

Massachusetts Fishermen's Partnership
Institutionalizing Social Science Data Collection:

The Community Panels Project

Methodology

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Introduction

The primary objective for this project is to develop a community-based process for gathering and assessing social science data relevant to the fishing industry.

We want to

- ground-truth an academic product intended as a baseline study
- identify what communities consider important
- locate new data sources
- offer communities the opportunity to define themselves and articulate their values.

Community-based panels are reviewing, adding to, and creating socio-economic profiles for their communities. Equally important, our project is beginning to provide fisheries managers with information that will enable them to more accurately anticipate social impacts. The communities selected for this project are Beals Island/Jonesport and Portland (Maine), Gloucester, South Shore and New Bedford (Massachusetts) and Pt. Judith, Rhode Island. These six were purposively chosen as representative of the variety of characteristics of the fishing industry in the region including inshore/offshore, large/small, urban/rural, fish/shellfish, mobile/fixed gear, auction/entrepreneur-dealer, etc.

Despite good intentions and legal requisites,¹ fisheries managers often find it difficult to weigh and/or incorporate social data in the analysis of management options. Sometimes this is simply due to an absence of data, but other times it is due to doubts about the reliability of the data that has been offered. This essay addresses the question of the reliability of the Panels Project data by describing a selection of the classic methods used by academic researchers in the social sciences, identifying the strengths and weaknesses of each, and noting which methods are being used by the project.

Representativeness

A bedrock principle of social science is that research results must represent the population being described. However, each of the social science disciplines of anthropology, sociology, cultural geography and economics has favorite methods for

¹ E.g. National Standard 8

obtaining representative results. While each method has positive attributes, there are also potential sources of error in their representativeness.

The Panels Project adopted the approach to representativeness known as the “snowball” method, or networking through key individuals. This approach is appropriate because the project is founded on the principle of participatory and collaborative research, whereby some members of the community are themselves researchers.

The “*snowball*” method relies on interviewing key individuals who then introduce the researcher to, or at least offer contact information about, others in the community who are knowledgeable and willing to be interviewed or participate in the research. Although this method is a non-random way of selecting people to interview, it is often the most effective method for identifying a variety of people in a fishing community. The proliferation of meetings in fisheries management, competition among shoreside businesses, the long work days involved in fishing, the sheer volume of demands for data (e.g., log books), and anxiety about negative impacts of data collection, make it difficult to find volunteers via random sampling. Thus the “snowball” method is appropriate given the realities of working within fishing communities, where scheduling of visits for interviews is particularly difficult.

The “snowball” method is also appropriate in situations—such as most U.S. fisheries—where there are few available datasets and other conditions necessary for the better known and more demanding approach to representativeness: random sampling. Most people consider *random samples* the most appropriate way to select a portion of a population that will properly reflect the characteristics of the whole. The U.S. Census, for example, sends their long form to a random sample of one in six people. When the attributes of interest are widely distributed in the whole population, such a sample is probably a good representation of the whole. However, when the attribute of interest is found only among a small percentage of the whole population, the chance of randomly selecting a sufficiently large number of people with that attribute to make inferences about the whole is unlikely. For this reason, the Census data on fishing as an occupation is not a reliable indicator for either the total numbers of fishermen, or specific characteristics elicited by the Census’s long form.

One technique used to counter the problems associated with purely random samples is to use a “stratified” sample. This allows the researcher to choose a set of characteristics or “strata” from which the sample will be drawn. For fisheries social scientists interested in revenues, strata might include gear types, boat sizes or engine horsepower, and landing port, for example. Within each stratum, a sample is randomly selected. The choice of appropriate strata, however, is not necessarily obvious. Age, ethnicity, or education might also be significant, particularly if the topic of interest is employment rather than simply revenue.

