

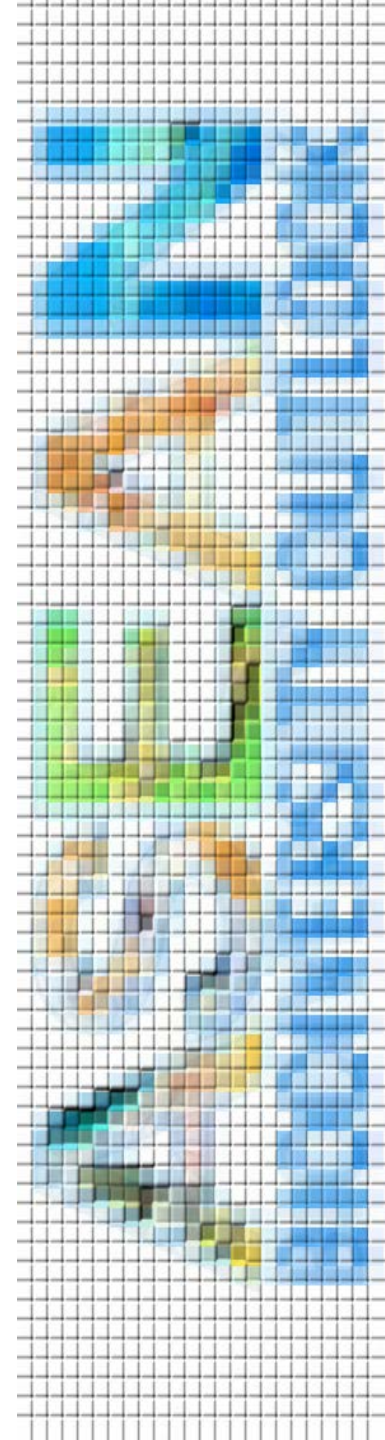
Looking Back

In 2010, the first edition of the ASEAN Biodiversity Outlook (ABO1) provided the baseline for the forthcoming series of ABO reports and identified the drivers of biodiversity loss

ABO1 emphasized that current efforts were inadequate to curb the negative impacts of such drivers.

It reported that the region was losing its biodiversity at an alarming rate at the same time that the Global Biodiversity Outlook 3 (GBO3) reported that the world failed to meet its target to significantly reduce biodiversity loss.

ABO2, now guided with the indicators associated with the Aichi Targets, will look into how the AMS have responded to these drivers of biodiversity loss from 2011 through 2016.



Where we left off in 2010

**Drivers of
Biodiversity
Loss**



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graph LR; A[Drivers of Biodiversity Loss] --- B[Habitat Change]; A --- C[Climate Change]; A --- D[Over Exploitation]; A --- E[Invasive Alien Species]; A --- F[Pollution]; A --- G[Population / Poverty]
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Habitat Change

Climate Change

Over Exploitation

Invasive Alien Species

Pollution

Population / Poverty



The ASEAN Biodiversity Outlook 2nd Edition (ABO2)

flagship publication of the ASEAN Centre for Biodiversity (ACB) that showcases efforts and developments on biodiversity conservation in the ASEAN region for the period 2011-2015

- first edition of the ABO (ABO-1) was launched at CBD COP 10 in Nagoya, Japan.
- Approached through the Pressure – State – Response framework
- Referred from 5th National Reports and other relevant sources
- Presented through
Short Narratives Case Studies Infographics
- Peer reviewed by a
PRG, ACB SAC, AWGNCB and GB

ABO2

Chapter 1.
Progress in ASEAN's Efforts
towards achieving the Aichi
Targets: 5NRs, Aichi Traffic
Lights

Chapter 2.
ASEAN Biodiversity in a
Changing Environment

ABO2
Outline

Chapter 3.
Enhancing implementation:
ASEAN's priority actions to
achieve the Aichi Targets

Chapter 4.
The ASEAN Biodiversity
Outlook: 2020 and Beyond

Chapter 1.

**Progress in ASEAN's Efforts towards
achieving the Aichi Targets:
5NRs, Aichi Traffic Lights**



Brunei Darussalam

Academic sector has begun to estimate the monetary values of environmental services, although this is not yet integrated into the national accounting system.

In the forestry sector, sawmill companies invest in more efficient wood processing techniques. Proper market-based incentives are being studied.

There is active implementation of biodiversity awareness programmes at all levels of society with significant private sector participation.

Forest reserves will be increased from 41% to 55% of the total land area.

