### Stakeholders' Perceptions of the Managed Access Programme in Belize: A Q-methodology approach

# Percepciones de las Partes Interesadas sobre el Programa de Acceso Administrado en Belice: Un Enfoque de Metodología Q

# Perceptions des Parties Prenantes du Programme d'Accès Géré au Belize : Une Approche Q-Méthodologie

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#### EXTENDED ABSTRACT

Controlling and monitoring fishing effort and understanding human perspectives on fisheries management strategies are paramount to the sustainability of the small-scale fisheries in Belize. To address the challenges posed by a history of open access fishing, Belize implemented a territorial use rights fisheries (TURFs) management strategy in 2016, known as 'Managed Access' (MA). This involved issuing tenure rights to more than 3,000 customary fishers in nine distinct fishing areas. To date, Belize is the only Small Island Developing State (SIDS) that has implemented a country-wide TURFs management strategy addressing multiple species in all of its territorial waters. The aim of the MA strategy is to prevent overfishing, promote sustainable fisheries and restore valuable depleted fishery resources. Although rights-based fisheries have been successfully applied elsewhere, their implementation in small-scale coastal fisheries in the Caribbean is rare and under-studied. This study aimed to identify the consensus and divergent attitudes held by stakeholders regarding the MA, to provide insights on how successful the implementation has been in the early stages and thus what changes, if any, may be needed going forward to ensure long-term sustainable use of fishery resources and maximum stakeholder benefits from Belize's fisheries.

A Q-methodology (Zabala 2014) was used to elicit the different values and views of stakeholders about multiple issues related to the MA. The issues, formulated as 35 statements with a subjective opinion (Q-set), were obtained from a review of the media, published literature and key informant interviews, and broadly covered six thematic areas: social, economic, biological, administration and management, enforcement and compliance, and partnerships. This Q-set was then presented to MA stakeholders representing fisheries administrators, fishery scientists, fishers, fishing cooperative members, and fishery focused non-governmental organisations in a series of eight facilitated workshops held between July 9-23, 2019. Each workshop participant undertook a Q-sorting exercise to rank the 35 statements (using a scale from 'strongly agree' through to 'strongly disagree') by placing them in a Q-sorting grid that conformed to a force choice frequency distribution (Figure 1). An open discussion was also held in each workshop, in which participants were asked to provide reasons for the selection of their strongest disagree and agree statements, and to provide opinions and general feedback on issues in Belize's fisheries that were not covered by the Q-set statements.

A total of 30 respondents participated in the workshops, and 28 provided completed grids (Q-sorts) that were used in the analyses. Principal component analysis (factor analysis) revealed five factors that strongly aligned with the views of 20 participants. Three participants' views were confounded (loaded significantly onto two factors) whilst five did not load significantly onto any of the factors. As is standard for Q-method, the data for the three confounded Q-sorts were recognised as hybrid-viewpoints and were not included in the construction of factors. Likewise, the data for the remaining five sorts were excluded totally from the construction of the factors' viewpoints.

Each of the five factors that emerged from the statistical analysis represented a different set of perspectives that were shared by a group of participant stakeholders, and each was given a name that conveyed the essence of the combined perspectives. The viewpoints of these perspectives are shown in Table 1. The views of each perspective showcase the complexity involved in addressing the various needs of the stakeholders of the MA programme, but also serve as critical information towards the adaptive management of the programme. Through these perspectives, the programme can tailor the necessary adjustments needed to address the concerns of its stakeholders and in turn, chart the way forward to the success of the programme.

In conclusion, this research revealed that Managed Access, as a total management reform, is generally accepted by the different stakeholder groups despite the divergent perspectives. It was also clear that there remain a number of gaps and challenges in capacity and resources to fulfil the true mandate of the management reform and that the MA strategy will not succeed without more financial investment in enforcement, stakeholder engagement, research, and the strengthening of institutional capacity. There are, however, divergent views among the five group perspectives on how these inefficiencies and current failures can be addressed, indicating the need for immediate re-engagement of the various stakeholders of the programme to ensure that collective partnership among the groups remain viable.

KEYWORDS: Rights-based fisheries, Territorial Use Rights Fisheries, small-scale fisheries, Caribbean

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Table 1. Five perspectives extracted from the principal component analysis with details about their main viewpoints and the percentage of sorts loaded unto each factor.

Number of Factors revealed: 5		
Perspectives Constructed	Main viewpoints	% of sorts loaded unto factor
F1: Component Uncertainty	Perceived limited implementation of programme's key components	25
F2: Programme Optimism	Programme is achieving its core objectives and can improved with further financial support	14
F3: Governance and Stew- ardship	Expected voluntary stewardship has not been activated	14
F4: Objectivity and Science	Request for the use of more scientific reference points in decision making	7
F5: Balance Prosperity	Concerned that livelihoods and the well-being of the sector may be at risk	10

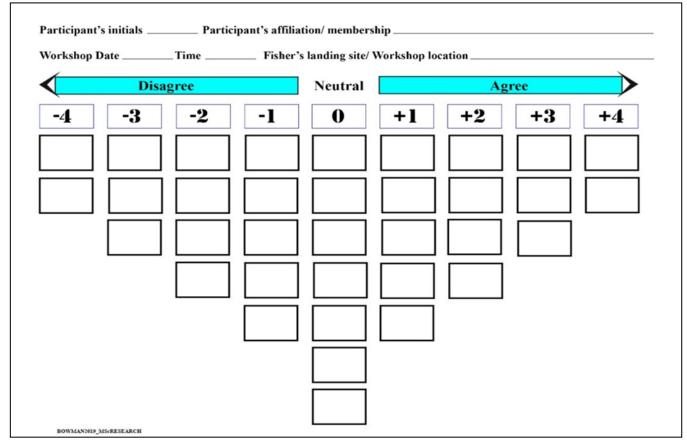


Figure 1. Design of the grid used in workshops containing a force choice frequency distribution including a nine-point rating scale (- 4 to +4), 35 cells and five general fields.