

IPC RESOURCE 5

INDICATORS UTILIZED BY IPC

Resource x v.1
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WHAT DOES THE IPC TECHNICAL MANUAL V3.0 SAY ABOUT INDICATORS UTILIZED?

Refer to pages 60 to 63 of the Manual 3.0 for indicators utilized in Acute Food Insecurity analysis, to pages 141 to 146 for indicators on Chronic Food Insecurity, and to pages 204 to 206 for indicators on Acute Malnutrition.

WHAT DOES THIS RESOURCE ADD TO THE MANUAL?

This document aims at providing more knowledge about the different indicators utilized in IPC analysis, especially on the indicators included in the IPC Reference Tables (so called direct evidence). The following characteristics of the indicators are described: definition and analytical approach, explanation of IPC thresholds, key sources of evidence, limitations, and references. The section also includes examples of available questionnaires modules for measuring these indicators.

CONTACTS

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DEFINITIONS, DESCRIPTIONS AND QUESTIONNAIRE MODULES OF IPC INDICATORS

SECTION USE

This section of the IPC Resources provides more information on the indicators, in particular on direct evidence, i.e. indicators included in IPC Reference Tables, that are typically used in IPC Analyses. Each indicator included in IPC Reference Tables is explained in more detail in terms of its definition and analytical process, IPC cut-offs, key sources of evidence, limitations of use, and references.

SECTION CONTENTS

1. Food Consumption Quantity
2. Food Consumption Quality
3. Livelihood Change
4. Malnutrition
5. Mortality
6. Contributing Factors
7. Questionnaire modules

PARTS

PART 1: FOOD CONSUMPTION (QUANTITY)

Dietary Energy Intake

Definition and analytical approach

The estimate of dietary energy consumption is typically provided by an assessment of the probability of energy intake in a population (or

group of individuals) obtained from data collected through individual dietary intake. Based on collected data, individual energy adequacy vs. daily requirements can be calculated, taking into consideration the parameters which define energy requirements, including as age, sex, height, weight, health status and physical activity level. Surveys of energy intake provide precise information on the share of population that meets their individual energy requirements, and on the share of population that does not, thereby defining the potential gap between the requirements and the dietary energy consumed. The indicator provides direct information on food consumption quantity and possible consumption deficits, and as a result is considered as one of the best possible sources of data on actual food consumption depending, however, on the representativeness of the data and potential data collection limitations.

It should be noted that the indicator is based on two concepts: dietary energy intake requirements (for an active and healthy life) and dietary energy consumption (which can be above or below the requirements). Surveys are collecting data on energy consumption of interviewed individuals, whereas the indicator cut-offs are based on dietary energy intake requirements. The distribution of requirements in a given population is likely to be normal and depends e.g. on the age structure, physical activity level

and Body Mass Index of the analysed population. The dietary energy consumption, however, is more likely to vary considerably within a given population based e.g. on livelihoods and purchasing power.

Explanation of IPC Reference Thresholds

The cut-offs for the Dietary Energy Intake in the IPC AFI Reference Table are based on average kilocalorie requirements for an average individual. Two parameters are used to determine kilocalorie requirements: Body Mass Index (BMI) and physical activity level. For Phase 1, i.e. adequate energy intake, a person with a Body Mass Index of 21-22 and a normal physical activity level (PAL = 1.75) requires 2,350 kilocalories per day. For Phase 2, i.e. minimally adequate energy intake, a person with the same Body Mass Index but with a sedentary lifestyle requires 2,100 kilocalories per day. The cut-off of 2,100 is also associated with survival deficit cut-off in Household Economy Analysis -approach, and with borderline Food Consumption Score. Moreover, 2,100 kcal/day/per person is also the standard used by humanitarian agencies, such as the World Food Programme (WFP) and the International Committee of the Red Cross (ICRC) for planning of humanitarian food assistance rations. Further severity cut-offs to separate Phases 3 to 5 have not been defined beyond qualitative descriptions due to lack of reference material and empirical research.

There is only one cut-off for Energy Intake in the IPC CFI Reference Table: either the dietary energy requirements are met adequately (Levels 1 and 2), or they are not met (Levels 3 and 4). This is due to the fact that no severity cut-offs to estimate the degree of dietary energy deficit (i.e. to differentiate between Levels 3 and 4) are at least currently available for this indicator.

Box 6: Adopted Dietary Energy Intake cut-offs for IPC

Acute Food Insecurity Reference Table	
Phase	Dietary Energy Intake cut-off
1	Adequate (avg. 2,350 kcal pp/day) and stable
2	Minimally adequate (avg. 2,100 kcal pp/day)
3	Food gap (below avg. 2,100 kcal pp/day)
4	Large food gap; well below 2,100 kcal pp/day
5	Extreme food gap

Chronic Food Insecurity Reference Table	
Level	Dietary Energy Intake cut-off
1 & 2	Adequate
3	Insufficient
4	Insufficient

Whereas cut-offs have been defined for each IPC Acute Food Insecurity Phase and can be used for classification and population estimates, in practice data on dietary energy consumption is rather rare and the cut-offs typically serve as reference for food consumption (quantity) in IPC analysis, also due to the ties of the 2,100 kcal/person/day cut-off to other IPC indicators and food assistance.

Key sources of evidence

Repeated 24-hour recall surveys on individual dietary intake and weighted (considering individual parameters) observational surveys conducted by research institutions and national agencies undertaking dietary intake surveys monitoring food, nutrition and the health situation in the country provide evidence on this indicator. Household consumption and expenditure surveys also provide data that can be used to assess dietary energy consumption, and these surveys are typically conducted more frequently than the 24-hour recall surveys. Household consumption and expenditure surveys, however, often collect information on food items procured or produced rather than on actual food consumption. They also typically leave out foods consumed outside home.

Limitations

Surveys based on 24-hour recall may offer imprecise estimates as they may not reflect the long-term dietary intake of an individual. As a result, repeated surveys are required. Some studies of this indicator recommend two, others four separate 24-hour recall surveys, yet others up to eight separate surveys in order to get adequate precision. It has been further suggested that estimates

based on recall surveys underestimate energy intake. In addition, these surveys are not usually conducted at the level required for IPC Analyses (typically administrative Level 2), the result of which is that this data is rarely available. As noted, data from Household consumption and expenditure surveys is typically more frequently available, but interpretation of the data may be problematic due to the need to assess consumption based on data on food acquisition. It has been noted (FEWS NET 2015) that household consumption and expenditure surveys tend to overestimate food consumption compared to 24-hour recall surveys, and hence data from these surveys to estimate dietary energy adequacy should be treated with caution.

References

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Review of methods used in food security assessment to measure food consumption and estimate energy intake of households or individuals, FEWS NET August 2015. Available at: <http://www.fews.net/global/special-report/august-2015>

Review of adaptability of adults and children to short and long-term energy restriction, FEWS NET August 2015. Available at: <http://www.fews.net/global/special-report/august-2015-0>

Prevalence of Undernourishment

Definition and analytical approach

The Prevalence of Undernourishment (PoU) refers to the percentage of the population with any dietary energy gap and can be calculated from individual dietary intake assessments or self-reported household food consumption data. Using a normative threshold that corresponds to the minimum of the range of the values of dietary energy requirements for the population (MDER), the probability that dietary energy consumption for an average individual in the population is below requirements is assessed and taken as the required estimate of the PoU in the population. When estimates are based on a sample, they are adjusted to the population level using appropriate sampling weights based on population distribution.

PoU is an indicator globally collected and reported on by FAO, and it is an indicator for the Sustainable Development Goals (Indicator 2.1.1 under Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture).

Explanation of IPC reference thresholds

The PoU indicator has the following cut-offs in the IPC CFI Reference Table: not undernourished for Levels 1 and 2, an average gap of ≤10% of minimum dietary energy requirements (MDER) for Level 3, and an average gap >10% of MDER for Level 4. Validation by IPC GSU with a few datasets has been conducted, and through the validation it has been demonstrated that this cut-off (10% gap of MDER) to separate Levels 3 and 4 seem to be the most appropriate.

Box 7: Adopted PoU cut-offs for IPC

Chronic Food Insecurity Reference Table	
Level	PoU cut-off
1 & 2	Not undernourished
3	Undernourished with average gap >0 and <10% of MDER
4	Undernourished with average gap ≥10% of MDER

Key sources of evidence

FAO monitoring system provides estimates of PoU at national level. Estimates at sub-national (and national) level are provided by national authorities who are responsible for monitoring the progress towards achievement of the SDGs. PoU estimates at national level for most countries are available on the FAO website, under FAOSTAT Suite of Food Security Indicators: <http://www.fao.org/faostat/en/#data/FS>

PoU at sub-national level can be calculated based on data from surveys collecting detailed data on food consumption, such as Income and Expenditure Surveys.

Limitations

Calculation of PoU (and derived estimates) is based on data collected through individual or household dietary intake surveys. Different studies (see e.g. Arsenault 2015 below), however, have found that the data collected in surveys is likely to overestimate or underestimate energy intake depending e.g. on length of recall period. In addition, food consumption data collected in household surveys is often unreliable, e.g. due to translation issues and cultural norms and potential exclusion of foods consumed outside home. While use of a statistical model for the PoU helps reduce the risk of bias, the estimates can be unreliable, especially when based on small samples. The reliability of the estimates is strongly conditioned by the quality of the data and the representativeness of the sample used.

Most surveys tracking food consumption record consumption at household level, whereas PoU is based on estimation of distribution of kcal consumption of an average individual. When household survey data is used, the household consumption is divided to get average individual consumption, leading to eradication of individual differences. Yet coefficient of variation is a basic parameter in PoU calculation, leading to difficulties when household level data is used.

In addition, estimates of PoU at sub-national level (especially at administrative level 2, the recommended level for IPC CFI Analysis) are rarely available. However, data availability is expected to improve with current and future efforts to strengthen data collection systems in order to monitor the SDG indicators.

Furthermore, calculation of PoU is complex and requires specialised skills. Country TWGs are advised to seek help from FAO for calculation and interpretation of PoU data.

References

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Food Consumption Score

Definition and analytical approach

The Food Consumption Score (FCS) is commonly used in World Food Programme food security surveys and monitoring systems. The FCS is a composite score based on dietary diversity, food frequency (number of days during the past seven days) and the relative nutritional importance of different food groups, in particular considering protein quality content. The FCS aggregates household-level data on the diversity and frequency of food groups consumed over the previous seven days, which is then weighted according to the relative nutritional value of the consumed food groups. For instance, food groups containing nutritionally dense foods, such as animal products, are given greater weight than those containing less nutritionally dense foods, such as tubers. Based on the standard thresholds within a country context, households are classified into three categories of food group consumption: poor, borderline or acceptable. According to a validation study conducted by WFP (Lovon and Mathiassen 2014), the indicator is correlated positively with caloric intake (0.2 – 0.47, with exclusion of small quantities improving correlation). According to the Household Food Consumption Indicators -study FCS is correlated positively with HDDS (0.592) and negatively with rCSI (-.232). Another report from IFPRI associates the kcal cut-off of 2,100 to borderline FCS.

Explanation of IPC reference thresholds

The Food Consumption Score (FCS) aims at providing information on dietary diversity and access to caloric intake, helping to determine whether HHs have access to a diet of acceptable energy quantity and quality. As per the FANTA and FEWS NET 2015 report 'Comparing Household Food Consumption Indicators to Inform Acute Food Insecurity Phase Classification' the FCS is strongly (positively) correlated with the HDDS (correlation is above 0.59), and (negatively) correlated with the HHS (-.28), the rCSI (-.23) and the CSI (-.79).

Such correlations reflect the nature of these indicators: FCS and HDDS provide information on the dietary quantity and diversity of consumed food items, whereas HHS, CSI, and rCSI provide information on difficulties households experience with food access, and thus do not measure actual food intake.

In order to compute FCS that are comparable across different areas, the same weights should be adopted across all areas. If diets across areas are different, different cut-offs are adopted. In particular, if diets are rich in sugar and oil (i.e. both items are consumed every day), the cut-offs are increased by seven units, and therefore the lower threshold is 28 (rather than 21), while the upper threshold is 42 (rather than 35). The FCS cut-offs of 28 and 42 to be used when sugar and oils are eaten daily should be carefully applied after consideration of intake of oil and sugar. As a result, **the standard numeric FCS cut-offs are the following: Acceptable >35, borderline 21.5 -35 and poor ≤ 21. In context with high sugar ad oil consumption the corresponding cut-offs are: >42, 28.5 – 42 and ≤ 28.**

It is also possible to develop further cut-offs to account for other characteristics of local diets, although these two sets of cut-offs are the ones most commonly used. Same cut-offs of 'acceptable', 'borderline' and 'poor' are applied in both IPC Acute and Chronic analyses in order to keep alignment between the two classifications, and because alternative cut-offs do not exist for Food Consumption Score.

Box 8: Adopted cut-offs for IPC

Acute Food Insecurity Reference Table	
Phase	FCS cut-off (usual diet)
1-2	Acceptable
3	Borderline
4	Poor

Acute Food Insecurity Reference Table	
Phase	FCS cut-off (diet rich in sugar/oil)
1-2	Acceptable
3	Borderline
4	Poor

Chronic Food Insecurity Reference Table	
Level	FCS cut-off
1 & 2	“acceptable”
3	“borderline”
4	“poor”

Key Sources of evidence

The main sources of evidence on the FCS are WFP and multi-partner surveys and monitoring systems.

Limitations

The FCS is a snapshot of one week of food consumption, and therefore needs to be interpreted in the seasonal context, showing how food consumption has changed due to seasonal changes or as a result of a crisis (unless a pre-crisis baseline or data from a monitoring system is available).

In addition, the FCS does not consider intra-HH food consumption and therefore it does not identify possible inequalities in food consumption within the household (e.g. some individuals may have a less or more diverse diet with respect to other members of the family)

The FCS does not provide information on actual quantity of food consumed and hence it is difficult to assess the extent of food ‘gaps’ based on FCS data.

The cut-off of 21 points means that if households eat only cereals and vegetables every day for 7 days they would have a poor diet, and thus would indicate an IPC AFI Phase 4, the point at which interventions are needed to save lives and livelihoods. Given that in areas with low food diversity people may still be getting adequate or moderately inadequate energy intake, it might be that this cut-off may over-estimate households in IPC Phase 4.

Other comparative analyses performed by WFP have noted that the cut-offs of FCS may actually be too low, and that they tend to underestimate food insecurity. Overall, it seems likely that the results of FCS cannot be easily interpreted in a similar manner across cultures, and this limitation of FCS should be kept in mind especially if it seems that FCS is not converging with other food consumption indicators. Accuracy of FCS is, however, improved, if small quantities are removed from the calculation of FCS.

Data on FCS should only be used for IPC Chronic Analysis if data has been collected during non-exceptional period, and several data points in time exist so that comparison, triangulation, and trend analysis can be conducted.

When analysing FCS, it would be important to also look at average frequency of consumption of different food groups over the recall period of seven days. This provides more detail on the consumption patterns and helps to assess the possible existence of food gaps.

References

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For more information see Guidance on the Use of the Food Consumption Score and Food Consumption Groups in the IPC context. Interagency Workshop Report WFP – FAO, Measures of Food Consumption Harmonizing Methodologies, Rome, 9 and 10 April 2008, and WFP Emergency Food Security Assessment Handbook, Second Edition 2009.

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Household Hunger Scale

Definition and analytical approach

The Household Hunger Scale (HHS) , derived directly from the Household Food Insecurity Access Scale (HFIAS), includes only three hunger-related questions on food access, as these items were shown to be culturally invariant across multiple sociocultural contexts. It assesses whether households have experienced problems accessing food in the preceding 30 days by measuring the severity of food insecurity as reported by the households themselves for that period. The indicator is different from other experience-based indicators in that it focuses on the most severe experiences of food insecurity, and thus assesses to what extent households have experienced a situation in which food was scarce. The HHS was specifically developed and validated for cross-cultural use, and it is an “experiential” or “perception-based” method.

Explanation of IPC reference thresholds

The cut-offs for the IPC Reference Tables are derived from the original three categories of HHS: “little to no household hunger” (scores 0–1), “moderate household hunger” (scores 2–3) and “severe household hunger” (scores 4-6). These cut-offs and individual HHS scores have subsequently been adapted to the IPC Reference Tables, also based on validation studies of HHS cut-offs in connection with other food consumption indicators conducted by IPC partner agencies (see HFCIS 2015). Based on the HFCIS study, as well as discussions with IPC partners, the cut-offs included in the IPC Acute Reference Table were adopted. Later research (see Maxwell et al. 2020) shows that the selected cut-offs for IPC Acute Reference Table are able to identify households belonging to different Phases relatively accurately, even though there are some difficulties in differentiating households between Phases 4 and 5, and HHS may overclassify in the lower Phases (given that HHS has most value in identifying households in higher Phases this is a lesser concern).

The most severe cut-offs are not included in the IPC Chronic Reference Table as it is not expected that households can continuously (that is, chronically) experience as severe hunger as the highest HHS scores would express. As a result, the scores of 2 and above are applied to Level 4 of Chronic Food Insecurity. It is important to note that only HHS data collected under non-exceptional

circumstances should be used in IPC Chronic Analysis, and that data should be collected over several time periods in order to ensure comparison, triangulation and trend analysis.

Box 9: Adopted HHS cut-offs for IPC

Acute Food Insecurity Reference Table	
Phase	HHS cut-off
1	0
2	1
3	2-3
4	4
5	5-6

Chronic Food Insecurity Reference Table	
Level	HHS cut-off
1 & 2	0
3	1
4	≥ 2

Key sources of evidence

Food security surveys, e.g. WFP surveys.

Limitations

Among the limitations of the HHS is its tendency to measure severe food insecurity better than normal situations. Some inconsistencies in classifications may arise: for instance, a household that ‘sometimes’ has no food and ‘rarely’ has no food at all may receive a score of 4 (and thus be considered to be in an emergency situation), while a household that is ‘rarely’ experiencing hunger may receive a higher score (and thus be considered to be in a critical situation). The three questions included in HHS are focused on the most severe forms of food insecurity, and therefore their use is limited to informing on severe food insecurity; it is less useful in less severe situations.

