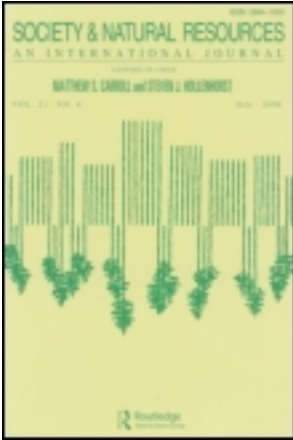


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### Culture, Conservation, and Conflict: Perspectives on Marine Protection Among the Bajau of Southeast Asia

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## Insights and Applications

# Culture, Conservation, and Conflict: Perspectives on Marine Protection Among the Bajau of Southeast Asia

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*Conservation programs in developing countries emphasize the need for participatory and collaborative approaches to resource management. While indigenous peoples and ethnic minorities are frequently perceived as allies of conservation efforts, their inclusion in these initiatives remains a problematic process. The Bajau, an indigenous group of southeast Asia, are highly dependent upon marine resources and constitute a key stakeholder group with regard to current international conservation activities in this region of high marine biodiversity. In this article, we explore various cultural and socioeconomic attributes of Bajau society that inform their views of the environment. These are shown to be grounded in a specific worldview reflecting socioeconomic status, perceptions of environmental causality, and spiritual belief systems. Until such views are recognized and integrated into resource management initiatives, we argue that groups such as the Bajau will continue to occupy a peripheral role in conservation, thereby undermining these policies and programs.*

**Keywords** Bajau, community participation, Indonesia, marine conservation

The role of communities in conservation initiatives has expanded from that of a passive recipient to that of an active participant, reflecting the limits of state enforcement and the growing claims for stewardship and ownership of natural resources by indigenous groups and local communities (Agrawal and Gibson 1999; Berkes 2004). Among the many issues arising from the growth of community-based approaches to natural resource management is the disjuncture between “imagined” and “real” representations of communities and their resource use practices (Brosius et al. 1998; Zerner 1994). Consequently, assumptions regarding the proclivity of indigenous groups and local communities to engage in activities aligned with conservation

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initiatives can be at odds with the consumptive use values prioritized by resource-dependent individuals (Escobar 1999; Ferse et al. 2010). The nature and implications of contrasting belief and value systems in the context of marine conservation are explored in this article with respect to the Bajau of southeast Asia. The Bajau (also referred to as Bajau Laut, Sama Bajau, Badjau, Sama Dilaut, or, more pejoratively, sea gypsies) constitute a distinct ethnolinguistic group found in eastern Indonesia, Sabah, and the southern Philippines (Sather 1997). Along with the Moken of Burma and Thailand and the Orang Suku Laut of eastern Sumatra and Malaysia, the Bajau represent a group of indigenous maritime peoples collectively termed “sea nomads” who have been recorded across southeast Asia since the 16th century (Sopher 1965).

Following Sopher’s (1965) detailed ethnographic study of sea nomads across southeast Asia, research involving the Bajau, the Moken, and the Orang Suku Laut has mainly focused on aspects of cultural identity (Lowe 2003; Nagatsu 2001; Nolde 2009; Saat 2003; Warren 1980; 1983), along with historical studies (Sather 1995; 1997; Tagliacozzo 2009), religious practices (Bottignolo 1995), and the impacts of modernization (Bracamonte 1995; Chou 2003; Gaynor 2005). Such studies have taken place in the context of the gradual assimilation of these formerly nomadic maritime communities into modern society, in part reflecting the priorities of southeast Asian governments in asserting greater control over marginal groups and ethnic minorities (Li 2007). This process of sedentarization is manifest in the establishment of “floating villages” across southeast Asia, consisting of houses constructed on wooden stilts, rock, or coral platforms connected by bridges over the reef flat with no permanent physical connection to the land.

