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# Marine Environmental Protection in the South China Sea: Challenges and Prospects

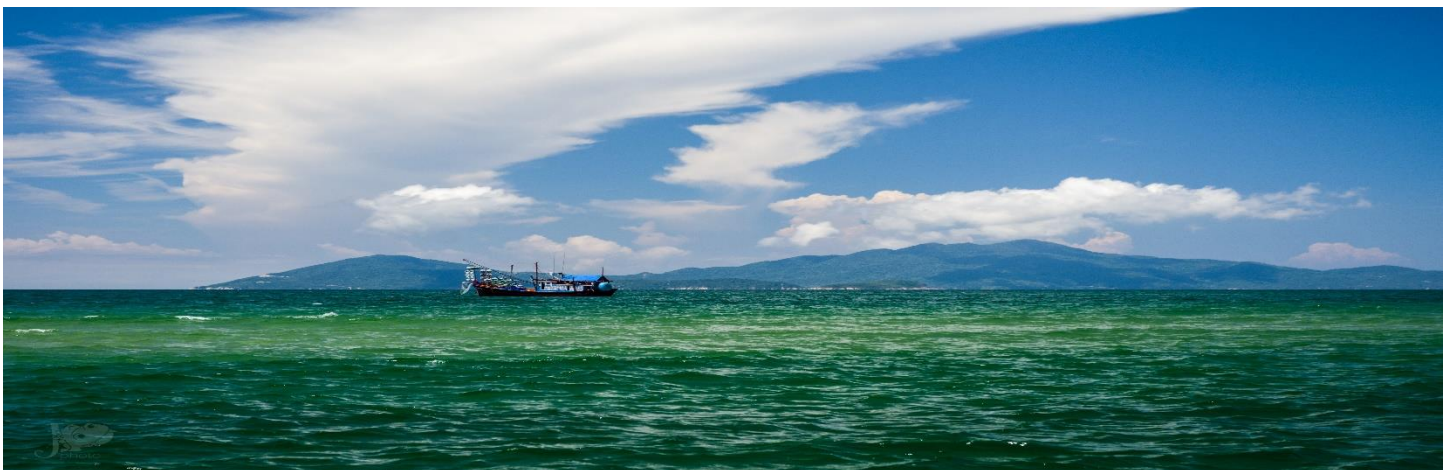
## Part 2

By

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### ABSTRACT

*This NTS Insight is the second part of a series of two that engages in the debate on the South China Sea (SCS) from the perspective of marine environment. In this NTS Insight, focal areas that are important for effective marine environmental protection (MEP) are identified, which include protection and conservation, legal frameworks, enforcement, and scientific research. An assessment of the status of national and regional MEP in the SCS is provided. MEP practices in other regions are examined to generate lessons for better cooperative protection in the SCS. Possible avenues are proposed for strengthening cooperation. This NTS Insight argues that MEP cooperation between ASEAN and China is critical since marine environmental problems are often transboundary and geopolitical tensions should not hinder cooperative efforts in order to advance marine environmental security.*



South China Sea. Credit: [Flickr/Jean-Pierre Bluteau](#)

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## INTRODUCTION

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The South China Sea (SCS) plays a critical role in providing food security, economic security and environmental security for people and countries that share in its bounty. As revealed in the [first part](#) of this NTS Insight series, the marine environment in the SCS is deteriorating at an alarming rate, threatening national and human securities of littoral states and their people. There are two major causes behind the degradation – anthropogenic activities and climate change. The alarming state of the marine environment in the SCS highlights the urgency for enhancing cooperation among countries concerned as effective governance is beyond the capacity of any individual nation.

To cope with marine environmental insecurity, efforts are needed in areas like sustainable use of marine resources and the promotion of protection and conservation strategies. These are also highlighted in the United Nations (UN) Sustainable Development Goals (SDG), particularly Goal 14: Life Below Water. The goal includes targets like conserving at least 10 percent of coastal and marine areas, regulating fishing practices, using economic means to encourage sustainable use of marine resources, increasing knowledge and technology building, and strengthening law enforcement. To achieve these targets in the SCS, cooperation among littoral states is essential and avenues include mechanisms and frameworks formed bilaterally, multilaterally and at regional level. Such strategies must also include the involvement of multiple actors.

This NTS insight, the second part of a series on MEP in the SCS, seeks to contribute to the ongoing dialogue between China and ASEAN member states on the SCS. We aim to do this by providing an assessment of the status of MEP in the SCS, identifying focal areas for cooperative efforts, drawing lessons from best practices in other regions, and exploring possible avenues for strengthening cooperation.

## Key Areas for Effective Marine Environmental Protection

A key dimension of MEP is to remove stressors on the marine environment. The international arbitral ruling at The Hague on the SCS acknowledged the irreparable destruction of the coral reef ecosystem due to clam-coral poaching, overfishing, land reclamation and illegal fishing activities in the SCS.<sup>5</sup> Land-based activities like industrial and household discharge of untreated waste and marine debris are a major source of pollution.

<sup>5</sup> Permanent Court of Arbitration, *PCA Case No. 2013-19*, 'The South China Sea Arbitration Award of 12 July 2016', <https://pca-cpa.org/wp-content/uploads/sites/175/2016/07/PH-CN-20160712-Award.pdf>.

Moreover, according to the United Nations Educational, Scientific and Cultural Organization (UNESCO), degradation and unsustainable exploitation affect over 60 percent of the world's marine ecosystems.<sup>6</sup> For instance, surging demands for seafood drive overfishing. There is a need to strike a balance between the capacity of the marine environment and exploitation of marine resources. Sustainability in production should therefore be promoted, which is also recommended by the SDG Goal 12: Responsible Consumption and Production. To encourage sustainable practices in development, economic incentives can be provided to developing countries as well as small stakeholders, who are more likely to be vulnerable to the possible short-term economic losses resulting from promoting more sustainable growth patterns in the marine economy.

