

Measuring Educational Humanitarian Conditions in Somalia

Method Note for the Calculation of Education PIN and Severity

This document outlines the methodology underpinning the calculation of the severity of education conditions (SEV) and the number of People in Need (PIN) of interventions for the Education section of the 2020 Humanitarian Needs Overview in Somalia. In addition, the document explains how to analyse the main barriers in accessing education (Annex 1).

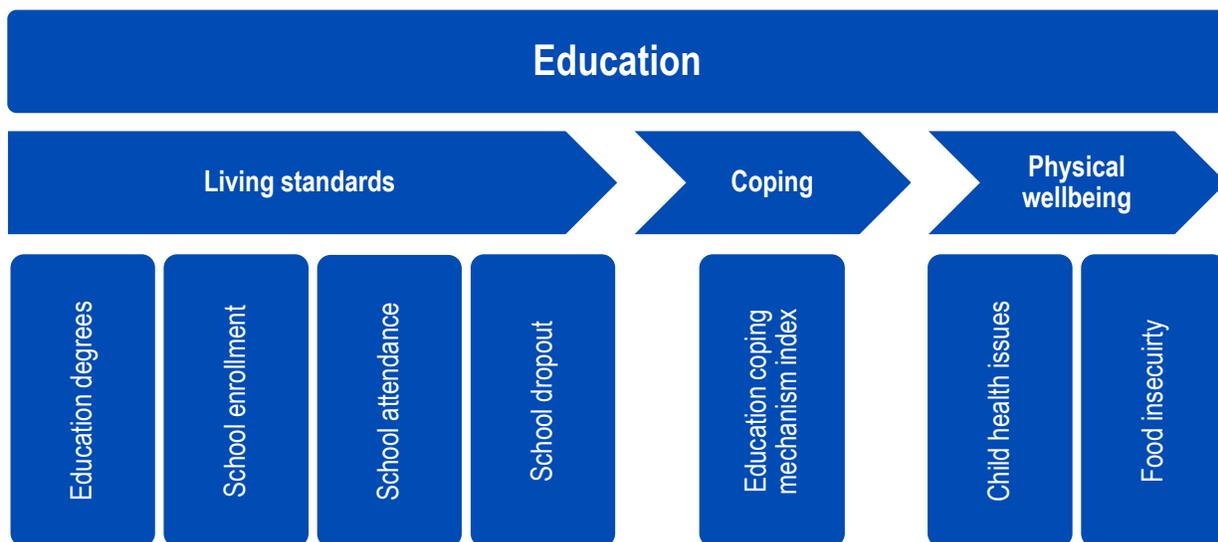
Rationale

Humanitarian actors continue to face significant challenges in gathering and effectively using multi-sector data in a coordinated, timely, and comprehensive manner. As a result, emergencies are often characterised by critical information gaps that hinder strategic planning and the prioritization of the response. To address this issue, the Education Cluster, along with other UNICEF-led clusters and AoRs, are partnering with REACH produce accurate and updated information and enhance the quality of their strategic documents including such as HNOs.

The document is an adaptation from a guidance note produced by the Global Education Cluster, in partnership with REACH and with the help of Okular Analytics.

Analysis Framework

The methodology paper is conceived in alignment with the Joint Inter-Sectoral Analysis Framework (JIAF) pillars, whose key components measure the severity of humanitarian conditions for education: living standards and coping mechanisms. Each of these pillars are broken down into sub-pillars, such education levels, enrolment, attendance, etc., as outlined in the infographic below. Relevant indicators are then developed to measure the severity of each sub-pillars.



Analysis Process

The calculation of PIN and Severity is conducted through the following steps:

- 1) Indicator values are classified along a five-point scale to determine sub-pillar severity.
- 2) Sub-pillar severities are aggregated by their median to determine the pillar severities.
- 3) The Education Humanitarian Condition score for each household is calculated through taking the median of the pillar severities.
- 4) The number of households with Education Humanitarian Condition scores of 3-5 are summed to determine the number of People in Need (PIN) for each geographical area (district, region, nation) and affected groups (residents, returnees, IDPs).
- 5) Overall Education Humanitarian Condition scores are classified using the “Rule of 20%” to determine the Severity Phase for each combination of geographical area and affected group.

