Protected Area Gap Analysis in the ASEAN Region

Southeast Asia is endowed with rich natural resources that provide food, shelter, clothing and other biological goods and ecosystems services to over 500 million people. These vast resources, however, are facing serious threats due to human activities and natural calamities. In Southeast Asia, the establishment of protected areas (PAs) had long been used as a means to safeguard the regions natural wealth, as well as regulate their uses. Over the years, the number of protected areas has increased both in the terrestrial and marine realms. However, results of various assessments conducted by ASEAN Member States (AMS) revealed that in spite of increased areas of protection, the loss of biodiversity has not been effectively addressed.   The establishment of protected areas was offi cially adopted by the Convention on Biological Diversity (CBD) through its Programme of Work on Protected Areas (PoWPA) during the Seventh Meeting of the Conference of the Parties (COP 7) in 2004, as a means to reduce biodiversity loss worldwide by at least 10 percent. The programmes overall objective is for CBD Parties to establish and maintain a comprehensive, effectively managed and ecologically representative system of protected areas by 2010 for terrestrial areas and by 2012 for marine areas.

This goal is carried over through CBDs Strategic Goal 2020 with a new target of conserving at least 17 percent of terrestrial and inland waters, and 10 percent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services. It is envisioned that these areas will be conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures. Special focus is given to integrating them into the wider landscapes and seascapes.

With the new targets set for 2020, the need to assess the performance of existing protected areas and identify gaps in implementation is of utmost importance in Southeast Asia. The CBD technical document on Closing the Gap developed by Dudley and Parish (2006) espouses the conduct of gap analyses for terrestrial and marine protected areas. The gap analysis method identifi es biodiversity resources such as species, ecosystems and ecological processes, not adequately conserved within a protected area network or through other effective and longterm conservation measures. The gap analysis framework recommends six steps:

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- Identify focal biodiversity and set key targets
- Evaluate and map the status of biodiversity
- Analyze and map the occurrence and status of protected areas
- Use information to identify the gaps (e.g., representation, ecological and management gaps)
- Prioritize gaps to be fi lled

-   Agree on a strategy and take action

1. This Gap Analysis on Protected Areas Report for Southeast Asia was conducted by compiling the gap analysis assessments conducted by AMS including Cambodia, Indonesia and Viet Nam for terrestrial PAs and Cambodia, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam for coastal and marine PAs. The gap analyses conducted by these countries followed the six steps recommended by Dudley and Parish (2006). To address the absence of information in other AMS which have not yet conducted their gap analysis activities, this report also looked into some global datasets such as the:

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-   World Database on Protected Areas (WDPA) produced by the United Nations
-   Environment Programme World Conservation Monitoring Centre (UNEP-WCMC);
-   Key Biodiversity Areas (KBAs) as sites of global signifi cance for biodiversity conservation;

-   Alliance for Zero Extinction (AZE) sites monitored by an alliance of 52 biodiversity conservation organizations to prevent extinctions by identifying and safeguarding key sites meeting the criteria on endangerment, irreplaceability and discreteness;
-   Important Bird Areas (IBA) Programme of BirdLife International which represents the most signifi cant sites for biodiversity conservation;
-   Wetlands of international importance monitored by the RAMSAR Convention on Wetlands; and
-   Red List of Threatened Species generated by the International Union for Conservation of Nature (IUCN).

GAP RESULTS HIGHLIGHTS   Terrestrial Ecosystem   Almost a quarter (24 percent) of the total forest areas in the ASEAN region have been declared as protected areas, meeting the percentage area requirement of CBDs PoWPA target of at least 10 percent of ecologically signifi cant terrestrial areas ecologically managed and protected by 2010. Closer analysis, however, reveals that 34 percent of the total KBAs comprising 603,700 square kilometers remain unprotected, interpreted in this report as representation gaps. Sixteen percent of the areas are partially protected, representing ecological gaps.