Apart from the removal of stressors, strengthened protection and conservation are essential. The establishment of marine protected area (MPA) is a widely adopted approach for that purpose. According to the International Union for Conservation of Nature (IUCN), an MPA refers to “*a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.*”<sup>7</sup> Essentially, an MPA is set up to ensure greater protection and better management of marine fauna and flora like coral reefs, mangrove forests and seagrass. Existing research has shown that MPAs can prevent further deterioration in, and even increase, biodiversity.<sup>8</sup> The effectiveness of MPAs depends on clear definitions of goals of protection, specification of restricted activities, sustainable funding, and strict enforcement.<sup>9</sup>

Availability of accurate and updated data is critical for effective MEP. This must be primarily done at the national level through monitoring the status of marine and coastal environments, assessing the effectiveness of protection, and analysing the causes of degradation. Various scientific research projects have been undertaken by littoral states to monitor the status of the marine environment in the SCS.<sup>10</sup> What is more important now is for them to advance sharing of scientific information and data, given that marine environmental challenges are often transboundary and defy unilateral solutions. Apart from collaboration in scientific research, cooperation and coordination in law enforcement also need to be strengthened. While littoral states have put in place a variety of national marine policies and laws like fishing moratorium and coastal patrols, overarching policies and cooperation frameworks at the regional level are essential as unsustainable and even illegal practices often cross maritime boundaries.

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<sup>6</sup> United Nations Educational, Scientific and Cultural Organization (UNESCO), “Facts and Figures on Marine Diversity”, Paris, undated. <http://www.unesco.org/new/en/natural-sciences/ioc-oceans/focus-areas/rio-20-ocean/blueprint-for-the-future-we-want/marine-biodiversity/facts-and-figures-on-marine-biodiversity/>

<sup>7</sup> IUCN, “What is a protected area?”, undated, <https://www.iucn.org/theme/protected-areas/about>.

<sup>8</sup> Elizabeth R. Selig and John F. Bruno, “A Global Analysis of the Effectiveness of Marine Protected Areas in Preventing Coral Loss”, *PLoS One*. 5(2010): e9278.

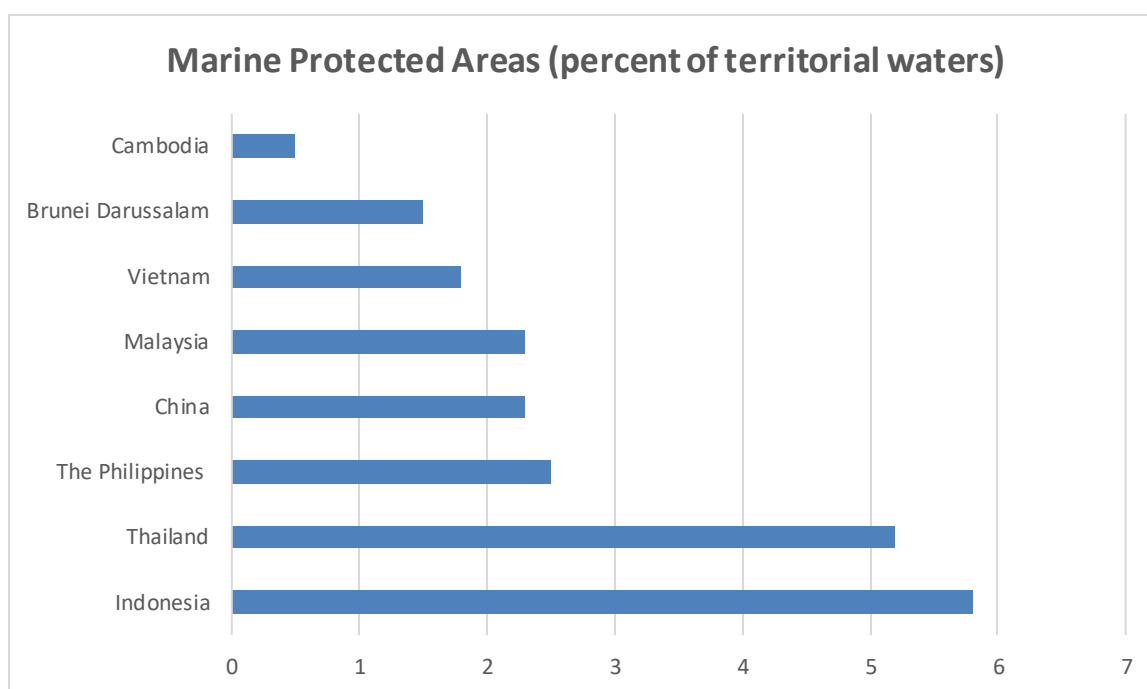
<sup>9</sup> Gary W. Allison, Jane Lubchenco, and Mark H. Carr., “Marine Reserves are Necessary but not Sufficient for Marine Conservation”, *Ecological Application* 8 (1998): 80.

<sup>10</sup> Edgardo D. Gomez, “Marine Scientific Research in the South China Sea and Environmental Security,” *Ocean Development & International Law* 32, No.2 (2001): 205-2011.

## Marine Environmental Protection in the SCS: National and Regional Efforts

### *Protection and Conservation: Marine Protected Areas*

One of the earliest MEP efforts of ASEAN member states was the establishment of a national system of MPAs. A peaceful marine park or MPA is not a new concept in ASEAN. Individually, Southeast Asian states have designated MPAs along their coastlines since the 1990s. They also signed the *ASEAN Declaration on Heritage Parks and Reserves* in 1984 and the updated *ASEAN Declaration on Heritage Parks* in 2003, in which they all agreed to designate protected areas to be inscribed as the ASEAN Heritage Parks. Several MPAs have been labelled as ASEAN Heritage Parks – areas of particular biodiversity importance that require conservation and protection initiatives.<sup>11</sup>



**Chart 1. Coverage rate (in percent) of MPA in China and some ASEAN Member States in 2014<sup>12</sup>**

However, despite signing the two declarations in 1984 and 2003, no littoral state bordering the SCS and adjoining Gulf of Thailand had more than 6 percent of its territorial waters protected in 2014 (see Chart 1). The coverage rate of MPAs in the SCS (0.31 percent) was negligible based on a study in 2014.<sup>13</sup> Apart from the limited coverage of existing MPAs, management gaps in the identified MPAs have yet to be addressed.<sup>14</sup> Based on the

<sup>11</sup> ASEAN Declaration on Heritage Parks, Yangon, Myanmar, 18 December 2003.