While migration to urban centers in search of work does take place, particularly among younger males (Bracamonte 1995), sea nomad settlements and their residents remain peripheral in many senses of the word. The residents of contemporary Bajau villages are characterized by high infant mortality, low levels of formal educational achievement, and other indicators of poverty (Chou 1997). Added to this is a strong perception of these communities as “outsiders” by dominant ethnic groups, with a distinct language, subsistence-oriented economy, and retention of spiritual beliefs resulting in a low social status across southeast Asia (Gaynor 2010; Saat 2003). This is reflected in the Bajau, along with other designated “isolated tribes” in Indonesia, being subject to various state “development” initiatives promoting conformity with national laws, religion, and educational standards (Acciaioli 2001). The relevance of this study is given added impetus in light of ongoing programs to expand the scope of marine resource management through the Coral Triangle Initiative in southeast Asia (CTI Secretariat 2008).

Fish and other marine resources provide the basis for Bajau nutritional needs, predominantly involving low-technology line-and-net fishing from dugout canoes over reef flats, but also targeting offshore pelagic stocks in calm weather along with manual collection (“gleaning”) of invertebrates and other species at low tide (Akimichi and Supriadi 1996). Mangroves are also accessed to harvest wood for fuel, while larger branches along with broken coral fragments are used for house construction.

Bajau communities are commonly associated with illegal and destructive practices such as blast fishing, cyanide fishing, coral mining, and the harvesting of protected species (Clifton et al. 2010; Elliott et al. 2001; WWF/TNC 2004a), as well as overexploiting individual fisheries to the point of collapse (Pet-Soede and Erdmann 1998). The intensification of fishing effort resulting from the sedentarization of Bajau communities has been cited as accelerating these impacts (Crabbe and Smith 2005).

**Table 1.** Estimated Bajau population distribution 2000 (Nagatsu 2007)

Country	Bajau population	Percent of total population
Indonesia	193,147	0.09
Malaysia (Sabah)	347,193	13.75
Philippines	564,093	0.74
Total	1,104,433	0.4

While the Bajau comprise a very small minority of the population in southeast Asia (Nagatsu 2007; Tables 1 and 2), they account for a disproportionate amount of artisanal fishing activity (Cullen 2007; Nagatsu 2007; TNC/WWF 2004b). The need to include Bajau communities in conservation initiatives is given added weight through international guidelines designed to integrate protected-area policies with existing customary resource practices by indigenous peoples (Beltrán 2000). Although an agreed definition of “indigenous” remains elusive and the concept has not yet been considered with respect to the Bajau, their cultural traits, language, and self-identification as a distinct group render them eligible for consideration as such for the purposes of this discussion. For a more detailed discussion of Bajau ethnicity, the reader is referred to Warren (1983) and Sather (1997).

Under such circumstances, therefore, there is a very real need for the participation of Bajau communities and, ultimately, the regulation of their activities to occupy a high priority in marine conservation efforts. In spite of this, there has been little academic research exploring Bajau resource usage and management from a sociocultural perspective. Works highlighting the socioeconomic dimensions of seaweed cultivation in Sabah (Cooke 2004) and aspects of environmental knowledge among the Bajau of Sulawesi (Afiff and Lowe 2007) and Nusa Tenggara (Stacey et al. 2008) represent rare examples of such investigations. There remains a paucity of information to assist conservation practitioners seeking to engage with the Bajau and related ethnic groups on environmental issues.

With this in mind, we present findings collected over a decade spent living with the Bajau of eastern Indonesia. Through many informal interviews, discussions, and observations conducted over this period, we gained an in-depth understanding of various aspects of Bajau resource use and management, some of which are presented in this article. Although necessarily qualitative and, to a degree, nonreplicable, we believe that this methodology offers the best means to gain insights into complex and contentious issues within close-knit communities such as the Bajau. We use this

**Table 2.** Estimated Bajau population by region in Indonesia 2000 (Nagatsu 2007)

Indonesian region	Bajau population	Percent of total population
Java and Bali	16,905	0.01
Kalimantan	21,921	0.19
Maluku and Papua	13,978	0.33
Nusa Tenggara	18,006	0.23
Sulawesi	90,522	0.61
Sumatra	31,815	0.07

experience to outline how Bajau perceptions of marine resource abundance and their response to state and nongovernmental organization (NGO)-sponsored conservation initiatives reflect the cultural, religious, and economic fabric of village society. Through this, we demonstrate the extent to which Bajau beliefs and practices are inimical to scientific rationalist concepts of biodiversity manifest in these conservation policies. Without mutual acknowledgment and recognition of these differences, we argue that efforts to protect marine habitats and species in Indonesia and elsewhere in southeast Asia will continue to create conflict, to the detriment of both conservation and community.

