11	C15. Additional family member attempt to find any kind of income source, including daily labour/street vending, and any instance of moving away from home to seek work	√	√	√	√	√	√√	FSAC

6. Conclusion

Based on the process described above, 11 coping strategies, contextualised for Afghanistan, have been proposed for the mCSI with a 7-day recall period. The weight for each of the coping strategies has been calculated based on the severity perceived by members of communities in Afghanistan through a participatory process across five regions. The summary of this report, and the information about the mCSI tool, has been translated into both Dari and Pashto for enhancing the dissemination, as well as uptake of the results.

Afghanistan mCSI Module, 7 Day Recall, Recommended for Use (English)

#	Coping Strategy	Weight (W)	Frequency (F)	Score (W x F)
1	In the last 7 days, how many days did at least one household member (male or female) rely on less preferred, low quality and less expensive food?	1		
2	In the last 7 days, how many days did at least one household member (male or female) reduced food consumption for small children to eat?	1		
3	In the last 7 days, how many days did the household reduce the total amount of water for domestic use (drinking, washing and cooking etc.)?	1		
4	In the last 7 days, how many days did the household use unsafe water (without boiling/purification) from open sources?	1		
5	In the last 7 days, how many days did the household borrow/rely on help from friends or relatives for staple food or borrow money to spent on food or essential household needs?	2		
6	Is the household living in a partially damaged house; makeshift, overcrowded/collective shelter; tent; space intended for other purpose (e.g., livestock); or in the open air? *Hint: If the household lived in the above mentioned poor shelter in the last seven days, put 7.*	2		
7	In the last 7 days, how many days did at least one household member (male or female) reduce the number of meals eaten, compared to usual frequency of food consumption?	3		
8	In the last 7 days, has the household sold any assets (including livestock, jewellery, furniture, electronics, etc.) due to recent shocks or emergency?	3		
9	In the last 7 days, how many days did at least one additional member (male or female) seek employment or any kind of income source, including daily labour, street vending, or any instance of moving away from home to seek work? *Hint: Refer only to household members over 16 years old.*	3		
10	In the last 7 days, how many days did children (girl or boy) NOT attend school to engage in employment and/or productive household activities (collect firewood, fetch water, housework etc.)?	4		
11	In the last 7 days, did at least one household member delay seeking medical attention for a critical health problem due to recent shocks or emergency?	4		
Household mCSI Score (Sum of Scores 1 through 11)				

Changes in nine vulnerability situations (viz., Child not fully immunized; Damaged housing; Pregnant or lactating woman in the household; Humanitarian assistance not received in last 3 months; Disabled member in the household; No current source of income; More than 7 members in the household; More than 3 children under 5 years of age in the household; and, Chronically ill or disabled head of household) have been associated with the changes in the mCSI score.

Compared to rCSI and other existing tools, the mCSI constitutes indicators from different sectors and reflects the overall level of stress being faced by the household through a frequency and severity scoring based on the mitigation strategies adopted by the household in the last 7 days. The coping strategies in the proposed mCSI have also been able to include a representation from most of the humanitarian

clusters/sectors in Afghanistan. Higher re-call loss was found in 14-day re-call period, therefore 7-day re-call period is suggested for mCSI survey in humanitarian situation.

Way Forward and Limitations:
The mCSI is presented for consideration and uptake with the hope that it will provide a useful common tool to improve needs assessment, programme monitoring and situation analysis; especially through incorporation with existing methodologies such as the HEAT tool and common cluster tools (such as recommended PDM formats). When using the mCSI, we recommend incorporating the module within existing common questionnaire formats familiar to the humanitarian community in Afghanistan and ensuring that results are always interpreting with a common sense understanding of the situation and with triangulation through other common humanitarian indicators.

Although achieving a multi-sector tool was a challenge, we feel that for a 'smart' tool with only 11 strategies, the diversity of strategies incorporated and their relationship to other measures of vulnerability represents a good level of 'multi-sectorality'. The effectiveness of the tool in practice could be usefully studied and tested futher by triangulating the mCSI results with the results of sector specific assessments and monitoring tools.

A further strength of the final mCSI module is its availability in both Pashto and Dari, in the same translated form as was adopted during the tool design and field testing. Ad hoc translations in the field can introduce quite a variety of different interpretations and answers, and so we recommend using the tool in its 'stable' translated format for consistency in terms and (to the extent possible) interpretations.

Another aspect of the mCSI that must be kept in mind during the tools application in the field is that by its nature, a proxy index such as the mCSI can have no set 'thresholds' for what constitute low or high levels of household stress. Though a score of 20 is of course much better than 100, the mCSI results are continuous, and judgement is required to establish cut-off points and draw 'lines in the sand' whilst interpreting results. In this study we have taken 40, 80 and 120 as indicative points, but each agency and project must interpret results in light of their interventions and specific context. This study was not designed to develop thresholds of mCSI for categorising the household stress based on the mCSI score. Indeed, it is not possible to establish universal thresholds as the index is a relative measure. However, realistic relative thresholds can be developed by synchronising the mCSI figures with the thresholds of other wellbeing indicators, such as mal-nutrition, household hunger index, household food security etc. This can be considered while using the survey by designing a survey to study household mCSI survey along with the mal-nutrition, household hunger index, household food security. Alternatively, agencies are also welcome to compare their results to the distribution of results for the 2000 households surveyed in this project (refer section 3.6; Fig. 1). By looking at this graphed distribution of scores, an agency can easily decide for themselves what relative score constitutes, for their intervention, lower and higher levels of stress (compared to the 2000 households surveyed here). In this study the quartiles, from lowest 25% of households to highest are spread across the following mCSI score groups as Q1 (4-28), Q2 (28-48), Q3 (48-81) and Q4 (81-163).

In terms of the study's limitations, the length of time required for consultation processes, and security issues in some survey locations resulted in practical delays and demonstrated the challenges of conducting such work in Afghanistan. As a result, this study could be usefully extended in the future if agencies which use the mCSI are able to compile and re-analyse data on the performance of the mCSI as a targeting, monitoring and impact tracking tool. In doing so, the validation of the mCSI could be continued and

strengthened on an ongoing basis. Improvements and further adpatations could then be in response to the mCSI's use across geographical regions and with different types of populations and programmes.

Finally, the mCSI has also been created primarily for use in the humanitarian sector, and although there may be some relevance to measuring longer term chronic needs, such as addressed through a more developmental approach, this would require a process of piloting and testing to confirm.

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