<sup>12</sup> United Nations Environmental Program and the World Conservation Monitoring Centre, as compiled by the World Resources Institute, *Marine Protected Areas*, 2014, <https://data.worldbank.org/indicator/ER.MRN.PTMR.ZS?end=2014&locations=BN-KH-ID-MY-PH-TH-VN-CN&start=2014&view=bar>.

<sup>13</sup> Vu Hai Dang, *Marine Protected Areas Network in the South China Sea: Charting a Course for Future Cooperation* (Leiden: Koninklijke Brill NV, 2014).

<sup>14</sup> Proper management of MPAs requires implementing adequate MPA management plans, putting in place robust monitoring and reporting frameworks, ensuring solid compliance and enforcement mechanisms, mobilising sufficient finance to enable sustainable

2010 gap analysis of the ASEAN Centre for Biodiversity (ACB), 35 out of 152 coastal and marine key biodiversity areas identified by ASEAN member states were managed as MPAs; 20 were partly protected, and the rest were not protected at all.<sup>15</sup> The UN Environment Programme (UNEP) and the Global Environment Facility launched a project to protect coral reefs in the SCS between 2002 and 2008. The project designated 83 target coral reef sites, amounting to 29 percent of the total area in the SCS.<sup>16</sup> Only 5 percent of the designated area was considered to be under effective management.<sup>17</sup> Management effectiveness for 29 percent of coral reef sites was very low, while around 13 percent of the sites were not even covered by any form of protective management.<sup>18</sup>

The management effectiveness of existing MPAs in individual countries remains inadequate. The Philippines has the highest number of MPAs in Southeast Asia, but only 100 of its 1,557 MPAs were properly managed<sup>19</sup> and only 541 had geographical coordinate information, which was needed to determine the coverage of MPAs for monitoring and law enforcement purposes.<sup>20</sup> In Vietnam, only five among 16 established MPAs were being managed.<sup>21</sup> Considered as the largest littoral state in the SCS,<sup>22</sup> China has also designated 266 MPAs along its coastlines.<sup>23</sup> In the early 2000s, China began establishing special MPAs and marine parks.<sup>24</sup> Under China's *National Marine Functional Zoning Plan (2011-2020)*, 5 percent of its territorial waters and 11 percent of nearshore marine areas will be under MPA designation by 2020.<sup>25</sup> By the end of 2014, only 2.65 percent of China's territorial waters were under MPAs.<sup>26</sup> Nearly half of China's MPAs are located in the Yellow Sea, while only four small MPAs are located in the SCS.<sup>27</sup>

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management, and embedding MPAs in an effective and balanced policy mix so as to address multiple pressures from various stakeholders. See OECD, *Marine Protected Areas: Economics, Management and Effective Policy Mixes* (Paris: OECD Publishing, 2017).

<sup>15</sup> Biodiversity Information Sharing Service, Protected Area Gap Analysis in the ASEAN Region, 2010, [http://chm.aseanbiodiversity.org/index.php?option=com\\_content&view=article&id=145&Itemid=231](http://chm.aseanbiodiversity.org/index.php?option=com_content&view=article&id=145&Itemid=231).

<sup>16</sup> Tuan Si Vo, "Development of a Coral Reef Management Strategy within the Framework of the UNEP/GEF South China Sea Project," *Galaxea, Journal of Coral Reef Studies*, Special Issue (2013): 11.

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

<sup>19</sup> Gregg Yan, "Philippines Declares Largest Marine Protected Areas," *Amazon of the Ocean*, 8 November 2016, <http://thecoraltriangle.com/stories/philippines-declares-largest-marine-protected-area>.

<sup>20</sup> Nguyen Chu Hoi and Vu Hai Dang, "Building a Regional Network and Management Regime of Marine Protected Areas in the South China Sea for Sustainable Development," *Journal of International Wildlife Law & Policy*, 18, 2 (2015).

<sup>21</sup> Nguyen Chu Hoi and Vu Hai Dang, "Building a Regional Network and Management Regime of Marine Protected Areas in the South China Sea for Sustainable Development," *Journal of International Wildlife Law & Policy*, 18, 2 (2015).

<sup>22</sup> Even though China is the largest littoral state, the Philippines has more MPAs than China. This is because the Philippine archipelago consists of 7,107 islands, with a total coastline of 36,289 km, one of the longest in the world. China's mainland coastline measures approximately 18,000 km. See World Bank, *Philippines Environment Monitor 2005: Coastal and Marine Resource Management* (English) (Washington, DC: World Bank, 2005) and Wanfei Qui, Bin Wang, Peter J.S. Jones, and Jan Axmacher, "Challenges in Developing China's Marine Protected Area System," *Marine Policy*, 33 (2009).

<sup>23</sup> People's Daily, "Eleven Provinces designate Red Line", 2017, <http://society.people.com.cn/n1/2017/0109/c1008-29006930.html>.

<sup>24</sup> Yuzhou Li and David Fluharty, "Marine Protected Area Networks in China: Challenges and Prospects", *Marine Policy*, 85 (2017): 8-16.

<sup>25</sup> Ibid.

<sup>26</sup> United Nations Environmental Program and the World Conservation Monitoring Centre, as compiled by the World Resources Institute, *Marine Protected Areas*, 2014, <https://data.worldbank.org/indicator/ER.MRN.PTMR.ZS?end=2014&locations=BN-KH-ID-MY-PH-TH-VN-CN&start=2014&view=bar>.

<sup>27</sup> Yuzhou Li and David Fluharty, "Marine Protected Area Networks in China: Challenges and Prospects", *Marine Policy*, 85 (2017): 8-16.

