Methodology for Calculating Protection Severity and Estimating People in Need (PiN) at a Household and Area Level
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Introduction

The objective of this document is to provide detailed instructions for calculating protection cluster severities and estimating People in Need (PiN). This methodology is intended for use by protection cluster analysis teams, including Information Management Officers, Coordinators, and Co-Coordinators. It explains an eight-step model for calculating and estimating these crucial metrics that contribute to effective decision-making during the emergency.

Key Definitions and concepts

A. People Affected (Humanitarian Profile Support Guidance, 2016)

Includes all those whose lives have been impacted as a direct result of the crisis. This figure is often the first available after a sudden onset emergency and often defines the scope or boundary of a needs assessment. It does not, however, necessarily equate to the number of people in need of humanitarian aid; it should not be confused or used interchangeably with the category People in Need. Characteristics of the category People Affected must include:

• being in close geographical proximity to a crisis
• physically or emotionally impacted, including exposed to a human rights violation/protection incident
• experiencing personal loss or loss of capital and assets as a direct result of the crisis (family member, house/roof, livestock, or any other asset)
• being faced with an immediate threat from a crisis.

B. People in Need (Humanitarian Profile Support Guidance, 2016)

People in Need are a sub-set of the population affected and include those members:

• whose physical security, basic rights, dignity, living conditions or livelihoods are threatened or have been disrupted, AND
• whose current level of access to basic services, goods and social protection is inadequate to re-establish normal living conditions with their accustomed means in a timely manner without additional assistance.

C. Protection Severity

A Protection Severity Ranking is a process used primarily in contexts of conflict, disaster, or other crises, to determine the relative severity of protection issues faced by different populations. The ranking helps prioritize aid and resources towards the most affected populations and ensure the most efficient allocation of aid.

This process generally involves the collection and analysis of data related to various protection issues such as human rights violations, instances of violence, access to essential services, and any other factors that might affect the safety, dignity, and rights of people. Factors such as the scale, urgency, and complexity of the issues are often taken into consideration.
The resulting "ranking" provides a comparative view of the severity of protection issues across different geographic areas, demographic groups, or types of issues. This can guide humanitarian actors in making informed decisions about where and how to intervene.

D. Overarching Protection Severity

The overall severity score for a specified region, which encompasses the entire Protection Cluster, including Areas of Responsibility (AoRs), is determined by the indicator scores of both Protection and AoRs. This comprehensive Protection Severity score is included in the Protection Chapter of the Humanitarian Needs Overview (HNO).

E. AoR Specific Severity

AoR Protection Severity is meant for a specific AoR based on their selected indicators. Please bear in mind that the AoR specific Severity Scales cannot be higher than the overarching Severity Scale score. It can be the same or lower but not higher. If such a situation arises, it is recommended to revisit the situation and arrive at a consensus.

F. Protection People Affected

“Affected People” are defined as those individuals who have experienced adverse impacts, either directly or indirectly, due to a crisis event, such as a natural disaster or conflict. These impacts can involve physical harm, displacement, psychological trauma, or violation of their rights and dignity. It’s important to note that while these individuals have been affected by the crisis, they may not necessarily require humanitarian assistance, which is a distinct group known as “People in Need”. People classified under severity levels 2, 3, 4, and 5 will be recognized as Affected within the Protection Cluster.

G. Protection People in Need (PiN)

Protection “People in Need” (PiN) refers to the calculated estimates of individuals requiring humanitarian protection services. These estimates serve as planning figures for protection cluster, playing a critical role in setting the targets for the Humanitarian Response Plan (HRP). It’s crucial that these estimates are broken down by factors such as gender, age, and disability. People classified under severity levels 3, 4, and 5 will be recognized as those in need within the Protection Cluster.

H. AoR specific People in Need (PiN)

AoR PiN for a specific AoR is a figure calculated based on AoR specific Severity Scale. Each of the active AoRs in the country of operations should have a specific PiN estimate for humanitarian planning purposes. It’s also crucial that these estimates are broken down by factors such as gender, age, and disability.
**Severity Scales Definitions**

The severity scales provide a conceptual framework for understanding what it signifies to be at severity level 1 (minimal), 2 (stressed), 3 (crisis), 4 (critical), or 5 (catastrophic) regarding the extent of protection needs. These phases are defined at both the single household and broader area levels.