For districts where data is scarce or unavailable, please refer to annex 2, which explains how projections and/or adjustments are carried out for those areas.

Data Sources

The main data source used to measure the Education Humanitarian Condition is the nationwide Somalia Joint Multi-Sector Assessment (JMSNA, methodology and TOR available [here](#)), conducted from June to September 2019. This household-level assessment is statistically representative for accessible areas in 69 districts, out of a total of 90. The assessment covers both IDP and host community population groups. Other data sources are also used, especially for data on nutrition, food security, morbidity, etc. Data sources used for each indicator are reported in the indicator tables throughout the document.

Limitations

The methodology outlined in this document implies several limitations that is important to keep in mind when it is used for humanitarian planning purposes:

- Humanitarian Condition score and PIN calculation are based on secondary data sources and are therefore subject to the same limitations of the assessments that collected those data
- By definition, a model (such as the one outlined in this document) that aims at reducing the complexity of reality in order to facilitate decision making is not as accurate as the reality itself
- The different thresholds used for the severity classification are based either on global/national standards, or on expert judgment (when standards available and relevant to the context), which by definition implies some level of bias depending on expert personal experience
- For districts where data is scarce or unavailable, please refer to annex 2, which explains the limitations for the projections and/or adjustments that are carried out for those areas.

1. Calculation of Severity for the Sub-pillars

1.1. Living standards (education)

1.1.1. Education degrees

This refers to the long-term impact on education as reflected by the highest levels of education achieved by members of the household.

Indicators	Source
% Households reporting having at least one member who has completed primary, secondary, or tertiary education	JMCNA

Analysis and recoding. Answers are recoded, so each household receives a score from 1 to 5 for this variable based on the total number of highest degrees achieved by members of the household.

1	2	3	4	5
At least 1 tertiary degree OR two vocational degrees	At least 1 vocational OR two lower degrees	At least 1 secondary OR two primary degrees	At least 1 primary degree	No degrees

1.1.2. School enrolment

This refers to the percentage of the school-aged children in the household who are enrolled in school.

Indicators	Source
% Households with school-aged children enrolled in primary or secondary education	JMCNA

Analysis and recoding. Answers are recoded, so each household receives a score from 1 to 5 for this variable.

1	3	5
All school aged children in the HH are enrolled	Some school aged children in the HH are enrolled	No HH school aged children in the HH are enrolled

1.1.3. Attendance

This refers to the percentage of the school-aged children in the household who physically attend school over the past three months.

Indicators	Source
% Households with school-aged children reporting children attending school at least 3 days/week in the past 3 months	JMCNA

Analysis and recoding. Answers are recoded, so each household receives a score from 1 to 5 for this variable.

1	3	5
All school aged children in the HH attend school (at least 3 days/week in the past 3 months)	Some school aged children in the HH attend school (at least 3 days/week in the past 3 months)	No HH school aged children in the HH attend school (at least 3 days/week in the past 3 months)

1.1.4. Drop-outs

This refers to the percentage of the school-aged children in the household who have dropped out of school over the past year.

Indicators	Source
% Households with school-aged children who dropped out of school in the past 12 months	JMCNA

Analysis and recoding. Answers are recoded, so each household receives a score from 1 to 5 for this variable.

1	3	5
No HH children have dropped out	Some HH children have dropped out	All HH children have dropped out

1.2. Coping mechanisms

1.2.1 Education Coping Index

This refers to the different ways the affected population cope with the lack of access to shelters. This pillar is measured through the following indicators:

Indicators	Source
% Households using negative coping strategies to access education in the past 1 month/30 days	JMCNA

In the past 30 days, what did you do if you could not access educational facilities? MULTIPLE:
 Had access to education Peer learning Part-time schooling Home schooling Borrow or share materials or borrow cash Adults work extra shifts/jobs Spend more time travelling/waiting (secure areas) Rely on humanitarian assistance Use money otherwise used for other purchases Sell assets otherwise used for other purposes Travel/Move to insecure or dangerous areas Adult members beg Minors work Minors beg Sexual, economic exploitation to access humanitarian assistance

Analysis and recoding. The different coping strategies are attributed a score depending on the degree of harmfulness, as shown in the table below.