The recall period of HHS is one month (30 days) whereas many other food consumption indicators have shorter recall periods (FCS and rCSI 7 days, HDDS 24 hours). This may lead to lack of convergence between indicators – especially if any factors change the food security situation during the recall period, such as an unexpected shock or aid distribution.

HHS is a household-based indicator and hence does not report on potential differences in level of food deprivation within the household.

HHS is most useful when analysing and classifying severe food insecurity, i.e. IPC Acute Phases 3-5, whereas in IPC Chronic Analyses HHS results need to be applied more carefully.

References

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The Household Economy Analysis

Definition and analytical approach

The Household Economy Analysis (HEA) is a livelihoods-based framework founded on the analysis of: (1) how people in different social and economic circumstances get the food and cash they need; (2) their assets, the opportunities available to them, and the constraints they face; and (3) the options available at times of crisis. The HEA's survival threshold measurement represents the most basic of needs, including minimum food energy requirements (kilocalories), the costs associated with food preparation and consumption, if purchased (such as soap, firewood and/or kerosene [paraffin]), as well expenditure on water for human consumption. The second key data from HEA, the livelihood protection threshold, represents the survival threshold plus additional expenditures needed to maintain and to invest in livelihoods, e.g. through education or purchase of assets. HEA outcome analysis, typically conducted 1-2 times a year, provides estimates of the share of households facing livelihood protection or survival deficits by livelihood zone/analysis area, and by wealth group. The outcome analysis is conducted with information available from the livelihood baseline, complemented with recent, available information on e.g. food prices, agrometeorology, food production, shocks, and humanitarian assistance.

Explanation of IPC reference thresholds

The HEA cut-offs used in the IPC AFI scale relate to the extent to which households meet the minimum food quantity (2,100 kcal/per person per day) for daily functioning (indicated by survival threshold), and if they can afford to maintain and to invest in their livelihoods (indicated by livelihood protection threshold). In IPC AFI analysis, HEA evidence is used to estimate what percentage of households do not face any deficits (indicative of Phase 1), what percentage is facing a small to moderate livelihood protection deficit (IPC Phase 2), what percentage is facing a large livelihood deficit or a small survival deficit (indicative of Phase 3 situation) and what percentage is facing both a livelihood protection and a moderate to large survival deficit (indicative of Phase 4 or Phase 5).

In the IPC CFI scale, the focus is on identifying households who have a survival deficit in non-exceptional circumstances. In general, in most HEA datasets the poorest households are able to meet their survival needs in an average year, in the absence of safety nets. In most areas, in a typical reference year in HEA terms (which would be considered a non-exceptional period in IPC CFI Analysis) it is rare that a group of households would be unable to meet even their minimum food needs. It therefore follows that a survival deficit in a non-exceptional period would reasonably indicate the most severe form of Chronic Food Insecurity.

Box 10: Adopted HEA cut-offs for IPC

Acute Food Insecurity Reference Table	
Phase	HEA cut-off
1	No livelihood protection deficit
2	Small or moderate livelihood protection deficit <80%
3	Livelihood protection deficit ≥80% or survival deficit <20%
4	Survival deficit ≥20% but <50%
5	Survival deficit ≥50%

Chronic Food Insecurity Reference Table	
Level	HEA cut-off
1 & 2	No survival deficit
3	No survival deficit
4	Survival deficit present

Key sources of evidence

HEA baselines (for IPC CFI) and HEA Outcome Analyses (for IPC AFI).

Limitations

The use of HEA thresholds as reference points for IPC CFI analysis requires that HEA baselines exist for the areas in question. Only with full or rapid baselines is it possible to calculate livelihood protection or survival deficits for groups of households. With livelihood profiles that follow the IPC approach but are not as comprehensive as baselines, this is not possible. When profiles are used, the existence of potential deficits is inferred rather than calculated through the Livelihoods Impact Analysis Spreadsheet (LIAS) or dashboard (a simplified version of LIAS) that are used when analysis is conducted through the baselines. Use of profiles is not allowed in IPC CFI analysis, whereas in IPC AFI analysis it is allowed for classification purposes but not for preparing detailed population estimates.

For IPC Acute Analysis, reliability of HEA analysis results is typically tied to quality of data required for the so-called problem specifications to run HEA analysis (e.g. data on prices, agricultural production, or rainfall), and to capacity of HEA analysts, as well as to the basis of the conducted HEA analysis. Evidence from outcome analysis based on full baselines normally receives a higher reliability rating than outcome analysis based on rapid baselines or livelihood profiles. IPC TWGs are encouraged to carefully check the assumptions and data included in HEA analysis, and what parameters have been used e.g. in relation to humanitarian assistance. Use of external advisors to check the robustness and quality of HEA analysis may be in order.

References

Adapted from the Practitioners' Guide to HEA Chapter 1: Introduction to the HEA Framework and communication with FEWS NET and the Food Economy Group (FEG) representatives. Additional information available from The Food Economy Group website (<http://foodeconomy.com/household-economy-analysis-services/>).

See also the World Food Programme Food Security Assessment Handbook.

Reduced Coping Strategies Index

Definition and analytical approach

The reduced Coping Strategies Index (rCSI) is an indicator of household food security. It consists of a series of five questions about food consumption strategies adopted by households due to a shortfall in food for consumption over the past seven days, resulting in a simple numeric score, which reflects current food security status. With frequent data collection, changes in the index can provide a rapid indication of whether food insecurity is getting worse or is improving. Since this indicator counts behaviours used when there is a shortfall in access to food, a higher score indicates a greater level of coping strategies applied, and hence increased food insecurity.

Each of the five strategies has a severity weighting, which is used to calculate the score for every household assessed. Below is a table with the severity weights for each question:

No.	Question	Severity Weight
1	Rely on less preferred and less expensive foods?	1
2	Borrow food, or rely on help from a friend or relative?	2
3	Limit portion size at mealtimes?	1

4	Restrict consumption by adults in order for small children to eat?	3
5	Reduce number of meals eaten in a day?	1

The rCSI score is the sum of the frequency of use of each strategy (0-7 days over the past 7 days) multiplied by the given severity weight.

Explanation of IPC reference thresholds

The rCSI is an indicator for food consumption and food security at the household level. rCSI is typically collected in food security assessments in order to monitor the food security status of households. The IPC cut-offs are based on empirical research conducted by IPC partners to assess the distribution of rCSI values compared to those of other food consumption indicators, in order to find the most suitable cut-offs for IPC purposes. Since it has been quite difficult to find a suitable cut-off for Phases 4 and 5, no cut-offs for these Phases have been included in the IPC Acute Reference Table. Work, however, continues in trying to identify suitable cut-offs for the highest Phases.

Box 11: Adopted cut-offs of rCSI for IPC

Acute Food Insecurity Reference Table	
Phase	rCSI cut-off
1	0-3
2	4-18
3-5	≥19

Key Sources of Evidence

Food security assessments and monitoring systems

Limitations

As the recall period of rCSI is seven days, it can be used to provide a snapshot of the food security situation. For monitoring purposes, however, it is advisable to conduct a rapid rCSI survey repeatedly over set periods in order to get informative results. The rCSI is of limited value in severe crisis situations where households' ability to cope by employing strategies included in rCSI has already been eroded. In these situations, rCSI can show low levels of coping and therefore a relatively good food security situation, whereas in actual fact households may have already lost their capacity to cope. In addition, the indicator does not capture extreme behaviour that households might recur to in highly critical situations. As a result, care needs to be taken while interpreting rCSI results, especially in severe crisis situations. It is advised to use rCSI in analysis of household experiences of food insecurity in lower Phases (Phases 1-3) and emphasize the use of Household Hunger Scale –indicator (HHS) for the same purpose in higher Phases (Phases 3-5).

Furthermore, it is important to check the quality of the data on rCSI and especially the amount of zero values in the dataset. High number of zero values may be due to enumerators skipping strategies if the answer to the first strategy has been 'no'. To avoid loss of data, enumerators should be instructed to ask every strategy separately, with the prompt question.

References

Coping Strategies Index Field Methods Manual 2nd Edition. WFP 2008.

http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp211058.pdf

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Food Insecurity Experience Scale

Definition and analytical approach

The Food Insecurity Experience Scale (FIES) is a household or individual food insecurity measurement resource developed by FAO and is used to monitor food security at the national, regional and global level, based on data collected in more than 140 countries since 2014. FIES is frequently collected with two recall periods: 12 months and 30 days.

The FIES is a measurement system composed of a survey module, an analytic protocol and a global standard reference scale that allows production of measures of the severity of household or individual food insecurity (defined as the inability to access food) on a globally comparable metric, as reported by FAO. The metric is based on information provided from data on the self-reported occurrence of experiences and conditions typically associated with food insecurity, analysed through Item Response Theory methods. A FIES-based indicator with a 12 month recall period is also included as indicator 2.1.2 in the global indicator framework for Goal 2: 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture' of the Sustainable Development Goals.

Data collected with the FIES survey module or with other existing experience-based food security scales (such as the Household Food Security Survey Module, the ELCSA, the Mexican Food Security Scale, or the Brazilian Food Insecurity Scale) on a sample that is representative of a certain population can be used to estimate the distribution of households or individuals in the population by levels of severity. After statistical validation of the data against the theoretical requirements for invariant measurement of the underlying latent trait, FIES scores are obtained from the yes/no responses given to eight questions and used to assign each case a probability to belong to any of the classes defined on a food security severity scale ranging from mild to moderate and severe. The estimated percentage of cases in each class is then obtained as the sample average probability of belonging to that class. To ensure comparability of classifications, all metrics are calibrated against the global reference scale on which thresholds are defined. For global food security monitoring in the context of the SDGs, FAO has provided a reference scale and two thresholds that separate mild from moderate, and moderate from severe levels, respectively, for data collected with a 12 month recall period. The percentage of households classified as having experienced moderate or severe conditions is used as an estimate of the prevalence of food insecurity and are also used as provide information for SDG monitoring. These reference scale and thresholds, for data collected with a 12 month recall period, are used in the IPC Chronic Food Insecurity analyses. For the purposes of the IPC Acute Food Insecurity Reference Table, however, a second reference scale and different thresholds were developed that apply to data collected with a 30-day recall period, which is more appropriate to capture acute food insecurity. The proposed cut-offs are based on validation analysis conducted by FAO on FIES datasets from 22 countries in 2020.

Explanation of IPC reference thresholds

In the context of IPC analysis, FIES cut-offs have been defined both for IPC Acute and Chronic Food insecurity Reference Tables. For the IPC AFI purposes cut-offs are based on and are to be used for FIES data collected with a 30-day recall period, whereas for IPC CFI purposes the cut-offs are valid for FIES data collected with a 12 month recall period. In the IPC Chronic Food Insecurity Reference Table, specific FIES thresholds for mild, moderate and severe food insecurity have been aligned to the classes defined in the Reference Table as follows: FIES measure below moderate (i.e. mild) is classified as Levels 1 and 2, and FIES measure above moderate are classified as Level 3. Cut-off to identify households in Level 4 is yet to be identified. For the IPC Acute Reference Table the following severity cut-offs, defined on the FIES-1 month reference scale, have been agreed on: Severity less than -0.58 → Phase 1; severity between -0.58 and +0.36 → Phase 2, and severity higher than +0.36 → Phase 3 or more. These cut-offs were determined based on calibration work conducted by FAO, using the existing cut-offs applied to Household Hunger Scale data as a reference. As such, it is possible that apparent convergences in findings by HHS and FIES might be the result of calibration of the FIES thresholds, rather than a convergence resulting from one indicator confirming the findings of the other. Work is also being conducted to define further severity cut-offs for FIES for Phases 4 and 5 in the IPC Acute Reference Table.

Box 12: Adopted FIES cut-offs for IPC

Chronic Food Insecurity Reference Table	
Level	FIES cut-off
1 & 2	Less than moderate
3	Greater than moderate
4	NDC

Acute Food Insecurity Reference Table	
Phase	FIES cut-off
1	< -0.58
2	-0.58 – 0.36
3	>0.36
4	>0.36 (NDC)
5	>0.36 (NDC)

Key sources of evidence

FAO reporting provides FIES estimates at national level. In addition, FIES is increasingly included in different surveys at sub-national level conducted by FAO, national statistics offices and partners.

Limitations

For the time being, data on FIES, especially on FIES with 30-day recall period, is not regularly available on samples that are representative of the population at sub-national level, even though data availability is expected to improve in the near future due to more detailed reporting requirements of countries related to SDGs, and the fact that FIES is being increasingly incorporated in food security assessments. For the time being, however, FIES is not frequently available at the level of IPC analysis.

While FIES-based indicators are properly defined at area level, not at household level, separate analyses can be conducted on households grouped by some of their relevant characteristics, for example examining separately FIES-based prevalence of food insecurity among the potentially worst-off households (high food consumption gaps/livelihood change) v. moderate/better off HHs (lower food consumption gaps).

One limitation is the complex analysis needed to statistically validate the FIES-based measures, which requires competence in Item Response Theory and the use of related statistical packages. As a result, country teams incorporating FIES in their surveys are advised to contact FAO for assistance with data analysis.

References

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Ballard, T.J., Kepple, A.W. & Cafiero, C. 2013. The food insecurity experience scale: development of a global standard for monitoring hunger worldwide. Technical Paper. Rome, FAO. (available at http://www.fao.org/fileadmin/templates/ess/voh/FIES_Technical_Paper_v1.1.pdf).

Household Dietary Diversity Score (HDDS)

Definition and analytical approach

Dietary diversity is a qualitative measure of food consumption that reflects household access to a variety of foods (FAO, 2011). Household Dietary Diversity Score (HDDS) has been validated as a proxy for household energy availability (Hoddinot and Yohannes,

2002). Because food consumption is a proxy for food access, HDDS is used for the classification of CFI as an indication of the quantity of food consumed at household level and is also included in the IPC Acute Reference Table. This indicator is used to collect data on the number of food groups consumed by a household over a given reference period of 24 hours, out of maximum 12 food groups. The underlying premise of HDDS is the fact that a more diversified household diet is correlated with caloric and protein adequacy, percentage of protein from animal sources, and household income (Swindale & Bilinsky, 2006).

Each food group is assigned a score of 1 (if consumed) or 0 (if not consumed). The household score will range from 0 to 12 and is equal to the total number of food groups consumed by the household over the past 24 h. (Swindale & Bilinsky, 2006).

Explanation of IPC reference thresholds

According to the IPC CFI Reference Table, consumption of 5 to 6 food groups during the leanest season in a non-exceptional period is associated with Moderate CFI (Level 3 CFI), while 4 or less food groups during the same period is related to Severe CFI (Level 4 CFI). The cut-offs of HDDS in the IPC Acute Reference Table are based on a study conducted by FANTA and FEWSNET on food consumption indicators and their cut-offs, and also on convergence with the cut-offs of other food consumption indicators and with IPC Phase descriptions. For example, the cut-off of two food groups is aligned with poor Food Consumption Score which typically consists of maximum daily consumption of cereals and vegetables, i.e. two food groups (when the cut-off for poor food consumption is 21).

Box 13: Adopted IPC cut-offs for HDDS

Acute Food Insecurity Reference Table	
Phase	HDDS cut-off
1 & 2	5-12
3	3-4
4 & 5	0-2

Chronic Food Insecurity Reference Table	
Level	HDDS cut-off
1 & 2	≥ 7
3	5-6
4	≤ 4

Key sources of evidence

Food security surveys (including WFP surveys), UN and NGO baselines and final evaluations, other national surveys.

Limitations

Measures of dietary diversity typically do not include quantities consumed, making it difficult to use HDDS to estimate the size of potential food gaps.

HDDS does not provide information on intra-household distribution of food.

The short recall period of 24 hours can be influenced by special or random events, or religious observations, that are not reflective of the normal food consumption patterns. This can be especially true in highly volatile areas where daily food consumption patterns can vary greatly.

There can also be significant changes in consumption over time due to seasonal availability of foods. Therefore, when extrapolating survey data to arrive at broad conclusions about the food security status, the season when assessments were done should be taken into account. HDDS does not capture these kinds of seasonal and other changes unless it is collected periodically.

The use of HDDS as an indicator of quantity of food consumption utilizes the indicator differently from what is suggested by some literature reviews. In other studies, it has also been noted that HDDS appears to be a measure of both quantity and quality of food.

Results of HDDS may also be confounded in contexts where food aid is provided.

References

FANTA (2006) and FAO (2011) identify 12 main food groups used to calculate a dietary diversity score: cereals; white roots and tubers; vegetables; fruits; meat/poultry/offal; eggs; fish and seafood; pulses/legumes/nuts; milk and milk products; oils/fats; sweets; and spices/condiments/beverages. The FAO guidelines describe how to use the indicator for data collection and how to analyse the data collected (FAO, 2011), as well as guidelines for measuring household and individual dietary diversity (FAO 2010).

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Hoddinott, J. & Yohannes, Y. 2002. Dietary diversity as a food security indicator. FANTA, Washington D.C., USA. Available at <http://www.aed.org/Health/upload/dietarydiversity.pdf>

Swindale, Anne, and Paula Bilinsky. 2006. Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide (v.2). Washington, D.C.: FHI 360/FANTA. Available at: http://www.fantaproject.org/sites/default/files/resources/HDDS_v2_Sep06_0.pdf

Comparing Household Food Consumption Indicators to inform Acute Food Insecurity Phase Classification. FANTA and FEWS NET, December 2015. Available at: <https://www.fantaproject.org/research/comparing-household-food-consumption-indicators-acute-food-insecurity>

Children’s Minimum Meal Frequency

Definition and analytical approach

Data on children’s Minimum Meal Frequency includes information on how often children of 6–23 months of age are fed a pre-determined number of times in the previous 24 hours, as per age-specific requirements; children’s meal frequency is then used as a proxy for quantity of food eaten by the child. The criteria for minimum dietary diversity are based on the children’s age (in months), breastfeeding, and the number of meals per day. The minimum frequency for breastfed 6-8 months old children is two solid or semi-solid meals per day, and three meals per day for breastfed children of 9-23 months. For non-breastfed children of 6-23 months, the minimum requirement is four solid or semi-solid meals per day.