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The adequacy of managing half of the protected KBAs, which fall within protected areas, is uncertain as indicated by a steady decline of forest areas despite the increased protected area declarations in the region. The effective management of these protected areas and the species found in critical habitats, thus, remains a challenge. Management gaps in these protected areas relate to management approaches, governance types and management effectiveness. All of these gaps would need to be addressed to be able to effectively meet (not only in area coverage but effective protection, as well) the regions commitment to CBDs PoWPA.

Marine Ecosystems

Based on aggregate current information sourced from the World Database on Protected Areas (WDPA) and marine protected area gap analysis reports of AMS, Thailand registered the highest percentage of marine area protected at 4.4 percent, followed by Philippines (2.5%), Malaysia (2%), and Indonesia (2%). Viet Nam (1.71%), Brunei Darussalam (1.4%) and Singapore (1.4%) had a little over one percent each of their respective marine protected areas while Myanmar has the smallest marine protected area coverage with only 0.31 percent. Consequently, out of the 82 marine KBAs (MKBA) identifi ed in the region, 78 percent remain unprotected, indicating a signifi cant representation gap. Ten percent are partially protected, signifying an ecological gap in the marine protected areas managed. Only 12 percent of the MKBAs are under protection but management concerns remain to be an issue.

Trend information indicated a steady increase in the proportion of marine protected areas against the territorial waters of the ASEAN Member States at an average annual growth of fi ve percent from 1990-2000 and a modest 0.5 percent from 2000 to 2009 (WDPA data). However, a decline in the quality and quantity of its mangrove, seagrass and coral reef habitats were noted. In 2007, data from the Food and Agriculture Organization showed a steady decline of 1.06 percent per year in mangrove forests between 1980 and 2005 even though the proportion of protected mangrove areas exceeded CBDs target at 15 percent .

Protection of the remaining mangrove forests needs to be scaled up to address impending negative impacts such as extinction of associate species, reduced fi shing production, and other activities and functions associated with the use of mangrove resources. This also applies to coral reefs and seagrasses which are continuously threatened by drivers of marine biodiversity loss such as habitat change, the impact of climate change, over-exploitation, and pollution.

For seagrasses, the aggregate protection areas fell below the 10 percent target at 8.33 percent protection. Only Thailand and Indonesia surpassed the 10-percent target at 35 percent and 17 percent, respectively. Cambodia, the Philippines and Viet Nam fell short of the 10-percent mark. There is a need to expand the reach of information coverage on the conservation and economic values of seagrasses in the region to increase appreciation and conservation efforts for this ecosystem. Their nursery function for various fishes and invertebrate larvae makes this ecosystem an important resource for inclusion in conservation plans and establishment of marine protected areas.

For coral reefs, about 14 percent of the coral reef areas are protected, thus meeting the CBD target. A closer look into individual country performance in protecting their coral ecosystems indicated rigorous conservation activities in Thailand, Indonesia and Viet Nam whose protection ratio exceeded the ten-percent CBD target. In Brunei Darussalam, Cambodia, Malaysia, Myanmar and the Philippines, protection activities remain to be a challenge.

RECOMMENDATIONS

The following measures are recommended to aid AMS in meeting their commitments to the CBDs Programme of Work on Protected Areas:

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- Encourage and support the periodic conduct of gap analyses to monitor the progress of conservation initiatives
- Move forward, strategically through the collection of species information and establishment of interoperable data to facilitate exchange and analysis of information.

- This also includes updating of terrestrial and marine KBA identifi cation, delineation and prioritization process to determine gaps in representation.
- Recognize and fi ll the gaps by streamlining institutional responsibilities and national protected area-related legislation, continuing provision of support to existing PAs, establishing the PAs in the right places, and strengthening public awareness and capacities on protected area management.

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-   Scale up efforts by determining connectivity of PAs for the creation of science-based network of PAs in the region, as well as encouraging and building regional capacity for strategic species inventories and PA management.

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