



Capacity building for tourism development in a nested social–ecological system—A case study of the South Penghu Archipelago Marine National Park, Taiwan



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ABSTRACT

In subnational small-island settings with a relatively undisturbed natural environment and an out-migration population, tourism development is often used as an alternative development strategy for economic and social regeneration. When such tourism development entails place-based management, such as in a marine protected area (MPA), tourism development can also be used as a strategy for alleviating the conflict between conservation and development as well as for increasing community participation. Local support and capacity building prior to tourism development are essential for involving local communities. Local communities are often complex and heterogeneous, and tourism development must be tailored to match their diverse needs. In this case study, three communities within the South Penghu Archipelago, where a marine national park and development of the tourism industry has been proposed, were investigated. This study assessed the perception of tourism development among community actors and the demands for capacity building to cope with future changes by conducting a social–ecological system (SES) analysis wherein the South Penghu MPA was considered a nested SES composed of subsystems. The subsystems focused on in this study were fishermen and nonfishermen at the functional scale and individual communities at the spatial scale. The results showed that the perceptions on tourism development varied substantially among the community actors and the different sub-SESs because of their different experiences in social–ecological interactions. Therefore, tourism development in a regional place-based management, such as in a MPA, must consider the various perceptions of such subsystems on tourism development. Rather than considering all local communities as a general unit, capacity building should be tailored to the needs of the community actors from the various sub-SESs. In addition, support from governmental agencies is essential for the success of community-based MPA policies.

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1. Introduction

Coastal and marine regions are highly productive but also vulnerable social–ecological systems (SESs) (Ferrol-Schulte et al., 2013; Glaser et al., 2012), and the numerous global threats to such systems, such as climate change, overfishing, land-based pollution, and migration, are complex and interlinked. Among

such SESs, subnational small islands are particularly vulnerable to these threats primarily because of their small land size and insularity (Baldacchino, 2006; Holdschlag and Ratter, 2013). The social systems in such islands are often characterized by declining economic activity, outmigration population, and a peripheral social–political status, whereas their ecological systems remain relatively unexploited. Such ecological systems are not only advantageous for tourism development (Briedenhann and Wickens, 2004; Kerr, 2005; Niles and Baldacchino, 2011) but also present valuable conservation opportunities. In certain regions of the world, tourism is frequently used as an alternative strategy for social–economic regeneration of small islands (Baldacchino, 2011;

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Cinner et al., 2009). Tourism generates job opportunities on the islands, which can reduce outward migration. Moreover, tourism may increase the income level, thus improving the livelihood of local communities. In the case of the South Penghu Archipelago, tourism is also considered a strategy for reducing the conflict between conservation and development because a marine protected area (MPA), in the form of a marine national park, and tourism development have been proposed in this region (Marine National Park Headquarters, 2010).

Glaser et al. (2012) stated that a SES “is a complex, adaptive system consisting of a biogeophysical unit and its associated social actors and institutions. The spatial or functional boundaries of the system delimit a particular ecosystem and its problem context.” An MPA can be understood as a linked social–ecological system with a defined geographical boundary (Pollnac et al., 2010); its institution is a place-based management that regulates social and ecological interactions by restricting access to the marine natural resources in the focal region (Hilborn, 2012, p. 106; Jentoft et al., 2007). Tourism is often developed as a strategy to compensate the local communities for such restrictions. For example, fishermen can engage in tourism activities to compensate for losses caused by the limited access to fish (Charles and Wilson, 2009; Gjertsen and Niesten, 2010; Goodwin and Roe, 2001; Kelleher, 1999; McCay and Jones, 2011; Oracion et al., 2005, p. 2; Strickland-Munro et al., 2010; Walpole and Goodwin, 2001). Moreover, the general community members can generate income from tourism (Fabinyi, 2010; Walpole and Goodwin, 2001). The income earned through the tourism industry can instill in the local communities a sense of pride in their environment as well as highlight the connection between tourism and their livelihood. This relationship can be developed substantially to facilitate the success of the MPA (Agardy, 1993). In addition, the support and involvement of local communities in the tourism industry would bring in traditional knowledge and culture, which enriches the quality of the tourism experience (Jamal and Stronza, 2009; Muganda et al., 2013). However, tourism development without the participation of the local communities may contribute little to the local people (Aref and Ma'rof, 2009; Moscardo, 2008; Clark and Tsai, 2012; Tsai and Hong, 2014) and may undermine local livelihoods and threaten the effectiveness of the MPA policy.