Efficient fish culture farms and marine protected areas have been established.

The management of agriculture, fishery and forestry are placed under the Ministry of Industry and Primary Resources to ensure that issues among these sectors are addressed.

Use of inorganic fertilizers in the country is highly regulated, and use of organic fertilizers is encouraged.

Studies of invasive alien species have increased and government has strengthened its quarantine service.

Environmental Impact Assessment System is in place to mitigate adverse impacts on coastal and marine ecosystems.

Conserved areas are monitored and will be increased.

Livestock breeding centers and genebanks conserve genetic resources of farm animals and crops.

Threatened species are protected by law and conserved in collaboration with scientific and academic communities.

A Biodiversity Law to consolidate all biodiversity regulations and ensure effective implementation of the NBSAP is under development.

The Brunei Tropical Biodiversity Centre and Brunei Agro Technology Park undertake related research for biodiversity conservation and management. Field expeditions and collaborations help expand the knowledge base and increase capacity.

Laws protect vital ecosystems and recognize the rights and roles of local and indigenous communities.

Timber harvesting and related utilization of forest resources inside the country's peat swamp forests are not allowed.

Local and traditional knowledge, innovations and practices are widely recognized and integrated into resource management regulations.

Financing and implementation of biodiversity strategies are stipulated in Wawasan 2035.

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Efforts are ongoing to develop more communication, education, and public awareness materials to change and educate stakeholders.

Strategic plans are in place to reduce habitat loss and deforestation, to restore degraded ecosystems, to increase conservation areas, to strengthen law enforcement; and to monitor biodiversity conservation efforts.

Harvest from agriculture, aquaculture, and forestry has been sustainably practiced and increased. Areas of land for agriculture, aquaculture and forestry have been improved and sustainably managed.

Solid waste management programs are decentralized to sub-national level, water quality monitoring and education on pollution issues are integrated into sub-national workplan.

List of threatened species has been updated and ground efforts are in place to protect endangered species. National Biodiversity Status Report has been updated and identified trend of biodiversity throughout the country.

Ecosystem Services are being accessed and Payment for Ecosystem Services (PES) has been identified as priority action and pilot in some areas. Ecosystem resilience and the contribution of biodiversity to carbon stocks have been promoted and piloted through REDD+.

Cambodia National Clearing-house Mechanism (CHM) and Biosafety Clearing-house Mechanism (B-CHM) have been developed and maintained.

Biodiversity incentive and PES schemes are being considered to develop and assess for pilot.

Illegal fishing is reduced and other relevant legislations are effectively implemented; fish sanctuaries have increased and effectively managed and level of aquaculture fish yield increase 15% annually.

Mangrove restoration areas increased. Location of coral reef and its vulnerable ecosystem has been determined and consider to be designated as PA.

The roadmap and strategic framework of genetic and species diversity is being developed and planned to implement in some location subject to fund availability and technical support from development partners.

National Biodiversity Strategy and Action Plan (NBSAP) has been updated, published and mainstreamed into related sectoral plans. The strategies and actions identified in NBSAP are mainly based on updating National Biodiversity Status Report.

Sources of funds from government and development partners for conserving biodiversity have been mobilized.

Authorities are addressing issues related to lost crop varieties, utilization of agricultural pesticides. Legislations and other initiative programs supporting sustainable development have been established and implemented.

Cambodia





Indonesia



Program Assessment on Corporate Performance Ranking in Environmental Management (PROPER) encourages companies to comply with environmental regulations.

Invasive alien species have been identified and inventoried; IAS management strategies have been documented; and government has developed a draft IAS strategy and action plan.

For 2014-2019, the government aims to boost the population of 25 endangered species, including buffalo, Javan rhino, Sumatran tiger, Sumatran elephant, Roussa pig, anoa, Javan gibbon, orangutan, proboscis monkey, komodo dragon, Bali starling, maleo, Javan eagle, and small yellow crested caccatua. 25 botanical gardens have been established to conserve plant species.

Forest protection and rehabilitation contribute to significant reduction of greenhouse gas emissions and the Directorate General of Watershed Management and Social Forestry states the area of forest rehabilitation has continuously increased from 2010 to 2013.

Completion of the Indonesia Biodiversity Information Facility will make biodiversity information interoperable and facilitate information exchange across the country.

A strategic plan is being developed for resource mobilization under the Biodiversity Finance Initiative.

Source: Indonesia Fifth National Report to the CBD

Awareness programs target all stakeholders from students (e.g. Biodiversity Warrior Program) to the government (Satuan Karya Kalpataru).

