



CONFIDENCE TERMS - EVALUATION STAGE

WHAT?

Confidence terms¹ are used as a standard approach to help ensure consistency and transparency on how assessment authors convey to readers their level of confidence on the knowledge available for a specific topic (see The IPBES Guide on the Production of Assessments). Confidence terms are based on the authors' expert judgement of the level of agreement about the accuracy of the knowledge and the quality and quantity of associated evidence in support of key messages and findings. They indicate the knowledge, evidence and information which the authors are highly confident in and which topics require further investigation. Consequently, confidence terms support decision-makers to make better informed decisions as they showcase where the uncertainty associated with the assessment's key messages, findings and analyses are.



WHEN?

During the Evaluation Stage of an assessment, authors undertaking the assessment identify its key findings and assess the confidence level of knowledge agreement and quantity and quality of associated evidence. The confidence terms can be used in these key findings, both across the chapter summaries of the technical report and the key findings in the summary for policymakers. For more guidance on when to use confidence terms, please see The IPBES Guide on the Production of Assessments.

¹ Confidence terms are also described as uncertainty terms in other assessment processes

HOW?

The following process exposed is based on The IPBES Guide on the Production of Assessments which can be consulted for further guidance.

Authors generally assess and communicate confidence terms as follows:

1. Identify the key findings of each chapter
2. Evaluate the level of knowledge agreement within each knowledge system (i.e. scientific and indigenous and local knowledge) and supporting evidence for these key findings
3. Establish whether the evidence is probabilistic or not
4. Based in 2 and 3, determine the corresponding confidence term for each particular key finding

TOP TIP

When bringing together authors to discuss confidence levels for key messages of the assessment, it might be useful to ask each author to write down their individual assessments of confidence before joining a larger group discussion. This could avoid the tendency of groups for converging on an expressed view and becoming overconfident.

The confidence level of indigenous and local knowledge findings can be determined by the judgement of indigenous and local knowledge authors and through the use of indigenous and local knowledge dialogue workshops, in which the general agreement between indigenous peoples and local communities and the amount of available knowledge and expertise is assessed (see Box 1).

Qualitative evidence

Where evidence is qualitative, the four-box model (Figure 1a) can be used to convey the authors' confidence in a key message or finding. These terms are chosen based on the authors' expert judgement of the quality, quantity, consistency, and type of evidence available, in addition to the level of scientific agreement and/or for indigenous and local knowledge; the general agreement among indigenous peoples and local communities during the review dialogue workshop. Prior consultation with indigenous peoples and local communities (i.e. during indigenous and local knowledge scoping/framing workshops) could be essential since they may have existing tools of assessing knowledge confidence level.

The four-box model includes the following confidence terms:

- × Inconclusive - where the finding is based on limited or no evidence.
- × Unresolved - multiple sources of knowledge exist, however, they are not all in agreement.
- × Established but incomplete - limited sources of knowledge, however, they are in general agreement. Alternatively, the knowledge that exists does not relate directly to the key message and finding.
- × Well established - where comprehensive data agrees with the finding. This 'well established' box can be further partitioned into two — 'very well established' and 'virtually certain' — to provide authors with the flexibility to emphasize further confidence.

For consistency, it is important to ensure that confidence terms are implemented in a standard way within the assessment.

Quantitative evidence

If quantitative information and evidence exists, consider using likelihood terms instead to communicate the probability estimate of a well-defined outcome and impact occurring (Figure 1b). These estimates can be based on statistical analyses of model results and/or observations combined with expert opinion. If sufficiently robust information is available to make a 'best estimate' of the probability of an event occurring, it is preferable to specify this range (e.g., 70–75%) without using the predefined terms in Figure. 1b.

Using a likelihood term (e.g., 80–100%) implies that alternative outcomes have the inverse likelihood (e.g., 0–20%). Furthermore, the phrasing and thus framing of key messages and findings should be carefully considered as this will impact its interpretation. It is advisable to use reciprocal statements (e.g., report the likelihood of failure and of success) to avoid misinterpretations.

Both qualitative and quantitative evidence can be based on probability. If the evidence is probabilistic, choose a confidence term from the four-box model to communicate the author team’s confidence in the key finding. Probabilistic estimates are founded on statistical analyses of observations, model results, and/or community participatory analysis (primarily for indigenous and local knowledge systems) and can be associated with authors’ judgement. As soon as enough information, knowledge and/or data is gathered to determine the probability of the quantitative or qualitative evidence, it is important to consider the various outcomes based on this probability, specifically taking into account potential outcomes that may have high consequences.

The author team’s judgement on the level of probability can then take the form of a likelihood term.