	None - Minimal		Stress		Severe		Extreme	
	1	2	3	4	5	6	7	8
Coping Strategies	Borrow or share materials or borrow cash	Peer learning	Home schooling	Adults work extra shifts/jobs	Sell assets otherwise used for other purposes		Adult members beg	Sexual, economic exploitation to access humanitarian assistance
		OR	OR	OR			OR	OR
		Part-time schooling	Rely on humanitarian assistance	Use money otherwise used for other purchases			Minors work	Minors beg
		OR					OR	
		Spend more time travelling/ waiting (secure areas)					Travel/ Move to insecure or dangerous areas	

For each household, the Education Coping Index is calculated using:

$$\text{Education Coping Index} = \text{SUM (scores)}$$

The maximum Education Coping Index score obtainable for a HH is 55. The following cut-off points are used for the severity classification:

1	2	3	4	5
0-1	2-4	5-8	9-15	≥15

1.3. Physical wellbeing

1.3.1 Food security

Indicators	Source
% of HHs living in areas with high level of food insecurity	FSL cluster

Analysis and recoding. The severity of food insecurity is measured using a 5-point scale in alignment with the JIAF. The food security indicator is subdivided at the district level between livelihood zones. It will be aggregated to the district level to maintain a standard level of analysis across indicators. Each household receives a score from 1 to 5 for this variable depending on the level of malnutrition of the district it lives in.

1	2	3	4	5
The household lives in an area classified as IPC 1	The household lives in an area classified as IPC 2	The household lives in an area classified as IPC 3	The household lives in an area classified as IPC 4	The household lives in an area classified as IPC 5

1.3.2 Self-reported health issues in children under five

This sub-pillar refers to the prevalence of health issues among household members. Education related diseases that are considered include malaria, fever, AWD, respiratory problems, malnutrition. The level of morbidity is measured through the following indicators:

Indicators	Source
% Households reporting health issues or illnesses for at least one member in the past 3 months by type of issue/illness	JMCNA

Have any children (less than 5 years old) in the household suffered from the following illnesses or complications in the past 3 months/90 days? Select MULTIPLE:

Malaria
 Fever
 Acute Watery Diarrhoea (3 or more liquid stools)
 Respiratory problems
 Malnutrition (diagnosed by health or nutrition centre)
 Other
 Don't know
 None

Analysis and recoding. The severity of morbidity is measured using a 5-point scale in alignment with the JIAF. Answers should be recoded, so each household receives a score from 1 to 5 for this variable.

1	3	5
No U5 in the HH suffered from water related diseases in the last 2 weeks	U5 HH member suffered from at least one water related diseases in the last 2 weeks	HH members suffered from at least 2 water related diseases in the last 2 weeks

2. Aggregation of severity scores

2.1. Aggregate sub-pillar severity to calculate severity for each pillar

After completing the calculation of severity for the sub-pillars (Step 1), there is then a household level severity score of 1-5 for each of the sub-pillars. These scores are then aggregated, by taking their median value, into their respective pillars (Living Standards, Coping Mechanisms, and Physical Wellbeing).

2.2. Aggregate severity to calculate overall severity of Education conditions

After completing the calculation of severity for pillars (Step 2.1), there is then a household level severity score of 1-5 for each of the pillars (Living Standards, Coping Mechanisms, and Physical Wellbeing. These scores are then aggregated, by taking their median value, to calculate the final Education Humanitarian Condition score.

2.3. Calculate the number of Education People in Need

The Education Humanitarian Condition scores are used to calculate the total number of PIN for each geographical area (district, region, nation) and affected groups (residents, returnees, IDPs). All school-aged children (3 to 18 year-old) in households who have an Education Humanitarian Condition scores of 3 or above are classified as PIN, while all school-aged children in households who have a score of 4 or above are classified as Urgent PIN.

