

CSCAP MEMORANDUM NO. 31

Enhancing Marine Environment Protection in the Asia-Pacific Region



**A Memorandum from the
Council for Security Cooperation in the Asia Pacific (CSCAP)**

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CSCAP MEMORANDUM NO. 31 ENHANCING MARINE ENVIRONMENT PROTECTION IN THE ASIA-PACIFIC REGION

Introduction

The Pacific Ocean is the world's largest ocean, and along its western marginal seas are some of the greatest concentrations of marine flora and fauna. The Coral Triangle alone, which stretches from the Philippine archipelago, eastern Malaysia, Indonesian archipelago, and eastward to the Solomon Islands, is home to 76 percent of the world's known coral reefs species (605 out of 798), 37 percent of the world's reef fish species (2,228 out of 6,000), and numerous species of marine turtles and cetaceans such as whales and dugongs.¹ The adjacent areas are equally rich in biodiversity, with the South China Sea being home to as many as 500 species of corals.

Coral reefs, along with mangroves and seagrass, are among the most vital of marine ecosystems as they serve as the spawning, nursing, and feeding grounds for several endangered marine species and commercial fish. Healthy coral reefs are essential and provide benefits not only for the littoral countries but for the entire region because of the phenomena of larval connectivity and the ocean currents. Coral reefs also contribute to the protection of shorelines from erosion and severe weather.

However, coral reefs are also among the most vulnerable ecosystems in the region. For instance, of the 91,700 square kilometers of coral reefs in Southeast Asia, 40 percent have already been lost, 20 percent are at a critical stage, while 25 percent are threatened.² This, along with the overall degradation of the marine environment in the Asia Pacific due to natural and man-made causes, can have potential adverse implications for regional security, particularly economic and food security.

In light of the impact of marine environment challenges to regional security and sustainable economic development, the CSCAP Study Group examined the state of marine environment protection (MEP) in the Asia Pacific, using coral reefs as the focus and case study, and national policies and regional mechanisms to protect the marine environment.

The CSCAP Study Group's objectives are to:

- (1) Promote regional cooperation in MEP to safeguard the coral reefs in the Asia Pacific region for commercial and livelihood purposes

¹ Presentation by Professor Edgardo Gomez of the University of the Philippines-Marine Sciences Institute (UP-MSI) during the first meeting of the CSCAP Study Group on Marine Environment Protection in April 2016 in Manila, citing the study by Veron, JEN, Devantier LM, Turak E, Green AL, Kinimonth S, et al. "Delineating the Coral Triangle," *Galaxea, Journal of Coral Reef Studies* 11: (2009), p. 93.

² Presentation by Dr. Olof Linden of World Maritime University in Sweden during the first meeting of the CSCAP Study Group on Marine Environment Protection in April 2016 in Manila.

- (2) Contribute to an understanding of maritime security in the Asia Pacific region that includes the protection of the marine environment, and
- (3) Help build habits of cooperation among states in the Asia Pacific region through MEP

Marine Environment Protection and Regional Security

The destruction of the marine environment including the coral reefs can lead to dwindling fish supply amid rising demands. For coastal communities – 120 million people around the Coral Triangle alone are directly dependent on fishing – this could mean uncertainty in their livelihood and food supply. This could also result in social disruption and tension, including an increase in number of internally displaced persons and increase in migration flows in the region. This in turn could impose additional burdens on the states' coast guards, other maritime law enforcement agencies, and navies.

The destruction of marine ecosystems may also force fishermen to resort to poaching of endangered species and fish farther from the coasts. This could heighten the ongoing disputes over marine resources and jurisdictional issues in the Asia Pacific.

Another impact of marine environment degradation is the loss of long-term opportunities in areas of marine tourism, aquaculture, and commercial fisheries, including the multi-billion dollar tuna industry.