The National Long-Term Development Plan (2005-2025) enhances biodiversity conservation as a foundation for development.

"Towards Green Indonesia Program" provides incentives to districts with programs that excel in conservation and environmental damage control. There are also incentive programs for greenhouse gas emission reduction, biodiversity conservation, and community development.

Government is supporting organic agriculture. 8 organic certification institutions have been established; certified organic agriculture areas have reached 90,135.30 ha.

Rehabilitation of conservation forests, city forests, mangroves and critical lands has reached 2.5 million hectares.

Fisheries protection is implemented through the National Action Plan for prevention and anticipation of Illegal, Unreported, and Unregulated Fishing (IUU Fishing 2012-2016).

Law of the Republic of Indonesia number 41 year 2009 on the Protection of Sustainable Agriculture Land for Food was established. The law provides for programmes to enhance sustainable use of biodiversity in cities and villages through models of sustainable housing and food (production) areas (m-KRPL).

As of 2014, Indonesia has 571 Conservation Areas and 4.5 million ha of marine conservation areas are sustainably managed.

Indonesian Institute of Sciences coordinates projects on coral reefs, which have improved from 1993 to 2013.

The National Development Program of Parent Seed Garden is the repository for genetic resources. 19 Provincial Commissions and 2 Municipalities/District Commissions for Genetic Resources have been established. The Division of Plant Variety Protection also collects and preserves genetic material.

Million tree planting program has exceeded its target with 1,815,180,535 trees planted by 2013 to protect forest resources, ensure water quality, prevent erosion and pollution and combat impacts of climate change.

A strategic plan has been developed for implementation of the Indonesia Biodiversity Strategy and Action Plan 2015-2020.

Database related to Genetic Resources, Traditional Knowledge and Folklore has been developed through law on sustainable use of traditional knowledge and folklore. Numerous books have been published on useful and medicinal plants.

The Carbon Fund Emission Reduction Programme aims to restore forest lands.

Source: Indonesia Fifth National Report to the CBD



Lao PDR

Environmental awareness has been promoted through outreach activities, media training and environmental journalism, development of environmental curriculum and capacity building for government staff.

Biodiversity values have been integrated into strategies and policies on urban and land use planning, disaster, and climate change, compensation and resettlement, natural resource and environmental management, human resources and tourism. Other efforts include revisions in the National Strategy on Environmental and Climate Change Education and Awareness 2016-2030 and social and environmental impact assessments and development of Decree on Strategic Environment Assessment (SEA), Environmental Compliance Certificates, National Master Land Use Plan, environmental management units, criteria for sustainable cities, and guidelines for national land use and integrated spatial planning.

Legislation and agreements on environmental and forest conservation and timber harvesting are being revised. Initiatives are in place to promote the conservation and sustainable use of biodiversity. Payment for Ecosystem Services, Village Forest Management Agreements, support livelihood and community development; engage local people in biodiversity monitoring; and advance efforts in Reducing Emissions from Deforestation and Forest Degradation.

Village forest planning and management and community forest programs are being implemented and promoted. There is ongoing re-delineation of forest areas. An improved Participatory Forest and Land Use Planning, Allocation and Planning Process is being implemented to stabilize upland land use, prevent habitat loss, and rejuvenate forest habitat. The Forest Law Enforcement Governance and Trade process has been established. Provincial Law Enforcement Action Plan has been officially endorsed. 15 of 24 national protected areas now have management plans and two Rare/rit sites have been established.

Integrated Water Management Plans have been developed for 10 priority river basins.

The revised Water Law provides guidelines for avoiding negative socio-economic and environmental impacts. Research priorities for water bodies, watersheds, and aquifer recharge areas have been identified and a centralized pollution database covering solid waste, hazardous material, soil pollution, air and noise emissions, and wastewater has been made for six targeted cities. Research projects are being developed which focus on risks and impacts of pesticide use in agriculture in northern Lao PDR.

Improved forest management plans, committees and community-based patrolling of community forests, co-management of protected areas agreements and management, effective assessments are being implemented. Law enforcement, priority sites zoning and SMART system training has been conducted. There are increasing efforts in capacity building and education of protected area staff. State forest lands are being re-delineated to improve management and representativeness of ecosystems.