### Community Perceptions of Environmental Decline

Central to all marine conservation programs is the notion that a reduction in fishing effort, through the use of temporal restrictions, gear controls, or, more commonly, no-take areas will lead to an increase in fish biomass and diversity (Lester et al. 2009). In the absence of long-term catch data, many such organizations justify these measures through surveys purporting to demonstrate widespread concerns over generalized environmental decline among local user groups (TNC 2006; 2009; TNC/WWF 2004a).

With regard to the Bajau, we contend that such surveys are misleading and misrepresentative in that they fail to take into account an individual's economic status as well as individuals' ability to contextualize environmental decline in the framework demanded by interviewers. The first factor reflects the personal investments made by those Bajau fishers who have accumulated wealth through a degree of commercialization in their fishing operations. While very few Bajau do not engage in any selling of fish catches, the majority may be considered as "subsistence-oriented" fishers (Branch et al. 2002) for whom catch trading is conducted to meet basic food security needs, in contrast to small-scale commercialized fishers who sell in order to accumulate wealth. Bajau fishing communities therefore comprise households supporting a spectrum of economic development and relative affluence. While being arguably more responsible for any decline in fish stocks, those individuals and households who demonstrate higher levels of wealth are also more economically dependent upon fish stocks than subsistence-oriented fishers, given the higher levels of material need their lifestyles and fishing practices support, such as motorized boats, televisions, and so on. Consequently, we suggest that wealthier fishers, who are more capable of adapting to fishing regulations through investment in equipment or utilizing more distant fishing grounds, are more likely to voice concern about depleting fish stocks, particularly as these can be ascribed to the actions of "outside" fishermen or illegal fishing activities. In addition, subsistence-oriented fishers commonly have little formal education and may not be proficient in the *lingua franca* of Bahasa Indonesia, hence are likely to be under-represented in any public forum through either choice or circumstance. While this could be described as self-imposed marginalization by poorer sections of the community, it remains highly probable that unless there is specific targeting, those participating in such research activities are representative of the more affluent, commercially oriented fishers who are more likely to support outsiders' interpretations of resource decline.

Second, our long-term observations along with previous research (Sather 1997) show that Bajau fishers alter their practices on complex diel or lunar cycles reflecting known patterns of fish movement, spawning, and aggregation, while changes in

preferred species and habitats also occur in tandem with longer term seasonal variations. The relevance of questions relating to trends in fish abundance over annual or even decadal timescales (WWF/TNC 2004b; TNC 2009) is therefore clearly tenuous, with the result that many individuals simply may not understand the purpose of the question and so choose to not offer an opinion. In a recent survey of 1800 fishermen from Komodo, Wakatobi, and Berau national parks, which included 30% of respondents from Bajau villages, one in five interviewees was unable or unwilling to respond to a question regarding changes in the marine environment over the past decade, while a third offered no comment when asked to describe the state of nearby coral reefs (TNC 2006). This is at odds with the depth and breadth of environmental knowledge among the Bajau, which in our experience and that of others (Afiff and Lowe 2007) comprises a highly detailed awareness of spatiotemporal variability in many physical and biological aspects of the marine environment.

We have also noted that respondents in these situations may reply in a manner that they perceive will gain credit with the interviewers, as commented upon elsewhere (Christie 2005). This clearly obviates the immediate potential for disagreement with questioners who are commonly representatives of national park authorities or international conservation organizations. It also avoids any apportionment of blame should these groups subsequently decide to enforce regulations or terminate economic incentives designed to reduce pressure on fish stocks. Both of these are particularly apposite in any Bajau community, given the lack of private space to conduct such interviews. Finally, it is interesting to note at this point that a failure to acknowledge environmental problems has been construed as an error on behalf of poorly informed fishers (TNC 2006).