Protection is concerned with the safety, dignity and rights of people affected by disaster or armed conflict. The *Four Protection Principles* that apply to all humanitarian action and all humanitarian actors, as defined by the Inter-Agency Standing Committee (IASC), are:

1. Avoid exposing people to further harm as a result of your actions.
2. Ensure people’s access to impartial assistance – in proportion to need and without discrimination.
3. Protect people from physical and psychological harm arising from violence and coercion.
4. Assist people to claim their rights, access available remedies and recover from the effects of abuse.

The severity scale definitions listed below are inspired from the four Protection Principles listed above. Please note that this is a general guideline and would need to be adjusted based on the specific contexts and characteristics of each situation.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HOUSEHOLD LEVEL</strong></td>
<td><strong>HOUSEHOLD LEVEL</strong></td>
<td><strong>HOUSEHOLD LEVEL</strong></td>
<td><strong>HOUSEHOLD LEVEL</strong></td>
<td><strong>HOUSEHOLD LEVEL</strong></td>
</tr>
<tr>
<td>Humanitarian actors are present and active, and the affected household faces minimal or no impediments to exercising their rights.</td>
<td>The household faces occasional lapses in safety and dignity, with sporadic reports of violence, coercion, deprivation, or abuse.</td>
<td>Safety, dignity, and rights of the affected population are frequently compromised, with regular instances of violence, coercion, deprivation, or abuse reported.</td>
<td>Widespread and serious violations of safety, dignity, and rights occur.</td>
<td>The humanitarian sector is unable to function effectively, leading to a complete breakdown in safety, dignity, and the protection of rights.</td>
</tr>
<tr>
<td>There are minor or no reported incidents of violence, coercion, deprivation, or abuse.</td>
<td>Some household may have instances of unequal access to humanitarian aid, and</td>
<td>Household access to humanitarian aid may be uneven, and</td>
<td>Violence, coercion, deprivation, or abuse are commonplace.</td>
<td>Violence, coercion, deprivation, or abuse are widespread and severe.</td>
</tr>
<tr>
<td>All household have largely equal access to humanitarian aid and are actively participating in decision-making processes.</td>
<td>The participation of the affected household in decision-making may be inconsistently applied.</td>
<td>The inclusion of the household in decision-making processes is sporadic.</td>
<td>Access to humanitarian aid is severely limited for certain groups, and</td>
<td>Access to humanitarian aid is critically limited or non-existent, and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The affected household is rarely included in decision-making processes.</td>
<td>The affected household is excluded from decision-making processes.</td>
</tr>
</tbody>
</table>
At least 90% of households are living in conditions described above.

At least 20% of households are living in conditions described in severity phase 2, 3, 4 and 5. This implies less than 20% are in severity phases 3, 4 and 5.

At least 20% of households are living in conditions described in severity phase 3, 4 and 5. This implies less than 20% are in severity phase 4.

At least 20% of households are living in conditions described in severity phase 4 and 5. This implies less than 20% are in severity phase 5.

At least 20% of households are living in conditions described above.

Methodology – Humanitarian Programme Cycle (HPC)

The main objective of this methodology is to provide a clear, evidence-based understanding of protection needs to inform humanitarian response. Below are the steps to calculate Protection Severity and People in Need figures. This methodology should be implemented using the excel calculation tool, available to be downloaded at this link.

1. Assigning Preference Scores

The first step, to be conducted involves the mapping and weighting of survey questions and responses. Selected indicators and their options (termed sub-indicators) are weighted according to their severity in the “Assigning Preference Scores” worksheet. Each option is assigned a score that indicates its relative weight or preference. This system helps convert qualitative responses into quantifiable data, thereby streamlining the process of data analysis.

<table>
<thead>
<tr>
<th>Can people move around freely within your current location?</th>
<th>Can people move freely out of your current location?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preference Aggregation Method</td>
<td>Preference Aggregation Method</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>No freedom of movement</td>
<td>Some restrictions</td>
</tr>
</tbody>
</table>

In the example above, two indicators related to freedom of movement have been chosen:

- The freedom to move around within a location.
- The freedom to move out of a location.

