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## Stakeholder interpretation of probabilistic representations of uncertainty in spatial information: an example on the nutritional quality of staple crops

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Spatial information, inferred from samples, is needed for decision-making but is uncertain. One way to convey uncertain information is with probabilities (e.g., that a value falls below a critical threshold). We examined how different professional groups (agricultural scientists or health and nutrition experts) interpret information, presented this way when making a decision about interventions to address human selenium (Se) deficiency. The information provided was a map, either of the probability that Se concentration in local staple grain falls below a nutritionally-significant threshold (negative framing) or of the probability that grain Se concentration is above the threshold (positive framing). There was evidence for an effect of the professional group and of framing on the decision process. Negative framing led to more conservative decisions; intervention was recommended at a smaller probability that the grain Se is inadequate than if the question were framed positively, and the decisions were more comparable between professional groups under negative framing. Our results show the importance of framing in probabilistic presentations of uncertainty, and of the background of the interpreter. Our experimental approach could be used to elicit threshold probabilities that represent the preferences of stakeholder communities to support them in the interpretation of uncertain information.