To enhance community participation in tourism management, not only should capacity building involve local communities in the business but the communities must also adapt to the change generated by the new regulations (Aref and Ma'rof, 2009; Mason and Cheyne, 2000; Moscardo, 2008). Therefore, tourism development as a strategy for social–economic regeneration and communal participation in the MPA should focus on capacity building rather than tourism development itself. Moreover, the local communities' perceptions on capacity building and their willingness to adapt to the changes caused by tourism development must be understood prior to the development (Mason and Cheyne, 2000). In addition, although members of local communities in the focal region are usually considered justifiable actors in tourism development (Haukeland, 2011; Jamal and Stronza, 2009; Muganda et al., 2013), they are not a general unit but a complex and heterogeneous composition whose constituents may differentially interact with the marine ecosystems. As Ostrom and Cox (2010) pointed out, the dynamics of structured SESs are different and may be influenced by interventions differently. Therefore, the MPA and tourism development–driven transformation of local communities may differentially affect the local communities. Hence, capacity building that satisfies the different needs of these communities is essential (Wu, 2013; Wu and Tsai, 2014).

This study investigates the perceptions of different community actors within the focal SES and assesses their capacity for tourism

development in the South Penghu islands, where a marine national park has been proposed. A nested SES concept that considers the focal SES as a composition of its subsystems on functional and spatial scales was applied, and interviews were conducted.

1.1. Case study area

The Penghu Archipelago, also known as the Pescadores (“fishermen” in Portuguese) consists of nearly 90 islands with a total land area of approximately 127 sq. km and coastline totaling nearly 320 km. The islands are spread across the middle of the Taiwan Strait (23°47'–23°12' N, 119°19'–119°43' E) over a region spanning 60 km long (north–south) and 40 km wide (east–west) (Tsai, 2009).

The focal region of this study is located in the south of the Penghu Archipelago (Fig. 1) and is approximately 30 km from Magong, the capital city of Penghu County, and nearly 50 km from Taiwan's closest port. The islands in the focal region, with a total land area of nearly 3.7 sq. km, are spread over a region of approximately 355 sq. km. Four main islands—Xiyuping, Dongyuping, Xiji, and Dongji—and many small islets and wave-swept rocks are present in this region, which is part of the Wangan Township of Penghu County.

1.2. Population and economy

People inhabiting the islands in the focal region were attracted by the abundant fishing resources in the surrounding waters and settled in these islands around the 18th century (Hsu, 2008). The population in this region peaked in the 1960s and has been declining rapidly since 1970, akin to the migration pattern of entire Penghu Archipelago. This decline can be attributed to the decreasing fishing resources in the waters surrounding the archipelago and the high labor demand in Taiwan's main island following industrialization and urbanization in the middle of the 20th century (Cheng, 2010; Hsu, 2005, 2008; Yin, 1969). Moreover, the limited land area and remoteness of the islands of the focal region made the living condition harsher than that in the other islands of the archipelago. Xiji has been uninhabited ever since the local residents sought assistance from the government and were relocated to Magong in 1978 (Hsu, 2008). Furthermore, the government conducted a survey to gauge the willingness of the many island communities in the archipelago, including those in the other three communities in this focal region, to relocate. Most communities decided to stay on their home island (Hsu, 2005). However, the year-round population declined. On Xiyuping, Dongyuping, and Dongji, the registered population¹ in 2010 was 244, 608, and 264, respectively, but only a few dozen residents² live year round on each island (Table 1). However, people who have obtained a new resident registration certificate and have settled elsewhere continue to be recognized as community members of the islands. Irrespective of whether their registrations are on the islands, many members of this “travel-out” population are fishermen who frequently travel to this focal region for fishing. Many others who are not fishermen return to their islands only a few times each year,

¹ According to the Household Registration Act of Taiwan, every individual must obtain a registration certificate made on a household basis in a jurisdictional area (township, city, or district). Official demographic data (i.e., the “registered population”) is based on this registration data. The law states that individuals must update their registration within 3 months of a change in their residence, but it is not strictly enforced, meaning that an individual may be registered in one location but reside in another.

² Resident population here refers to the actual number of people who live in the specified location.

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