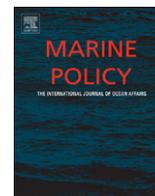




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Achieving MPA effectiveness through application of responsive governance incentives in the Tubbataha reefs



Marivel Dygico^{a,*}, Angelique Songco^b, Alan T. White^c, Stuart J. Green^d

^a WWF-Philippines, Puerto Princesa City, Palawan, Philippines

^b Tubbataha Management Office, Puerto Princesa City, Palawan, Philippines

^c Asia Pacific Program, The Nature Conservancy, Honolulu, Hawaii

^d Rare, Belderol Street, Tagbilaran City, Bohol, Philippines

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ABSTRACT

The dynamic institutional arrangements, which characterized the past two decades of management in the Tubbataha Reefs Natural Park (TRNP), reflect flexibility and diversity in the use of governance incentives. At the initial stage, legal and knowledge incentives provided the main guidance in identifying the appropriate organizational structure to manage the Park and to establish its boundaries and jurisdictional limits. Knowledge incentives provided the added value of generating credible information that showed the significance of the Tubbataha Reefs and the positive impact of management actions. Communicating information to the public, as an interpretative incentive, supported greater recognition and influence at the national and international levels. During the middle stage, the use of economic incentives ensured that the Park management benefitted from tourism through user fees and that Cagayancillo Municipality received a fair share of benefits to partly compensate foregone income opportunities. The Tubbataha Trust Fund was created serving as a depository of revenue from grants and donations and included instituting fiscal management to encourage more partners and stakeholders to contribute. Presently, in the light of current issues and the recently passed TRNP Act, striking a balance between legal-economic-participative incentives takes precedence over interpretative and knowledge incentives which are in place and only need to be maintained.

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1. Context

To safeguard the Coral Triangle's marine and coastal resources, a multilateral partnership of six countries¹ was formed called the Coral Triangle Initiative (CTI). The Philippines is one of the six countries comprising the Coral Triangle which is recognized as a global priority for marine conservation. Under the CTI, a Regional Plan of Action was formulated which identified as one of its goals for the establishment and effective management of MPAs. This supports the Philippines Fisheries Code of 1998 which stipulates that 15% of coastal municipal waters, generally referring to bodies of water extending 15 km from the coastline including offshore islands, must be protected within no-take MPAs. A previous study [1] recorded that as of 2008 at least 985 MPAs had been established in the country covering an aggregate area of 14,943 km², of which 1459 km² had been designated as no-take. Community-based MPAs which represents 95% of the total MPAs have a combined no-take area of only 206 km² while two

nationally designated no-take MPAs, the Tubbataha Reefs Natural Park (970 km²) and Apo Reef Natural Park (275 km²) have a combined area of 1245 km², which is 85% of the total no-take area. The study showed that there is an apparent inability to meet conservation targets through community-based MPAs alone, and highlighted the importance of large no-take MPAs. However, establishing and effectively managing large no-take MPAs in an archipelagic country faced with diminishing marine resources and rapidly increasing coastal populations is a real governance challenge. The Tubbataha Reefs Natural Park (TRNP), established in 1988, is the largest no-take MPA in the country and is widely recognized as exemplifying good practice in MPA management [2].

The TRNP is nestled in the middle of the Sulu Sea, approximately 150 km from Puerto Princesa, the capital city of Palawan, in the southwest corner of the country (Fig. 1). It is under the political jurisdiction of the Municipality of Cagayancillo, 130 km to the north. "Tubbataha" derives from the Samal language of the seafaring people of the Sulu Sea, which means "a long reef exposed at low tide". Two coral atolls, the North and the South, and a submerged reef, the Jessie Beazley Reef, comprise the TRNP. The islet in the north atoll is called Bird Islet and hosts most of the 7 species of resident seabirds in the park while the South Islet has a lighthouse and a smaller population of seabirds. Some of these

* Corresponding author.

E-mail address: mdygico@wwf.org.ph (M. Dygico).

¹ Indonesia, Malaysia, Papua New Guinea, Philippines, Timor Leste and Solomon Islands.