Explanation of IPC reference thresholds

In the IPC CFI Reference Table, children not meeting minimum meal frequency requirements are associated with Moderate and Severe CFI (Levels 3 or 4 of CFI). Due to lack of further severity cut-offs for this indicator, there is no separate cut-off to differentiate between Levels 3 and 4 of CFI. Children meeting the minimum meal frequency requirements are associated with Levels 1 and 2 of chronic food insecurity.

Box 14: Adopted Minimum Meal Diversity cut-offs for IPC

Chronic Food Insecurity Reference Table		
Level	Minimum meal frequency cut-off	
1 & 2	Minimum meal frequency met	
3 & 4	Minimum meal frequency not met	

Key sources of evidence

DHS and MICS surveys; other nutrition surveys. Information on infant and young children feeding practices among children 6–23 months of age is typically collected by the DHS and UNICEF (MICS and other surveys).

Limitations

Sampling for dietary diversity (which includes information on minimum meal frequency) is often undertaken at administrative level 1 (one below national level, e.g. province), while the IPC CFI analysis is typically conducted at administrative level 2 (e.g. district), thus requiring more reliance on data re-analysis and inference. Furthermore, due to the indicator being collected only on children between 6 and 23 months of age, there are proportionately very few children per administrative level 2 area included in the sample, which limits the possibility for using this indicator in an analysis. Moreover, DHS and MICS surveys, which capture this type of data, are carried out every 5 to 10 years, which also limits data availability for this indicator.

Finally, the indicator informs on the food intake of a small sub-group of the population (children 6-23 months) and therefore care is required when results are used to infer/inform on food consumption at household level.

References

FAO, 2010: Guidelines for measuring household and individual dietary diversity.¹

WHO, 2008: Indicators for assessing infant and young child feeding practices. Part 1 Definitions. Available at: https://apps.who.int/iris/bitstream/handle/10665/43895/9789241596664_eng.pdf;jsessionid=2630770557AA4E108F757E67A7E5D453?sequence=1

Months of Adequate Household Food Provisioning (MAHFP)

Definition and analytical approach

Months of Adequate Household Food Provisioning (MAHFP) indicates how many months of the past year a household was able to access enough food. Designed by Africare, MAHFP is used to: classify the magnitude of food insecurity in project-target areas, facilitate targeting of vulnerable households, as well as to design and implement intervention strategies. The MAHFP is also used to identify and keep records of improvements in the food security situations of areas covered by food security interventions. MAHFP focuses on household's access to food, taking into consideration own production, stocks, purchases, gathering, or through food transfers from relatives, members of the community, the government or donors.²

Explanation of IPC reference thresholds

MAHFP is expressed in months of adequate food provisioning. In the IPC CFI Reference Table, between 11 and 12 months of adequate provisioning are associated with No to Mild CFI (Levels 1 and 2 CFI), 8 to 10 months with Moderate CFI (Level 3 CFI), and less than 8 months with Severe CFI (Level 4 CFI). The cut-offs are connected to CFI Level descriptions, in which Level 3 is associated with food gaps for 2-4 months in a year, and Level 4 is associated with annual food gaps for >4 months.

Box 15: Adopted Months of Adequate Household Food Provisioning cut-offs for IPC

Chronic Food Insecurity Reference Table
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¹ FAO. 2010. Kennedy, G., Ballard, T. & Dop, M.C., Guidelines for Measuring household and individual dietary diversity, Available from: <http://www.fao.org/docrep/014/i1983e/i1983e00.pdf>

² Bilinsky, P. & Swindale, A. 2010. Months of Adequate Household Food Provisioning (MAHFP) for Measurement of Household Food Access: Indicator Guide, FANTA June 2010 www.fantaproject.org

Level	MAHFP cut-off
1 & 2	11-12
3	8-10
4	≤7

Limitations

The main limitation of MAHFP is regularity of data collection, since the indicator is often not available. MAHFP was eliminated from the list of standard indicators used in the Food For Peace (FFP), due to the 12-month recall period, which was considered too long to provide reliable results. Although projects can still include the indicator on an as-needed basis, FFP will no longer require it.³ Moreover, this indicator is used as a proxy for consumption of food, although it does not measure consumption directly.

Key sources of evidence

NGO baselines and final evaluations; other food security surveys.

References

FANTA identified MAHFP as one of the key strategic and objective household indicators during the development of USAID’s Office of Food for Peace FY05–08 strategy, through a consultative process involving implementing partners, researchers, and other technical groups. www.fantaproject.org.

Konda, I., Sigauque, R. & Payet, P. 2008. Guidance: How to measure the number of Months of Adequate Household Food Provisioning (MAHFP) based on quantitative methods and isolating food aid provisions. USAID, July 2008.

PART 2: FOOD CONSUMPTION QUALITY

Share of energy from energy-supplying macronutrients

Definition and analytical approach

The share of energy-supplying macronutrients refers to goals for a “balanced diet” from various energy sources as suggested by WHO and FAO expert consultations⁴. The recommended share of energy from different macro-nutrients is a range for population averages rather than a range for individuals, compatible with health maintenance. In a balanced diet, the share of energy yielded by total fat ranges from 15% to 30% of total energy (<10% saturated), by total protein from 10% to 15% and by total carbohydrate from 55% to 75% (<10% free sugars as such or in drinks and in food preparation, i.e. monosaccharides and disaccharides, as well as alcohol).

Explanation of IPC reference thresholds

Population groups at risk of CFI in developing countries typically exhibit high shares of energy from total carbohydrates and consequently low shares from total fat or total protein.

Box 16: Adopted Share of energy –cut-offs for IPC

³ USAID. 2011. Memorandum for all Food For Peace Officers and title II Development Program Awardees. Available at http://pdf.usaid.gov/pdf_docs/PDACU267.pdf Accessed 201509-12.

⁴ FAO, WHO and UNU Expert Consultation on Energy in Human Nutrition, 2001. E.g. <http://www.fao.org/3/y3800m/y3800m07.htm>

Chronic Food Insecurity Reference Table	
Level	Share of energy cut-off
1	Carbohydrate 60–70%, Fat 20–25%, Protein ≥12.5%
2	Borderline inadequate
3 & 4	Inadequate

Key sources of evidence

Data for calculating the share of energy from macronutrients is typically available in Income and Expenditure Surveys or other comprehensive surveys that collect information both on food items and the quantities eaten.

Limitations

The indicator does not include nutrients such as vitamins, minerals, fatty acids and amino acids, which need to be assessed separately. As the shares are expressed in relative terms with respect to total energy intake or consumption, they do not provide specific amounts of the energy-supplying macronutrients; hence assessments of their adequacy to requirements are not provided. Cut-offs for acceptable share of energy from different macronutrients exist, and there are no further severity cut-offs to assess the extent of imbalance of diet.

References

WHO. 2003. Diet, nutrition and the prevention of chronic diseases. Report of the joint WHO/FAO expert consultation. Geneva, 28 January – 1 February 2002. WHO Technical Report Series, No. 916 (TRS 916). Available at <http://www.who.int/dietphysicalactivity/publications/trs916/en/> Accessed 2015-09-11.

Children eating Minimum Dietary Diversity

Definition and analytical approach

As documented by FAO 2011⁵, studies across age groups show a positive correlation between the increase in individual dietary diversity score and nutrient adequacy of the diet. Individual dietary diversity scores can therefore be used as a proxy measure for nutrient adequacy of the diet. For the calculation of the indicator a list of seven food groups is used; the list's purpose is to determine if the children of 6-23 months in surveyed households are consuming at least 4 out of the 7 food groups per day. Breastfeeding status does not have an impact on the results.

Explanation of IPC reference thresholds

The IPC CFI Reference Table refers to the proportion of children eating minimum dietary diversity during the lean season in a non-exceptional period. Households whose children have minimum dietary diversity are associated with No CFI (Level 1), while households where children do not have minimum dietary diversity are associated with Levels 2, 3 and 4.

Box 17: Adopted Minimum Dietary Diversity of Children cut-offs for IPC

Chronic Food Insecurity Reference Table

⁵ FAO. 2011. Guidelines for Measuring Household and Individual Dietary Diversity. Prepared by G. Kennedy, T. Ballard and M.-C. Dop. Nutrition and Consumer Protection Division, FAO. Available at http://www.fao.org/fileadmin/user_upload/wa_workshop/docs/FAO-guidelines-dietary-diversity2011.pdf Accessed 2015-09-11.

Level	Minimum Dietary Diversity cut-off
1	Minimum Dietary Diversity met
2	Minimum Dietary Diversity not met
3 & 4	Minimum Dietary Diversity not met

Key sources of evidence

Information on infant and young child feeding practices among children of 6–23 months of age is collected by the Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS) and nutrition surveys. It has been observed that information on dietary diversity intake at the individual level relates more strongly to dietary quality than to dietary quantity.

Limitations

Often the sampling on dietary diversity is done at administrative geographical unit 1 (administrative level 1), while the IPC CFI analysis aims at administrative level 2 analysis, thus requiring greater reliance on re-analysis of evidence. Furthermore, due to the indicator being collected only on children between 6 and 23 months of age, there are typically relatively few children per area at administrative level 2 included in the sample, which lowers the opportunities for using this indicator in an analysis. Moreover, DHS surveys that often capture this type of data are carried out only every 5 to 10 years, which might limit data availability for this specific indicator. As this indicator is binary (YES/NO) it is only used to differentiate households between Level 1 and other levels, and there are no further severity cut-offs to differentiate between the other levels.

Finally, the indicator informs on the food intake of a small sub-group of the population (children 6-23 months) and therefore care is required when results are used to infer/inform on food consumption at household level.

References

It has been generally agreed that information on dietary diversity intake at the individual level relates strongly to dietary quality (FAO, 2011).

WHO, 2008: Indicators for assessing infant and young child feeding practices. Part 1 Definitions. Available at: https://apps.who.int/iris/bitstream/handle/10665/43895/9789241596664_eng.pdf;jsessionid=2630770557AA4E108F757E67A7E5D453?sequence=1

Minimum Dietary Diversity of Women of Reproductive Age (MDD-W)

Definition and analytical approach

While the Household Dietary Diversity Score (HDDS) shows the economic ability of a household to consume a variety of foods, the Minimum Dietary Diversity of Women of Reproductive Age (MDD-W) aims to capture nutrient adequacy of consumed diet of women. The MDD-W is based on reported food intake from the previous 24 hours and is a proxy for the quality of an individual woman’s diet. The IPC CFI Reference Table includes reference to Minimum Dietary Diversity of Women, which is based on 10 food groups.

A similar indicator is the Individual Dietary Diversity Score (IDDS), which is based on 9 food groups, and is also collected on women of reproductive age. Both indicators are binomial indicators with just one cut-off- 5 food groups- which is the cut-off for adequate diet. Although both indicators share many characteristics, it has been proven that 10 food groups provide better results in terms of sensitivity and specificity analysis than 9 food groups.

In a consensus meeting in October 2014 a group of experts unanimously selected 10 food groups with a cut-off of 5, affirming its usefulness for assessment, advocacy and potentially also for tracking at population level. The indicator was named ‘minimum dietary

diversity for women of reproductive age', also to keep in line with WHO's 'minimum dietary diversity' indicator for children of 6 to 23 months.

Both indicators are easy to collect, to analyse and to report. Care must be taken to tailor the module with locally consumed food items representing different food groups, and enumerators should be well trained to correctly record composition of mixed meals and to discard information on food items consumed in very small (<15 g) quantities.

Explanation of IPC Reference Thresholds

In the IPC CFI scale, MDD-W of fewer than 5 food groups during the lean season in a non-exceptional period is associated with CFI (Levels 2, 3 or 4), while MDD-W equal to or greater than 5 during the same period is associated with No CFI. As the cut-off of 5 indicates a similar severity situation for IDDS, it is also acceptable to apply the same cut-off for IDDS and use it as evidence for food consumption quality in IPC Chronic Analysis when data is available.

Box 18: Adopted Minimum Dietary Diversity of Women cut-offs for IPC

Chronic Food Insecurity Reference Table	
Level	Minimum Dietary Diversity of Women
1	≥5
2	<5
3 & 4	NDC

Key Sources of evidence

Food security surveys; NGO baselines and final evaluations; other national surveys.

Limitations

As cut-offs to differentiate between severity of CFI (i.e. to differentiate between Levels 2, 3 and 4) have not been validated, the indicator can only be used to differentiate households between Level 1 and other levels.

The indicator remains only a rough proxy for nutrient adequacy, thus for more precise estimate of nutrient intake and adequacy a quantitative 24-hour Dietary Recall should be used.

The tool must be adapted to include culturally relevant examples of foods for each of the 10 food groups.

References

Food and Nutrition Technical Assistance (FANTA III). Consensus meeting on a global indicator to measure women's dietary diversity. 2015. Available from: <http://www.fantaproject.org/news-and-events/2014-consensus-meeting-on-mddw>.

Martin-Prevel et al. Development of a Dichotomous Indicator for Population-Level Assessment of Dietary Diversity in Women of Reproductive Age. Published in Current Developments in Nutrition, November 2, 2017.

FAO. FHI 360. Minimum dietary diversity for women: a guide for measurement. 2016. Available from: <http://www.fao.org/3/a-i5486e.pdf>

Starchy Staple Ratio (SSR)

Definition and analytical approach

The Starchy Staple Ratio (SSR) indicates the proportion of food energy coming from starchy items, such as maize, rice, potatoes and cassava. This indicator is used by IPC as one piece of evidence to be converged with other indicators to indicate the adequacy of the share of energy from macronutrients. Although there is a direct relationship between SSR and the share of energy from carbohydrates, it is expected that SSR will be lower than the percentage of total energy coming from carbohydrates, as non-starchy foods, such as sugar and vegetables, are also considerable sources of carbohydrates.

SSR can be calculated if detailed data on consumed food items, including their quantity, is available. In this situation total calories consumed by household from starchy staples are summed up and divided by total calories consumed from all food items eaten over the recall period. This analysis provides a percentage, i.e. the starchy staple ratio for each analysed household.

Explanation of IPC reference thresholds

The foundation of the thresholds of SSR is that a lower ratio of starch intake is associated with a better diet and better adequacy of macronutrients. The IPC CFI Reference Table associates a value of less than 50% SSR during the lean season in a non-exceptional period to No CFI (Level 1 CFI), between 50 and 70% to Mild CFI (Level 2 CFI) and more than 70% during the same period to Moderate to Severe CFI (Levels 3 and 4 CFI).

Box 19: Adopted Starchy Staple Ratio cut-offs for IPC

Chronic Food Insecurity Reference Table	
Level	Starchy Staple Ratio cut-off
1	<50%
2	50-70%
3 & 4	>70%

Key sources of evidence

Income and Expenditure Surveys, other surveys collecting data on consumed food items and their quantities.

Limitations

Data on this indicator is available only in surveys where information is collected both on food items consumed, and on the quantity consumed, which are quite rare. Although validation conducted so far on available datasets has confirmed the appropriateness of the cut-offs, further research is still recommended to assess the appropriateness of these SSR cut-offs.

References

The cut-offs for SSR identified in the IPC CFI Reference Table are based on unpublished applied research conducted by the World Bank. This was based on a dataset from Nepal, and the analysis was specially done for the development of the IPC Reference Table for classification of CFI. Further validation was conducted by IPC GSU together with partners (FAO and PROGRESAN/SICA) with other datasets in 2018.

The concept of starchy staple ratio is discussed e.g. in:

David Grigg, 1996. The Starchy Staples in World Food Consumption, *Annals of the Association of American Geographers*, 86:3, 412-431. Available at: <https://www.tandfonline.com/doi/abs/10.1111/j.1467-8306.1996.tb01760.x>

Starchy Staples Expenditure Ratio (SSEXR)

Definition and analytical approach

Starchy staples, i.e. cereals and roots, are typically among the cheapest sources of dietary energy (kilocalories). It is therefore suggested that the SSEXR is inversely related to income, and that the absolute consumption of starchy staples is also related to income.

The analysis can be performed if detailed information on households' food expenditure is available. If yes, it is possible to sum up the total expenditure on starchy staples and divide that by total expenditure on food items to calculate the starchy staples expenditure ratio. In context where starchy staples are frequently cultivated by households, however, assessing only monetary expenditure on food items is likely to produce skewed results. As a result, more accurate results are received if households' own food production is monetized by assessing the total monetary value of the production as well as that of production of starchy staples, and the share of own production that was consumed vs. sold. If all this information is available, it is possible to produce reliable results also in contexts where households rely on subsistence farming.

Explanation of IPC reference thresholds

The rationale behind the thresholds of SSEXR is that higher expenditure on starchy staples is inversely associated with a better diet and better adequacy of macronutrients. Specific thresholds included in the IPC CFI Reference Table indicate that between 30 and 50% of total expenditure in starchy staples during the lean season in a non-exceptional period are associated with Mild CFI (Level 2 CFI), while more than 50% during the same period is associated with Moderate to Severe CFI (Levels 3 and 4 CFI).

Box 20: Adopted Starchy Staple Expenditure Ratio cut-offs for IPC

Chronic Food Insecurity Reference Table	
Level	Starchy Staple Expenditure Ratio cut-off
1	<30%
2	30-50%
3 & 4	>50%

Limitations

The usefulness of this indicator depends on the context in which it is collected. In urban areas and in other areas where a large share of the food consumed is purchased, the indicator is informative. However, in rural communities where households cultivate the majority of their starchy staples a low percentage of households spend a large share of their food expenditure on starchy staples, and consequently own production should be taken into account when calculating indicator results. This may, however, be problematic as reliable information on own production in terms of exact quantities of different food items produced and subsequently consumed, sold or otherwise utilised is likely difficult to access. As for SRR cut-offs, further research is recommended to assess the appropriateness of SSEXR cut-offs, although validation on available datasets conducted so far has confirmed the suitability of the current cut-offs.