Furthermore, because each characteristic must be considered with respect to each of the others, the numbers of strata can multiply exponentially. In the example of revenues, there might be 5 gear types (trawler, gillnet, longline, dredge, pot), three ranges of boat sizes (small, medium and large) and 6 ports of interest resulting in 90 strata! Depending on how many people fit each strata, the researcher may or may not have samples that are representative of the whole population. When the Atlantic Coast Cooperative Statistics Program (ACCSP) designed a pilot program to study summer flounder, a variety of pertinent strata were identified. As the project progressed, however, and individuals dropped out of the study, the strata had to be collapsed to retain representativeness, albeit at a broader rather than detailed level.

Quota samples bear some similarity to stratified random samples. Again certain characteristics are identified as pertinent and the proportion of each characteristic that is represented in the population as a whole is estimated (or known), and the sample is specifically designed to reflect that proportion. So, if the sample size is 500 vessels, 20% of which should be from Portland, and the Portland fleet has 5% large trawlers, 10% medium trawlers and 3% small trawlers, 18 vessels should be studied in detail. The sample thus chosen will theoretically be representative of geographical area (i.e., port) and gear type and vessel size. However, the small size of the sample makes it virtually impossible to be sure that any other characteristic is representative. Random selection of the small sample, though, can help reduce error.

Both of these research designs require “a *sampling frame*, a list of the people that are available to be selected. But that list is almost never, in fact, compiled for the purposes of academic research.”² This is particularly true in fisheries research. National Marine Fisheries Service’s permit file has a fairly complete list of vessel owners, but since owners may be a corporation rather than an individual, even this list is not entirely reliable as a sampling frame for owners. Nowhere is there a reliable list of crewmembers. Nor is there a definitive list of fishing ports or fishing communities.

In addition, a bias can be introduced by the decisions of individuals to, or not to, participate. And, bias can be introduced by methods used to contact those being interviewed. In addition, characteristics used to set boundaries (gender is often used in social science) may or may not retain differences over time. Also individuals may change over time, so what have been considered relevant differences may disappear.

² Frank Bechhofer and Lindsay Paterson, *Principles of Research Design in the Social Sciences*. London: Routledge, 2000, pg. 37

Starting the snowball with an Advisory panel

The first step for the Panels Projects was to form an advisory panel of thoughtful and experienced fishing industry stakeholders. The projects relied on recommendations from fishing organizations in Maine, New Hampshire, Rhode Island, and Massachusetts to help us form the advisory panel.

The panel was asked to identify the kinds of people who would be representative of the fisheries and communities involved in fisheries-dependent communities of New England and then asked to identify individuals who would fit the categories articulated for the six communities in New England.

Once the selection of participants in the research, or at least the method to be used for selection, is known, decisions about the way data is to be obtained must be addressed. The Panels Project is drawing on a variety of techniques ranging from semi-structured interviews to focus groups to participant observation. As mentioned above, an overriding concern for the project, however, is that the approaches used for data collection and analysis are participatory.

Participatory approach

In participatory research, members of the community or other group being studied participate in aspects of the research—ideally, everything from study design to data collection and analysis. One of the arguments for participatory research is that “An outside researcher may be unlikely, or even unable, to collect the in-depth, inside data that a community member volunteer can elicit.”³ In other words, community members may have both in-depth knowledge that improves the research and also better access to others in the community who have such knowledge. Indeed, the research process can be a learning process for both community members and outside researchers. Constructivist theory “point[s] to the powerful learning that can occur if people are engaged in a process that creates or constructs knowledge.”⁴

There are also practical considerations. Through participatory research, community members are more likely to care about the results, especially if they become involved at every level of the study, helping develop the questions, collecting the data and analyzing the results.⁵ In addition, through participatory research, community expertise and social capital can be created: some gain sufficient confidence to continue research over time. Other benefits of a participatory approach include the fact that a variety of viewpoints are represented insuring credibility and relevance to the community. Furthermore,

³ Richard Krueger and Jean King. 1998. *Involving Community Members in Focus Groups*. London: Sage Publications, p.5

⁴ Ibid, p.7

⁵ Richard Krueger and Jean King. 1998. *Involving Community Members in Focus Groups*. London: Sage Publications, p.6

participation by community members usually helps generate support for the recommendations.

