**Supplementary Material 1: Additional Details Regarding Q Method**

The Q methodology is composed of six steps: 1) definition of the concourse (research topic); 2) design of the Q-set; 3) selection of participants; 4) conduct the Q-sort; 5) run a factor analysis with specialized software; and 6) interpretation of results. For this study, the concourse was the identification of perspectives around the conservation of native maize through PROMAC in NPAs. The concourse was determined through a bibliographic review of documents, semi-structured interviews, and a focus group of key actors to obtain 30 documents related to the research topic. The documents were transcribed, and with the help of ATLAS.ti (version 7) key themes were identified. Themes were selected and grouped according to four criteria: 1) use of keywords, 2) participation of the document's author in the PROMAC design, 3) participation of the document's author in the implementation of PROMAC, and 4) participation of the author as a target population of PROMAC.

Our concourse was “native maize conservation through PROMAC in Mexican NPAs.” The statements regarding this concourse were extracted from 12 documents and were selected because of how representative they were of the different points of views of the key actors in the PROMAC: Those who conceptualised and formulated the program, those who implemented it, and the target population. In addition to the 12 documents, we included opinions from a focus group discussion conducted with officials from the National Commission for the Knowledge and Use of Biodiversity (CONABIO).

The second and third stage of the Q-methodology consisted of the design of the Q-set and the selection of the participants. From the concourse, 57 statements were obtained. The construction of the statements was based on the suggestions of Webler et al. (2009) regarding relevance, significance and comprehensiveness to define a perspective. A number between 40 and 80 statements is suggested as adequate to use the methodology (Rogers 1995). However, following the recommendation of Watts and Stenner (2005) regarding the profile of the participants and considering that they had different abilities to read and relate concepts, it was decided to reduce the statements to a minimum for all profiles (academics, government employees, agricultural technicians and farmers). The reduction criteria were: 1) elimination of redundancy and contradictions; 2) simplicity of understanding; and 3) execution of a pilot test. Finally, 25 statements were used to perform the Q-sort, considering that others with similar number of statements were considered satisfactory (Hagan and Willimans 2016).

The fourth step or execution of the Q-sort had a participation of 27 actors. Following the recommendations of some authors (Brown 1980, Exel and Graaf, 2005), it was decided to privilege the participation of key actors who had a clear and contrasting vision of the topic of study as well as a relevant degree of influence. Of the total number of actors, 12 participated in the conceptualization of the program and 15 in its implementation. No farmer was able to complete the Q-sort due to the difficulty of relating the statement and the accommodation instructions. Regarding the number of participants in the Q-sort, there is no defined criteria about the adequate number of participants. In this study we adhere to the criteria of some authors by considering that the participants are not the sample, but the variables of the methodological exercise, so the number of participants should not necessarily be very large to give statistically significant results (Barry and Proops 1999; Brown, 1980) so a number between 12 and 36 participants may be adequate (Webler et al, 2009).

The Q-sort was conducted in two ways with the participants. One of them in person and the other one remotely via electronic means. In both modalities the objective of the exercise and the instructions were explained to the participants. In the case of face-to-face, the statements were presented on paper cards and in the case of electronic media, HTMLQ programming (https://github.com/aproxima/htmlq) was used to execute the exercise. In both cases the statements were provided randomly and the participants were asked to order them in a quasi-normal pyramidal distribution chart with values of -4 (most disagree), 0 (neutral) to +4, (most agree) as described by Van Excel and De Graaf (2005). Additionally, a semi-structured interview was conducted with the participants to find out the reasons behind the statement placement. They were first questioned to explain their confidence in the statement placement and the need to maintain or modify the placement. Then they were asked about the reason for the statement accommodation in the -4 and +4 positions. In the end, they were asked about any additional opinions on the exercise and about the absence of a statement that they considered not to be insightful. The entire interview was recorded and transcribed for analysis.

The fifth step or analysis was carried out with Ken-Q Analysis software (<https://shawnbanasick.github.io/ken-q-analysis-beta/index.html#section1>) which uses statistical factor analysis to identify a range of factors (perspectives) that underlie a set of statements. The statistical factor analysis generated a correlation matrix comparing each of the 27 Q-sorts. To identify which participant Q-sorts were clustered together, a principal components analysis was carried out on the correlation matrix. The factor analysis was a centroid type with an orthogonal varimax type rotation (Brown 1980). We identified seven factors or perspectives in the initial extraction. The orthogonal varimax type rotation was executed only in factors with eigenvalues equal to or higher than 1, in agreement with the Guttman criterion (Yeomans & Golder 1982).

Five factors or perspectives had eigenvalues higher than 1: factors 1 (9.4), 2 (3.2), 4 (1.8), 5 (1.4), and 6 (1.2). These factors together explained 64% of the variance within the data. Only factors 1 and 2 proved significantly different enough to explain the variation of the data, with a correlation of 0.39. The other three factors were therefore discarded from the construction of the idealised Q-sorts. Statement correlations with a significance of *p* < 0.01 were used for the construction of the idealised Q-sorts of each factor or perspective, in accordance with the criterion described by Brown (1980). For our 27 Q-sorts, the significant loading sort was equal to or higher than 0.49.

We used an interpretive discourse analysis for the responses regarding why our participants had arranged the statements and opinions as they did, in order to triangulate the results with the Q method. The interviews were coded using the ATLAS.ti and the analysis focused on searching for elements of content and meaning, depending on the arrangement of each Q-sort.

**References**

Barry, J., and Proops, J. (1999). Seeking sustainability discourses with Q methodology. *Ecological Economics* 28, 337–345.

Brown S (1980) *Political Subjectivity. Applications of Q methodology in political science*. New Haven: Yale University Press.

Hagan K, Williams S (2016) Oceans of Discourses: Utilizing Q Methodology for Analyzing Perceptions on Marine Biodiversity Conservation in the Kogelberg Biosphere Reserve, South Africa. *Frontiers in Marine Science* 3: 188.

Rogers R (1995) Q methodology. In: *Rethinking methods in psychology, eds* Smith JA, Harré R, Van Langenhofe L, pp. 178-192. Thousand Oaks, CA: Sage.

Van Exel J, de Graaf G (2005) Q Methodology: A Sneak Preview. URL www.*qmethod.org*

Watts S, Stenner P (2012) *Doing Q Methodological Research: Theory, Method & Interpretation*. London: SAGE Publications

Webler T, Danielson S, Tuler S (2009) *Using Q Method to Reveal Social Perspectives in Environmental Research*. Greenfield, MA: Social and Environmental Research Institute.

Yeomans K, Golder P (1982) The Guttman-Kaiser Criterion as a Predictor of the Number of Common Factors. *Journal of the Royal Statistical Society. Series D (The Statistician)* 31: 221–229.