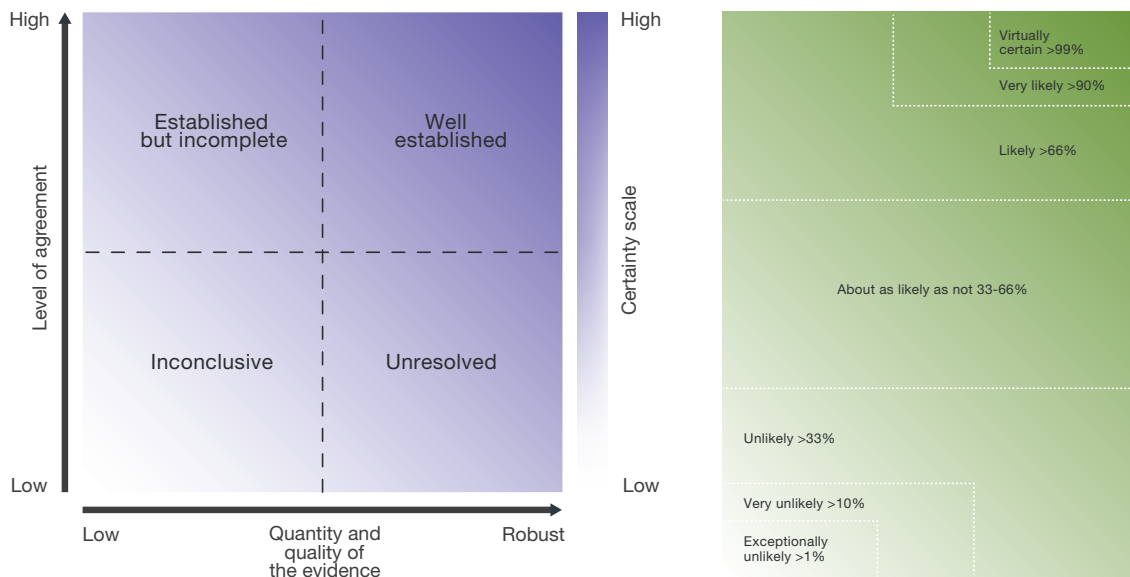


Figure 1. (a) Four-box model for the qualitative communication of confidence in key messages and findings and (b) the likelihood scale for the probability of an outcome occurring for quantitative communications of confidence in key messages and findings. From IPBES, 2018. The IPBES Guide on the Production of Assessments.

It is highly recommended to keep a record (i.e. ‘traceable account’) of how authors decide on each confidence term throughout the reports. Ideally, this would also include information about the quality, quantity, type, and consistency of the evidence used in support of each term. A primary finding in the summary for policymakers is ideally easily traceable all the way to those in the executive summary of the technical report, to those in the chapter text and subsequently, in the primary literature.



Box 1. Confidence terms and indigenous and local knowledge

Be aware: Attention is needed when assigning confidence levels and terms to key messages from indigenous and local knowledge holders as it can depend on the extent of the knowledge shared, which itself is based on the relationships between the assessment team and indigenous peoples and local communities. Indigenous peoples and local communities can, in general, be more comfortable with divergent views than scientists, as a recognition of the world's complexities, the possibilities of different individual experiences and the strength offered by diverse knowledge. Divergent or inconclusive views within indigenous and local knowledge should not therefore be presented as a weakness when working with indigenous and local knowledge. As such, it is recommended to:

- Assign confidence terms from within the indigenous and local knowledge system, rather than through scientific criteria.- For instance, an indigenous and local knowledge dialogue workshop and expert opinion of social scientists with expertise in working with indigenous and local knowledge system are very instrumental in making this categorisation.
- Develop separate key messages and confidence ratings for scientific and indigenous and local knowledge. These separate messages can be synthesised through the Multiple Evidence Based Approach (see the [practical guidelines on indigenous and local knowledge](#)). Similarities and differences between the knowledge systems can then be commented on, and higher level key messages could be developed based on this.

Dialogue workshop: To determine confidence levels and terms for indigenous and local knowledge, a dialogue workshop with indigenous and local knowledge holders could be a good way of assessing the amount of knowledge that has been accessed in the assessment, its level of agreement, where assessment results are approved and validated by indigenous peoples and local communities and the terms they would use for these level of agreements with the assessment's key messages and findings. Results where all indigenous peoples and local communities and assessed materials agree could be considered as "high agreement", whereas if there are many different viewpoints this could be seen to be a "low agreement".

Literature review: If confidence terms cannot be determined with indigenous and local knowledge holders probably due to financial and time constraints, a literature review could be used for this intent. For the confidence terms for example, a literature review could be considered "high quantity" if it assessed a range of materials and good coverage was achieved for the themes or ecosystems considered in the assessment. A "low quantity" term could result from a small indigenous and local knowledge research study with few participants, or a literature review with scarce numbers of papers. However, it should be noted that in some cases indigenous peoples and local communities may feel that working with the knowledge of a small number of very knowledgeable elders is equivalent to decades of research and study, so this can also be factored in to an evaluation of quantity. Together these considerations can help to give a confidence level within the four-box model (see Figure 1) for the indigenous and local knowledge key findings of the national ecosystem assessment.

RESOURCES

- x IPBES (2018) The IPBES Guide on the Production of Assessments <https://bit.ly/2wCfQHB>

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