

Article nhess-2021-192 – Ferrer et Curt

Responses to reviewer – RC1

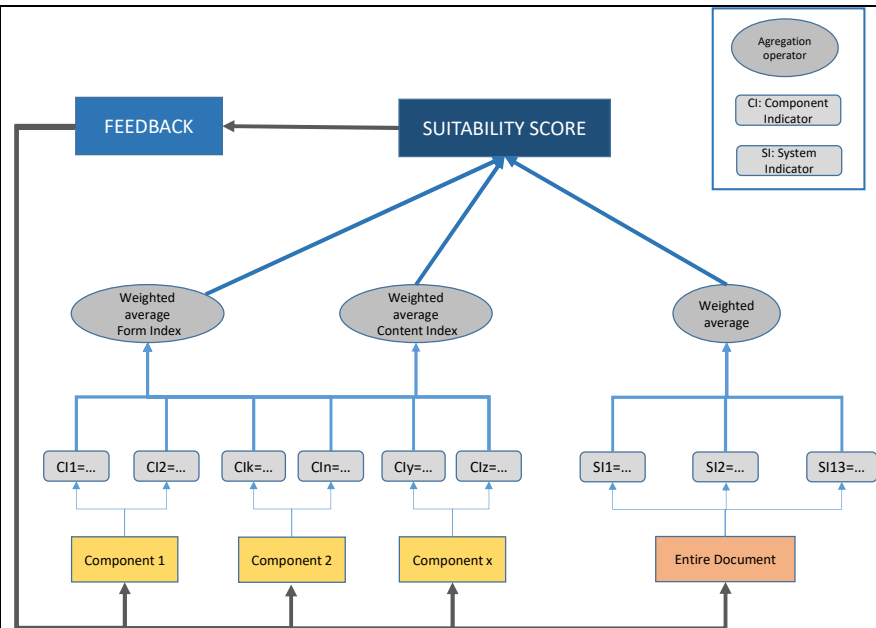
| Reviewer comment | Authors reply |
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| <p>The problem is connected to the topic of dissemination of risk information, and thus the question falls in the scope of the journal.</p> | <p>Thank you very much for your interesting comments</p> <p>We hope that the changes we made following your comments will make the reading of the article more fluid</p> |
| <p>In fact, it's not clear the usefulness at municipal level of one synthetic index summarizing all the evaluations</p> | <p>As stated in the article 1.405-406, “While this score can provide an estimate of the overall degree of suitability of the DICRIM, this result is not sufficient, making it necessary to know what can be done to remedy an insufficient score.” The synthetic index gives an overview of the readability and legibility of the document such as it is done in the SAM method for instance but the corrective actions are triggered by the value assessed by each indicator: this was not well presented in Figure 5 and can induce a misunderstanding of the use of the synthetic index. We will therefore alter this figure to better present the process of improving the document.</p> <p>We will add these elements in the new subsection 4.2 (please see below)</p> |
| <p>At least the perspective of introducing the index in a more comprehensive evaluation should be explicitly discussed. A section dedicated to the description of the potential use of such indicators/indexes is lacking, with a focus of different potential uses for the synthetic index or the indexes relevant to the single components.</p> | <p>Section 4 will be renamed: Production and use of evaluation and improvement models</p> <p>We will introduce two subsections in § 4:</p> <p>4.1 Determination of a synthetic index and corrective actions This sub-section will contain the beginning of the previous Section 4 that focuses on the weighting process</p> <p>4.2 Use of the models This sub-section will be introduced as a discussion on the use of the assessment and improvement models:</p> |

The proposed approach makes use of a huge set of indicators (114) for the evaluation of a single document. Considering also that readability and legibility shouldn't be the only elements taken into account when evaluating the suitability of the document for informing the public, this high number of required evaluations could be detrimental for the use of the approach. Please discuss this in the new section (see previous comment); it could be helpful to have the indication of the mean time required for compiling the indicators for one DICRIM.

As indicated above, 112 (*not 114 - it was an error*) indicators were needed to evaluate a DICRIM considering one natural risk and one technological risk. This number may seem high, but the scoring is quick because the indicator grids guide it precisely. Moreover, for some documents, certain headings are missing altogether. In the end, for the validation sessions, the time taken by the assessors was between 45 and 60 min depending on the content of each heading.

As it is not possible to have a precise idea of the readability and legibility of the document due to their evaluation by 112 indicators, a synthetic score is relevant such as it is done in the SAM method for instance. Moreover, it is possible to provide an overall form rating and an overall content rating so that the user knows whether the readability or the legibility is the most problematic (*Figure 4/Model for evaluating the suitability of the DICRIM by aggregating indicators* will be completed by indicating a form index and a content index). If these synthetic indexes give an overview of the readability and legibility of the document, the corrective actions are necessarily triggered by the value assessed by each indicator: at the end, the user obtains a list of actions to improve the document.

The associations and communities (Town Hall and Prefecture) we met were receptive to our approach and our results, considering them relevant. It should also be noted that the model remains scalable and can be completed, refined and/or improved without the need for major changes in the body of the model.