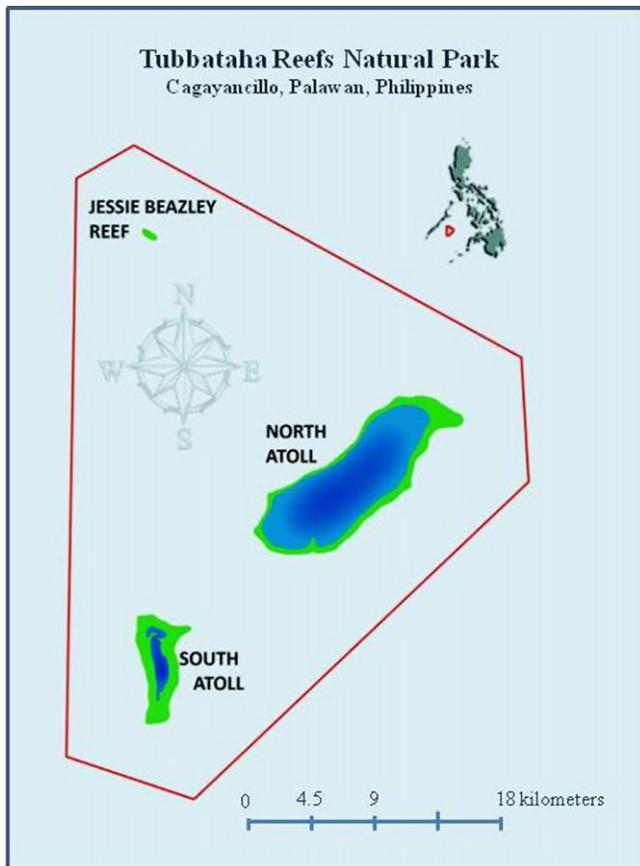


Fig. 1. Location map for the Tubbataha Reefs Natural Park.

seabird species are classified as priorities for conservation. North Islet is the breeding ground of an endemic subspecies of black noddy, *Anous minutus worcestri*, and is an important rookery of the critically endangered Christmas Island frigate [3].

The reef systems are composed of continuous reef platforms 200–500 m wide, completely enclosing sandy and coral substrate lagoons with a maximum depth of 40 m. On the inner side of the platform are shallow reef flats and seagrass beds. The TRNP harbors a diversity of marine life equal to or greater than any such reef of its size in the world. It is home to at least 360 species of corals or almost 72% of all coral genera in the world, 600 species of fish, 19 species of rays and sharks, 7 species of seagrass, 66 species of algae, 2 species of marine turtles and 13 species of marine mammals. Large pelagic fish, such as tuna, mackerel, jacks and barracudas, are observed in schools near the reef crests [4].

2. Objectives

Tubbataha falls under IUCN Category II: National Park, defined as protected areas which are large natural or near natural areas set aside to protect large-scale ecological processes. The species and ecosystems characteristic of the area also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities [5]. Three overarching policies apply for the long-term management of Tubbataha:

- The TRNP shall be managed under a no-take policy to conserve and protect its values for the enjoyment of present and future generations;
- In accordance with the above, any exploration, exploitation or utilization of non-renewable resources within the TRNP shall not be permitted;

- Active collaboration and participation from all stakeholders shall be fostered to engender a sense of ownership and promote compliance to regulations.

The following specific objectives reflect the desired results of management programs for the TRNP:

- Biological diversity and ecological processes are protected from unnatural threats and direct human impact;
- Legal and management structures are effectively maintained;
- Stakeholder participation and representation are ensured;
- Public understanding of the benefits of conserving the TRNP is improved; and
- Revenues from ecosystems targeted for conservation are enhanced.

3. Drivers and conflicts

Pressures threatening the Park and its management are dynamic, hence there is a need to maintain vigilance in addressing these within the park. In the updated Park Management Plan (January 2011), the biological threats, socio-economic issues and institutional constraints identified were:

3.1. Biophysical threats:

- Solid waste: an increasing volume of solid waste materials are brought by tidal currents and wind from various origins outside the Park;
- Crown of Thorns (COTS) infestation: a study [6] showed that the COTS population in Tubbataha is native to the place and not introduced as previously suspected, thus another outbreak is predicted to occur within two to four years;
- Invasive seabird species: the proliferation of red-footed boobies in the TRNP results to intense fertilization from droppings and denudation of trees which are the habitat of other tree-breeding seabirds; and,
- Climate change: intensifying monsoon winds and wave action increase the vulnerability of the reef and islets to coral damage and erosion.

3.2. Socio-economic issues:

- Stakeholder ownership: due to seasonal access, allowing only three months (mid-March to mid-June) of tourism operation, and the isolation of the TRNP, there is limited opportunity for stakeholders to experience it, thereby hindering the development of the desired critical mass possessing a sense of ownership of TRNP;
- Illegal use of resources: fishers from communities in mainland Palawan and the nearby provinces in the Visayas continue to enter the Park, targeting endangered or threatened species known to have high commercial value in the illegal trade such as Napoleon Wrasse, top shells and sharks;
- Energy exploration: the rising cost of imported fossil fuel potentially increases the possibility that the Department of Energy will allow oil explorations in the Sulu Sea, increasing the threat to marine mammals and other species within the Park.

3.3. Institutional constraints:

- Slow judicial process: while there is currently strong support for the litigation of cases, Philippine courts are generally

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