Threats to the Marine Environment

The coral reefs and the broader marine environment in the Asia Pacific face significant threats from both natural and human-induced causes, which include:

- (1) Ocean warming and ocean acidification resulting in the death of coral reefs;
- (2) Destructive fishing practices and overfishing, including cyanide fishing and blasting, and entry of alien and invasive species;
- (3) Harvest of endangered species such as giant clams and others;
- (4) Human activities such as coastal development, land reclamation, shoreline hardening, and removal of mangroves that can smother corals and alter marine ecosystems;
- (5) Pollution from land-based sources, including sewage and agricultural and industrial run-off;
- (6) Pollution from sea-based activities such as seabed mining and offshore oil and gas exploration and exploitation;
- (7) Pollution from dumping in rivers, harbors and at sea;
- (8) Pollution from vessels, including the risk of collision, oil spills, and grounding on coral reefs due to noncompliance with international regulatory standards on shipping.

Challenges to Governance

A. National level

Through a discussion of respective national policies and experiences of Asia-Pacific countries on marine environment protection, the Study Group has noted the following common challenges:

- (1) Inadequate ratification of and accession to international conventions on marine environment protection and their adoption into the national laws and policies;
- (2) Poor interagency collaboration among ministries within national governments and weak enforcement of marine environmental laws;
- (3) Lack of public awareness of marine environment issues, laws and policies, making stakeholder participation in MEP not as inclusive and informed as it could be.

B. Regional level

At the regional and global levels, mechanisms have been established to protect the marine environment, including coral reefs. Collaborative initiatives are being undertaken through programs such as the Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), ASEAN Center for Biodiversity (ACB), and Coral Triangle Initiative (CTI), UNEP Coordinating Body on the Seas of East Asia (COBSEA), and the International Coral Reef Initiative (ICRI), among many others.

There are declarations and initiatives for more regional coordination body or regional instrument for the management of the uses and protection of the marine environment but specific rules have not yet been agreed upon. There continue to be gaps as existing programs on MEP have different geographic scopes, different actors, and different priority areas, and species covered.

In addition, the success of regional mechanisms relies on effective implementation by national governments. There is also a need to pursue marine environment protection at different levels – regional, national, and even sub-national.

There is also a general lack of consultation and coordination among littoral states in the management of marine resources. Despite the interlinkages of marine environment issues and challenges, policies in the region are not harmonized. There is no process to review non-ratified treaties, and states also have different levels of compliance with existing international agreements on marine environment protection. Territorial, jurisdictional, and maritime disputes also pose hindrances to cooperation.

Scientific research on the marine environment is also not being actively shared due the absence of any institutional mechanism that would centralize such knowledge. Reports on the status of the marine environment and resources in the South China Sea, for instance, are often published by academic institutions from the West rather than by the

countries surrounding it, one reason being that research is often conducted in the local languages and not published in international scientific journals.

Recommendations

Based on the foregoing points, the following recommendations are made:

A. Principles

States should strengthen compliance with legal instruments for the protection of the oceans. Central to this framework is the 1982 United Nations Convention on the Law of the Sea (UNCLOS) that provides the general obligation of states to protect and preserve the marine environment regardless of geographic boundaries and despite the existence of disputes. Other related instruments for marine environment protection that are also relevant to coral reefs are the 1992 Convention on Biodiversity (CBD), and the 2015 Paris Climate Conference Agreement.

Countries should also observe at all times generally accepted principles for protecting the marine environment, such as the polluter pays principle which provides that those who produce pollution should bear the costs of repairing the damage it caused; the precautionary principle, which provides that preventive action should be taken in the face of scientific uncertainty on the harmful effects of activities on the environment; and the public trust doctrine, which states that certain areas should be preserved for public use.

Protecting the coral ecosystems in the region must also be based on the Sustainable Development Goals (SDG) adopted by the United Nations. SDG 14, in particular, calls on countries to manage and protect the marine environment, stop overfishing, and conserve at least 10 percent of all coastal marine ecosystems by 2030.