For each of these indicators, three sub-indicators or ‘options’ are identified, corresponding to different conditions of freedom of movement:

- No freedom of movement
- Some restrictions on movement
- No restriction on movement

The assignment of scores, also known as weights, to these options is done to quantify the severity or importance of each condition. The Preference Aggregation Method is used to
aggregate these scores into a single overall score for each indicator. This score will reflect the
degree of severity associated with the chosen indicator for a given household.

For each indicator, each option is assigned a score from 1 to 3. In the example above the options
are scored as follows:

- No freedom of movement: 3
- Some restrictions on movement: 2
- No restriction on movement: 1

These scores represent the severity or importance of each option, with a higher score indicating
a more severe situation. The specific scoring scheme can vary depending on the specific
context and the priorities of the cluster analysis team.

2. Formatting the Household Dataset

Upon receipt of the household-level dataset, it should be formatted to facilitate severity score
calculation at the household level. The dataset should be manipulated to present data in a form
compatible with the calculation tool and then copy-pasted into the “HH Dataset” sheet of the
calculation tool.

Figure 1: HH level dataset in the HH Dataset worksheet

3. Calculation of Severity Score for Each Indicator

The formatted dataset is then used to calculate the severity score for each selected indicator
at the household level. This is achieved by filling in the first few columns of the “Household
Crisis Index” worksheet with formulas that pool data from the HH dataset, following the
guidance provided by the “Assigning Preference Scores” worksheet.

Figure 2: calculation of severity score for each indicator

In the figure above, for cell J5, a VLOOKUP function is utilized to retrieve data from the "HH
Dataset", guided by the "_uuid (Household ID)" criterion. Once this value is extracted, it is
subsequently multiplied by the weight / score located in cell J3, which currently is 2.
To arrive at final severity for indicator 1, the cell L5 takes a sum of all three options by using the SUM formula. The above steps will be repeated for all the selected indicators. The result is a single overall score for each indicator, reflecting the severity of the freedom of movement condition for a given population group and household.

4. Aggregation of Severity Scores

The severity scores of selected indicators are then aggregated to obtain a comprehensive severity score for each household. This process, known as the “Analytic Hierarchy Process (AHP),” is designed to combine the scores from multiple indicators into a single, comprehensive measure. The overall severity score for each household is automatically calculated in the “Household Crisis Index” sheet.

(a) The Analytic Hierarchy Process (AHP)

The Analytic Hierarchy Process (AHP) is a structured technique for organizing and analyzing complex decisions. The Analytic Hierarchy Process (AHP) in a humanitarian context can be applied to determine the severity of needs systematically and objectively.

I. Define the Problem: The first step is to clearly identify and define the problem - in this case, determining the severity of protection needs.

II. Establish Hierarchy: This involves breaking down the problem into a hierarchy of sub-problems or criteria. At the top of the hierarchy is the main goal (assessing protection severity of needs), and the levels below consist of indicators (like freedom of movement, GBV issues, Attacks on civilians and other unlawful killings, etc.) that impact the main goal.

III. Assign Weights: For each level of the hierarchy, participants make pairwise comparisons of importance between each selected indicator. This could be done by expert judgment (through joint collective protection analysis workshop). The outcome of this step is a set of weights signifying the relative importance of each indicator in relation to the overall goal.

In protection, the relative importance of each indicator is contextually defined and builds on the factors of analysis of protection risks. The expert judgement (through joint collective protection analysis workshop) for identification of the indicators and their relative importance must be guided by the Protection Risks Severity Criteria – Reference Table.

*If priority protection risks have been collectively identified in country, through Joint Protection Analysis Workshop and Protection Analysis Updates, the identification of indicators should, as a minimum, be related to protection needs associated to these identified protection risks.

IV. Pairwise comparison matrix: Decide on a score for each pair of indicators. If Indicator A is equally as important as Indicator B, the score is 1. If Indicator A is moderately more
important than Indicator B, the score might be 2. If Indicator A is extremely more important than Indicator B, the score might be 3.