References

The cut-offs for SSEXR, as well as SSR identified in the IPC CFI Reference Table, are based on unpublished applied research conducted by the World Bank.

Example article on linking SSEXR and other household indicators to nutritional outcomes:

Tiwari, S., Skoufias, E. and Sherpa, M., 2013: Shorter, Cheaper, Quicker, Better: Linking Measures of Household Food Security to Nutritional Outcomes in Bangladesh, Nepal, Pakistan, Uganda and Tanzania. Policy Research Working Paper 6584. The World Bank,

Poverty Reduction and Equity Unit. August 2013. Available at:
<https://openknowledge.worldbank.org/bitstream/handle/10986/16017/WPS6584.pdf?sequence=1&isAllowed=y>

Key sources of evidence

Food security surveys that contain data on expenditure (and detailed estimates of own production and its consumption), conducted at the national or sub-national levels.

PART 3: LIVELIHOOD CHANGE

Livelihood Coping Strategies

Definition and analytical approach

Livelihood Change is one of the four outcomes of IPC, and direct evidence on livelihood change is provided by the Livelihood Coping –indicator, which has been developed and is extensively used by WFP. Livelihood coping strategies (LCS) refers to: strategies that households resort to when they are not able to sufficiently access food and/or income to purchase food.

As per WFP guidance (see WFP 2015) livelihood coping strategies are divided into three categories: stress, crisis, and emergency strategies. The division is based on the severity and reversibility of the strategy. Consequently, the most severe strategy used by the household places the household in one of the three categories. The strategies, however, are impacted by context and prevalence levels; strategies should therefore be interpreted in the context of the population in question. Conversely, information on livelihood coping also helps to interpret and triangulate information e.g. on food consumption and on shocks. For instance, if household reports losing its livestock in a shock, but reports consumption of milk, it is likely that household still has some livestock left despite reporting otherwise. The standard module of LCS includes several response options: yes (the household has used the strategy in question); no, it was not necessary; no, because I already sold those assets or did this activity within the last 12 months and I cannot continue to do so (i.e. exhaustion of a strategy); and not applicable. When LCS are analysed, yes responses are grouped together with exhaustion of the strategy to estimate the true share of households using/having used the strategy. Review of amount of ‘yes’ and exhaustion responses separately also provides more information on the evolution and severity of the situation: if the share of households who have exhausted different strategies is high, this is an indication of a severe livelihood change situation and of a protracted crisis.

Moreover, due to the context specificity of the indicator it is necessary to select and adapt according to the local context (see WFP 2008). When LCS data is used for IPC analyses, it is useful to consult the partners providing the data on selection and validation of strategies based on local context, to assist with the interpretation of the results.

Explanation of IPC reference thresholds

The IPC incorporates livelihood coping in all IPC AFI Phases. In Phase 1, households are not expected to engage in stress, crisis or emergency coping. They may, however, employ some other coping strategies (sometimes called ‘insurance’ strategies) that do not have any negative impacts on their food security or livelihoods. In Phase 2, households are expected to employ stress strategies, in Phase 3, crisis strategies, and in Phase 4, emergency strategies. In Phase 5, households are expected to have almost completely exhausted their coping capacity albeit some options may still be open to them such as begging or migration of entire households.

Box 21: Adopted Livelihood Coping Strategies’ cut-offs for IPC

Acute Food Insecurity Reference Table	
Phase	Livelihood Coping Strategies’ cut-off

1	No stress, crisis or emergency coping observed
2	Stress strategies
3	Crisis strategies
4	Emergency strategies
5	Near exhaustion of coping capacity

Key sources of evidence

Food security surveys, especially those of WFP.

Limitations

This indicator requires careful interpretation, as coping strategies may carry different meanings depending on context. For example, withdrawing children from school (categorised as crisis strategy) may in some contexts be used as a 'stress' strategy by households, whereas in other contexts the use of the strategy signals a crisis situation. As a result, TWGs need to look at not just the selection of different strategies and their classification into categories, but also interpret strategies within the context in which they were used. It is highly recommended to conduct a qualitative study informing on use of different coping strategies in analysis areas, and the perceived severity of the strategies by the communities themselves. The findings of such a study can subsequently be used to adapt the livelihood coping module for the analysis context.

References

Coping Strategies Index Field Methods Manual 2nd Edition. WFP 2008. www.home.wfp.org/stellent/groups/public/documents/.../wfp211058.pdf.

Consolidated Approach to Reporting Indicators of Food Security (CARI). Technical Guidance Note, WFP. Second Edition November 2015. Available at: https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp271449.pdf?_ga=2.89133851.183855610.1576749071-1422697817.1569199665

PART 4: NUTRITION

Global Acute Malnutrition (GAM) based on Weight for Height Z-score (WHZ)

Definition and analytical approach

Acute malnutrition is a direct outcome indicator of recent changes in nutritional status. High or increasing levels of acute malnutrition in a population indicate current or recent stress at individual or household level.

Wasting expressed in a low weight-for-height ratio is defined as weight-for-height index measurements (w/h) less than -2 Z-scores. Global acute malnutrition rates include the percent of the population that is < -2 Z-scores plus cases of oedema.

Explanation of IPC reference thresholds

The IPC incorporates acute malnutrition in all IPC AFI Phases, and is generally consistent with the sources cited below (see below the table and references).

Box 22: Adopted acute malnutrition cut-offs for IPC

Acute Food Insecurity and Acute Malnutrition Reference Table	
Phase	GAM based on WHZ thresholds
1	<5%
2	5-9.9%
3	10-14.9%
4	15-29.9%
5	≥30%

A key reference threshold is that for Humanitarian Emergency, where wasting is >15%. Whereas the other thresholds follow WHO recommendations, and in the absence of a WHO threshold for Phase 5, the reference threshold for Famine/Humanitarian Catastrophe is >30%, which is halfway between the thresholds used by Howe and Devereux for “Famine” and “Severe Famine” conditions (Famine Intensity and Magnitude Scales: A Proposal for an Instrumental Definition of Famine, 2005).

Key sources of evidence

Nutrition surveys, nutrition monitoring systems

Limitations

While wasting is a direct outcome of nutritional and health status, limitations in its use and interpretation in the context of acute food insecurity analysis include:

- (1) wasting reflects immediate and serious shortfalls in the nutritional status of a population. It tends to occur at the levels set out in the table above in situations which are already serious, and for which response has not been adequate to offset negative nutritional outcomes. Response actions taken to address acute malnutrition may therefore occur after the fact, and may have limited impact on the broader crisis.
- (2) in populations where baseline levels of acute malnutrition are high even in the absence of acute crisis, levels during periods of crisis can be difficult to interpret; and
- (3) wasting is impacted by several factors such as disease, food consumption and care practices.

As a result, it is often challenging to understand how much acute malnutrition is due to food-related factors, and what is due to other factors. As a general rule, any GAM above 15% is likely to be due to food and non-food-related causes. However, even if food-related causes are more likely the higher the GAM rate is, it cannot be stated that lower GAM rates are exclusively related to diseases (especially in case of rapid increases in GAM rates in absence of large disease epidemics).

References

The United Nations Standing Committee on Nutrition (SCN) states that “A prevalence of acute malnutrition between 5–8% indicates a worrying nutritional situation and a prevalence of greater than 10% corresponds to a serious nutrition situation” (SCN, Nutrition Information in Crisis Situations, Feb 2004, p. 47). WHO provides guidance as follows: very low (<2.5%), low (2.5-<5%), medium (5-9%), high (10-14%) and very high (≥15%) (Onis et al, 1998)⁶. Howe and Devereux (Famine Intensity and Magnitude Scales: A Proposal for an Instrumental Definition of Famine, 2005) reference “Famine Conditions” as 20-40%, and “Severe Famine Conditions” as >40%.

WHO Expert Committee (1995). Physical Status: The Use and Interpretation of Anthropometry. WHO Technical Report Series 854. Geneva, World Health Organization.

⁶ <http://www9.who.int/nutrition/team/prevalence-thresholds-wasting-overweight-stunting-children-paper.pdf>

Global Acute Malnutrition (GAM) based on Mid-Upper Arm Circumference (MUAC)

Definition and analytical approach

Mid-Upper Arm Circumference (MUAC) is the circumference of the upper arm, measured at the mid-point between the tip of the shoulder and the tip of the elbow. MUAC is routinely measured on the left arm of the individual.

MUAC is used for the assessment of nutritional status. Values below the cut-offs of 125 mm and 115 mm are used to define moderate and severe acute malnutrition, respectively, in children of 6 to 59 months. Severe MUAC in children is a good predictor of mortality and in many studies, MUAC predicted death in children better than any other anthropometric indicator. MUAC is currently not recommended for use among infants aged below 6 months because of a lack of data on its reliability, measurement in practice and predictive value for death.

MUAC can also be used to assess the nutritional status of adults, especially that of women of reproductive age. Although there are no internationally agreed MUAC cut-off for adults, individuals with MUAC values below 210 mm are typically referred to as suffering from acute malnutrition. Collection of adult MUAC is especially advisable in acute emergency and famine situations.

The major determinants of MUAC, arm muscle and sub-cutaneous fat, are both important determinants of survival in starvation. MUAC is less affected than weight and height -based indices (e.g. WHZ, WHM, BMI) by the localised accumulation of fluid (i.e. bipedal or nutritional oedema, periorbital oedema, and ascites) common in famine and is a more sensitive index of tissue atrophy than low body weight. It is also relatively independent of body-shape.

MUAC measurement requires little equipment and is easy to perform even on the most debilitated individuals. Although it is important to give workers training in how to take the measurement, the correct technique can be readily taught to minimally trained health workers and community-based volunteers. It is thus suited to screening admissions to feeding programs during emergencies. Exhaustive screening with MUAC to identify children and/or adults with acute malnutrition is also common; MUAC is also regularly used to collect nutrition data at sentinel sites and incorporated as a nutrition indicator in surveys whose primary focus is on other topics, such as health or food security.

Explanation of IPC reference thresholds

MUAC collected on children 6-59 months of age is used as direct evidence in IPC Acute Food Insecurity and IPC Acute Malnutrition Analyses. The MUAC thresholds used in IPC are derived from nutrition survey data, comparing the WHZ prevalence estimates and MUAC prevalence estimates. MUAC thresholds developed using this approach show that there is no good correlation between MUAC and WHZ and that only overlapping MUAC thresholds can be derived – i.e. for any given MUAC prevalence there may be 2 possible Phases (indicative Phases). The final Phase based on MUAC prevalence for an area can only be determined with an understanding of the relationship between WHZ and MUAC in the area of analysis and the level of contributing factors.

Box 23: GAM based on MUAC thresholds for IPC

Acute Food Insecurity and Acute Malnutrition Reference Table				
Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
0-4.9%				
	5-9.9%			
		10-14.9%		



Note: these thresholds only show an indicative phase and cannot be used on their own. Contributing factors and the relationship between MUAC and WHZ in the area of analysis must also be taken into account when areas are classified based on MUAC – see IPC AMN section of the IPC Manual 3.0 for details.

Key sources of evidence

Representative surveys (nutrition, food security, etc.), nutrition monitoring systems (sentinel sites), nutrition screenings or rapid assessments

Limitations

No globally endorsed prevalence thresholds for MUAC exist (as opposed to WHZ). Development of thresholds that correspond to WHZ is difficult due to MUAC not having a linear relationship with WHZ. Analyses suggests that there is generally only a 40% overlap between children identified as acutely malnourished by MUAC and by WHZ, meaning that the rest of the malnourished children are identified either by MUAC or by WHZ but not by both.

However, it has been noted that the prevalence of -3 SD of WHZ and that of severe MUAC of <115 mm are typically quite close to each other. In addition, in some contexts prevalence of WHZ is typically higher than prevalence of MUAC, whereas in other contexts the opposite is true, and yet in other contexts the identified prevalences are close to each other. This indicates that the relationship between WHZ and MUAC is not consistent but depends on the context.

Due to these characteristics, use of MUAC in IPC Analysis requires careful interpretation. In addition, MUAC is often of poor quality, especially when it is not collected by trained health and nutrition workers. MUAC also tends to identify malnutrition in younger children, especially those <2 years old as malnourished and therefore may not be equally applicable to older age groups.

References

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[HTTPS://WWW.RESEARCHGATE.NET/PUBLICATION/335241967_CONCORDANCE_BETWEEN_ESTIMATES_OF_ACUTE_MALNUTRITION_MEASURED_BY_WEIGHT-FOR-HEIGHT_AND_BY_MID-UPPER_ARM_CIRCUMFERENCE_AFTER_AGE_ADJUSTMENT_POPULATION-REPRESENTATIVE_SURVEYS_FROM_HUMANITARIAN_SETTINGS](https://www.researchgate.net/publication/335241967_CONCORDANCE_BETWEEN_ESTIMATES_OF_ACUTE_MALNUTRITION_MEASURED_BY_WEIGHT-FOR-HEIGHT_AND_BY_MID-UPPER_ARM_CIRCUMFERENCE_AFTER_AGE_ADJUSTMENT_POPULATION-REPRESENTATIVE_SURVEYS_FROM_HUMANITARIAN_SETTINGS)

Bilukha, O and Leidman, E: Concordance between the estimates of wasting measured by weight-for-height and by mid-upper arm circumference for classification of severity of nutrition crisis: analysis of population-representative surveys from humanitarian settings, 2018: Available at: [https://bmcnutr.biomedcentral.com/articles/10.1186/s40795-018-0232-0#:~:text=Prevalence%20of%20wasting%20by%20WHZ%20exceeded%20prevalence%20by%20MUAC%20in,in%2030%20\(73.17%25\)%20countries.&text=The%20difference%20between%20the%20prevalence,increased%20\(%CF%81%20%3D%200.69\).](https://bmcnutr.biomedcentral.com/articles/10.1186/s40795-018-0232-0#:~:text=Prevalence%20of%20wasting%20by%20WHZ%20exceeded%20prevalence%20by%20MUAC%20in,in%2030%20(73.17%25)%20countries.&text=The%20difference%20between%20the%20prevalence,increased%20(%CF%81%20%3D%200.69).)

Grellety, E and Golden, M: Weight-for-height and mid-upper-arm circumference should be used independently to diagnose acute malnutrition: policy implication, 2016. Available at: <https://bmcnutr.biomedcentral.com/articles/10.1186/s40795-016-0049-7>

Stunting

Definition and analytical approach

Stunting is defined as <-2 Z scores height-for-age. The CDC (Center for Disease Control) defines stunting as “Growth failure in a child that occurs over a slow cumulative process as a result of inadequate nutrition and/or repeated infections” (WFP and CDC 2005). As such, levels of stunting indicate overall poverty and chronic malnutrition, of which food insecurity can be a contributing factor.

The indices and indicators derived from anthropometric measures reflect inadequate food intake and disease, with the latter being also driven by non-food security factors, including unhealthy household environment and a lack of health services. The recommended and preferred index for assessing height or length gain relative to age is the height or length for age Z-score (HAZ) by sex.

HAZ is defined as the deviation of the height or length for an individual of a given age and sex from the median height or length of the reference population, divided by the standard deviation of height or length of the reference population. Low values of HAZ (stunting) typically imply long-term malnutrition. Cut-off values of HAZ have been used to estimate the prevalence of different severity of growth retardation (stunting), where HAZ less than -3.0 is severe stunting (WHO, 1995), and from -3.0 to -2.0 as moderate stunting (WHO, 1995).

Explanation of IPC reference thresholds

IPC CFI recognizes that a one-to-one relationship is not expected between chronic malnutrition and CFI, as malnutrition is not driven by food security issues alone. Nevertheless, rates of chronic malnutrition are still important for supporting the distribution of population of households among the four levels of CFI because:

- There is a link between inadequate dietary intake and stunting: Various studies (see references) have found some correlation between indicators of dietary intake, such as the HDDS and FCS, and chronic malnutrition. However, correlation is never absolute, and it has been widely accepted that non-food security issues also affect malnutrition.
- There are various common underlying causes of persistent inadequate food consumption and long-term growth retardation that are included in the IPC analysis of CFI. The IPC Analytical Framework includes underlying causes that are common to CFI and chronic malnutrition, including livelihood assets (e.g. education, housing conditions and poverty), and livelihood strategies and policies, processes and institutions (e.g. access to health care and vaccination campaigns).
- The distribution of population in relation to HAZ, when measuring chronic malnutrition in children and the underlying CFI indicators, follows a normal bell-curve. Thus, approximately the same percentage of children for HAZ and of households with CFI is expected.

Based on these assumptions, IPC is suggesting the use of prevalence of severity level of chronic malnutrition in higher severity Levels of the CFI Reference Table (Levels 3 and 4), as chronic malnutrition relates to food insecurity factors and may support the distribution of households across the four CFI severity Levels.

Population groups persistently consuming a diet lacking quality and quantity in developing countries are at greater risk of having households with members who are chronically malnourished.

- Level 1: HHs are not likely to have stunted children due to food consumption problems;
- Level 2: HHs are not likely to have moderately or severely stunted children;
- Level 3: HHs are at greater risk of having moderately stunted children; and
- Level 4: HHs are at greater risk of having severely stunted children.

Box 24: Adopted stunting cut-offs for IPC

Chronic Food Insecurity Reference Table	
Level	Chronic malnutrition in children (stunting)
1 & 2	HAZ \geq -2 SD “no stunting”
3	HAZ $<$ -2 SD but \geq -3 SD “moderately stunted”
4	HAZ $<$ -3 SD “severely stunted”

Key sources of evidence

Nutrition surveys, nutrition monitoring systems

Limitations

Stunting is a result of different factors, such as inadequate nutrient intake, disease, and inadequate care environment. It may be difficult to assess how much is due to each of these factors and their interaction. Stunting can also reflect growth failure without indication of deficiencies of specific nutrients that may occur with food shortages. IPC CFI assumes a dose-response relationship between CFI and stunting, i.e. the higher the level of chronic food insecurity the higher the level of chronic malnutrition.

References

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WHO (1995), Physical status: The use and interpretation of anthropometry, Report of a WHO Expert Committee, WHO TRS 854. Geneva, Switzerland.