B. Specific Action Plans

Countries in the Asia Pacific should enhance the management of the regional seas without prejudice to national interests and for the common good of the region. In this regard, the following actions may be considered:

1. *Identification of sensitive habitats and resources with a view to proposing marine protected areas (MPAs) and networks of MPAs.* Mapping of all natural resources, habitats, and human activities in the region's marine ecosystems may be undertaken through close consultations with marine scientists, and international marine law and policy experts. This can be a first step toward identifying which areas are to be designated as MPAs, and to exploring the establishment of a binding regional instrument and regional coordinating body for the management of the marine environment.
2. *Establishment of a regional network of marine scientists and sharing of scientific data.* A repository can be established to compile research studies and

environmental risk assessments, link libraries to create a singular inventory, and prioritize translation of available studies into English. A regional network can also facilitate research collaborations among scientists and address asymmetries in expertise among countries.

3. *Exchange of knowledge on technologies for coral preservation and restoration.* These technologies include the cultivation, reproduction, and transplantation of corals, and the use of artificial reefs. Governments can provide funding to coral restoration projects in the region, and support further research on how coral reefs can adapt to climate change and rising ocean temperatures.
4. *Supporting the work of regional bodies.* This can be done by harmonizing national policies with regional objectives and by providing funding support for these bodies to continue operating.
5. *Strengthening the institutional and legal frameworks and undertaking necessary reforms in national maritime management agencies.*
6. *Promoting a community-based approach to MEP through education and capacity-building.* Regional programs and national policies have no impact unless they are implemented at the local level. Aside from local coastal communities, other stakeholders such as non-government organizations (NGOs), private businesses, and the tourism sector should be educated and empowered to better implement programs on marine environment protection.

Role of ASEAN

ASEAN can take a lead in promoting multilateral cooperation on the management of regional seas by raising actionable and concrete proposals. ASEAN should maintain MEP and preservation as a priority in its Community-building process and a key agenda in the ASEAN Regional Forum, Expanded ASEAN Maritime Forum (EAMF), and other ASEAN-led mechanisms. ASEAN and other member countries of the ARF, EAMF, and related bodies must work closer together toward a comprehensive and integrated approach to MEP.

Role of CSCAP

CSCAP should continue facilitating linkages among scientists, technical experts, and academic communities from Asia-Pacific countries to help policymakers become more aware of marine environment issues and their potential impact on national and regional security. The interface between policy makers and marine scientists should be strengthened. CSCAP should carry on its role in providing platforms for discussion and cooperation on MEP.

CSCAP Member Committees should be more proactive in keeping coral reef ecosystems a priority agenda in discussions on MEP, and in advancing the recommendations of the

Study Group in their respective governments. Continuous engagement and information-sharing with relevant national agencies must be maintained to propel those ideas to action.

Conclusion

Recognizing that the health of marine ecosystems has an impact on regional security, and that the vitality of resources underpins economic development, CSCAP is committed to promote an integrated, coordinated, and cooperative approach to MEP in the region. CSCAP underscores that MEP is both a necessity for the Asia Pacific and an opportunity for confidence building toward greater regional security.

About the Study Group on Marine Environment Protection

Three Study Group (SG) meetings were held in a span of ten months, for a total of about 23 hours. Twenty-one resource persons/subject matter experts from 16 countries spoke in these meetings, many of them attending more than one SG meeting. CSCAP Philippines was the lead proponent, and co-chaired by CSCAPs Australia, China, Singapore, New Zealand, and Vietnam.

The agenda in the three SG meetings could be clustered into five topics, namely:

1. Description of the physical landscape and state of the ecosystem and biodiversity in the maritime areas of the Asia Pacific region;
2. Sharing of maritime policies, laws, and best practices on marine environment protection (MEP) by some countries, including those on coral reefs;
3. Discussion on the challenges to MEP, with focus on their implications to regional security;
4. Discussion on bilateral and multilateral cooperation on MEP such as in marine pollution, oil spills, overfishing, law enforcement, and protection of coral reefs; and
5. Discussion on how to enhance MEP cooperation in the Asia Pacific region.