We therefore contend that Bajau perceptions of environmental quality will be conditioned by interwoven aspects of interviewees' economic circumstances, the extent to which interview questions reflect fishing practices, and the relationship between interviewer and interviewee. Closed response survey questionnaires focusing on trends in fish catches cannot reflect these intricacies; thus, fishing regulations based upon apparent concern over environmental decline will engender confusion, mistrust of authority, and a lack of support within Bajau fishing communities.

### **Time, Causality, and Resource Management**

Proponents of marine conservation commonly assume individual and community acceptance of delayed benefits as a rationale for compliance with regulations, arguing that the short-term restrictions associated with no-take areas are outweighed by the longer term benefits of larger individuals, increased fish populations, and greater reproductive potential, all of which accrue to fishing communities through the spillover effect (Roberts et al. 2001).

While the scientific evidence for this is increasingly consistent, we underline the point highlighted by Berkes (1999), among others, that indigenous communities operate according to their own interpretation of environmental processes and relationships. With this in mind, we suggest that the notion of delayed benefits in a fisheries context is at odds with fundamental concepts of time and causality held by the Bajau. The passage of time is experienced by the Bajau not in a Gregorian linear sense, but in a cyclic pattern reflecting tidal movements, lunar progression, or seasonal changes in wind direction, all of which are the dominant influences upon everyday fishing activity (Sather 1995). There is, therefore, less need to perceive

causal linear relations or “precedence” (Le Poidevin 1997) between events. This is reflected in our experience and that of others (Bottignolo 1995) that the Bajau conceive time as consisting of a series of unrelated events, without reference to backward or forward causal linkages. The absence of linear continuity and causation in this concept of time has clear implications for conservation, as it implies that present-day fish catches are a result of contemporary rather than past fishing effort, while future catches will be determined by future effort, not any present-day activity. As this effectively nullifies the ecological rationale of fishing restrictions, it should not be surprising that awareness and understanding of marine conservation regulations within the Bajau are consistently low (Clifton 2003; TNC 2006; 2009). In conjunction with the predominant Bajau subsistence fishing ethic stressing the importance of meeting daily nutritional needs rather than seeking to maximize fishing efficiency in order to accumulate wealth, this serves to underline the lack of common ground between advocates of marine conservation and Bajau communities.

### Spiritual Beliefs and Resource Management

While the adoption of Islam and Christianity by ethnic minorities in Indonesia has continued unabated over the decades, our observations confirm the continued retention of unique spiritual beliefs and practices similar to those described for other southeast Asian sea nomad communities (Bottignolo 1995; Nimmo 1990). There has been, however, very little attention paid to the detail of these beliefs with respect to the Bajau of Indonesia and their implications for marine conservation.

Sea spirits, and specifically the spirit referred to as the *Mbo Madilau*, are central to the Bajau belief system. Ancestral spirits may reside in coral reefs, tidal currents, waves, and rocks, with no particular location being commonly associated with any individual spirit. The chief function of the sea spirits is to reward those fishermen who propitiate them and punish those who fail to do so. While the latter is used to explain occasional serious incidents at sea, the most common favor involves a form of good luck termed *padalleang*, which is manifested in temporary fishing success. This overrides all other determinants of fish catches, including fish abundance, fishing technology, and individual skill and knowledge. Such a belief enables the Bajau to account for spatial and temporal variability in fishing returns while also reflecting their natural preoccupation with ensuring adequate catches to meet daily subsistence needs.

The Bajau commonly believe that high reproductive rates will always outweigh losses due to fishing, while fish are also considered to retreat to deeper waters in the face of increased inshore fishing pressure, both of which imbue fish stocks with an inherent resilience to fishing effort. This serves to negate any responsibility for resource management from the current generation of fishers, while also reinforcing the notion described earlier that fish stocks are not affected by current individual or collective fishing effort.

This belief in sea spirits, which remains strong in contemporary Bajau society, together with independently formed views of fish behavior and reproduction, serves to inform Bajau perspectives on the relationships between fish abundance, fishing effort, and fish catches, all of which run counter to scientific principles of marine resource management. Coupled with the complications induced by the Bajau understanding of time and causality, it can be readily seen that these will be manifest in a failure to observe fishing regulations, including a disregard for extra legal protection

afforded to endangered species or habitats and other infringements of common elements of marine conservation policy.