See also http://whqlibdoc.who.int/trs/who_trs_854.pdf.

Body Mass Index (BMI)

Definition and analytical approach

Body Mass Index (BMI) is an index of weight-for-height that is commonly used to classify underweight, overweight and obesity in adults, also called a Quetelet index. It is defined as the weight in kilograms divided by the square of the height in meters (kg/m²). The BMI cut-offs are applicable to all adult populations, but typically data is collected on non-pregnant women of reproductive age (15–49 years).

Explanation of IPC reference thresholds

The IPC integrates BMI into the IPC AFI Scale. For AFI, BMI is used to identify the portion of women between 15 and 49 years who are underweight (BMI < 18.5) and based on this percentage, an indicative classification of the appropriate AFI Phase is possible. However, if information is available on males or on the general adult population is available, the same cut-off of <18.5 is used to estimate the prevalence of underweight for those populations. The threshold and cut-offs are based on reference levels recommended by WHO.

Box 25: Adopted BMI cut-offs for IPC

Acute Food Insecurity Reference Table	
Phase	BMI cut-off
1	<5%
2	5-9.9%
3	10-19.9%
4	20-39.9%
5	≥40%

Key sources of evidence

Nutrition surveys, nutrition monitoring systems

Limitations

It is important to note that BMI calculation is solely dependent on the net weight and height of the individual; BMI values ought not to be analysed in isolation but must be correlated to other anthropometric dimensions and body shape of the individual. In addition, the WHO reference levels have not been reviewed for some time, and it is acknowledged that they should be reviewed based on the current global distribution of low BMI.

References

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PART 5: MORTALITY

Mortality rates are the primary indicator for defining a humanitarian emergency. In IPC classifications they provide important evidence especially in the higher severity Phases of the IPC Acute Food Insecurity Analysis, are useful for distinguishing between phase 4 and 5, and are prerequisite to a full famine declaration. Since mortality rates are expected to remain at baseline levels in a chronic food insecurity context, and cause-impact relationship between chronic food insecurity and mortality cannot be easily demonstrated, no mortality indicators are included in the IPC CFI scale.

Crude Death Rate

Definition and analytical approach

The Crude Death Rate (CDR) is the total number of deaths that occur in a population over a defined period of time. It is usually expressed as deaths per 10,000 people in a population per day. The Crude Death Rate is frequently used to gauge the severity of a humanitarian emergency. A crude death rate has four components:

- Specified measurement period
- The numerator: the number of deaths that occurred in a specified geographic area during a given period of time.
- The denominator: the total number of people in the population at risk in the same geographic area for the same period of time (“person-time at risk”).
- A constant. The result of the fraction is usually multiplied by some factor of 10 (such as 100,000), so that the rate may be expressed as a whole number.

In emergency situations CDR is expressed as the number of deaths / 10,000 people/ day. It is measured by the formula:

$$\text{CDR per 10,000 people} = \frac{\text{Deaths occurring during a time period}}{(\text{Size of the population}^7 \times \text{time period in days})} \times 10,000$$

i.e. total number of deaths to residents in a specified geographic area (country, state, county, etc.) divided by the total number of persons at risk of dying during that period for the same geographic area multiplied by the specified time period, usually a period of three months i.e. 90 days) and multiplied by 10,000.

Explanation of IPC reference thresholds

The IPC integrates CDR in all Phases, but it is acknowledged that the importance of mortality data increases with the severity of the food security and nutrition situation: data on mortality is indispensable for Famine (Phase 5) declaration and it is also useful for distinguishing between phase 4 and 5. The cut-offs for CDR and U5DR are based on cut-offs previously developed by Centers for Disease Control, and reviewed during an expert consultation in 2011. The conclusion of the expert consultation was that IPC should strive to identify the beginning stages of a famine so that as many lives as possible can still be saved, rather than to wait until the famine has escalated with a commensurate loss of lives. As a result, the CDR cut-off for Phase 5 was set at 2/10000/day, rather than at 4, or higher. The cut-off for U5DR is double that for CDR as the baseline level of mortality in under-five children is much higher than the baseline CDR.

Box 26: Adopted CDR and U5DR cut-offs for IPC

Acute Food Insecurity Reference Table		Acute Food Insecurity Reference Table	
Phase	CDR cut-off	Phase	U5DR cut-off
1	<0.5/10,000/day	1	<1/10,000/day
2	<0.5/10,000/day	2	<1/10,000/day
3	0.5-0.99/10,000/day	3	1-2/10,000/day
4	1-1.99/10,000/day	4	2-3.99/10,000/day
5	≥ 2/10,000/day	5	≥4/10,000/day

⁷ If there are large fluctuations in population size over the analysis time period, the population at mid-period should be taken as the reference population. This is calculated by taking the average of the population at the beginning and at the end of the examined period.

Key sources of evidence

Nutrition surveys incorporating mortality questions, mortality surveys, vital registration systems, health information systems, graveyard monitoring.

Limitations

Despite its direct relationship with extreme food insecurity, it is difficult to measure CDR in real time during an emergency. Challenges include: (1) shifting base populations due to dynamic in-and-out migration; (2) low incidences with high variability; (3) the high potential for as yet “unknown” status; and (4) other complicating factors, such as system-level difficulties in collecting good quality data on mortality. Furthermore, real-time data are rarely available also because of a lack of surveillance systems.

References

More detailed information on CDRs is available at *Statistical Notes for Health Planners. No. 3. Mortality*. Kleinman, J. C. February 1977. 16 pp. (HRA)

Checchi and Roberts: Interpreting and using mortality data in humanitarian emergencies, 2005

Checchi et al.: Public health in crisis-affected populations A practical guide for decision-makers, 2007

Note on Conversion of Mortality Rates

The CDR and Under 5 Death Rates (U5DR) are used as indicators for mortality outcomes in IPC acute food insecurity analysis. These indicators express mortality in number of deaths per 10,000 per day. The data collection is usually done by retrospective surveys, collecting data on deaths, for example, for the past three months. Normally these indicators are collected in situations where sudden events (shocks) create a spike in mortality but should be used whenever data is available.

In many countries, however, data on these specific indicators are not available, and commonly used indicators include the Crude Mortality Rate (CMR) and Under 5 Mortality Rate (U5MR). Data on CMR and U5MR are usually collected by national health authorities, and U5MR data are also collected in the Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS).

CMR, like CDR, tracks overall mortality in a given population for a specific time period but may be expressed using different units and may therefore require conversion. The conversion of CMR into CDR is done in two steps:

- As CMR indicator deaths are typically reported per 1,000 per year, there is a need to multiply the CMR by 10 to get to the number per 10,000 per year.
- Subsequently the result must be divided by 365.4 to get the rate per 10,000 per day.

The U5DR and U5MR indicators are, however, designed to measure different things and conversion of one to the other is more complicated and involves a number of assumptions. U5MR indicates the probability of dying between birth and the fifth birthday, which is expressed by number of deaths per 1,000 live births within the first five years of life (x/1000/5 years).

It is possible to convert the U5MR into U5DR by using a formula (see below), provided by WHO (based on work done by Harvard University and the Centre for Research on the Epidemiology of Disasters [CRED]). The conversion is contingent upon validity of two assumptions:

- Mortality is constant within the recall period. This assumption may be difficult to uphold if conditions change rapidly – for example during a crisis. In a stable situation the mortality rates are expected to remain more constant.

- Age distribution remains equal during the recall period. (The formula for the conversion is: $U5DR = -\ln(1-p/1000)*5.47$ In which ln is the natural logarithm of the results of the calculation of $(1-p/1000)$ and p is the U5MR).

If U5MR is converted to provide an estimate of U5DR it can only be used as indirect evidence in IPC analyses as it will not reflect the current situation but rather longer term trends. However, if conditions have remained similar the conversion may give an indication of the mortality situation and add value to the analysis. In case of changes in the underlying conditions or a severe deterioration of the situation the use of converted rates is not advised.

The table below provides reference values of CMR and U5MR in terms of their corresponding CDR or U5DR values included in the IPC Acute Reference Table. Occasionally the terms U5MR and U5DR are, incorrectly, used interchangeably and the key to understanding which indicator is in question is to look at the denominator: the denominator for U5MR is 1,000 live births whereas for U5DR it is 10,000 children under 5 per day.

Table 16: Reference values for CMR and U5MR for IPC Phases

Phases in IPC Acute Food Insecurity Reference Table	Mortality Rate as per Reference thresholds	Mortality Rates usually used in DHS and MICS	
		CMR Number of deaths per 1,000 per year	U5MR the probability of dying between birth and fifth birthday
Phase 1 - Minimal	CDR: <0.5/10,000/day	<18.3	
	U5DR: ≤ 1/10,000/day		≤166.9
Phase 2 - Stressed	CDR: <0.5/10,000/day	<18.3	
	U5DR: ≤ 1/10,000/day		≤166.9
Phase 3 - Crisis	CDR: 0.5-1/10,000/day	18.3 – 36.5	
	U5DR: 1-2/10,000/day		167.0 – 306.0
Phase 4 – Emergency	CDR: 1-2/10,000/day	36.5 – 75	
	U5DR: 2-4/10,000/day		306.3 – 518.3
Phase 5 - Famine	CDR: >2/10,000/day	>75	
	U5DR: >4/10,000/day		>518.3

PART 6: CONTRIBUTING FACTORS

Hazards and vulnerabilities

Reliance on low-value livelihood strategies

Definition and analytical approach

Low-value livelihood strategies can be characterized as strategies that provide low income and are unpredictable. This often entails seasonal employment that is inadequate to cover all essential food and non-food needs of the household. The identification of low-value livelihood strategies is context-dependent and should be done locally, and may include such strategies as: subsistence firewood, grass or charcoal sales; reliance on the consumption or sale of low-value or less-preferred wild foods; or reliance on informal, low-skilled casual labour wages. Households employing low-value livelihood strategies are usually also more prone to chronic food insecurity as their livelihood strategies do not allow them to cover their basic needs from day to day.

Explanation of IPC reference thresholds

The categories of low-value strategies presented in the Reference Table are based on the importance of these sources of income within the main three income sources, i.e. whether the strategies are included in the three most important income sources of the households.

- **Levels 1 and 2:** Reliance on low-value livelihood strategies not present.
- **Levels 3 and 4:** Reliance on low-value livelihood strategies present.

Box 27: Adopted cut-offs for Reliance on low-value livelihood strategies for IPC

Chronic Food Insecurity Reference Table	
Level	Reliance on low-value livelihood strategies for IPC
1 & 2	Not present
3 & 4	Present

Key sources of evidence

Surveys collecting information on food and income sources, e.g. NGO baselines and final evaluations, WFP food security surveys, and other national surveys.

Limitations

This indicator remains context specific, and analysts need to determine the low-value activities for the analysis areas based on their knowledge and understanding of the livelihood context in the areas in question. This sometimes poses problems and the resulting analysis is subjective. Triangulation with other data is recommended to support the identification of low-value livelihood strategies, such as data on the income level of households with different livelihood strategies.

Reference

Frankenberger, McCaston et al. (1998) define household livelihood security as:

“adequate and sustainable access to income and resources to meet basic needs (including adequate access to food, potable water, health facilities, educational opportunities, housing, time for community participation and social integration)”.⁸

Information on typical income sources of chronically poor households is available e.g. in the following report:

World Bank 2018: Overcoming Poverty and Inequality in South Africa. An Assessment of Drivers, Constraints and Opportunities. Available at: <http://documents.worldbank.org/curated/en/530481521735906534/pdf/124521-REV-OUO-South-Africa-Poverty-and-Inequality-Assessment-Report-2018-FINAL-WEB.pdf>

National Poverty Line

Definition and analytical approach

According to the World Bank, the National Poverty Rate is the percentage of the population living below the national poverty line. National estimates are based on population-weighted subgroup estimates from household surveys.⁹ The World Bank defines poverty lines as cut-off points separating the poor from the non-poor and, in the case of the extreme poverty line, the poor from the extremely poor.

⁸ Frankenberger, T.R & McCaston, M. K., 1998. The household livelihood security concept, Food, Nutrition and Agriculture, No. 22, Rome, FAO

⁹ World Bank, Global Poverty Working Group, <http://data.worldbank.org/indicator/SI.POV.NAHC>

Poverty lines can exhibit various characteristics, depending on needs and context, including monetary and non-monetary characteristics. Overall, there are two main types of poverty lines: relative and absolute. The latter are based on absolute standards necessary for households to meet their basic needs, such as the cost of basic food needs. Relative poverty lines are instead anchored to the overall distribution of consumption and income in a country, such as a certain percentage of the country's median consumption or income. Usually, however, national poverty estimates are related to the cost of a basic food basket, and whether households are able to afford the basic food basket or not. The food basket is determined at national, and sometimes at sub-national level by country authorities. Those who cannot afford it are considered to be below the extreme poverty level (Level 4). Those households that can meet the costs of the basic food basket but not all other essential expenditures, e.g. on health and education, are considered to be below the moderate poverty level (Level 3). Households that can afford the basic food basket and all other essential needs are above the moderate poverty level (Levels 1 and 2).

Explanation of IPC reference thresholds

Poverty has an impact on purchasing power and access to food, as well as on nutritional status and general health at household and individual levels. According to the IPC CFI scale, Moderate CFI (Level 3 CFI) is associated with households below the poverty line and above extreme poverty, while Severe CFI is associated with households below the extreme poverty line (Level 4 CFI). Households in Levels 1 and 2 are expected to be above the national poverty line(s).

Box 28: Adopted National Poverty Line cut-offs for IPC

Chronic Food Insecurity Reference Table	
Level	National Poverty Line
1 & 2	Above poverty line
3	Below poverty line but above extreme poverty line
4	Below extreme poverty line

Key sources of evidence

Household Expenditure and Budget Surveys; Living Standard Measurement Surveys; National Poverty Surveys; and Labour Force Surveys provide the evidence on consumption, expenditures and/or incomes that allow estimation of whether a household is below the established poverty line(s) at national or sub-national levels.

Limitations

Data on poverty is typically available at national and sub-national levels. However, there are many ways to calculate poverty levels as poverty rates may be estimated using distribution of income or consumption and through applying either absolute or relative approaches. These differing approaches make it difficult to compare poverty data across countries. When using national poverty estimates, analysts should take into account the approach used to arrive at the estimates, in order to better understand the data and how it compares to other data used in the analysis.

Reference

The main resource in terms of poverty lines and related national estimates is the World Bank, which provides an account of country-specific information, available at <http://data.worldbank.org/indicator/SI.POV.NAHC>¹⁰ and <http://data.worldbank.org/topic/poverty>

¹⁰ Information also available by the Institute of Research on Poverty at <http://www.irp.wisc.edu/fags/faq1.htm#alternative>

Estimates of prevalence of households below the moderate and extreme poverty levels by analysis area are typically available at country level based on nationally defined criteria. In such cases, estimates are produced by national statistics agencies.

Percentage of total cash expenditure spent on food

Definition and analytical approach

Household expenditure surveys can be used for estimating the percentage of household expenditure on food. It is generally accepted that share of food in total expenditure is inversely related to wealth; the lower total household expenditure is, the higher the proportion of income spent on food.¹¹ As a food security indicator, a higher percentage of total expenditure on food has been related to food deprivation at the household level (FAO, 2003). As households become wealthier, the percentage of expenditure on food vs. total income declines. As income increases, household food demand also changes, reflected in reduced consumption of unprocessed and lower value commodities (such as starchy foods), with increased consumption of higher nutritional value food (such as meat, fruits and dairy products).

Since food insecurity is present both at individual and at household level (Smith 2003), household expenditure surveys are particularly useful to measure food insecurity, given their low level of aggregation (considering that evidence is collected directly at the lowest possible level).

Explanation of IPC reference thresholds

In the IPC CFI Reference Table, Level 1 of CFI is associated with a total expenditure on food below 40%. Mild CFI (Level 2 CFI) is associated with a percentage of total cash expenditure spent on food of between 40 and 50%; Moderate CFI (Level 3 CFI) is between 50 and 70%; and Severe CFI (Level 4 CFI) exceeds 70%. These ranges were estimated from a preliminary empirical exercise based on data for Sri Lanka, conducted by the World Bank in 2014.

Box 29: Adopted Percentage of Cash Expenditure Spent on Food cut-offs for IPC

Chronic Food Insecurity Reference Table	
Level	% of cash expenditure spent on food
1	<40%
2	40-50%
3	50-70%
4	>70%

Key sources of evidence

Surveys that include expenditure modules, e.g. those of WFP, as well as household budget surveys financed and supported by the World Bank.

Limitations

A main limitation in calculating food expenditure shares relates to the quality and precision of households' consumption and expenditure reports. Recollection biases, strategic behaviour and measurement errors can affect the precision of expenditure reports.

¹¹ Cranfield, J.A.L., Hertel, T.W., Eales, J.S & Preckel, P.V. 1998. Changes in the Structure of Global Food Demand, *American Journal of Agricultural Economics*, 80(5): 1042–1050. DOI: 10.2307/1244202

Reference

The Engels curve is a basic concept of microeconomics that has been applied to food security through socio-economic and demographic studies (Smith, 2003).¹² The Engels curve does not have to have a particular shape, as it just relates household's socio-economic situation and expenditure in food. The Engels curve depicts the relationship between household welfare and food expenditure share, and typically follows a particular trend.

Household Economy Approach (HEA), total income as proportion of survival needs

Definition and analytical approach

Within the Household Economy Approach (HEA), two thresholds are used with which to compare households' access to food and income against their basic food and livelihoods needs: Livelihood Protection Threshold, and the Survival Threshold. The HEA Outcome Analysis quantifies shocks by examining how important food and income sources have or will likely be affected and compares the result against the two thresholds.

The calculation of total income as a percentage of the food and livelihood needs provides information on the strength of households' food and income sources with respect to the cost of minimum needs. It can therefore be used as an indicator of food insecurity.¹³ The IPC chose the survival threshold as the reference point for this indicator in the IPC Chronic Reference Table as it is relatively more comparable between household groups and livelihood zones than the livelihood protection threshold: survival needs to households are the same across cultures whereas livelihoods and livelihood needs vary substantially.

