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# Means, meanings, and contexts: A framework for integrating detailed ethnographic data into assessments of fishing community vulnerability



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#### ABSTRACT

Current efforts at assessing the vulnerability of fishing communities center around the creation of quantitative indices. The quantification of social data, however, has several drawbacks. These include the loss of detail, removal of historical context, and obscuring of power dynamics. The Means, Meanings, and Contexts (MMC) Framework is presented as an alternative methodology, one that allows for the integration of qualitative social science into the understanding of community vulnerability, drawing upon ethnographic research techniques and theories of place-making. Place-making refers to the changing relationships between the physical support offered by a landscape (means), and the relationships among place, people, and lifestyle in a community (meanings). To adequately assess community vulnerability, researchers can collect data on both means and meanings within a community. Using these data, community vulnerability is assessed by responding to a series of 12 broad prompts. Responses to these prompts are summarized at three levels of detail: detailed textual description, tabular summary, and graphical summary. Using the Pribilof Island communities of St. George and St. Paul, Alaska as examples. this framework indicates that St. George is a highly vulnerable community, while St. Paul is moderately vulnerable. These results are in stark contrast with quantitative assessments of community vulnerability, which indicate that St. George is a low to moderately vulnerable community, while St. Paul is a highly vulnerable community. Tools like the MMC Framework, therefore, help make a place for important, but complex, qualitative social data, in fisheries management.

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### 1. Introduction

Though fisheries management issues touch on numerous social concerns, including access to resources, economic benefits, safety, and equity, US management organizations have only recently begun to collect data on these topics and still struggle with how to best integrate them into the decision-making process. The passing of the Sustainable Fisheries Act (SFA) in 1996 [1] served as an important impetus in the collection of sociocultural data in fisheries management, mandating the inclusion of geographic, in addition to user-group, communities in management analysis. It also created National Standard 8, a rule meant to provide for the sustained participation of communities engaged in or dependent upon fisheries by calling for managers to minimize economic impacts of management decisions on fishing communities according to the best available science and the extent practicable [2]. Despite

the current interest in and support for inclusion of social data in fisheries management generated by this legislation integration of these data into management plans remains problematic. Budget constraints limit the amount of in-depth ethnographic fieldwork social researchers can perform [3]. Thus, the majority of data included in social analysis are garnered from secondary data sources, supplemented with fieldwork when budgets permit. To further complicate matters, even when solid social data are available, they often are summarized in formats (*e.g.*, monographs) that are difficult for managers to access and integrate into management frameworks.

To address some of the difficulties associated with collecting and integrating sociocultural data, many have suggested a move toward quantifying social variables for use in management processes. Quantification of social data is seen as having several advantages. These advantages include: data availability and comparability across a broad range of communities, familiarity to researchers used to working with quantitative fisheries and ecosystem data, as well as, suitability for predictive and widely generalizable modeling exercises. Examples include the development of quantitative social indicators, *e.g.*, [4–6], which can then be used



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to model concepts like model community well-being *e.g.*, [7] and generate rankings of communities [8].

Delineating clear categories of relevant social variables and creating conceptual models are useful for summarizing and communicating social data; however, there are tradeoffs associated with using solely quantitative data to represent the complex social dynamics of fishing communities. Quantitative data are often static and tend to prioritize economic measures, which, especially for indigenous communities, may not reflect local goals and priorities (e.g., a measure like income, or total of cash resources coming into a household in a certain year, may not be appropriate for representing wealth in a community based largely on subsistence resource harvesting and sharing). Quantitative measures are limited in their ability to measure and represent important social dimensions like power dynamics and global-to-local connections. Common practices with quantifiable variables, such as aggregating and taking averages, can downplay differences, especially within marginalized groups. Furthermore, the process of distilling complicated social data into easily summarized and manipulated numeric indicators often results in understandings of culture that are not grounded in understandings of the physical space needed to perform cultural practices [9]. Instead, these kinds of data are often best understood through inductive, ethnographic research approaches [10]. Supplementing quantitative analyses with qualitative analyses can, therefore, provide managers with a more nuanced understanding of fishing communities.