### **Destructive Fishing Practices and Resource Management**

We return here to the issue of destructive and illegal fishing practices, comprising blast fishing, cyanide fishing, coral mining, and the harvesting of endangered and protected species, all of which have been associated with Bajau and other coastal communities across southeast Asia (Pet 1997; Elliott et al. 2001). Blast fishing, which involves the illegal use of homemade explosives to stun and kill fish indiscriminately while also destroying large areas of coral reef, is cited as one of the most significant threats to coral reefs in southeast Asia (Tun et al. 2008). While inherently hazardous, blast fishing offers a relatively high economic return, particularly where fish stocks are already depleted or official enforcement measures are weak (Pet-Soede et al. 1999). The continued existence of blast fishing within many Bajau communities is a source of considerable concern for environmentalists, who emphasize the need for improved awareness, stricter enforcement, and the provision of compulsory alternative livelihoods for those involved in such practices (Cesar et al. 1997).

Although these may have their merits, we suggest that blast fishing also plays an important social role through its support of catch sharing behavior, which represents an important cultural trait within Bajau society and is closely interwoven into the network of Bajau household relations. Catch sharing essentially represents a response to uncertain fish catches and involves exchanges of fish between extended family members and neighboring households. The distribution of fish that is surplus to an individual family's immediate needs creates a fluid network of reciprocal favors and obligations involving a group of families, which can be called upon in times of need to counteract the consequences of an unproductive fishing expedition. This constitutes a vital element of bonding social capital (Woolcock 2001) to support families within a subsistence fishing community. It also imbues those distributing fish with a higher, albeit temporary, social stature.

Within Bajau communities, catch sharing is practiced by the principal blast fisher and a group of other fishers, all of whom are entitled to an equal portion of the catch. Catch sharing also takes place following the return of the fishers to the village, thereby indirectly involving a larger number of households. As a result, blast fishers often occupy positions as informal leaders within Bajau village society, representing role models for other fishers seeking to enhance their social status. Attempts to apprehend such individuals can be counterproductive in that they cement the "folk hero" status of blast fishers while portraying the authorities as the villains. Finally, a corollary of catch sharing with regard to resource management is that any reduction in catches associated with fishing regulations is likely to place individual fishers in the position of recipients, rather than donors, in the catch sharing network. As well as implying an immediate demotion of social status, these individuals will be placed in a more precarious socioeconomic position in the longer term through the need to "repay" catches.

Thus, we argue that efforts to promote environmental awareness, collaboration with authorities, or strengthen enforcement in an attempt to combat blast fishing that do not recognize the cultural context within which this activity occurs are very likely to be self-defeating and ultimately fail. While these observations do not imply the authors are in support of destructive fishing practices, they reinforce the need for



conservation practitioners to be aware of the consequences of implementing regulations that ultimately affect social structures within the community.

## Conclusion

Recent reviews of cross-disciplinary developments in the conservation literature have highlighted the relevance of critically analyzing the construction of nature and environment and the relative power of groups contesting these notions (West et al. 2006). We have sought to apply this mode of analysis to a situation where the rapidly expanding international conservation movement is imparting its agenda upon a socially, culturally, economically, and politically marginalized maritime ethnic group in southeast Asia. Rather than attempting to create undue optimism through searching for common ground between resource users and conservationists, we have focused upon outlining elements of an alternate worldview relative to the marine environment from an insider or emic perspective. Given the ongoing impetus to expand the spatial extent of marine protected areas worldwide, we feel that this approach is necessary if conservationists are to fulfill oft-stated commitments to involve local communities in their activities. Combined with a truly adaptive ethos, this could facilitate the identification of conservation measures that are more reflective and accommodating of the local sociocultural context, thereby hopefully engendering less opposition and more involvement from user groups. Conversely, this would also enable the recognition of situations where no such common ground can be found, which would in turn assist the effective use of conservation funds. Faced with the ongoing environmental, economic, and social costs of marine resource degradation, the brunt of which is borne by local maritime communities worldwide, we consider that this is an important, if time-consuming, step to take if marine conservation policies are to have the opportunity of gaining genuine community support.

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