Example of Education PIN by geographical area and affected groups

Geographic Area / Affected Group	Residents	Returnees	IDPs	Total
District A	8	10	8	26
District B	3	0	14	17
Total	11	10	22	43

2.4. Classify geographic areas into Education Severity Phases

Once the percentage of the population falling under each of the five Severity phase is calculated (see previous step), a unique severity phase is calculated for each geographical area and affected group as a whole, using the 'Rule of 20%'. An area is classified according to a specific Severity phase when at least 20% of the school-aged population in the area are experiencing the conditions related to that phase or more severe phases. For instance, in the example below, for District A, 8% of the school-aged population has a humanitarian score of class 5. This is not enough to give the area/group a severity phase of 5. Moving left, we observe that 11% of the school-aged population has a humanitarian score of class 4. We sum the percentages falling under score 5 and 4 ($8\% + 11\% = 19\%$) to see if the sum equal or is equal or superior to 20%. This is still not enough. Proceeding left, we add the percentages falling under score 5, 4 and 3 ($8\% + 11\% + 35\% = 54\%$). The sum is more than 20% of the school-aged population, hence the severity of Education conditions in for this geographical area/affected group level can be categorized as severity phase 3.

Final severity estimates are summarized as shown below:

Example of Education Severity Phases by geographical area and affected groups

Area	Affected group	Education Humanitarian conditions - Severity class					Education Severity Phase
		1	2	3	4	5	
District A	IDPs	16%	21%	27%	25%	11%	4
District A	Residents	22%	24%	35%	11%	8%	3
District B	Returnees	32%	38%	20%	7%	3%	3
District B	Residents	43%	47%	7%	3%	0%	2
District B	IDPs	11%	17%	23%	28%	21%	5

ANNEX 1: ANALYSIS OF THE BARRIERS TO EDUCATION SERVICES

Annex 1.1 Main barriers to access education.

This indicator measures the main challenges faced by households in meeting their education needs. The survey question assesses the main underlying factors contributing the most to the inability to meet basic education needs. This is a qualitative variable, indicating the frequency of issues and their type.

Core indicator. % Households reporting 3 main concerns in terms of school enrolment or attendance

What are the 3 main concerns you have in terms of school enrolment or attendance?

- *There is no school*
- *School stopped functioning and is now closed (Occupied by armed forces, partially damaged, totally damaged, occupied by displaced persons, lack of students)*
- *Unsafe to travel or go to school, fear of recruitment in/on way to school, fear of abduction in/on way to school)*
- *Fear of violence against children at school (corporal punishment, harassment by teachers and other students, bullying, etc.)*
- *Cannot afford to pay for the school fees (e.g. school supplies, tuition, textbook, food, uniforms, etc.)*
- *Cannot afford to pay for transport,*
- *Recently or continuous movement to different locations, newly arrived at location and have yet to enrol/register, unable to enrol school due to discrimination, poor performance/dismissed, Inability to register or enrol children in the school (Lack of documentation to enrol child)*
- *Children cannot physically go to the school (Disability (of child), traumatization (of child), school is too far away, no transport available to bring to school, no fuel available to bring to school, child ill, disabled or unhealthy, child is too young)*
- *School and classes are overcrowded*
- *Lack of staff to run the school (Lack of teachers, lack of skilled/trained teachers, lack of gender appropriate teachers/staff)*
- *School is in poor condition (e.g. lack of furniture, no electricity, water leaks, poor latrines, poor amenities, etc.)*
- *WASH facilities are in poor conditions*
- *WASH facilities are not separated by gender*
- *The curriculum and teaching are not adapted for children (curriculum is not appropriate; language is not appropriate)*
- *Children are busy working or supporting the household*
- *Parental refusal to send children to school*
- *Lack of interest of children in education,*

Analysis and recoding. Barriers to access are analysed using a Borda count, single-winner election method based on multiple preferences provided by the respondents¹.