The CSCAP Memorandum on MEP was made possible through the contributions of, in alphabetical order: Dr. Edgardo Gomez, University of the Philippines; Cheryl Rita Kaur, Maritime Institute of Malaysia; Youna Lyons, National University of Singapore; Dr. Bevan Marten, Victoria University of Wellington; Prof. Niu Wentao, State Oceanic Administration; Linda Paul, Pacific Forum CSIS; Dr. Robin Warner, University of Wollongong; and Dr. Sukjoon Yoon, Korea Institute for Maritime Strategy. The participation of government officials from the State Oceanic Administration of China, National Institute of Oceanography of India, and the Philippines' Department of Environment and Natural Resources, and regular participants from CSCAP Member Committees resulted in well-rounded discussions, and brought together scientists and policymakers.

ABOUT CSCAP

CSCAP is a non-governmental (second track) process for dialogue on security issues in the Asia Pacific. Membership in CSCAP is on an institutional basis and consists of Member Committees. Current membership comprises Australia, Brunei Darussalam, Cambodia, Canada, China, the EU, India, Indonesia, Japan, the Democratic People's Republic of Korea, the Republic of Korea, Malaysia, Mongolia, Myanmar New Zealand, the Philippines, Russia, Singapore, Thailand, Vietnam and the USA.

The functions of CSCAP are as follows:

- a. to provide an informal mechanism by which political and security issues can be discussed by scholars, officials, and others in their private capacities;
- b. to encourage the participants of such individuals from countries and territories in the Asia Pacific on the basis of the principle of inclusiveness;
- c. to organise various working groups to address security issues and challenges facing the region;
- d. to provide policy recommendations to various intergovernmental bodies on political-security issues;
- e. to convene regional and international meetings and other cooperative activities for the purpose of discussing political-security issues;
- f. to establish linkages with institutions and organisations in other parts of the world to exchange information, insights and experiences in the area of regional political-security cooperation; and
- g. to produce and disseminate publications relevant to the other purposes of the organisation.

Study Groups are the primary mechanism for CSCAP activity.

This memorandum was produced by the CSCAP Study Group on Maritime Environmental Protection.

Further information on CSCAP can be obtained from the CSCAP website at www.cscap.org or by contacting the CSCAP Secretariat:

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CSCAP Memoranda

CSCAP Memoranda are the outcome of the work of Study Groups approved by the Steering Committee and submitted for consideration by the ASEAN Regional Forum and other bodies.

- Memorandum No.30 – Preventive Diplomacy: Promoting Prospects or Mediation and Peaceful Settlement of Disputes in the Asia Pacific Region
Author: Study Group on Preventive Diplomacy
Date published: December 2017
- Memorandum No.29 – Harmonisation of Aeronautical and Maritime Search and Rescue (SAR)
Author: Study Group on Harmonisation of Aeronautical and Maritime Search and Rescue (SAR)
Date published: July 2017
- Memorandum No.28 – Energy Security in the Asia Pacific Region
Author: Study Group on Energy Security
Date published: June 2016
- Memorandum No.27 – Implementation of UNSCR 1540
Author: Study Group on Countering the Proliferation of Weapons of Mass Destruction in the Asia Pacific
Date published: April 2015
- Memorandum No.26 – Towards an Effective Regional Security Architecture for the Asia Pacific
Author: Study Group on Regional Security Architecture
Date published: June 2014
- Memorandum No.25 – Maritime CBMs, Trust and Managing Incidents at Sea
Author: Study Group on Principles for Good Order at Sea
Date published: June 2014
- Memorandum No.24 – Safety and Security of Vital Undersea Communications Infrastructure
Author: Experts Group on Vital Undersea Communications Infrastructure
Date published: May 2014
- Memorandum No.23 – Enhancing Water Security in the Asia Pacific
Author: Study Group on Water Resources Security
Date published: January 2014
- Memorandum No.22 – Non-Proliferation of Weapons of Mass Destruction
Author: Study Group on Countering the Proliferation of Weapons of Mass Destruction in the Asia Pacific
Date published: September 2012
- Memorandum No.21 – Implications of Naval Enhancement in the Asia Pacific
Author: Study Group on Naval Enhancement in the Asia Pacific
Date published: August 2012