There are various reasons behind ineffective management of MPAs nationally and regionally. In China, for instance, there is no well-organised planning for MPAs at a national scale as the establishment of many existing MPAs does not correspond to the priority marine areas identified in the *National Biodiversity Conservation Strategy and Action Plan (2011-2030)*.<sup>28</sup> Furthermore, ecological connectivity, which has been globally recognised as a key principle in the conservation and management of marine environments, has never been incorporated in the designation criteria for MPAs and MPA networks design in China.<sup>29</sup> In terms of protection objectives, inter-tidal ecosystems, mangroves, rare and endangered species, and islands are the main targets, while coral reefs have not been receiving enough attention.<sup>30</sup> The lack of funding also hinders the effectiveness of MPAs in China as well as other littoral states.<sup>31</sup> In China, the central government provides limited funds to cover the cost of infrastructure in newly established national MPAs and human resources for management of these areas. Hence, only a few MPAs in China have an independent and long-term monitoring programme.<sup>32</sup> Moreover, the existing MPAs of littoral states are not integrated regionally (e.g., a regional MPA network) or even bilaterally, while the integration of MPAs may have fostered MEP cooperation among the littoral states.

### *Strengthening Relevant Laws and Regulations*

There are indeed challenges to MEP measures in the region. One such challenge is the lack of effective legal frameworks at the national level, hampering the institutionalisation of compliance and enforcement mechanisms in the region. The ineffective levels of management of MPAs is partly caused by inconsistent and incoherent marine environmental laws and regulations.<sup>33</sup> For instance, Vietnam's *Law on Environmental Protection* does not have enough provisions on the protection of the marine environment and its general principles are not strong and sound enough to establish an MEP legal regime.<sup>34</sup> China's *1994 Regulations on Nature Reserves* and the *1995 Regulations on Marine Nature Reserves* have relatively weak legal prowess and do not have specific guidelines for implementation, monitoring and evaluation.<sup>35</sup> China does not have an overarching legal framework

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<sup>28</sup> China National Biodiversity Conservation Strategy and Action Plan (2011-2030), 2011, <https://www.cbd.int/doc/world/cn/cn-nbsap-v2-en.pdf> and Yuzhou Li and David Fluharty, "Marine Protected Area Networks in China: Challenges and Prospects", *Marine Policy*, 85 (2017): 8-16.

<sup>29</sup> Yuzhou Li and David Fluharty, "Marine Protected Area Networks in China: Challenges and Prospects", *Marine Policy*, 85 (2017): 8-16 and Mark Carr, et al, "The Central Importance of Ecological Spatial Connectivity to Effective Coastal Marine Protected Areas and to Meeting the Challenges of Climate Change in the Marine Environment", *Aquatic Conservation*, 27, 1 (2017).

<sup>30</sup> Yuzhou Li and David Fluharty, "Marine Protected Area Networks in China: Challenges and Prospects", *Marine Policy*, 85 (2017): 8-16.

<sup>31</sup> Wanfei Qui, Bin Wang, Peter J.S. Jones, and Jan Axmacher, "Challenges in Developing China's Marine Protected Area System", *Marine Policy*, 33 (2009).

<sup>32</sup> Yuzhou Li and David Fluharty, "Marine Protected Area Networks in China: Challenges and Prospects", *Marine Policy*, 85 (2017): 8-16.

<sup>33</sup> Nguyen Chu Hoi and Vu Hai Dang, "Building a Regional Network and Management Regime of Marine Protected Areas in the South China Sea for Sustainable Development", *Journal of International Wildlife Law & Policy*, 18, 2 (2015).

<sup>34</sup> Pham Thi Gam, "Coastal and Island Governance in Vietnam." UN Ocean and Law of the Sea and Nippon Foundation, 2013, [http://www.un.org/depts/los/nippon/unnnf\\_programme\\_home/fellows\\_pages/fellows\\_papers/Pham\\_1314\\_VietNam.pdf](http://www.un.org/depts/los/nippon/unnnf_programme_home/fellows_pages/fellows_papers/Pham_1314_VietNam.pdf).

<sup>35</sup> Yuzhou Li and David Fluharty, "Marine Protected Area Networks in China: Challenges and Prospects", *Marine Policy*, 85 (2017): 8-16.

to coordinate efforts in managing MPAs more broadly given that it is the local governments that oversee the daily management and enforcement of individual MPAs.<sup>36</sup>

In the Philippines, there is also a need to integrate and coordinate existing MEP measures so as to strengthen the implementation of a national law on protected areas. This need is supposed to be addressed by a proposed legislation, the *Expanded National Integrated Protected Area System Act*, which will amend the 25-year-old *National Integrated Protected Areas System Act*.<sup>37</sup> However, the proposed bill is still pending in the Philippine Congress<sup>38</sup> as it is not among the legislative priorities of the government.<sup>39</sup> The new bill will widen the coverage of protected areas and will provide a regular annual budget for the upkeep and protection of the MPAs. But more importantly, if enacted into law, local communities and other stakeholders will have the legal basis and incentives to participate in the management and protection of the areas.<sup>40</sup> Major incentives include direct financial benefits from participating in the management of MPAs, employment opportunities for local stakeholders, increased fish catches for coastal communities, and prevention of illegal fishing activities in marine areas with strong tourism potentials.<sup>41</sup>

### *Involvement of Local Stakeholders*

Collaborative management is vital for effective management of MEP as this model of management is more likely to attract sustainable funding. A multiple-stakeholder approach that engages national and local authorities, communities, the private sector and other resource users is needed. Clear delineation of roles, responsibilities and benefits needs to be laid out.<sup>42</sup> It is very important that local stakeholders have a sense of ownership to be able to contribute to the effective management of MPAs. Weak involvement and resistance from relevant local stakeholders can affect the implementation of relevant marine environmental laws and undermine the effectiveness of existing national MPAs.

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<sup>36</sup> Ibid.

<sup>37</sup> Gloria Estenzo Ramos, "Protecting Our Protected Areas", *Inquirer.net*, 31 January 2016, <http://cebudailynews.inquirer.net/84169/protecting-protected-areas>.

