



Factors influencing the well-being of small-scale fishers in the Gulf of Thailand



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ABSTRACT

This paper examines factors influencing well-being among small-scale fishers in the Gulf of Thailand. 632 small-scale fishers were interviewed at 21 fish landing areas along the coast of Rayong Province. Data concerning respondents' background information, perception of job satisfaction, resilience, conservation beliefs, environmental ethics, well-being and landing place context were collected. Multivariate statistical analyses of these variables are used to assess factors influencing perceptions of well-being (environmental and individual well-being components). The results demonstrate that two components of job satisfaction *Basic Needs* and *Self-actualization* are two significant variables affecting both *Environmental* and *Individual well-being*. Fishers living in areas with industrial pollution or in major urban communities are less satisfied with the environment. Similarly, fishers who are concerned about the importance of the environment and members of a fishery association at the province level have lower levels of *Environmental well-being*. The study also found that, fishers who feel they have the ability to get work elsewhere or who manifest a higher level of resilience are happier with their lives than those with lower resilience. An important aspect of fisheries social impact assessment concerning proposed changes, management or technological, is the impact on well-being. The findings of this study offer several practical findings that, if applied, will contribute to sustainability of fisheries in Thailand and similar locations.

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1. Introduction

Small-scale fishers in Rayong Province usually fish close to the shore, using small boats up to 10 gross tonnage (Fishery Royal Ordinance, 2015). Small-scale fishing communities are vulnerable to changes in the marine ecosystem brought about by activities which have taken place in the area, including industrialized and destructive fishing, poorly planned coastal development, and oil spills from adjacent industrial plants (Pollution Control Department, 2013).

Several external forces have contributed to the deteriorated ecosystem and the declining fishery resources along the coast of Rayong Province. Several management strategies have been provided directed at increasing the availability of fish. These include issuing fishery regulations that prohibit trawlers and push-netters from fishing within 5.4 km from the shore and habitat restoration

(such as mangrove replanting and installing devices to aggregate more fish). However, management measures such as providing appropriate alternative livelihoods and minimizing industrial pollution (air and water) have not been adequately addressed.

It is possible, however, that changes in management measures could have an impact on activity satisfaction (job satisfaction) of the small-scale fishers, including their families and communities (Pollnac et al., 2006). It is important to note that job satisfaction plays a significant role in human well-being; therefore, special attention should be given to social groups that may gain or lose from the management actions. The primary concern is to evaluate how the well-being of system participants will be impacted by such management changes (Pollnac et al., 2006; Himes-Cornell and Kasperski, 2016). Dissatisfaction with one's occupation has been shown to have a wide range of impacts on human well-being ranging from absenteeism, psychosomatic illness, and mental health, to interpersonal relationships, including family violence, and longevity (Smith et al., 2003; Pollnac et al., 2006; Smith and Clay, 2010).

In addition, other variables such as participant characteristics (e.g., age, gender, education, mental health, physical health,

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personality traits, resilience), institutional, economic and environmental factors might also contribute to human well-being (Pollnac et al., 2015, 2006; Van Hoorn, 2007). Level of job satisfaction among New England, USA fishers was also found to be related to fishing style, age, owner-skipper status, number of dependents, early entry into fishing and years of formal education (Pollnac and Poggie, 1988). Perceptions of degree of relationship with the environment has also been found to be related to well-being (Howell et al., 2013; Nisbet et al., 2011; Rehdanz and Maddison, 2005; Mayer and Frantz, 2004; Hartig et al., 2003; Dunlap et al., 2000). The interrelationships of all these factors with well-being must be considered in any research concerning the topic.

The importance of human well-being has been widely acknowledged and is highly relevant to marine resources' sustainability (Taylor, 2011; Coulthard et al., 2011; Coulthard, 2012a). In an environment characterized by cultural, social and economic inequalities, well-being plays an important role for society's sustainable development. In addition to conserving natural resources and the environment, sustainable fisheries must embrace the relationships between people and the natural environment, especially human well-being. Knowledge about fisher's well-being will assist us in providing appropriate policy development, monitoring and adjustment. The primary objective of the study is to explore factors influencing the well-being of small-scale fishers in the Gulf of Thailand.