1. Households are asked to select the first, second, and third most important barrier for them to access Education services.
2. The first most important barrier is weighted as “3”, the second as “2”, the third as “1”, and all others as “0”.

¹ UNICEF. 2018. “Sector severity and priority IDP locations with DTM data: A UNICEF step-by-step guide for Child Protection, WASH and Education Cluster Coordinators and IMOs.”

3. Priority scores for each of barrier are calculated as the quotient of the sum of response values over the number of responses. This can be calculated at different geographical scales from district to national.
4. Priority scores range from “0” (never reported as one of the main barriers) to “3” reported as the most important barrier by every respondent).
5. The results are then displayed for ease of interpretation as a “heat map,” a table of color coded priority scores by barrier and geographical unit.²

² Benini, A. 2011. [“Heat maps as tools to summarize priorities expressed in needs assessments.”](#) ACAPS.

ANNEX 2: PROJECTING PIN AND SEVERITY IN DISTRICTS WITH LIMITED DATA

This annex outlines the methodology to be used to calculate severity scores and People in Need (PIN) in districts in Somalia with limited or no JMCNA data.

Background

The calculations used for sectoral PIN and severity scores³ rely heavily on household-level data from the joint multi-cluster needs assessment (JMCNA) conducted across Somalia. However, due to accessibility issues, in some districts there is no JMCNA data available at all, and in other districts JMCNA data is limited to urban areas. Districts can be classified as the following:

1. **Fully accessible:** JMCNA household-level data available and representative for the whole district (as well as other data sources required for sectoral PIN/severity calculations as relevant).
2. **Partially accessible:** JMCNA household-level data available for part of the district, though not fully representative as some areas were inaccessible. Inaccessible areas in these districts are typically smaller rural communities. Other data sources are limited.
3. **Inaccessible:** no JMCNA household-level data available for the whole district, other data sources extremely limited or non-existent.

While calculating the PIN and severity in inaccessible or partially accessible districts, the following steps should be undertaken:

Partially Accessible Districts

Coverage note:

- In partially accessible districts, urban areas were typically assessed in the JMCNA whilst it was not possible to access rural areas due to security and logistical constraints.
- Based on observations and anecdotal information, there is a general disparity in humanitarian conditions between urban and rural areas, so there may be an urban bias present in the JMCNA data collected in these districts. Rural areas are assumed to generally have worse humanitarian conditions than urban areas due to fewer services, access challenges etc.
- These districts should be highlighted in the analysis findings, to stress the fact that both PIN and severity in those districts may be slightly higher.

Inaccessible Districts

Underlying rationale and assumptions:

- For inaccessible districts, the only comprehensive data / information source available is the IPC.
- Humanitarian conditions in inaccessible districts are thought to be worse than surrounding areas, given that they are unreachable to humanitarian actors and often in control of armed groups.
- The main assumption is that humanitarian conditions in general can be extrapolated from a combination of the conditions in neighbouring districts, as well as through comparing the IPC phase classifications.

Steps to calculate adjusted severity:

³ Conceived in alignment with the Joint Inter-Sectoral Analysis Framework (JIAF) pillars.

1. For each inaccessible district, identify surrounding districts which share a border and have available data. If an inaccessible district does not share a border with any districts with data (Adan Yabaal and Ceel Dheere only), identify the closest districts with available data.
2. Calculate the initial severity score by taking the median of the severity scores of all surrounding districts with available data.
3. Compare the IPC classification (or other relevant sector-specific comprehensive datasets identified) of the inaccessible district to the IPC classifications of the surrounding districts used to generate the initial severity. If the IPC classification is the same, the severity should remain the same. If the IPC classification is worse in the inaccessible district, increase the level of severity by the same amount (as both are on a five-point scale). If the IPC classification is better in the inaccessible district, decrease the level of severity accordingly.

Steps to calculate adjusted PIN:

1. For each inaccessible district, calculate project the average % PIN of all surrounding districts with available data (those which share a border with the district, which will be just one in the case of some districts).

All inaccessible districts should be highlighted in the analysis findings, to stress the fact that both PIN and severity in those districts is based on projections and not primary data collected in those districts.