<sup>38</sup> Senate of the Philippines, Expanded National Integrated Protected Area System Act, 23 May 2017, [https://www.senate.gov.ph/lis/bill\\_res.aspx?congress=17&q=SBN-1444](https://www.senate.gov.ph/lis/bill_res.aspx?congress=17&q=SBN-1444).

<sup>39</sup> National Economic and Development Authority, "LEDAC Approves Legislative Agenda for the 17<sup>th</sup> Congress", 30 August 2017, <http://www.neda.gov.ph/2017/08/30/ledac-approves-legislative-agenda-for-17th-congress/>

<sup>40</sup> Gloria Estenzo Ramos, "Protecting Our Protected Areas", *Inquirer.net*, 31 January 2016, <http://cebudailynews.inquirer.net/84169/protecting-protected-areas>.

<sup>41</sup> Jonathan Mayuga, "DENR Official Backs Bill Expanding Nipas Coverage", *Business Mirror*, 9 September 2016, <https://businessmirror.com.ph/denr-official-backs-bill-expanding-nipas-coverage/>; Gregg Yan, "Philippines Declares Largest Marine Protected Areas", *Amazon of the Ocean*, 8 November 2016, <http://thecoraltriangle.com/stories/philippines-declares-largest-marine-protected-area>; and Dean Rawlins, "The Marine Protected Area Network of Batangas Province, Philippines: An Outcome-Based Evaluation of Effectiveness and Performance", 2008, [https://www.apu.ac.jp/rcaps/uploads/fckeditor/publications/journal/RJAPS\\_V25\\_Dean.pdf](https://www.apu.ac.jp/rcaps/uploads/fckeditor/publications/journal/RJAPS_V25_Dean.pdf).

<sup>42</sup> Ibid.

Some of Thailand's coastal communities were reported to have negative perceptions about MPAs because of the restrictive implications on their fishing activities.<sup>43</sup> They thought that it is only the tourism sector that would stand to benefit from protecting coral reef sites.<sup>44</sup> In Indonesia's Wakatobi National Park, in an MPA near south Sulawesi, most of the locals believe that their traditional activities (fishing, coral cleaning, etc.) have insignificant impact on the ecosystem and should not be restricted by any conservation efforts.<sup>45</sup> Instead, they blame big commercial fishing vessels that use destructive fishing methods.<sup>46</sup> In the Philippines, local communities near some of the MPAs complain that they were excluded from MPA management meetings and that their views were not taken into account in decision-making.<sup>47</sup> Their perceived level of their involvement in the management of the MPAs was very low.<sup>48</sup> Filipino coastal communities negatively viewed many of the country's MPAs as barriers to their ability to fish in front of their homes.<sup>49</sup> This is because most MPAs have been designed to merely protect marine biodiversity rather than to replenish fish stocks and support local economies.<sup>50</sup>

### *Scientific and technical collaboration*

Given that certain aspects of the marine ecosystem are mobile, collaboration among littoral states is therefore fundamental. However, traditional security concerns constitute a major barrier to collaborative efforts. No littoral state of the SCS has so far extended its MPAs to contested waters.<sup>51</sup> There is a need to create a regional MPA network that will cover even the overlapping territorial claims in the SCS. Scientific cooperation among experts and environmental NGOs can offer a mutually acceptable path to ecological solutions in the SCS, avoiding nationalist rhetoric and sensitive sovereignty issues. There were earlier proposals to do so, through bilateral and multilateral scientific cooperation, such as the *1996-2007 Philippines-Vietnam Joint Oceanographic and Marine Scientific Research Expedition in the SCS (JOMSRE-SCS)*.<sup>52</sup> By 2008, scientists and experts from this expedition proposed that the Philippines and Vietnam must collaborate for the establishment of trans-border peace parks or MPAs in the contested Spratlys, with 30 percent of the total area to be designated as 'no-take' zones for any marine resources to allow build-up of marine life.<sup>53</sup>

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<sup>43</sup> Marc Hockings, Peter Shadie, Geoff Vincent and Songtam Suksawang, *Evaluating the Management Effectiveness of Thailand's Marine and Coastal Protected Area* (Gland, Switzerland: International Union for Conservation of Nature, 2012).

<sup>44</sup> Khairunnisa Ahmad Kamil, Atakelty Hailu, Abbie Rogers, and Ram Pandit, "An Assessment of Marine Protected Areas as a Marine Management Strategy in Southeast Asia: A Literature Review", *Ocean and Coastal Management*, 145 (2017):72-81.

<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

<sup>47</sup> Dean Rawlins, "The Marine Protected Area Network of Batangas Province, Philippines: An Outcome-Based Evaluation of Effectiveness and Performance", 2008, [https://www.apu.ac.jp/rcaps/uploads/fckeditor/publications/journal/RJAPS\\_V25\\_Dean.pdf](https://www.apu.ac.jp/rcaps/uploads/fckeditor/publications/journal/RJAPS_V25_Dean.pdf).

<sup>48</sup> Ibid.

<sup>49</sup> Gregg Yan, "Philippines Declares Largest Marine Protected Areas", *Amazon of the Ocean*, 8 November 2016, <http://thecoraltriangle.com/stories/philippines-declares-largest-marine-protected-area>.

<sup>50</sup> Ibid.

<sup>51</sup> Nicolas Leong, "Catch-22 in the South China Sea: why preserving fish stocks is key to a resolution", *Global Risks Insights*, 10 December 2017, <https://globalriskinsights.com/2017/12/south-china-sea-environment-fishery/>.

<sup>52</sup> A. C. Alcalá, *Proceedings of Conference on the Philippines-Vietnam Joint Oceanographic and Marine Scientific Research Expedition in the South China Sea* (Dumaguete City: Oceanfriends Foundation Inc 2008).

<sup>53</sup> Nguyen Chu Hoi and Vu Hai Dang, "Building a Regional Network and Management Regime of Marine Protected Areas in the South China Sea for Sustainable Development", *Journal of International Wildlife Law & Policy*, 18, 2 (2015).