Explanation of IPC reference thresholds

According to the IPC CFI Reference Table, a total income representing more than 150% of the household's survival needs is associated with No CFI (Level 1 CFI); between 125 and 150% is associated with Mild CFI (Level 2 CFI); between 110 and 125% with Moderate (Level 3 CFI); and lower than 110% implies Severe CFI (Level 4 CFI).

Box 30: Adopted Household Economy Analysis cut-offs for IPC

Chronic Food Insecurity Reference Table	
Level	Total income as a % of survival needs
1	>150%
2	>125-150%
3	110-125%
4	<110%

Key sources of evidence

Information on total income of households and the survival needs can be found in HEA baselines (and possibly through other sources).

Limitations

¹² Smith, L.C. 2003. Keynote Paper: The use of household expenditure surveys for the assessment of food insecurity <http://www.fao.org/docrep/005/Y4249E/y4249e08.htm>

¹³ Livelihood at the limit "Reducing the Risk of Disasters and Adapting to Climate Change, Evidence from the consolidated Household Economy Analysis, FEG and Save the Children, 2013

The use of total income as a percentage of survival needs typically uses HEA analysis and baseline (although data may also be available from other surveys). Specific analysis by using HEA databases needs to be conducted to arrive at the results that can be compared against the IPC Chronic Reference Table cut-offs, as this information is not readily available in baseline reports. Additionally, the survival threshold varies somewhat over time, by livelihood zone and wealth group and is therefore context specific.

References

Adapted from the Practitioners’ Guide to HEA. Additional information available from The Food Economy Group website (www.feg-consulting.com).¹⁴ FEG. The Food Economy Group. Available at: <http://www.feg-consulting.com/hea>.

See also the World Food Programme Food Security Assessment Handbook

Household resilience

Importance

In the wake of recurrent shocks and deepening protracted crises in disaster-prone areas of the world, many food security stakeholders have in recent years turned attention toward the concept of resilience as a means of preventing disasters, while at the same time addressing the underlying causes of chronic food and livelihood insecurity. Consequently, the concept of resilience has become a focus of policy discussions among global aid organizations and is the main objective of large-scale interventions, to which substantial funding is being directed.¹⁵

Explanation of IPC reference thresholds

There is a general agreement that relationships exist between food security, livelihood security, and resilience. However, these relationships have neither been clarified nor quantified for the purposes of establishing reliable thresholds. Due to a large interest in resilience analysis, several agencies have developed their own definitions of resilience, as well as their own approach to resilience measurement. Due to lack of common, globally accepted definition and indicator(s) for resilience, the IPC has decided for the time being not to incorporate any specific resilience indicators in the IPC Reference Tables. As a result, for IPC CFI analysis, interpretation of household resilience as a contributing factor is qualitative and based on a convergence of evidence.

Box 31: Adopted HH resilience cut-offs for IPC

Chronic Food Insecurity Reference Table	
Level	Household resilience
1	Resilient
2	Limited resilience
3	Very limited resilience
4	Not resilient

¹⁴ FEG. The Food Economy Group. Available at: <http://www.feg-consulting.com/hea>. See also the World Food Programme Food Security Assessment Handbook.

¹⁵ Constas, M.A., Frankenberger, T.R. Hoddinott, J., Mock, N., & Romano, D. 2014. An Analytical Model for Resilience Measurement for Development. Causal Structure, Indicators, Methods, and Estimation Procedures. Draft for internal review. Prepared for the Resilience Measurement Technical Working Group (RM-TWG), Food Security Information Network (FSIN). May 2014.

Key sources of evidence

A number of models for resilience measurement and analysis have been developed and are employed. Each employs a range of common and distinct analytical resources. Field application of different models has been conducted in various contexts. Currently, no single model has been adopted as a global standard. Models of resilience measurement include: Resilience Index Measurement and Analysis (RIMA),¹⁶ FTF FEEDBACK Model for Resilience Analysis,¹⁷ Multidimensional Approach to Measuring Resilience,¹⁸ Household Economy Approach Resilience Measure (HEARM),¹⁹ Livelihoods Change Over Time (LCOT),²⁰ and the Agriculture Resilience Index (ARI)²¹, among others.

Limitations

Despite the global efforts to understand and to measure resilience, the resilience community has not so far been able to agree on a common definition of resilience, common terminology, or on best ways to measure resilience. Any existing data on resilience can be used in IPC analysis, but care is needed in calibrating resilience data and results to IPC Phases/Levels: prior knowledge of components of resilience analysis and the (modelling) approach used to achieve results is crucial.

Reference

The Resilience Measurement Technical Working Group (RMTWG) is hosted by the Food Security Information Network (FSIN) and jointly coordinated by FAO and WFP (<http://www.fsincop.net/topics/resilience-measurement/technical-working-group/en/>). The RMTWG was organized to develop common analytical approaches and related guidance for field practitioners. It comprises about 20 renowned experts representing UN organizations, international non-governmental organizations, academic institutions and independent research organizations.

Iodized salt

Definition and analytical approach

Iodine deficiency is the single most significant preventable cause of brain damage, and IDD has a detrimental impact on development of children as well as on adult productivity. Common salt used in the household is one of the most usual vehicles for iodine fortification to prevent iodine deficiency disorders (IDD). In certain surveys, salt kept at home is tested for iodine, and results are used to understand the level of risk of IDD in the population.

Explanation of IPC reference thresholds

The IPC CFI Reference Table considers the use of iodized salt compatible with No or Mild CFI (Levels 1 or 2 CFI), while linking the lack of iodized salt at household level to Moderate and Severe CFI (Levels 3 or 4 CFI).

¹⁶ FAO, Resilience Index Measurement and Analysis - II (RIMA-II), Available at: www.fao.org/3/a-i5665e.pdf

¹⁷ USAID/Feed the Future, Community Resilience: Conceptual Framework and Measurement, Available at https://agrilinks.org/sites/default/files/resource/files/FTF%20Learning_Agenda_Community_Resilience_Oct%202013.pdf

¹⁸ Oxfam, Multidimensional Approach to Measuring Resilience, Available at: <http://policy-practice.oxfam.org.uk/publications/a-multidimensional-approach-to-measuring-resilience-302641>

¹⁹ FEWSNET, Household Economy Approach Resilience Measure (HEARM), Available at: <http://www.fews.net/content/using-livelihoods-data-measure-resilience>

²⁰ Feinstein International Center, Tufts University, Livelihoods Change Over Time (LCOT), Available at: <http://fic.tufts.edu/research-item/livelihoods-change-over-time/>

²¹ Florence University, Agriculture Resilience Index (ARI), Available at: <http://www.developmenteconomics.unifi.it/upload/sub/CIANI-Job%20Market%20Paper.pdf>

Box 32: Iodized salt cut-offs for IPC

Chronic Food Insecurity Reference Table	
Level	Iodized salt
1	Present
2	Present
3	Not present
4	Not present

Key sources of evidence

The testing of a household's salt for iodine is an activity associated with carrying out the core questionnaire in the DHS and MICS. These surveys use resources that provide a qualitative indication of the presence or absence of iodine, such as the MBI rapid test kit.

Limitations

While a useful indicator of quality, iodized salt is only one indicator among others on the quality of diet, and therefore other, country-specific, indicators of micronutrient fortification should also be considered. In all cases, a comprehensive assessment should also include a consideration of actual quantity consumed and fortification adequacy, as well as salt testing at the household level, as incorporated in DHS, for example.

Reference

Fortified salt that contains 15 parts of iodine per million of salt (15 ppm) is considered adequate for the prevention of iodine deficiency (ICCIDD/UNICEF/WHO, 2001)²².

Food Availability, Access, Utilization and Stability

Definition and analytical approach

According to the internationally agreed definition, food security is said to exist “when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (World Food Summit, 1996). The four pillars of food security are identified as availability, access, utilization and stability.

Explanation of IPC reference thresholds

In both IPC Acute and Chronic Reference Tables, there are qualitative descriptions of availability, access, utilization and stability. This is due to the fact that there are no globally comparable indicators for the pillars of food security with accepted cut-offs, with the exception of water access.

²² ICCIDD, UNICEF, and WHO, Assessment of Iodine Deficiency Disorders and Monitoring their Elimination A guide for programme managers. Second edition, 2001

In the IPC Acute Reference Table, the food security dimensions are expected to be adequate in Phase 1 and borderline adequate in Phase 2. Inadequacy of the food security dimensions is expected to manifest itself from Phase 3 onwards, whereby in Phase 3, the dimensions are inadequate to cover food consumption and/or livelihood needs, very inadequate in Phase 4, and extremely inadequate in Phase 5.

The IPC CFI Reference Table indicates that inadequate availability, access, utilization and stability are associated with moderate CFI (Level 3 CFI), while very inadequate is associated with severe CFI (Level 4 CFI). The definition of inadequacy is context specific and needs to be defined by food security analysts across regions and livelihood zones in a specific country.

Box 33: Adopted food security pillar cut-offs for IPC

Acute Food Insecurity Reference Table	
Phase	Food security dimensions' cut-offs
1	Adequate to meet food consumption requirements and short-term stable
2	Borderline adequate to meet food consumption requirements
3	Highly inadequate to meet food consumption requirements
4	Very highly inadequate to meet food consumption requirements
5	Extremely inadequate to meet food consumption requirements

Chronic Food Insecurity Reference Table	
Level	Food security dimensions' cut-offs
1	Adequate to meet food consumption requirements for a diet of acceptable quantity and quality
2	Adequate to meet food consumption requirements for a diet of minimally acceptable quantity but lacking in quality
3	Inadequate to meet food consumption requirements
4	Very inadequate to meet food consumption requirements

Key sources of evidence

Multiple sources at various levels of disaggregation (national or lower administrative level) can be used to gather data on availability, access and utilization. Market surveys often provide information on access; health surveys can be a good source of information with regard to utilization; while national agricultural statistics can provide data on availability.

Limitations

There are no globally comparable thresholds that can be applied to this specific indicator. The definition of specific quantitative cut-offs remains country specific, and countries are encouraged to express and further refine them, based on local context.

Reference

The World Food Summit 1996 definition of food insecurity is agreed to form the basis for the four pillars of food security: availability, access, utilization and stability (World Food Summit, 1996)²³.

Water Access/Availability

²³ World Food Summit, 1996. The World Food Summit technical background documents are archived at <http://www.fao.org/wfs/> [Accessed 2015-10-09]

Definition and analytical approach

“Water is essential for life, health and human dignity...In most cases, the main health problems are caused by poor hygiene due to insufficient water and by the consumption of contaminated water” (Sphere 2004). Thus, water access and availability are both a direct indicator (through basic survival levels) and indirect indicator (by affecting the adequate utilization of food) in IPC food insecurity analysis.

Water is an important aspect of food security: it is an essential nutrient for the human body and plays an important role in food preparation. Water is crucial e.g. for hygiene and sanitation, and for livestock and agriculture. The availability of water varies from area to area, even within the same country. The WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation has defined a number of standard drinking water and sanitation categories. According to JMP, the category of "improved" drinking water source includes sources that by nature of their construction and if properly used, are adequately protected from outside contamination, and specifically from faecal matter. Improved water sources include: piped water at the household level located inside the user's dwelling, plot or yard as well as public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, and rainwater collection. The UN General Assembly and the UN Human Rights Council recognized access to safe drinking water and sanitation as a human right in 2010. Specifically, it is recognized that:

“everyone has the right to a water and sanitation service that is physically accessible within, or in the immediate vicinity of the household, educational institution, workplace or health institution... According to WHO, the water source has to be within 1,000 metres of the home, and collection time should not exceed 30 minutes.”²⁴

In IPC Chronic Analysis both access to safe water, as well as quantity of water are analysed, whereas in IPC Acute Analysis the focus is on sufficient quantity of (safe) water. In addition, water is also an important consideration under food utilisation in both types of analysis.

Since the cut-offs focus on water quantity (IPC Acute Analysis) and water quantity and water source (IPC Chronic Analysis) water treatment is not explicitly included in the IPC Reference Table. If, however, information on water treatment is available, this can be used to support analysis on water access and in IPC Chronic Analysis to strengthen analysis of improved/non-improved water sources. Water treatment methods that are known to significantly improve quality of drinking water include filtration (chemical, porous and membrane), chemical disinfection, heat (boiling, pasteurization and UV radiation), and use of flocculant/disinfectant.

Explanation of IPC reference thresholds

The IPC integrates water access in all IPC Acute Phases, with specific identified reference thresholds. The IPC generally follows the Sphere guidelines for total basic needs, while adjusting these levels to fit the Phase classes.

“Access to an improved water source” refers to the percentage of the population using an improved drinking water source. The IPC CFI Reference Table associates a combination of non-improved water source or water access of <15 litres pp/day to Moderate CFI (Level 3 CFI). Similarly, the IPC CFI Reference Table associates a combination of non-improved water source and water access of <15 litres pp/day with Severe CFI (Level 4 CFI). As information on water quantity is rarely available, distance to water source and/or collection time is often used as a proxy for quantity. In this case distance of >1,000 m and/or collection time of >30 minutes is assumed to indicate that quantity of water available per day is less than 15 l per person.

Box 34: Adopted water cut-offs for IPC

Acute Food Insecurity Reference Table	
Phase	Safe water
1	≥15 l/per person/day
2	≥marginally 15 l/per person/day
3	7.5-15 l/per person/day

²⁴ http://www.un.org/waterforlifedecade/pdf/human_right_to_water_and_sanitation_media_brief.pdf

4	4-7.5 l/per person/day
5	<4 l/per person/day

Level	Water source and water access
1	Improved and ≥ 15 l/per person/per day
3	Non-improved or <15 l/per person/per day
4	Non-improved and <15 l/per person/per day

Key sources of evidence

Information on access to water is typically included in food security surveys, and in large national surveys such as DHS, MICS and others. In emergency situations information on access to water can be received from agencies and reports covering refugee and or IDP camps.

Limitations

The basic water requirements listed in the IPC are for human use only. For pastoral societies, water requirements for livestock would significantly increase these amounts and are necessary to consider for responses. Furthermore, basic water access and availability do not take into consideration other factors such as time required to fetch water. For further key indicators of water supply adequacy, see Sphere 2004. In addition, information on quantity of water accessible to households is often difficult to access. In absence of this information, available information on distance to water sources (time taken to fetch water) can be used as a proxy indicator.

References

The Sphere Handbook identifies water requirements for different basic survival needs: survival needs for water intake (2.5-3 litres per day), basic hygiene practices (2-6 litres per day), basic cooking needs (3-6 litres per day) and total combined basic water needs (7.5-15 litres per day). These values depend on several local factors including climate, individual physiology and social/cultural norms. <http://www.sphereproject.org/handbook/>

Definitions of the WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation are particularly relevant for this indicator. <http://www.wssinfo.org/definitions-methods/watsan-categories/>
http://www.unicef.org/wcaro/overview_2570.html

A Section for Monitoring and Evaluating Household Water Treatment and Safe Storage Programmes. WHO and UNICEF, 2012. http://apps.who.int/iris/bitstream/10665/76568/1/9789241504621_eng.pdf?ua=1

PART 7: QUESTIONNAIRE MODULES FOR INDICATORS INCLUDED IN IPC REFERENCE TABLES

This section provides questionnaire modules for different indicators included in IPC Acute, Chronic and Acute Malnutrition Reference Tables, and considers the requirements for correct calculation of different indicators. The colour codes provided below and shown after the name of each indicator, indicate for which analysis the indicator in question is relevant.

Direct evidence for IPC Acute Analysis
Direct evidence for IPC Chronic Analysis
Direct evidence for IPC Acute Malnutrition Analysis

Additional (indirect) evidence: good to collect if time and resources allow

It should be underlined that none of the modules below are, on their own, compulsory for an IPC analysis. It is up to the Technical Working Groups, and individual agencies implementing surveys, to decide which indicators to include in their assessments. This will depend on factors such as resources, context, previous surveys conducted, and the needs of decision-makers.

There is also a need to customise many of the modules below to the context of the country: this is specifically the case for modules in which questions are asked on consumed food items or purchased items, on monetary value of items, and on livelihood strategies and livelihood coping.

Indicator modules that do not require customisation include HHS, rCSI, FIES, MAHFS, modules collecting data on nutritional status and mortality, and modules on water access and iodised salt. It can also be noted that some indicators are suitable for rapid surveys, (as is the case for many of food consumption and food coping indicators), whereas the modules collecting very detailed information on food consumption, including the quantity of food items, is more suitable for comprehensive and baseline surveys.

Food Consumption

It is important to pay attention to placing of modules of food consumption in the food security survey questionnaire: modules with similar questions, such as rCSI, HHS and FIES should not be next to each other or close to each other, as this is likely to be confusing to interviewed households and may lead to poor quality data.

Household Hunger Scale

Household Hunger Scale (HHS): Indicator Definition and Measurement Guide is available on the FANTA website:

<https://www.fantaproject.org/monitoring-and-evaluation/household-hunger-scale-hhs>

1-Household Hunger Scale (HHS)			
1.1	In the past [4 weeks/30 days], was there ever no food to eat of any kind in your house because of lack of resources to get food?	0 = No (skip to 1.2) 1 = Yes	__
1.1a	How often did this happen in the past [4 weeks/30 days]?	1 = Rarely (1-2 times) 2 = Sometimes (3-10 times) 3 = Often (more than 10 times)	__
1.2	In the past [4 weeks/30 days], did you or any household member go to sleep at night hungry because there was not enough food?	0 = No (skip to 1.3) 1 = Yes	__
1.2a	How often did this happen in the past [4 weeks/30 days]?	1 = Rarely (1-2 times) 2 = Sometimes (3-10 times) 3 = Often (more than 10 times)	__
1.3	In the past [4 weeks/30 days], did you or any household member go a whole day and night without eating anything at all because there was not enough food?	0 = No (skip to the next section) 1 = Yes	__
1.3a	How often did this happen in the past [4 weeks/30 days]?	1 = Rarely (1-2 times) 2 = Sometimes (3-10 times) 3 = Often (more than 10 times)	__

The module below allows the calculation of the three indicators, of which FCS and HDDS are direct evidence for IPC Acute and Chronic Analysis. For the purposes of FCS some food items such as cereals, roots and tubers need to be collected together, whereas they are collected separately for HDDS. As a result, the module has been designed in a way that it allows the collection of all evidence as per the indicator-specific requirements. The questions necessary for FCS have been colored in grey, whereas the questions that are required for HDDS and FCS-N are in white. Separate collection of some items, such as muscle meat and offal, is necessary for purposes of FCS-N, but not for FCS or HDDS. The lists of example food items under each food category should be carefully reviewed to ensure that they are appropriate for the context in which the module is used. FCS-N is not direct evidence for IPC but can be used as indirect evidence on food consumption. If the team does not want to collect FCS and HDDS with one module, it is also possible to include two separate modules in the questionnaire.