<table>
<thead>
<tr>
<th>Can people move around freely within your current location?</th>
<th>Can people move freely out of your current location?</th>
<th>If no freedom of movement or some restrictions, how have the restrictions on freedom of movement impacted people in your location?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>2.00</td>
<td>0.50</td>
</tr>
<tr>
<td>0.50</td>
<td>1.00</td>
<td>0.25</td>
</tr>
<tr>
<td>2.00</td>
<td>4.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>1.75</strong></td>
</tr>
</tbody>
</table>

V. **Normalize the matrix:** For each column in your matrix, divide each entry by the total for that column. For example, from the table above, 1 divided by 3.50 is equal to 0.29.

<table>
<thead>
<tr>
<th>Can people move around freely within your current location?</th>
<th>Can people move freely out of your current location?</th>
<th>If no freedom of movement or some restrictions, how have the restrictions on freedom of movement impacted people in your location?</th>
<th><strong>AVERAGE WEIGHT</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.29</td>
<td>0.29</td>
<td>0.29</td>
<td><strong>0.29</strong></td>
</tr>
<tr>
<td>0.14</td>
<td>0.14</td>
<td>0.14</td>
<td><strong>0.14</strong></td>
</tr>
<tr>
<td>0.57</td>
<td>0.57</td>
<td>0.57</td>
<td><strong>0.57</strong></td>
</tr>
<tr>
<td>Check</td>
<td></td>
<td><strong>1.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

Compute the ‘mean weight’ for every indicator by determining the row-wise AVERAGE.

VI. **Aggregate the Weights:** By multiplying the severity score of each indicator with its average weight calculated in previous step, we can determine the overall severity for each household.

![Figure 3: calculation of overall severity for each HH](image)
In the figure above, in column AA, the severity scores of the three selected indicators are multiplied by the "Average Weight", computed in the preceding step. This process yields the final severity score at the household level.

The AHP process allows for a comprehensive, yet detailed, analysis of complex humanitarian problems, thereby facilitating more informed decision-making.

5. Proportional Calculation of Severity for Population Groups

The severity scores at the household level are then aggregated up to the selected administrative level for each population group. For each administrative level, the percentage of households under each severity score is calculated. These calculations should be conducted for each relevant population group and entered into the "Severity and PiN (popgp)" worksheet.

![Figure 4: Aggregation of severity scores at population group level: IDPs living in camp settlement](image)

The five severity scores are consolidated from the household level to the chosen administrative level by using the COUNTIFS function. For example, in the image above in cell G3, a count of all HHs where the severity level is 1 is done, for the first population group named “IDPs living in Camp Settlement”. Likewise, the similar logic is applied for consolidating severity 2, 3, 4 and 5.

Similarly, the same logic is applied for consolidating severity scores for the second population group named “IDPs NOT living in Camp Settlement” at severity level 1, 2, 3, 4 and 5. In the image below, with the help of COUNTIFS function, a count of all HHs at severity level 1 is being calculated.

![Figure 5: Aggregation of severity scores at population group level: IDPs NOT living in camp settlement](image)

6. Calculation of Administrative-Level Severity

Using the proportions calculated in previous step, the severity phase for each administrative unit is determined using the 20% rule. This rule states that the severity of the administrative level corresponds to the highest level of severity where at least 20% of households fall under
that severity or higher. This is automatically calculated in the columns “Final Severity (population Group level)” of the “Severity and PiN (popgp)” worksheet.

<table>
<thead>
<tr>
<th>Population Group 1: IDPs living in Camp Settlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGA_pcode</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>AD001</td>
</tr>
<tr>
<td>AD002</td>
</tr>
<tr>
<td>AD003</td>
</tr>
<tr>
<td>AD004</td>
</tr>
</tbody>
</table>

Figure 6: Area level (admin level) severity

The Excel formula (IFS) in this step checks the sum of severity phase percentages, from the highest (5) to the lowest (1) and assigns an administrative level severity based on the first sum that is equal to or exceeds 0.2 (or 20%).

If the percentage of households at Severity Phase 5 is 20% or more, the administrative level severity is assigned as 5. If not, the formula then adds the percentage of households at Severity Phase 4 and 5. If the sum is 20% or more, the administrative level severity is set as 4.

This pattern continues down the severity phases. If the combined percentage of households from Severity Phase 1 through 5 reaches 20% or more, the administrative level severity is classified as 1.