They also recommended to include all SCS states, including China, in establishing MPAs in the SCS.<sup>54</sup> Hence, in 2009, three negotiation meetings were conducted to include China in JOMSRE-SCS.<sup>55</sup> Vietnam, the Philippines and China agreed on the goals of the joint project, scientific activities, surveyed data/information, and specimen sharing with the view of creating a network of MPAs.<sup>56</sup> However, the proposed joint initiatives were never implemented.<sup>57</sup> Rising geopolitical tensions among littoral states at that time<sup>58</sup> may have prevented the implementation.

ASEAN and China also attempted to create a regional network of marine scientists and a platform for sharing of scientific data through the UNEP's South China Sea project, *Reversing Environmental Degradation in the South China Sea and Gulf of Thailand (2002-2008)*.<sup>59</sup> Its overall objective was to serve as a platform for scientific collaboration and partnership in addressing environmental problems of the SCS.<sup>60</sup> The project involved government scientists from focal ministries and specialised agencies, marine experts from universities, NGOs, and local community groups from six participating countries (Cambodia, China, Indonesia, Malaysia, the Philippines, and Thailand). It achieved some positive outcomes, particularly the increased collaboration among the scientists of participating countries, but heightened tensions among littoral states prevented the momentum of scientific cooperation, which would have positively contributed to tangible regional policies on MEP in the SCS.<sup>61</sup>

## Lessons from Other Regions

Considering the relatively low effectiveness and cooperation in MEP in the SCS, it is helpful to understand how other regions protect their seas, particularly in disputed waters, so as to draw lessons for better protection of the SCS. This section examines MEP efforts in the Mediterranean Sea, North America and Central American in two focal areas: the implementation of regional cooperative frameworks and the involvement of multiple actors.

### *Stronger Framework for Cooperation*

One crucial lesson from the Mediterranean Sea region is the importance of an institutional framework for cooperation. In 1975, 16 Mediterranean countries and the European Community adopted the *Mediterranean Action Plan*, with the aim of protecting the marine and coastal environments, controlling pollution, preserving

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<sup>54</sup> Ibid.

<sup>55</sup> Nguyen Chu Hoi and Vu Hai Dang, "Building a Regional Network and Management Regime of Marine Protected Areas in the South China Sea for Sustainable Development", *Journal of International Wildlife Law & Policy*, 18, 2 (2015).

<sup>56</sup> Ibid.

<sup>57</sup> Ibid.

<sup>58</sup> Vaudine Engalnd, "Why are South China Sea tensions rising?", *BBC News*, 10 Septmebr 2017, <http://www.bbc.com/news/world-asia-pacific-11152948>.

<sup>59</sup> Vo Si Tuan and John Pernetta, "The UNEP/GEF South China Sea Project: Lessons Learnt in Regional Cooperation," *Ocean and Coastal Management*, 53 (2010): 589–596.

<sup>60</sup> Ibid.

<sup>61</sup> Ibid.

biodiversity, and promoting sustainable development within the Mediterranean Region.<sup>62</sup> In 1976, the *Convention for the Protection of the Mediterranean Sea against Pollution (Barcelona Convention)* was adopted to address pollution caused by waste dumping from ships and aircraft.<sup>63</sup> It also mandates state parties to forge cooperation in combating pollution in case of maritime emergency. There are now 22 contracting state parties to the two legally binding conventions.<sup>64</sup> They are determined to protect the marine and coastal environments of the Mediterranean Sea through boosting coordinated regional and national plans of action.<sup>65</sup> As a result, through large-scale national and regional conservation efforts, there are now 1,231 MPAs covering 7.14 percent of the Mediterranean Sea.<sup>66</sup>

Countries in the Americas have established a number of regional initiatives for MEP. Various commitments for marine-related regional cooperation have been sealed with formal declarations and agreements, thereby giving them a solid foundation for related subsequent initiatives. The Mesoamerican Barrier Reef Initiative, for example, is a transboundary collaboration among Mexico, Belize, Guatemala and Honduras aimed at promoting the conservation and sustainable use of the Mesoamerican Barrier Reef System.<sup>67</sup> The multilateral cooperation began with the signing of the *Tulum Declaration* in 1997. The Declaration also gave rise to other initiatives such as the *Mesoamerican Barrier Reef System (MBRS) Project* and the *Reef Eco-Regional Plan*.<sup>68</sup>

The North American Marine Protected Areas Network (NAMPAN) is a trilateral initiative aimed primarily at conserving biodiversity in critical marine habitats and enabling knowledge exchange among experts from the US, Canada and Mexico.<sup>69</sup> Initiated in November 1999 under the North American Free Trade Agreement's Commission for Environmental Cooperation, NAMPAN focuses its work in Baja California to Bering Sea Region and includes the territories of the three countries.<sup>70</sup> NAMPAN hopes to complement existing conservation efforts in the three countries and integrate their conservation initiatives through collaboration.<sup>71</sup> It also seeks to boost cooperation in information sharing, new technologies and management strategies in a bid to find solutions to the common challenges facing marine and coastal habitats in North America.<sup>72</sup> The network of MPAs exemplified in

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<sup>62</sup> MedPAN et al., *The 2016 Status of Marine Protected Areas in the Mediterranean* (Athens: MedPAN & UNEP-MAP-SPA/RAC, 2016). [http://d2ouvy59p0dg6k.cloudfront.net/downloads/medpan\\_forum\\_mpa\\_2016\\_\\_brochure\\_a4\\_en\\_web\\_1\\_.pdf](http://d2ouvy59p0dg6k.cloudfront.net/downloads/medpan_forum_mpa_2016__brochure_a4_en_web_1_.pdf).

<sup>63</sup> Ibid.

<sup>64</sup> Ibid.

<sup>65</sup> Ibid.

<sup>66</sup> MedPAN et al., *The 2016 Status of Marine Protected Areas in the Mediterranean*, Athens: MedPAN & UNEP-MAP-SPA/RAC, 2016. [http://d2ouvy59p0dg6k.cloudfront.net/downloads/medpan\\_forum\\_mpa\\_2016\\_brochure\\_a4\\_en\\_web\\_1\\_.pdf](http://d2ouvy59p0dg6k.cloudfront.net/downloads/medpan_forum_mpa_2016_brochure_a4_en_web_1_.pdf).