More information on collection of Food Consumption Score is available e.g. in “Consolidated Approach to Reporting Indicators of Food Security (CARI)” by WFP:

https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp271449.pdf?_ga=2.56505515.1418010208.1620247508-1422697817.1569199665

Food Consumption Score, Household Dietary Diversity Score (and Food Consumption Score –Nutrition)

1- Food Consumption Score, Household Dietary Diversity Score (and Food Consumption Score – Nutrition)				
How many days during the 7 days your household consumed the following food products and how were these foods acquired? <i>(write 0 for products not consumed in the last 7 days)</i> . Note for investigators: determine if the consumption of fish, milk was only in small quantities.				
	Food products	Number of days when the food has been consumed for the last 7 days	Have you consumed this food in the 24 hours of yesterday (breakfast, lunch, dinner and snacks)? Yes = 1 No = 0	How was this food acquired? Give the main source of food in the last 7 days (List at the end of the table)
		If 0 pass has line (food) next		
1	Cereals, roots and tubers: sorghum, millet, corn, wheat, rice, pasta (spaghetti) and bread/pancake, fritters, sweet potato, potato, yam, cassava, other tubers (if no consumption – skip to 2)	____		____
1.1	Cereals: sorghum, millet, corn, wheat, rice, pasta (spaghetti) and bread/cake, donuts		____	____
1.2	Roots and tubers: white sweet potato, potato, yam, cassava and other tubers		____	____
2	Legumes/nuts: beans/peas, peanuts, lentils, almond, and/or other nuts	____	____	____
3	Milk and other dairy products: fresh milk / sour, yogurt, cheese, other dairy products except margarine/butter or small amounts of milk for tea / coffee <i>(exclude the margarine/butter or small amounts of milk for tea/coffee)</i>	____	____	____
4	Meat, fish, eggs: goats, beef, chicken, seafood, also tuna canned, etc (if no consumption- skip to 5)	____		____
4.1	Meat (muscle): goats, beef, chicken	____	____	____
4.2	Offal: liver, kidney, heart, or other red offal	____	____	____
4.3	Fish/shellfish: fish, other seafood, also canned tuna (in large quantities, not as condiment)	____	____	____
4.4	Eggs: (an egg per person in the household per day)	____	____	____
5	Vegetables: all (if no consumption - skip to 6)	____	____	____
5.1	Orange vegetables (vegetables rich in vitamin A) : carrot, pepper, pumpkin, orange sweet potato	____		____
5.2	Dark green leafy vegetables: broccoli, watercress, other dark green leaves etc.	____		____
6	Fruit: banana, apple, lemon, mandarin, mango, papaya, etc (if no consumption – skip to 7)	____	____	____
6.1	Orange fruit (Vitamin A-rich fruit): mango, papaya, apricot, fishing	____		____
7	Oil/fat/butter: cooking, butter, margarine, fat/oil, other oil	____	____	____
8	Sugar or sugary products: honey, jam, donuts, candy, biscuits, pastries, cakes and other sweet products	____	____	____

9	Miscellaneous: Any other foods, such as condiments (<i>cocoa, salt, garlic, spices, yeast/baking powder, tomato/sauce, meat or fish as a condiment,</i>), coffee, tea?	____	____	____
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Food Consumption Score

1- Food Consumption Score			
How many days during the 7 days your household consumed the following food products and how were these foods acquired? (<i>write 0 for products not consumed in the last 7 days</i>). Note for investigators: determine if the consumption of fish, milk was only in small quantities.			
	Food products	Number of days when the food has been consumed for the last 7 days . If 0 pass has line (food) next	How was this food acquired? Give the main source of food in the last 7 days (List at the end of the table)
1	Cereals, roots and tubers: sorghum, millet, corn, wheat, rice, pasta (spaghetti) and bread/pancake, fritters, sweet potato, potato, yam, cassava, other tubers (if no consumption – skip to 2)	____	____
2	Legumes/nuts: beans/peas, peanuts, lentils, almond, and/or other nuts	____	____
3	Milk and other dairy products: fresh milk / sour, yogurt, cheese, other dairy products except margarine/butter or small amounts of milk for tea / coffee (<i>exclude the margarine/butter or small amounts of milk for tea/coffee</i>)	____	____
4	Meat, fish, eggs: goats, beef, chicken, seafood, also tuna canned, etc (if no consumption- skip to 5)	____	____
5	Vegetables: all (if no consumption - skip to 6)	____	____
6	Fruit: banana, apple, lemon, mandarin, mango, papaya, etc (if no consumption – skip to 7)	____	____
7	Oil/fat/butter: cooking, butter, margarine, fat/oil, other oil	____	____
8	Sugar or sugary products: honey, jam, donuts, candy, biscuits, pastries, cakes and other sweet products	____	____
9	Miscellaneous: Any other foods, such as condiments (<i>cocoa, salt, garlic, spices, yeast/baking powder, tomato/sauce, meat or fish as a condiment,</i>), coffee, tea?	____	____

Codes of food sources:

- 1= Own crop/garden production
- 2= Market (purchase with cash or credit)
- 3= Food assistance
- 4= Borrowing/debts
- 5= Exchange of food for labour
- 6= Gifts from neighbours/relatives
- 7= Fishing
- 8=Hunting
- 9= Gathering

Household Dietary Diversity Score

Household Dietary Diversity Score (HDDS) for Measurement of Household Food Access: Indicator Guide. Available at: <https://www.fantaproject.org/monitoring-and-evaluation/household-dietary-diversity-score>

1- Household Dietary Diversity Score		
	Food products	Have you consumed this food in the 24 hours of yesterday (breakfast, lunch, dinner and snacks)? Yes = 1 No = 0
1	Cereals: sorghum, millet, corn, wheat, rice, pasta (spaghetti) and bread/cake, donuts	____
2	Roots and tubers: white sweet potato, potato, yam, cassava and other tubers	____
3	Legumes/pulses/nuts: beans/peas, peanuts, lentils, almond, and/or other nuts	____
4	Milk and other dairy products: fresh milk / sour, yogurt, cheese, other dairy products except margarine/butter or small amounts of milk for tea / coffee (<i>exclude the margarine/butter or small amounts of milk for tea/coffee</i>)	____
5	Meat and offal: goats, beef, chicken	____
6	Fish/shellfish: fish, other seafood, also canned tuna (in large quantities, not as condiment)	____
7	Eggs: (an egg per person in the household per day)	____
8	Vegetables: all	____
9	Fruits: all	____
10	Oil/fat/butter: cooking, butter, margarine, fat/oil, other oil	____
11	Sugar or sugary products: honey, jam, donuts, candy, biscuits, pastries, cakes and other sweet products	____
12	Miscellaneous: Any other foods, such as condiments (<i>cocoa, salt, garlic, spices, yeast/baking powder, tomato/sauce, meat or fish as a condiment,</i>), coffee, tea?	____

Reduced Coping Strategies Index

1-Reduced Coping Strategies (consumption based)		
	In the past 7 days, if there have been times when you did not have enough food or money to buy food , how often has your household had to:	Frequency (number of days from 0 to 7)
1.1	Relied on less preferred and less expensive foods	____
1.2	Borrowed food, or rely on help from a friend or relative	____
1.3	Limited portion size at mealtimes	____
1.4	Restricted consumption by adults in order for small children to eat	____
1.5	Reduced number of meals eaten in a day	____

The prompt question, i.e. 'In the past 7 days, if there have been times when you did not have **enough food or money to buy food**, how often has your household had to: (insert here one of the five strategies)' should be asked for all five strategies. This is necessary to avoid situations where the question is only asked in the beginning of the first strategy, and if the answer is 'no' i.e. 0 the enumerator assumes that the 'no' answer applies to all strategies and skips to the next section of the questionnaire. The Coping Strategies Index: A tool for rapid measurement of household food security and the impact of food aid programs in humanitarian emergencies (January 2008) is available at: https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp211058.pdf

Food Insecurity Experience Scale

FIES can be collected with different recall periods: a one month recall period, recommended for use of FIES in IPC Acute Analysis, a three month recall period, and a twelve month/one year recall period, which is recommended for use of FIES in IPC Chronic Analysis.

More information on FIES, including the survey modules, can be found on the FAO Voices of the Hungry -website: <http://www.fao.org/in-action/voices-of-the-hungry/using-fies/en/>

1-Food Insecurity Experience Scale (FIES)		
During the last 12 MONTHS, was there a time when you or any other adult member of your household:		0=No, 1=Yes 98=Don't know 99=Refused
1.1	Were worried you would run out of food because of a lack of money or other resources?	____
1.2	Were unable to eat healthy and nutritious food because of a lack of money or other resources?	____
1.3	Ate only a few kinds of foods because of a lack of money or other resources?	____
1.4	Had to skip a meal because there was not enough money or other resources to get food?	____
1.5	Ate less than you thought you should because of a lack of money or other resources?	____
1.6	Your household ran out of food because of a lack of money or other resources?	____
1.7	Were hungry but did not eat because there was not enough money or other resources for food?	____
1.8	Went without eating for a whole day because of a lack of money or other resources?	____

1-Food Insecurity Experience Scale (FIES)		
During the last 1 MONTH, was there a time when you or any other adult member of your household:		0=No, 1=Yes 98=Don't know 99=Refused
1.1	Were worried you would run out of food because of a lack of money or other resources?	____
1.2	Were unable to eat healthy and nutritious food because of a lack of money or other resources?	____
1.3	Ate only a few kinds of foods because of a lack of money or other resources?	____
1.4	Had to skip a meal because there was not enough money or other resources to get food?	____
1.5	Ate less than you thought you should because of a lack of money or other resources?	____
1.6	Your household ran out of food because of a lack of money or other resources?	____
1.7	Were hungry but did not eat because there was not enough money or other resources for food?	____
1.8	Went without eating for a whole day because of a lack of money or other resources?	____

Minimum Dietary Diversity of Women

'Minimum Dietary Diversity for Women. An updated guide for measurement: from collection to action'. Available at: <http://www.fao.org/documents/card/en/c/cb3434en>

1-Minimum Dietary Diversity for Women of Reproductive Age (MDD-W) (Ask one woman in each household)			
	Food category & food group	Examples of foods	Yesterday during the day or night, did you consume the following food items? 1= Yes, 0= No
1.1	A. Foods made from grains	<i>Porridge, bread, roti, rice, pasta/noodles or other foods made from grains</i>	____
1.2	B. White roots and tubers and plantains	<i>White potatoes, white yams, manioc/cassava/yucca, cocoyam, taro or any other foods made from white-fleshed roots or tubers, or plantains</i>	____
1.3	C. Pulses (beans, peas and lentils)	<i>Mature beans or peas (fresh or dried seed), lentils or bean/pea products</i>	____
1.4	D. Nuts and seeds	<i>Any tree nut, groundnut/peanut or certain seeds, or nut/seed "butters" or pastes</i>	____
1.5	E. Milk and milk products	<i>Milk, cheese, yoghurt or other milk products but NOT including butter, ice cream, cream or sour cream</i>	____
1.6	F. Organ meat	<i>Liver, kidney, heart or other organ meats</i>	____
1.7	G. Meat and poultry	<i>Beef, lamb, goat, rabbit, chicken, duck or other bird</i>	____
1.8	H. Fish and seafood	<i>Fresh or dried fish, shellfish or seafood</i>	____
1.9	I. Eggs	<i>Eggs from poultry or any other bird</i>	____
1.10	J. Dark green leafy vegetables	<i>any medium-to-dark green leafy vegetables, including wild/foraged leaves</i>	____
1.11	K. Vitamin A-rich vegs, roots and tubers	<i>Pumpkin, carrots, squash or sweet potatoes that are yellow or orange inside</i>	____
1.12	L. Vitamin A-rich fruits	<i>Ripe mango, ripe papaya</i>	____
1.13	M. Other vegetables	<i>other vegetables</i>	____
1.14	N. Other fruits	<i>other fruits</i>	____

Minimum Meal Frequency and Minimum Dietary Diversity of children of 6-23 months

Both indicators are collected e.g. in DHS and MICS surveys. Modules relating to child nutrition are included in women's questionnaire in DHS surveys, available at: https://dhsprogram.com/pubs/pdf/DHSQ8/DHS8_Womans_QRE_EN_19Jun2020_DHSQ8.pdf

1- Child Feeding (Minimum Acceptable Diet (MAD)/ Minimum Meal Frequency (MMF) / Minimum Dietary Diversity (MDD))					
1.1	How many children aged 6-23 months are currently in the household? (Check from previous section....)		_ _ If "0" → Skip to Section		
			Child 1	Child 2	Child 3
1.2	Name of child				
1.3	ID of child (Note from Q....in previous section)		_ _	_ _	_ _
1.4	What is child's age in months?		_ _	_ _	_ _
1.5	Was child ever been breastfed?	1= Yes, 0= No if No Skip to	_ _	_ _	_ _
1.6	Was child breastfed yesterday during the day or at night?	1= Yes, 0= No if No Skip to	_ _	_ _	_ _
1.7	How many times was child breastfed yesterday in the day or in the night?	1= Yes, 0= No	_ _	_ _	_ _
	What foods (child) eat yesterday during the day and night– even if combined with other foods, include liquids consume outside of your home.		Child 1	Child 2	Child 3
1.8	Grain, roots and tubers: Bread/roti, rice, noodles, porridge or other foods made from grains, white potatoes, white yams, manioc, roots	1= Yes 0= No	_ _	_ _	_ _
1.9	Legumes (pulses, beans, lentils) and nuts: Soybeans, cowpeas, mung beans, lablab bean, lima bean, pigeon pea, butter bean, lentils, chick pea, green gram, black gram, peanuts, cashew nuts and/or other nuts	1= Yes 0= No	_ _	_ _	_ _
1.10	Flesh food: liver kidney, heart and / or other organ meats or blood-based foods; goat, beef, chicken, mutton, barking dear, fish, including canned tuna, escargot, and / or other seafood	1= Yes 0= No	_ _	_ _	_ _
1.11	Eggs: eggs from chicken or other bird	1= Yes 0= No	_ _	_ _	_ _
1.12	Vitamin-A rich fruits and vegetables (including dark green leafy vegs): carrot, red pepper, pumpkin, orange sweet potatoes, mango, papaya, watercress, spinach, gourd/ pumpkin leaves, mustard leaves, "supo" leaves (fetid acacia), roselle broccoli, and/or other dark green leaves	1= Yes 0= No	_ _	_ _	_ _
1.13	Other fruits and vegetables: Tomato, gourds, cucumber, radishes, eggplant, cabbage, cauliflower, onion, green beans, peas, lettuce, banana, apple, grape, guava, lemon, tangerine, watermelon, pineapple, melon	1= Yes 0= No	_ _	_ _	_ _

1.14	Fortified foods cerelac, nestle, go power, wheat soya blend (WSB), wheat soya blend with milk (WSB+)	1= Yes 0= No	__	__	__
1.15	Milk fresh animal milk, or milk mixed in foods or drinks such as porridge, tinned milk	1= Yes 0= No	__	__	__
1.16	Other dairy products sour milk, yogurt, cheese	1= Yes 0= No	__	__	__
1.17	How many times yesterday during the day or at night did the child consume any other type of milk? Record frequency = 0 to 6 times if 7 or more times, record '7', if unknown, record '99')	times	__	__	__
1.18	How many times yesterday during the day or at night did the child consume any infant formula? Record frequency = 0 to 6 times if 7 or more times, record '7', if unknown, record '99')	times	__	__	__
1.19	How many times did the child eat solid, semi-solid, or soft foods other than liquids yesterday during the day or at night? Record frequency = 0 to 6 times if 7 or more times, record '7', if unknown, record '99')	times	__	__	__

Starchy Staples Expenditure Ratio and % of cash expenditure spend on food

Data on food expenditure provides the required information for calculation of Starchy Staples Expenditure Ratio. Data on food expenditure and on other cash expenditure provides the information required for calculation of % of cash expenditure spent on food. The table below can also include additional details and a more comprehensive version of the table is available e.g. in the CARI guidance of WFP, available at <https://www.wfp.org/content/consolidated-approach-reporting-indicators-food-security-cari-guidelines>. For the purposes of these two indicators, however, the table below is sufficient. It should be noted that the information collected with the second table on expenditures that do not typically take place every month can have a recall period of six months (CARI guidance) or three months as in the example below. When used to estimate the % of cash expenditure spent on food, the number of months should be divided by itself in order to get average expenditure per month, and to make this information comparable to other expenditure information.