The negative aspect of a participatory approach can be summarized in one word: “time.” A collaborative research process takes much more time than do other forms of research. Identifying and recruiting the participants, finding a variety of talents and sufficient commitment to the study can be daunting and time consuming, even when it is possible to provide funds to compensate participants for their time and travel, as in this case.

Appointing Coordinators

Because of the time constraints, The Panels Project eventually hired coordinators for each panel. The coordinators are not necessarily members of the place-based communities involved, but they are knowledgeable about the industry and able and willing to devote time to scheduling and rescheduling meetings, discussing, debating, and facilitating meetings. The coordinators also find additional key community members who can help with the different forms of data collection.

Forming the panels

When 10 to 12 individuals had agreed to participate as panel members in each community, an orientation/training workshop was held to introduce them to the existing data on their communities and industry.⁶ The need for long-term data collection was explained. The panels were offered the opportunity to identify what issues or data they considered most significant and worthy of recording. They were also asked which methods of data collection they would prefer.

- Each of the panels argued strongly that the most important outcome of the Panels Project must be the collection of data that is considered credible and reliable by fisheries managers and others. No one was interested in devoting time to a project that would result in more papers on a shelf. There was acute awareness that representations of the local communities would mean very little unless they were done in ways that fit into regional and national criteria for legitimacy in the fisheries management decision-making processes. Therefore the participatory nature of the project was re-directed: Although a goal was to offer communities the opportunity to define themselves and articulate their values, the community members themselves were more concerned about the values and definitions of the larger socio-political system, hoping through this project to find ways to influence an agenda driven by outside legislation and political processes.

⁶ *New England's Fishing Communities* by Madeleine Hall-Arber, Chris Dyer, John Poggie, James McNally and Renee Gagne. 2001. Cambridge, MA: MIT Sea Grant College Program.

Data Collection Methods

The Panels Project has focused on semi-structured key informant interviews as a major source of data. Interviewees are purposively selected through the “snowball method,” based on recommendations of key respondents, to be representative of boat owners, crew and shoreside business owners. Before interviews begin, the researchers explain the project, goals, how data will be used, how it will be stored, confidentiality, and notes that the respondent does not have to answer any questions they did not wish to, following the federal government protocol set up for the Protection of Human Subjects.

Structured Interviews

Structured interviews in a survey are the most commonly used method in sociology and, to a lesser extent, anthropology. One advantage of structured interviews is that the responses to factual questions can often be analyzed to show how representative the sample is of the whole. A disadvantage is that the researcher has already decided on the questions, the order they should be asked and in some cases, what the choices are for answers.

Moreover, “when one asks people questions in an interview situation, it is a particular kind of social encounter with its own interactional rules.”⁷ Whereas the information gathered might be readily summed up in numbers on a spreadsheet and statistically analyzed, that information has been shaped by how the interviewers designed the questions, how they were asked, and how the respondent interpreted them in a particular social situation—the interview. This may or may not provide information that is deemed credible and helpful by the community and by fishery managers. (A parallel problem is reliance on public hearings for information about the social and economic impacts of fisheries management regulations: the structure and culture of the public hearing situation strongly influences what is said, heard, and deemed worth acting upon).

Key respondent interviews (semi-structured)

The Panels Project is using a more open or ethnographic approach to interviewing. While protocols have been developed to collect information that can be systematically analyzed, there is room for the introduction of other questions and topics. The factual questions may be the same, but often the conversation extends beyond the specific questions included in the protocol. These often “provide[s] detailed personal accounts about unique experiences of particular people.”⁸ Permission to record is also requested so that such details may be accurately recorded.