<sup>67</sup> Philip A. Kramer and Patricia Richards Kramer, *Ecoregional Conservation Planning for the Mesoamerican Caribbean Reef* (Washington, DC: WWF, 2002).

[https://www.researchgate.net/profile/Philip\\_Kramer/publication/242549382\\_Ecoregional\\_Conservation\\_Planning\\_for\\_the\\_Mesoamerican\\_Caribbean\\_Reef/links/5553ba6b08ae980ca6085ac4/Ecoregional-Conservation-Planning-for-the-Mesoamerican-Caribbean-Reef.pdf](https://www.researchgate.net/profile/Philip_Kramer/publication/242549382_Ecoregional_Conservation_Planning_for_the_Mesoamerican_Caribbean_Reef/links/5553ba6b08ae980ca6085ac4/Ecoregional-Conservation-Planning-for-the-Mesoamerican-Caribbean-Reef.pdf).

<sup>68</sup> Rosario Alvarez and Karen Wong, *Mesoamerican Reef: Building the Future after Tulum 1997* (Guatemala, C.A.: Mesoamerican Reef Fund (MAR Fund), 2015). <http://www.marfund.org/wp-content/uploads/2015/08/Building-the-Future-after-Tulum-1997.pdf>.

<sup>69</sup> North American Marine Protected Areas Network. "What is the North American Marine Protected Areas Network?", undated, <http://www2.cec.org/nampan/>.

<sup>70</sup> Ibid.

<sup>71</sup> Ibid.

<sup>72</sup> Ibid.

the NAMPAN initiative can facilitate the ecosystem approach<sup>73</sup> to MEP, which looks at different MPAs as part of a large inter-connected ecosystem. Conservation efforts adopting this comprehensive approach may yield more effective outcomes.

### *Multiple Actors*

SCS states may consider another lesson from the *Mediterranean Action Plan* in terms of bringing together regional stakeholders, including non-state actors, to build a network of MPAs and strengthen its management effectiveness. The Mediterranean Regional Seas Programme conducts multiple projects, one of which is the Network of Managers of MPAs in the Mediterranean (MedPAN). MedPAN brings together 100 institutions and environmental NGOs that either have direct responsibility for managing MPAs or are involved in the development of MPAs in the Mediterranean Sea.<sup>74</sup> MedPAN's mission is to promote, through a partnership approach, the sustainability and operation of a network of MPAs in the Mediterranean, which are ecologically representative.<sup>75</sup> As a result, through joint training and knowledge sharing among MPA managers, MedPan has reinforced the management efficiency of existing MPAs and promoted the creation of new MPAs in the 12 countries of the southern and eastern Mediterranean area.<sup>76</sup>

The cross-border marine protection cooperation in the Americas relies heavily on donors' support. The World Wildlife Fund (WWF) and the World Bank/Global Environmental Facility played important roles in supporting the Mesoamerican Barrier Reef Initiative and its related projects.<sup>77</sup> But overreliance on donors' support may pose a problem to the sustainability of efforts. Funding as well as boundary or political disputes form part of the multiple challenges that Mexico, Belize, Guatemala and Honduras faced in managing the Mesoamerican Barrier Reef Initiative.<sup>78</sup>

The Marine Conservation Corridor of the Eastern Tropical Pacific (ETP), which covers Ecuador, Colombia, Panamá and Costa Rica, is facing similar problems in securing sustainable funding alongside with issues pertaining to governance structures and contesting views on the concept of cooperation by some stakeholders from Ecuador.<sup>79</sup> Despite the challenges, the commitment and attention the UNESCO World Heritage Centre placed on the ETP have brought about successful conservation efforts in the area, which have resulted in a

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<sup>73</sup> The Convention on Biological Diversity defines ecosystem approach as a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. See CBD Secretariat, Decision V/6 Ecosystem approach. Document UNEP/CBD/COP/5/6. Secretariat of the Convention on Biological Diversity, Nairobi, Kenya, 2000. <https://www.cbd.int/decision/cop/?id=7148>

<sup>74</sup> Corine Brunois and Magali Mabari, "Report: MedPan Network Regional Training Workshop - Towards More Effective Communication of Mediterranean Marine Protected Areas", Tunisia, 25-27 April 2017, <https://drive.google.com/file/d/0Bw8D-TFFFccxSVhIaUIxM3ZETU0/view>

<sup>75</sup> Ibid.

<sup>76</sup> Ibid.

<sup>77</sup> Rosario Alvarez and Karen Wong, *Mesoamerican Reef: Building the Future after Tulum 1997* (Guatemala, C.A.: Mesoamerican Reef Fund (MAR Fund), 2015). <http://www.marfund.org/wp-content/uploads/2015/08/Building-the-Future-after-Tulum-1997.pdf>.

<sup>78</sup> Ibid.

<sup>79</sup> Bensted-Smith, Robert and Hugh Kirkman, *Comparison of Approaches to Management of Large Marine Areas*. (Cambridge, UK: Publ. Fauna & Flora International, and Washington DC: Conservation International, 2010).

World Heritage designation for Malpelo Flora and Fauna Sanctuary.<sup>80</sup> In 2016, the managers of the seven marine sites<sup>81</sup> signed the *Carta de Punta Suarez Agreement* that aims to “promote the exchange of scientific and technical information to improve the management of each site, seek joint funding to support regional projects that will support effective conservation, and organize meetings to define joint actions that will serve common objectives.”<sup>82</sup>

Sustained commitments from donors can provide the needed push for collaborations to move ahead despite issues relating to interaction among states that may hinder effective communication and implementation. The countries bordering the SCS may want to learn from these experiences by first, solidifying their commitment for MEP in the form of joint declarations and agreements and then securing donors and important international organisations such as the UNESCO World Heritage to support these initiatives. Having strong external support appears critical especially when there are political and territorial disputes among involved countries.