Proposal for Figure 4

The authors cite an approach already common in other contexts, without giving details about it.

It's highlighted that such an approach has not been applied to the risk information context, but it should be made clearer where the innovation

More information will be given on the SAM method to clarify what are the main innovations:

The SAM method is much more elaborated than readability formulas. It assesses 22 factors related [...], Appropriateness. For instance, “purpose is evident”, “content about behaviour”, “scope is limited” and “summary or review included” refer to Content factor. Each indicator is assessed on a same scale ranging from 0 (not suitable rating) to 2 (superior rating). The final score corresponds to the sum of the value affected to the whole set of factors divided by 44 corresponding to the maximum possible total score.

A summary sentence was effectively missing at the end of § 1.3. We will add the following:

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| <p>stands (e.g. adaptation of the approach, identification of proper indicators, identification of sections of the document to be analyzed)</p> | <p>There is currently no method that combines the analysis of the form and content of a document dedicated to the communication of major risks, capable of evaluating cartographic representations and photos at two levels: the entire document and sections of documents. It is a question of adapting certain indicators existing in the literature but also of formalising its own indicators adapted to the two levels.</p> |
| <p>The sources for providing the definition of the indicators and defining their milestones, the authors indicate that several sources can be used. Although, a clear indication of which specific sources have been used for each indicator should be provided at least as supplement material</p> | <p>We will add a table providing the types of source used for each detection element. We will make this table from the detection elements rather than from the indicators because there are redundancies in the indicators. Indeed, the same type of indicator is used for several components: for example, CI10 (Table 4) and CI34 (Table 5) come from the detection element "Elements represented by the photo" (Table 3). The same sources were used for these indicators, in relation to the initial detection element.</p> |
| <p>Among such sources, the authors indicate a database with about fifty DICRIMs as potential sources for extrapolating the structure of the indicators [page 8, lines 207-209]. The approach is not very clear, and it can give the idea that they are based on the average scores or description of the analyzed documents. If this is the case, the specific indicator would not describe the suitability of the document, but only its ranking</p> | <p>Elements will be added to specify how the DICIRM database was used to build the indicators:</p> <p>This database of DICRIMs made it possible to identify concrete practices (e.g. types of photos present, colour or typography of texts, vocabulary used, etc.) serving as examples or counter-examples to describe the references associated with the possible values assigned to the indicators. For example, a census of the type of photos was made in the 50 DICRIMs for the section "Presentation of the risk" and this list was used to define the references for the indicator CI34 (Table 5): photograph of the phenomenon, damage, structural protection measures, city, issues. Thus these were used to describe the suitability of the document.</p> |
| <p>Still referring to the database of the DICRIMs, it's not clear if these are the documents used for the verification phase, thus not allowing a proper evaluation of the soundness of such a phase</p> | <p>The documents used during the validation phase were not included in the database of DICRIMs</p> |
| <p>When introducing the groups of experts involved in different phases, the indication of each one's years of experience is a bit funny; it could be</p> | <p>The reference to the experts' years of experience will be removed in favour of information on the reasons why we chose these experts:</p> |

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| <p>preferable to have a general description of the criteria adopted for selecting them</p> | <p>Two experts in technological or natural risk analysis were more particularly involved in questions of document content and its headings, while the third as a communication expert was involved in questions of form.</p> |
| <p>Page 3, line 68. The title is a bit misleading, please change with something more focused on the effectiveness of communication (e.g. Effective communication in risk management)</p> | <p>The title is changed for: Effective communication in risk management</p> |
| <p>Page 5, line 125. Please introduce the regulatory reference defining the list of 11 mayor risks that may affect a municipality</p> | <p>The reference is MEDDE: Maquette nationale pour l’application du code de l’environnement - Articles L125-2 et R125-5 à R125-27, Paris, France, 2013 – It is cited in the revised version</p> |
| <p>Page 6, Figure 3. The picture is a bit unclear. Shouldn’t the definition of corrective actions follow a step of evaluation of the indicators for the specific DICRIM? Please clarify and/or modify the picture</p> | <p>Figure 3 presents the methodology adopted. It focuses on (i) the indicator construction and choice of aggregation rules and (ii) the definition of corrective actions to improve DICRIMs. The use of the indicators is shown in Figure 5.</p> <p>To clarify Figure 3, changes will be made:</p> <ul style="list-style-type: none"> - "aggregations" replaced by "choice of aggregations" - “definition of corrective actions” by "Definition of corrective actions to improve the DICRIM" - the box "DICRIM improvement” will be deleted |
| <p>Pages 13 and 14, tables 4 and 5. The two grids refer to the same detection element, but there’s no reference to the specific component they are linked to; adding the component could help the reader in interpreting the table</p> | <p>Changes will be done: the components are now more clearly identified</p> <p>Table 4: Cp2 - At the beginning of the DICRIM – on the page where the editorial is located</p> <p>Table 5 (and Table 6): Cp5 - For each component dealing with a phenomenon</p> |
| <p>Page 13, table 4. Please clarify “form 10” in the caption</p> | <p>The table title will be changed for: Grid of the form indicator 10 "Element represented by the photograph" for the Editorial component</p> |