## **ARTICLE IN PRESS**

Fisheries Research xxx (2016) xxx-xxx



Contents lists available at ScienceDirect

### **Fisheries Research**



journal homepage: www.elsevier.com/locate/fishres

Full length article

# The importance of qualitative social research for effective fisheries management

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#### ARTICLE INFO

Article history: Received 15 February 2016 Received in revised form 28 July 2016 Accepted 7 August 2016 Available online xxx

Keywords: Social evaluation Human dimensions Qualitative methods Wellbeing Interactive governance Gender

#### ABSTRACT

Over recent decades it has become widely accepted that managing fisheries resources means managing human behaviour, and so understanding social and economic dynamics is just as important as understanding species biology and ecology. Until recently, fisheries managers and researchers have struggled to develop effective methods and data for social and economic analysis that can integrate with the predominantly biological approaches to fisheries management. The field is now growing fast, however, and globally, researchers are developing and testing new methods. This paper uses three divergent case studies to demonstrate the value of using qualitative social science approaches to complement more conventional quantitative methods to improve the knowledge base for fisheries management. In all three cases, gualitative interview and document review methods enabled broad surveying to explore the research questions in particular contexts and identified where quantitative tools could be most usefully applied. In the first case (the contribution of commercial fisheries to coastal communities in eastern Australia), a wellbeing analysis identified the social benefits from particular fisheries, which can be used to identify the social impacts of different fisheries management policies. In the second case (a gender analysis of fisheries of small islands in the Pacific), analysis outlined opportunities and constraints along fisheries supply chains, illuminated factors inhibiting community development and identified ecological factors that are typically overlooked in conventional fisheries management. In the third case (sea cucumber fisheries in Papua New Guinea), an interactive governance analysis assessed how well fisheries management tools fit the ecological, social and economic reality of the fishery and the trade in its products, including market influences and stakeholder values. The qualitative approach adopted in these three case studies adds a new dimension to understanding fisheries that is not possible with a focus solely on quantitative data. With the development of new policies on release programs (stock enhancement, restocking) and artificial reefs, and the momentum to use these interventions from recreational fishing groups, the qualitative approach will provide an important contribution to understanding their wider costs and benefits.

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http://dx.doi.org/10.1016/j.fishres.2016.08.007 0165-7836/© 2016 Published by Elsevier B.V. 1. Introduction

Managing fisheries resources means managing human behaviour, so social and economic understandings are important considerations as well as the understanding of biological and ecological factors (Fulton et al., 2011). The question is how can we effectively integrate social, economic and biological knowledge into effective decision- and policy-making? Progress has been

Please cite this article in press as: Barclay, K., et al., The importance of qualitative social research for effective fisheries management. Fish. Res. (2016), http://dx.doi.org/10.1016/j.fishres.2016.08.007

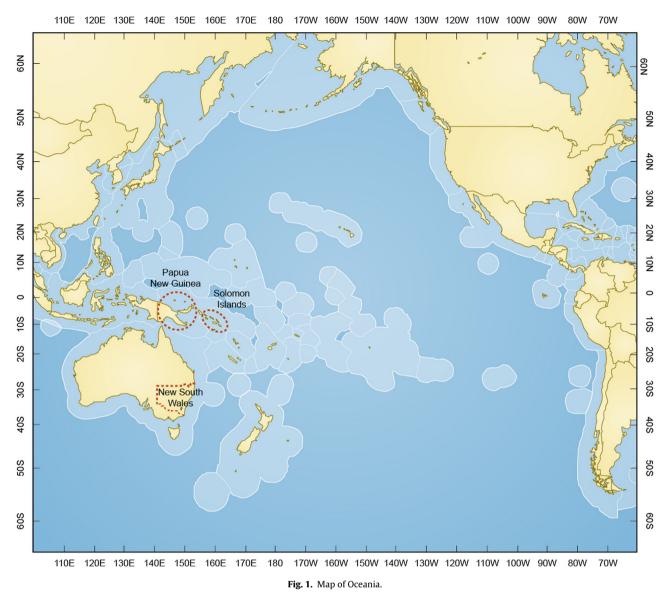
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made bringing economic and biological methods together with fisheries economics and bio-economic methods, but research into the social aspects of fisheries management has lagged behind (Barclay, 2012). The field of the social evaluation of marine resource use and conservation is, however, growing fast. Researchers the world over are developing ways of assessing social aspects of natural resource management and testing them in the field, and government agencies are thinking about what kinds of social indicators can be used for planning (Triantafillos et al., 2014). In the field of stock enhancement and restocking fisheries through the release of cultured juveniles (Bell et al., 2008), emphasis has been placed on understanding the effectiveness of the release programs and their associated costs and benefits (Blankenship and Leber, 1995; Lorenzen et al., 2010). As yet, the focus of these types of evaluation has focused on quantitative analyses, which may not capture the broader impacts of releases. This paper overviews three recent projects: 1) an evaluation of the social and economic contributions of commercial fisheries in New South Wales (NSW), Australia using a wellbeing approach; 2) a gender analysis of coastal fisheries and tuna processing in Solomon Islands; and 3) an interactive governance analysis of a new fishery management plan for sea cucumbers and the béche-de-mer (BDM) trade in Papua New Guinea (PNG) (see Fig. 1).

The aim of this paper is to encourage those working on the biological side of fisheries and aquaculture research to consider the social aspects of their work, and to consider collaborating with social researchers to improve the outcomes of research informing the management of people who fish. This research is particularly relevant to release programs in Australia, which since the development of government policies have attracted significant interest from recreational fishing groups (Loneragan et al., 2013). We argue that insights from qualitative research can help illuminate why fisheries operate as they do in particular contexts, and thus improve the understanding of responses to fisheries management measures, including the impasse that occurs when scientific recommendations about fisheries management are rejected in favour of politically palatable solutions.

### 1.1. Qualitative social science contribution to fisheries governance

It has been broadly recognized for some decades that more than biological expertise is needed to understand key issues relevant for fisheries management (Fulton et al., 2011; Mcgoodwin, 1990). Fisheries management is, after all, managing the behavior of people, not fish. Nevertheless, much work remains to be

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