⁷ Ibid, p. 96

⁸ Morgan, p33

In order to address the need for accurate economic data in commercial fisheries, our project developed a protocol in consultation with settlement agents (accountants who specialize in maintaining the books for commercial fishing businesses) and an economist familiar with the fishing industry. The settlement agents then selected a group of vessels typical of large, medium and small trawlers and/or gillnetters and recorded their fixed and variable costs at several year intervals.

Participant observation (fieldwork)

In each of the six communities we selected for this project, at least one member of the team –principal investigator or coordinator—lives nearby and/or spends significant time in the community observing and participating in community life. This helps establish rapport and encourages those being observed to continue their daily routine as though being unobserved. The researcher, however, is sufficiently apart from the daily routine to be able to record and analyze what is observed. This is the fieldwork method of participant observation.

Anthropology has traditionally relied on participant observation to understand the population being studied. This method allows the researcher to gain “experiential knowledge...more directly, more naturally and in a less mediated way than does an interview programme or survey.”⁹ Because the researcher is actively engaged in the community and follows the patterns of the daily lives of some portion of the population, the information generated reflects what the portion of the population actually does, rather than just what they say. In addition, the fieldworker can double-check the representativeness of interviewees selected via the “snowball” method and make appropriate additions; enhance the participatory nature of the research by helping to articulate local concerns and ideas; and give feedback to the overall project about how it is perceived and faring in diverse communities.

Researchers conducting fieldwork do run the risk of losing their objectivity when closely participating in and observing a community. The Panels Project has addressed this problem by ensuring that the researchers meet regularly as a group to discuss methods and results. Comparison and contrast with the other panels helps researchers retain a neutral perspective.

Focus groups

Focus groups base their results on a “purposive sample” of participants who are likely to be knowledgeable about the subject under consideration. The goal of the researcher is to create an open, non-threatening environment for a meeting of people with shared interests who will respond to specific questions guided by a moderator. The research team selects the topic and who will attend. As “research-created situations,” focus groups are very different from participant observation.¹⁰ Nevertheless, the flow of discussion can be

⁹ Ibid. p. 95

¹⁰ David Morgan. *The Focus Group Guidebook*. Thousand Oaks: Sage Publications, 1998, p. 31

quite flexible and open-ended, generating information of great ethnographic and sociological value. Participants compare their opinions, observations and experiences with each other and this synergy can generate new questions or ideas.

Focus groups are excellent for identifying critical issues and raising awareness of the complexity surrounding specific topics. They may be used to form consensus within the specific group represented. However, the results of focus groups may or may not be appropriately generalized to the broader population.

The Panels Project has used the general approach of focus groups for topical discussions of critical importance to the community. Meetings in Gloucester on infrastructure were the closest to formal focus group meetings. Other communities have met to discuss economic needs in the face of Judge Kessler's ruling on groundfish management in New England and are currently meeting to focus on potential impacts of Amendment 13 to the Multispecies Fisheries Management Plan. Because the Project complements the focus group approach with interviews and participant observation, some of the data collected in the focus groups may be generalized.

Analysis

The panels will be asked to discuss how managers should use or weigh the gathered data. Each of the coordinators will be looking for patterns, trends or themes that are characteristic of the communities they have been focused on. We anticipate that interpretation of the data will be an iterative process involving panel participants, coordinators and the principal investigators.

The Panels Project offers communities the opportunity to clarify their long-term goals and objectives, participate in collaborative decision-making, and work towards the sustainability of their communities.

Guidance from professionals

Two of the principal investigators have their doctorates in anthropology and have spent many years studying the fishing industry. In addition, the investigators have consulted with an economist to facilitate analysis of the economic data that is being collected.

Their role is to provide outsiders' perspectives, provide cross-cutting ties across the six sites of the project, offer technical expertise and specialized skills, organize and coordinate the on-going work.

[NEED TO ADD INFO RE COORDINATORS]