2. Methods

2.1. Study site

Research was conducted in the eastern part of the Gulf of

Thailand along the Rayong coast which has an approximate length of 100 km. This coastal area is characterized by several activities including tourism, fruit and rubber plantations, shrimp farming and industrial plants. Three river mouths (Phang Rad, Prasae, and Rayong), mangrove, seagrass and coral reefs are coastal ecosystems found in that area (Department of Marine and Coastal Resources, 2012). There are approximately 28 recognized small-scale fishing landing places along the coast of Rayong (Rayong provincial fishery interview, June 2015). In many landing places the fishing communities are located on the beach, above the high water line. In other places, they are located in small canals adjacent to or in mangrove forests or are clustered along river mouths leading to the sea. Most small-scale fishers own their boats (average length about 7 m) motorized with inboard engines having long outboard drive shafts that can be lifted out of shallow waters to avoid obstructions (long-tail boats). Most frequently used fishing gears along this coastline include gill nets, traps, long line and hook and line fishing.

2.2. Sample

Power analysis is a technique used to relate sample size to the probability of achieving statistical significance (Cohen, 1988). Many of the variables in the present research have a range of from 1 to 5 or 1 to 7. For purposes of our analysis we wanted to be ensured of a probability of at least 0.95 that a correct decision would be made when the null hypotheses is false (based on $\alpha = 0.05$), when the difference in means between 2 groups is 0.3, a difference that is practically significant, with an assumed pooled standard deviation of 0.3; hence, the desired power level was set at 0.95. The results indicated that a sample size of at least 27 in each group is sufficient. This result was similar to our experience in similar research

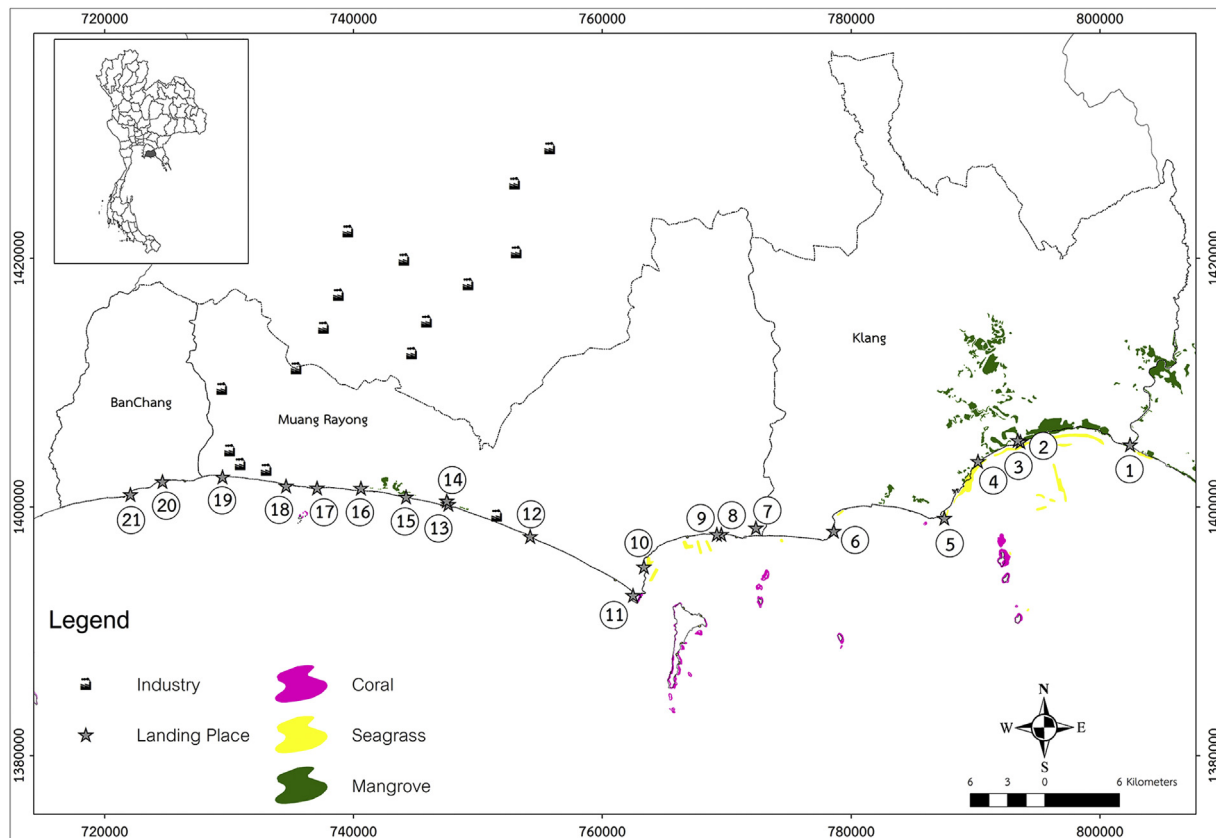


Fig. 1. Map of the study area.

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