EXPENDITURES AND CREDIT				
	Did you purchase any of the following items during the last 30 days for domestic consumption?	Ask the respondent to estimate the total cash and credit expenditure on the item for the 30 days.		During the last 30 days did your household consume the item without purchasing them? (Estimate the value of the non-purchased food items consumed during the last 30 days)
		Cash	Credit	
		(In local currency, write 0 if no expenditures apply)		
1.1	Cereals (maize, rice, sorghum, wheat, bread)			
1.2	Tubers (sweet potatoes, cassava)			
1.3	Pulses (beans, peas, groundnuts)			
1.4	Fruits & vegetables			
1.5	Fish/Meat/Eggs/poultry			
1.6	Oil, fat, butter			
1.7	Milk, cheese, yogurt			
1.8	Sugar/Salt			
1.9	Tea/Coffee			
1.10	Other meals/snacks consumed outside the home			

I.11	Milling and grinding			
I.12	Clothing, shoes			
I.13	Paraffin/fuel for transport			
I.14	Firewood/charcoal/fuel for cooking			
I.15	Soap			
I.16	Tobacco			
I.17	Transportation/communication			

Expenditures (3 months' recall)			
In the past 3 months how much money have you spent to acquire each of the following items or services? Use the following table, indicate in local currency . Write 0 if no expenditure. Round up the figures (no comma)			
		Cash	Credit
I.18	Construction, house repair		
I.19	Fines / Taxes		
I.20	Agricultural resources, seeds		
I.21	Hiring labor		
I.22	Household assets (knives, forks, plates)		
I.23	Alive animals (cattle, cow, goat/sheep)		
I.24	Medical expenses, health care		
I.25	Education, (school fees/uniforms)		
I.26	Celebrations, social events, funerals, weddings		
I.27	House rent		
I.28	All other non-food expenditures, totaled over the last 3 months		

Months of Adequate Household Food Provisioning

Guidance and modules for Months of Adequate Household Food Provisioning (MAHFP) are available at the FANTA website:

<https://www.fantaproject.org/monitoring-and-evaluation/mahfp>

1-Months of Adequate Household Food Provisioning		
Now I would like to ask you about your household's food supply during different months of the year. When responding to these questions, please think back over the last 12 months, from now to the same time last year. Were there months, in the past 12 months, in which you did not have enough food to meet your family's needs? PLACE A 1 IN THE BOX IF THE RESPONDENT ANSWERS YES. PLACE A 0 IN THE BOX IF THE RESPONSE IS NO.		If answer is no, skip this module
If yes, which were the months in the past 12 months during which you did not have enough food to meet your family's needs? THIS INCLUDES ANY KIND OF FOOD FROM ANY SOURCE, SUCH AS OWN PRODUCTION, PURCHASE OR EXCHANGE, FOOD AID, OR BORROWING. DO NOT READ THE LIST OF MONTHS ALOUD. PLACE A 1 IN THE BOX IF THE RESPONDENT IDENTIFIES THAT MONTH AS ONE IN WHICH THE HOUSHOLD DID NOT HAVE ENOUGH FOOD TO MEET THEIR NEEDS. IF THE RESPONDENT DOES NOT IDENTIFY THAT MONTH, PLACE A 0 IN THE BOX. USE A SEASONAL CALENDAR IF NEEDED TO HELP RESPONDENT REMEMBER THE DIFFERENT MONTHS. PROBE TO MAKE SURE THE RESPONDENT HAS THOUGHT ABOUT THE ENTIRE PAST 12 MONTHS.		
1.1	January	__
1.2	February	__
1.3	March	__
1.4	April	__
1.5	May	__
1.6	June	__
1.7	July	__
1.8	August	__
1.9	September	__
1.10	October	__
1.11	November	__
1.12	December	__

Dietary Energy Intake, Share of Energy from Macronutrients, Prevalence of Undernourishment, and Starchy Staples Ratio

The indicators that require information besides the type of food items consumed, also information on the quantity consumed, can be collected with a module similar to the one below. Items included in the module, such as units, currency, and food items need to be revised to ensure their applicability in the context where the survey is conducted. Of the indicators that can be calculated based on the module below, dietary energy intake is applicable both to IPC Acute and Chronic Analyses, whereas the rest of the indicators are included in the IPC Chronic Food Insecurity Reference Table. There are several versions of the detailed food consumption table. For the purposes of calculating the food consumption indicators used in IPC analysis the minimum information required is detailed breakdown of items consumed and the quantity of consumed food items. This type of very detailed information on food consumption is typically collected in large, comprehensive surveys such as Household Income and Expenditure Surveys, Household Consumption and Expenditure Surveys, or Living Standards Measurement Surveys that are conducted every few years.

The most comprehensive source of these surveys is the World Bank Microdata Library, available at: <https://microdata.worldbank.org/index.php/home>, whereas the International Household Survey Network website provides tools and guidance for comprehensive surveys: <https://www.ihsn.org/>. A separate guide with example questionnaire modules called “Designing Household Survey Questionnaires for Developing Countries: Lessons from 15 Years of the Living Standards Measurement Study, Volume 3” is available at: <https://openknowledge.worldbank.org/handle/10986/15195>

CONSUMPTION OF FOOD OVER PAST ONE WEEK IN THE HOUSEHOLD

[ASK PERSON MOST KNOWLEDGEABLE ABOUT FOOD PREPARATION IN THE HOUSEHOLD / HOUSEHOLD HEAD'S SPOUSE]

Dietary Energy Intake, Share of Energy from Macronutrients, Prevalence of Undernourishment, and Starchy Staples Ratio								
I T E M C O D E	1.	2.	3.	4.	5.	6.	7.	D E L I N E N U M B E R
	Within the <u>past 7 days</u> , did the members of this household eat/drink any [. . .] within the household?	How many days did your household eat/drink this item in the past 7 days?	How much in total did your household eat/drink in the <u>past 7 days</u> ?	Of the total amount that was eaten/drunk in the past seven days, how much came from purchases?	If you had to buy the quantity reported in Question 4 for [ITEM] in the market today, how much would you pay?	Of the total amount that was eaten/drunk in the past seven days, how much came from own-production?	Of the total amount that was eaten/drunk in the past seven days, how much came from gifts and other sources?	
			KG. 1	KG. 1	KG. 1	KG. 1	KG. 1	
			LITRE. 2	LITRE. 2	LITRE. 2	LITRE. 2	LITRE. 2	
			NUMBER. 3	NUMBER. 3	NUMBER. 3	NUMBER. 3	NUMBER. 3	
			CUP. 4	CUP. 4	CUP. 4	CUP. 4	CUP. 4	
			PILE. 5	PILE. 5	PILE. 5	PILE. 5	PILE. 5	
			SACK. 6	SACK. 6	SACK. 6	SACK. 6	SACK. 6	
			BAG. 7	BAG. 7	BAG. 7	BAG. 7	BAG. 7	
			CAN. 8	CAN. 8	CAN. 8	CAN. 8	CAN. 8	
			PACK. 9	PACK. 9	PACK. 9	PACK. 9	PACK. 9	
			BIG DINO. . . . 10	BIG DINO. . . . 10	BIG DINO. . . . 10	BIG DINO. . . . 10	BIG DINO. . . . 10	
			SMALL DINO. . . 11	SMALL DINO. . . 11	SMALL DINO. . . 11	SMALL DINO. . . 11	SMALL DINO. . . 11	
			SCHNAPPS. . . . 12	SCHNAPPS. . . . 12	SCHNAPPS. . . . 12	SCHNAPPS. . . . 12	SCHNAPPS. . . . 12	
			BUNCH. 13	BUNCH. 13	BUNCH. 13	BUNCH. 13	BUNCH. 13	
		TIE. 14	TIE. 14	TIE. 14	TIE. 14	TIE. 14		
		OTHER, SPECIFY. 15	OTHER, SPECIFY. 15	OTHER, SPECIFY. 15	OTHER, SPECIFY. 15	OTHER, SPECIFY. 15		

Livelihood Change

The Livelihood Coping-indicator is based on ten questions, of which four are stress coping strategies, three are crisis coping strategies and the remaining three are emergency coping strategies. The ten strategies' module does not pre-empt inclusion of additional strategies of specific interest for practitioners in the survey context. However, only the ten strategies with severity classes associated to each of them will be considered for the final classification.

Below is an example of a livelihood coping module. It should be noted, however, that appropriate coping strategies selected for the module vary from one context to another, and the categorization of strategies should also be assessed based on contextual information and other survey results. Below the example module is the 'master' list of strategies (WFP CARI Guidelines, November 2015

https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp271449.pdf?_ga=2.56505515.1418010208.1620247508-1422697817.1569199665) with the default categorization of different strategies, which is used at country level to select the appropriate strategies for the livelihood coping-module. However, it must be stressed that proper adaptation to local context has to be done prior to application in every country or for population groups in each country that could exhibit very different behaviours (i.e. internally displaced or refugees).

Please note that other livelihood coping strategies can be included in the module if relevant to the context. Also, severity classes attributed in the master list are only indicative and must be customized to the specific cultural, geographic, and livelihood context. The decisions on correct categorization of each strategy in the module must happen before data collection starts, in agreement with all partners involved in the assessment.

1-Livelihood coping strategies (asset depletion)		
	Did anyone in your household have to engage in any of the following during past 30 days , to cope with lack of food or money to buy it ? <i>1 = No, because I did not face a shortage of food, 2 = No, because I already sold those assets or have engaged in this activity within the last 12 months and cannot continue to do it, 3= Yes, 4=Not applicable</i>	
1.1	Sold household assets/goods (radio, furniture, refrigerator, television, jewellery, clothes etc.)	_____
1.2	Purchased food on credit or borrowed food	_____
1.3	Spent savings	_____
1.4	Borrowed money	_____
1.5	Sold productive assets or means of transport (sewing machine, wheelbarrow, bicycle, car, etc.)	_____
1.6	Consumed seed stocks that were to be held/saved for the next season	_____
1.7	Withdrew children from school	_____
1.8	Sold house or land	_____
1.9	Begged	_____
1.10	Sold last female animals	_____

Table 17: Livelihood coping strategies master list

ID	Strategy	Category ¹	Rationale/discussion
1	Sold household assets/goods (radio, furniture, television, jewelry etc.)	Stress	Selling off household assets is equivalent to spending down savings – a sign of stress, or mild food insecurity
2	Spent savings	Stress	Incurring more debt to meet food needs or spending down savings are signs of stress, or mild food insecurity.
3	Sold more animals (non-productive) than usual	Stress	Items indicating reduced ability to deal with future shocks due to current reduction in resources or increase in debts
4	Sent household members to eat elsewhere	Stress	Incurring more debt to meet food needs or spending down savings are signs of stress, or mild food insecurity.
5	Purchased food on credit or borrowed food	Stress	Incurring more debt to meet food needs or spending down savings are signs of stress, or mild food insecurity.
6	Borrowed money	Stress	Incurring more debt to meet food needs or spending down savings are signs of stress, or mild food insecurity.
7	Move children to less expensive school	Stress	Used in Malawi, Gambia and other countries as a sign of stress.
8	Sold productive assets or means of transport (sewing machine, wheelbarrow, bicycle, car, etc.)	Crisis	Selling off productive assets is a crisis strategy, or moderate food insecurity.
9	Withdrew children from school	Crisis	This decreases human capital, a productive asset, so is considered a crisis strategy, or moderate food insecurity.
10	Reduced expenses on health (including drugs) and education	Crisis	This decreases human capital, a productive asset, so is considered a crisis strategy, or moderate food insecurity.
11	Harvested immature crops (e.g. green maize)	Crisis	
12	Consumed seed stocks that were to be saved for the next season	Crisis	This action decreases productive assets, affecting next year's harvest, which is a crisis strategy.
13	Decreased expenditures on fertilizer, pesticide, fodder, animal feed, veterinary care, etc.	Crisis	Items that directly reduce future productivity, including human capital formation
14	Sold house or land	Emergency	Items that affect future productivity and are more difficult to reverse, or more dramatic in nature
15	Begged	Emergency	Items that affect future productivity and are more difficult to reverse, or more dramatic in nature, includes loss of human dignity
16	Engaged in illegal income activities (theft, prostitution)	Emergency	Items that affect future productivity, but are more difficult to reverse, or more dramatic in nature, includes loss of human dignity
17	Sold last female animals	Emergency	Specific to livestock producers; Items that affect future productivity, and are more difficult to reverse
18	Entire household migrated	Emergency	Items that affect future productivity, but are more difficult to reverse, or more dramatic in nature

Nutritional Status

Indicators on acute malnutrition of children 6-59 months, i.e. weight for height (WHZ) and mid-upper arm circumference (MUAC) are used as direct evidence in IPC Acute Analysis, whereas stunting (HAZ) is used as direct evidence in IPC Chronic Analysis. Body Mass Index (BMI) of adults is direct evidence for IPC Acute Analysis, whereas MUAC of adults can be used as indirect evidence on nutritional status and is recommended to be collected especially in food security emergency situations.

For example, WFP's Emergency Food Security Assessment Handbook (2009) includes modules for recording weight, height and MUAC measurements of children. Available at:

https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp203246.pdf?_ga=2.55375659.1418010208.1620247508-1422697817.1569199665

1-Nutritional Status of Under five years children (collection of weight and height would be highly appreciated, however, if not possible, MUAC is highly recommended)										
Are there any children age 6-59 months in this household? <i>If no child of age 6-59 months, skip to next section</i>							1=Yes, 0=No			
1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	
HH no.	Child no.	Sex 1=Male 0=Female	Age Date of Birth Or In Months (estimate based on events calendar)	Weight (kg) Measure to nearest 0.1kg Write down the decimal and do not round off	Height (cm) Measure to nearest 0.1cm Write down the decimal and do not round off	Oedema 0 = No 1 = Yes	MUAC (cm) Measure to nearest 0.1cm Write down the decimal and do not round off	WHZ<-2? 0 = No 1 = yes	Referral 0 = No 1 = yes Refer the child to a health facility or CMAM/OTP/SFP treatment centre if WHZ<-2, MUAC<125, or there is oedema	
1	[]		[]	[]	[]	[]	[]	[]		
2	[]		[]	[]	[]	[]	[]	[]		
3	[]		[]	[]	[]	[]	[]	[]		
4	[]		[]	[]	[]	[]	[]	[]		
5	[]		[]	[]	[]	[]	[]	[]		
6	[]		[]	[]	[]	[]	[]	[]		

1-Nutritional Status of adults (typically used for women of 15-49 years of age). Collection of weight and height is highly recommended. However, if this is not possible, MUAC can also be used								
Are there any women (adults) between 15 and 49 years in this household? <i>If so decided, also other adults can be measured</i>						1=Yes, 0=No	[]	
1.1	1.2	1.3	1.4	1.5	1.6	1.9		
HH no.	Adult no.	Age Date of Birth (estimate based on events calendar if needed)	Sex 1=Male 0=Female	Weight (kg) Measure to nearest 0.1kg Write down the decimal and do not	Height (cm) Measure to nearest 0.1cm Write down the decimal and do not	MUAC (cm) Measure to nearest 0.1cm Write down the decimal		

4									
5									
6									
7									
8									

b) List all the household members that have **left this household** (out migrants) **since the start** of the recall period.

1					Y				
2					Y				

c) List all the household members who **died** since the start of the recall period.

1							Y		
2							Y		

DATE OF INTERVIEW: [D][D]/[M][M]/[Y][Y]

Was anyone in the household pregnant at the start of the recall period? No [] Yes [] If yes, how many? _____

Evidence on contributing factors

Access to water

The information collected through the module below is used to assess the share of households that have access to an improved water source, and if they have access to sufficient quantity of water. Since information on exact quantity of water consumed by household is difficult to get, information on distance to water source is often used as a proxy measure for quantity (return trip of maximum 30 minutes is an international standard for maximum acceptable distance and is considered to enable a household to access a sufficient quantity of water).

Questionnaire modules for water are available e.g. through DHS, MICS and WFP. The DHS household module contains a detailed module on households' access to water, available at:

https://dhsprogram.com/pubs/pdf/DHSQ8/DHS8_Household_QRE_EN_8Apr2020_DHSQ8.pdf

1-Housing and water			
1.1	Currently, what is the main source of drinking water for your household? (Choose one option from below)		[]
1= piped water, 2=public tap, 3=tube well/borehole, 4=treatment/filtration plant, 5=protected well, 6=protected spring water, 7=hand pump, 8=bottled water, 9=water tanks/bladders, 10=water tanker, 11= unprotected well, 12= unprotected spring water, 13=river/canal, 14=rain water			
1.2	How far away is the water source (return trip)? (Choose one option)	1= In the house/on the compound 2= Less than 10 minutes' walk 3= 10-30 minutes' walk 4= More than 30 minutes' walk	[]

Low value livelihood strategies

Information on livelihood strategies is used to assess the share of households, who rely on so called low value livelihood strategies (i.e. strategies that do not provide sufficient income to cover basic food and non-food needs, and/or strategies that provide very unstable income). The module below provides the information for IPC purposes, but additional questions can also be added regarding the livelihood activities, e.g. relative share of income from each activity, actual income received from each activity, main constraints associated with the activities, and type of work (seasonal, temporary, permanent).

Food security surveys typically contain a module on livelihood activities. WFP EFSA guidance provides an example module for livelihood sources, available at:

https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp203246.pdf?_ga=2.55375659.1418010208.1620247508-1422697817.1569199665

I. LIVELIHOOD SOURCES					
		02	04	05	06
		Household's main livelihood activities in the LAST_3 months?	How many people are involved for each of livelihoods selected		
			Adult males (>12 years)	Adult females (>12 years)	Children (<12 years both male and female)
1.1	Main livelihood activity				
1.2	Second livelihood activity				
1.3	Third livelihood activity				
Livelihood codes for E02					
1 = Agriculture and sale of cereals, vegetables and other crops 2 = Livestock and sale of livestock or livestock products and poultry 3 = Sale of alcoholic beverages/brewing 4 = Casual labor related to agricultural and non-agricultural activities 5 = Skilled labor			09 = Borrowing 10 = Fishing or sale of fish 11 = Kinship/gifts from family friends/remittances 12 = Begging 13 = Food assistance/Sale of food assistance		

6 = Trader/shop owner/commerce/petty trading/handicraft etc 7 = Salaried work (public/private) 8 = Sale of firewood/poles, charcoal, grass, stones	14 =Gathering of wild food and hunting 15 = Other, specify
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Consumption of iodised salt

In large surveys (DHS, MICS) salt used by the household is tested for its iodine content. An example of a salt testing module is available e.g. in standard MICS household questionnaire: <https://mics.unicef.org/tools#survey-design>

1. Iodised salt		
1.1 Do you consume iodized salt?	1= Yes, 0 = No, 99=don't know	____