- Memorandum No.20 – Ensuring A Safer Cyber Security Environment
 Author: Study Group on Cyber Security
 Date published: May 2012
- Memorandum No.19 – Reduction and Elimination of Nuclear Weapons
 Author: Study Group on Countering the Proliferation of Weapons of Mass Destruction in the Asia Pacific
 Date published: February 2012
- Memorandum No.18 – Implementing the Responsibility to Protect (RtoP)
 Author: Study Group on the Responsibility to Protect (RtoP)
 Date published: September 2011
- Memorandum No.17 – Promoting the Peaceful Use of Nuclear Energy
 Author: Study Group on Countering the Proliferation of Weapons of Mass Destruction in the Asia Pacific
 Date published: June 2011
- Memorandum No.16 – Safety and Security of Offshore Oil and Gas Installations
 Author: Study Group on Safety and Security of Offshore Oil and Gas Installations
 Date published: January 2011
- Memorandum No.15 – The Security Implications of Climate Change
 Author: Study Group on the Security Implications of Climate Change
 Date published: July 2010
- Memorandum No.14 – Guidelines for Managing Trade of Strategic Goods
 Author: Export Controls Experts Group (XCXG)
 Date published: March 2009
- Memorandum No.13 – Guidelines for Maritime Cooperation in Enclosed and Semi-Enclosed Seas and Similar Sea Areas of the Asia Pacific
 Author: Study Group on Facilitating Maritime Security Cooperation in the Asia Pacific
 Date published: June 2008
- Memorandum No.12 – Maritime Knowledge and Awareness: Basic Foundations of Maritime Security
 Author: Study Group on Facilitating Maritime Security Cooperation in the Asia Pacific
 Date published: December 2007
- Memorandum No.11 – Human Trafficking
 Author: Study Group on Human Trafficking
 Date published: June 2007
- Memorandum No.10 – Enhancing Efforts to Address Factors Driving International Terrorism
 Author: Study Group on Enhancing the Effectiveness of the Campaign Against International Terrorism with Specific Reference to the Asia Pacific Region
 Date published: December 2005

- Memorandum No.9 – Trafficking of Firearms in the Asia Pacific Region
Author: Working Group on Transnational Crime
Date published: May 2004
- Memorandum No.8 – The Weakest Link? Seaborne Trade and the Maritime Regime in the Asia Pacific
Author: Working Group on Maritime Cooperation
Date published: April 2004
- Memorandum No.7 – The Relationship Between Terrorism and Transnational Crime
Author: Working Group on Transnational Crime
Date published: July 2003
- Memorandum No.6 – The Practice of the Law of the Sea in the Asia Pacific
Author: Working Group on Maritime Cooperation
Date published: December 2002
- Memorandum No.5 – Cooperation for Law and Order at Sea
Author: Working Group on Maritime Cooperation
Date published: February 2001
- Memorandum No.4 – Guidelines for Regional Maritime Cooperation
Author: Working Group on Maritime Cooperation
Date published: December 1997
- Memorandum No.3 – The Concepts of Comprehensive Security and Cooperative Security
Author: Working Group on Comprehensive and Cooperative Security
Date published: December 1995
- Memorandum No.2 – Asia Pacific Confidence and Security Building Measures
Author: Working Group on Confidence and Security Building Measures
Date published: June 1995
- Memorandum No.1 – The Security of the Asia Pacific Region
Author: CSCAP
Date published: April 1994