The above step will give you the severity at population group level. To determine severity at the administrative level, you have two main options: you can select the most severe rating from all the chosen population groups as your definitive administrative level severity, or alternatively, you can compute an average severity from all population groups for a given administrative level. This calculation is shown in the worksheet “Final Severity (Admin)” of the excel tool, where using a combination of MAX and SUMPRODUCT excel formula, maximum severity value based on a criterion of “LGA_pcode” is obtained. See the image below or cell E3 in the worksheet “Final Severity (Admin)”.

Figure 7: Overall severity at admin level

7. Estimation of Administrative-Level People Affected

For calculating the estimation of People Affected, at each administrative level and by each population group, the total population of interest is input into the “Severity and PiN (popgp)” worksheet. The proportion of households under each level of severity already calculated in the
previous step (6) serves as baseline. The total People Affected corresponds to the number of households in severity phases 2, 3, 4, and 5 and is automatically calculated by the tool. This figure is achieved by multiplying the sum of severities 2,3,4 and 5 with the baseline population as depicted in the figure below.

Figure 8: Estimation of People Affected for IDPs living in camp settlement population group

8. Estimation of Administrative-Level People in Need (PiN)

Finally, the model facilitates the estimation of People in Need (PiN) at each administrative level and by each population group. For each administrative level the proportion of households under each level of severity is used to ascertain the PiN. This process yields the estimated number of people in each severity phase. The PiN corresponds to the number of households in severity phases 3, 4, and 5 and is automatically calculated by the tool. In the example image below from the "Severity and PiN (popgp)” worksheet, excel formula SUM provides the PiN figure. See cell N3 in the tool.

Figure 9: Estimation of PiN by admin level for IDPs living in camp settlement population group.

Methodology for the quarterly revision of severity (PAUs)

During the calendar year, the areas severity levels must be continuously monitored to provide up to date revisions based on changes in the context or occurrences. These changes must be discussed and reflected about through Joint Protection Analysis Workshops, and they can be based either on a re-calculation or convergence of evidence ensured through expert judgement.

The Protection Analysis Units (PAUs) should reflect revised severity of protection risks. The severity of areas can be updated using protection monitoring data analysis, following the methodology outlined for the Humanitarian Programme Cycle (HPC) above.
However, if the severity update is not based on protection monitoring or another primary data source like rapid needs assessments, it is recommended to convene a Joint Protection Analysis Workshop with cluster partners and constituencies. In this collaborative setting, discuss area or administrative level severity, using the Humanitarian Needs Overview (HNO) severity as a baseline, and strive for consensus. This approach is an expert judgement exercise that must be guided by a common approach to ensure, as a minimum, a common approach to protection risks affecting the population.

The regular revision must be guided by the Protection Risks Severity Criteria—Reference Table, as the example below provided:

<table>
<thead>
<tr>
<th>PROTECTION RISK SEVERITY CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal level of harm and exposure, and no role of state authorities and perpetrators in the magnitude of threat’s effects</td>
</tr>
<tr>
<td>OR</td>
</tr>
</tbody>
</table>

Access the comprehensive guidance on protection risk severity criteria by clicking on the link provided here.

**List of Protection Indicators**

You can find the consolidated lists of Protection and AoRs indicators, together with the proposed severity thresholds on the GPC HPC Guidance web page or directly at this link.
Conclusion

This methodology provides a comprehensive approach to calculating severity at both the household and administrative levels and estimating People in Need (PiN), for each selected population group. By implementing this approach, cluster analysis teams can better understand the severity of crisis situations and more accurately identify those in need, thereby enhancing the effectiveness of crisis management strategies.
This method involves ranking options of an indicator in order of preference. This method reflects the fact that an option who is ranked second or third by many HHs can sometimes be a more agreeable choice overall than an option which is the first choice of many but the last choice of just as many.

From an operational standpoint, a protection risk identified or monitored by Protection Clusters refers to: “The intensity and damage or harm resulting from a human activity or a product of human activity affecting an individual or group of individuals”.

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\[1\] This method involves ranking options of an indicator in order of preference. This method reflects the fact that an option who is ranked second or third by many HHs can sometimes be a more agreeable choice overall than an option which is the first choice of many but the last choice of just as many.

\[2\] From an operational standpoint, a protection risk identified or monitored by Protection Clusters refers to: “The intensity and damage or harm resulting from a human activity or a product of human activity affecting an individual or group of individuals”.

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