While the importance of ethnographic research has been acknowledged and furthered by anthropologists working in management settings e.g., [10, 11-14], in institutions with limited research budgets these data are rarely collected. This is due to a perceived impracticality of qualitative data: it is time-consuming to collect and difficult to summarize in ways that are meaningful to managers. The fact that ethnographic data require a substantial time investment to collect is incontrovertible. Their reputation as difficult to summarize, however, is contestable. Satterfield et al. [9], for example, suggest that this difficulty can be overcome through the development of simple summary indices. Building upon this suggestion, the Means, Meanings, and Contexts (MMC) Framework is presented below as a methodology for incorporating qualitative social science into decision-making efforts, drawing upon ethnographic research techniques, the theories of placemaking and social vulnerability, and using two Alaska fishing villages as examples. Qualitative assessments from this framework are then compared with quantitative analyses to show the ways in which qualitative data can fundamentally change understandings of fishing communities.

The MMC Framework draws on Marsh's definition of placemaking efforts as being comprised of the relationships between means and meanings over time [15]. In this context, means describe the biophysical features a landscape provides, while meanings describe the intangible rewards a landscape offers [15]. The Anthracite towns in Marsh's research were initially rich in means (coal resources), though lacking in meaning (residents were immigrants drawn by the lure of prosperity), but over the years evolved into communities scarce in means, but full of meaning to residents [15]. As a result of this increase in meanings, residents were loath to leave these towns, despite the poverty they experienced and the lack of future prospects. The contrast of means and meanings in their historical context, therefore, elegantly captures the complexities of local relationships with resources in many vulnerable fishing communities. Furthermore, while simplified, the dichotomy of means and meanings helps to describe the interplay and interconnection of material (means) and symbolic (meanings) aspects of vulnerability.

#### 2. Methods and theory

## 2.1. Community vulnerability

The growing field of vulnerability studies, a component of sustainability and resilience research often associated with global climate change concerns, addresses the impact of stresses or events on social and social-ecological systems [16]. Defined in numerous ways, for this analysis vulnerability can be considered "inherent characteristics of the system that create the potential for harm" [17]. This definition stresses the fact that vulnerabilities do not harm communities *per se*, but rather create the potential for harm in the face of new or continued stresses. Further, it highlights marginality and powerlessness of social groups [17]. This definition remains broad and inclusive, rather than focusing on a specific suite of characteristics.

Vulnerability is typically described in terms of exposure, sensitivity, and adaptive capacity [16,18] Exposure refers to the strength of stressors, sensitivity describes the degree to which a community is expected to respond to particular stressors, and, finally, adaptive capacity refers to a community's ability to respond and even exploit opportunities created in the wake of stresses [18,19]. However, these concepts make less sense in the context of qualitative data. Rather than estimating specific exposures and system sensitivities, the framework presented below will discuss, qualitatively, how changes in stressors have caused specific reactions in communities over time. Similarly, adaptive capacity will be discussed in terms of observed responses to and strategies for overcoming vulnerabilities.

#### 2.2. Place-making theory

To discuss place-making, one must first define what constitutes a place. While *space* is vast, general, and encompassing [20], *place* is local and specific, connoting a constantly changing meaning to residents [21]. Thus, place is a social construct and place-making the method in which place is constructed out of space. These meanings are mediated by: local history and landscape [15], the physical senses [20], ties to regional and global politics [22], and economic utility [23]. Thus, place-making is a concept that provides a framework for communicating the social and cultural values and relationships associated with a specific place.

An active, constantly evolving process, place-making is frequently negotiated between residents and outsiders. In some cases, local place-making efforts gain the upper hand, creating communities that do not conform to outsider ideals [24]. In other instances, however, the place-making efforts of outsiders successfully reshape local senses of place to serve outside interests [25]. When outsiders control or prohibit uses of local resources, it can destabilize the relationships between local means and meanings. The fight to align means and meanings into what Harner calls a hegemonic equilibrium [26], can thus shape a community and indicate that place-making can be an act of political resistance.

In addition to people shaping a place, place-making encompasses the ways in which places can help shape people. These processes are often evident in indigenous communities. In Apache culture, for example, place-names encapsulate several kinds of information: a description of the place (allowing comparisons of environmental change over time), a moral story, and a tool for teaching local cultural values [27]. Thus, by walking the land or even mentally picturing places, Apaches are able to connect with their homeland and culture [27]. The Tlingit, while living in dissimilar places to the Apache, have similarly deep connections to their ancestral lands. In Tlingit culture, places have stories and crests or designs associated with them that also serve as mnemonics for passing on cultural lessons [21]. With its focus on the Download English Version:

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