The aforementioned lessons, however, may still be difficult to realise in the SCS due to existing barriers to multilateral cooperation, even in protecting the marine ecosystem. For one, sovereignty discourse remains strong; competing territorial claims and historical animosities pose strong barriers to intergovernmental cooperation on marine and fisheries issues.<sup>83</sup> A legally-binding regional framework on MEP, for instance, may be hard to achieve at the moment. It is because there could be domestic perceptions that cooperation implies some concessions on sovereignty claims and fears of domination by larger states in a cooperative framework.<sup>84</sup>

Another barrier is strategic distrust among littoral states. It restricts the cooperation necessary to deal with non-traditional security issues, such as MEP and sustainable fishing.<sup>85</sup> Provocative actions and statements only serve to add to distrust and frustrate cooperation. Escalating provocation and counter-provocation have resulted in increased strategic distrust.<sup>86</sup> Provocations emanate from rapid naval and coast guard buildups, construction of military facilities, and other related activities in and around the disputed waters. Diplomatic tensions typically arise from ramming and harassment of fishing boats, obstruction of survey ships, stand-offs, and collisions. MEP cooperation will be challenging under this volatile security environment.

Scientific collaboration, which is very robust in other regions, may face hurdles in the SCS. One lesson learnt from the outcomes of earlier MEP projects was the need to separate scientific and technical issues from political

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<sup>80</sup> UNESCO, “Seven Marine Sites Sign Historic Agreement,” 19 October 2016, <http://whc.unesco.org/en/news/1575/>

<sup>81</sup> The seven marine sites included in the marine corridor are Galapagos Islands, Coiba National Park, Cocos Island National Park, Malpelo Flora and Fauna Sanctuary, Area de Conservación Guanacaste, Archipiélago de Revillagigedo, and Islands and Protected Areas of the Gulf of California.

<sup>82</sup> UNESCO, “Seven Marine Sites Sign Historic Agreement,” 19 October 2016, <http://whc.unesco.org/en/news/1575/>

<sup>83</sup> Li Jing, “The South China Sea Feud is Taking a Serious Toll on Fish and Reefs”, *South China Morning Post*, 10 June 2016, <http://www.businessinsider.com/south-china-sea-dispute-harming-fish-and-reefs-2016-6/?IR=T>

<sup>84</sup> Sam Bateman, “Building Cooperation for Managing the South China Sea Without Strategic Trust”, *Asia and the Pacific Policy Studies* 4, 2 (2017).

<sup>85</sup> Ibid.

<sup>86</sup> Ibid.

decision-making, nationalist rhetoric and sovereignty claims.<sup>87</sup> Essentially, geopolitics should not hinder scientific cooperation in the region for the protection of the marine environment in the SCS.

## Possible Avenues for Strengthening Cooperation

Coordinated and cooperative regional efforts are essential given the transboundary impacts of environmental degradation in the SCS, as previously discussed. However, the necessary collective action between ASEAN and China has yet to be fully realised primarily due to aforesaid barriers to cooperation. Although past and existing measures have been initiated by littoral states to address marine environmental challenges, this paper finds that these measures have been essentially fragmented and ineffective. Three possible avenues are identified below for strengthening future regional cooperation in MEP in the SCS.

At least three ASEAN-China frameworks espouse multilateral and regional cooperation on MEP, although they are not legally binding and do not have enforcement mechanisms. Firstly, there was an understanding reached in the *Declaration on the Conduct of Parties in the South China Sea* concerning the marine environment: “*Pending a comprehensive and durable settlement of the disputes, the Parties concerned may explore or undertake cooperative activities. These may include the following: a. marine environmental protection; b. marine scientific research...*”<sup>88</sup> As ASEAN and China are to start talks on details of the Code of Conduct, more balanced attention should be given to both maritime disputes and the marine ecosystem as the latter is no less important for national and human securities in the region.

Secondly, ASEAN member states and China can initiate new collaborative efforts based on their *Declaration for the Decade of Coastal and Marine Environmental Protection in the South China Sea (2017-2027)*, which is one of the positive outcomes of the ASEAN-China Summit process. This joint declaration recognises the importance of MEP to economic prosperity and human development of the peoples of ASEAN member states and China. Given the current environmental situation in the SCS, it encourages ASEAN and China to take collective action to save the marine ecosystem and biodiversity.<sup>89</sup>

Thirdly, marine environment is important for socio-economic development in ASEAN countries. As mentioned earlier, the protection of our Oceans is one of the SDGs. Moreover, the *ASEAN Socio-Cultural Community Blueprint 2025* encourages member states to “[p]romote cooperation for the protection, restoration and sustainable use of coastal and marine environment, respond and deal with the risk of pollution and threats to marine ecosystem and coastal environment, in particular in respect of ecologically sensitive areas.”<sup>90</sup> These goals create stronger incentives for

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<sup>87</sup> Ibid.

<sup>88</sup> Declaration on the Conduct of Parties in the South China Sea, Phnom Penh, Cambodia, 4 November 2002.

<sup>89</sup> Declaration for the Decade of Coastal and Marine Environmental Protection in the South China Sea (2017-2027), Manila, Philippines, 13 November 2017.

<sup>90</sup> The ASEAN Secretariat, *ASEAN 2025: Forging Ahead Together* (Jakarta: ASEAN Secretariat, 2015): 110, <http://www.asean.org/storage/2015/12/ASEAN-2025-Forging-Ahead-Together-final.pdf>.

ASEAN countries to implement effective MEP jointly. It is imperative for SCS littoral states to operationalise the collective action approach recommended by existing ASEAN-China regional frameworks. The potential for SCS claimants to carry out and strengthen MEP cooperation should be further explored. The 'depoliticisation' of MEP in the SCS may hold the key to building mutual trust and confidence among littoral states. Instead of further militarising the troubled waters, ASEAN together with China may form a cooperative management framework in the SCS with MEP as one of its main pillars.

As the marine environment in the SCS has been quickly degrading, it has become more urgent for relevant states to separate geopolitics or sovereignty claims from the need for crucial civil maritime cooperation on non-traditional security issues, primarily MEP. The urgency of accelerating marine conservation in the South China Sea can hardly be overstated.

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