The Biotechnology Safety Law has been approved and the National Policy on Rice Production for Food Security has been drafted. Research has been conducted on relevant taxa including wild mushrooms, medicinal plants and orchids, indigenous rice varieties and fungi diversity. The Ecology and Biotechnology Service Centre has been established and the Biotechnology and Ecology Institute, demonstration gardens and ethno-botanical plots serve as repositories for ex situ conservation. Various activities are in place to promote agro-biodiversity.

A range of public awareness, information sharing, and capacity building activities have been undertaken to promote the Nagoya Protocol and the National ABS Framework.

The National Biodiversity Strategy and Action Plan (NBSAP) 2016-2025 is being finalized. Technical Groups to monitor NBSAP activities and a National Steering Group for the Convention on Biological Diversity have been created. A Sub-Sector Working Group on Agro-Biodiversity has been established.

Source: Lao PDR Fifth National Report to the CBD

Organic farmer's markets have been promoted, a Lao Certification Body and procedures for organic certification have been established and a National Steering Committee for forest law enforcement has been implemented. There have been improvements in mining legislation and licensing systems; systems of villager generated quotas for non-timber forest products (NTFPs) extraction; and assessments of aquifer recharge.

The Aquatic Resources Law has been developed. There is increasing research to improve fishery management practices and prevent fishery declines and support for breeding and distribution of indigenous fish species. Fish conservation zones and regulations and appropriate aquaculture systems have been established and improved.

Research has developed control measures for identified invasive plant and animal species. Improved regulations protect crops and livestock in priority areas, and the Biotechnology Safety Law has created opportunities to train government, while addressing Biosafety issues.

Efforts have been made to classify the status of threatened wildlife and plant species. Wildlife surveys and population assessments have been carried out and action plans have included critical species for conservation. Law enforcement strategies, priority site zoning for patrolling systems and countermeasures against timber and wildlife illegal trade have been improved with enhanced capacity collaboration with Wildlife Enforcement Networks and other projects, and new technologies and approaches. A National Ivory Action Plan for Lao PDR 2015-2016 has been adopted.

A number of biodiversity monitoring technologies have been adopted to identify threats and trends and on the protection and restoration interventions. There has also been an emphasis on biodiversity with the creation of the Lao Information Sharing and Biosafety Clearing House (ISCH) and the promotion of the Biosafety Law.

Funding sources for biodiversity conservation include the Environment Protection Fund, Forest Resource Development Fund, World Bank, Global Environment Facility, ecotourism and payment for ecosystem services.

Source: Lao PDR Fifth National Report to the CBD



Public awareness and education are integrated in the implementation of various multilateral agreements.



Accession to international treaties facilitate the mainstreaming of biodiversity values into legal and institutional frameworks.



Malaysia developed the National Green Technology Policy so that green technology will accelerate the national economy while promoting sustainable development.



Malaysia

Malaysia is implementing the "Sustainable Consumption and Production (SCP) Policy Support Malaysia 2012-2016", which aims to formulate the SCP Policy Blueprint as input to the 11th Malaysia Plan (2016-2020).



The Central Forest Spine Master Plan ensures maintenance of ecosystem services. More areas continue to be set aside for conservation.



Following the Malaysian National Plan of Action, legislative and regulatory frameworks are in place to implement an Ecosystem Approach to Fisheries Management.



The National Agro Food Policy recognizes the importance of biodiversity and highlights sustainable agriculture development as one of its key thrusts.



The Environmental Quality Act 1974 regulates soil and water pollution and other prohibitions.



The National Action Plan on the Prevention, Eradication and Containment of Invasive Alien Species in Malaysia aims to prevent the introduction of, and control or eradicate alien species that threaten ecosystems, habitats and species.



The creation of sanctuaries for the conservation of high value commercial species threatened with extinction ensure their survival.



The country implements the Malaysian National Plan of Action for the Coral Triangle initiative to maintain the integrity of valuable marine ecosystems.



Malaysia works with the International Maritime Organization and other countries on the designation of Particularly Sensitive Sea Areas, which require special protection because of recognized ecological, socioeconomic, or scientific attributes and vulnerability to damage by international shipping activities.



Sabah and Sarawak have developed state legal frameworks and facilities in relation to Access and Benefit Sharing and Traditional Knowledge, including the establishment of the Sarawak Biodiversity Council and the Sarawak Biodiversity Centre.



Accession to the International Treaty on Plant Genetic Resources for Food and Agriculture helps ensure the protection of local plant varieties.



Master plans for the protection of various sites in the country contribute to restoration and protection of important ecosystems and services.

The National Policy on Biodiversity was reviewed as input to the National Biodiversity Strategy and Action Plan.



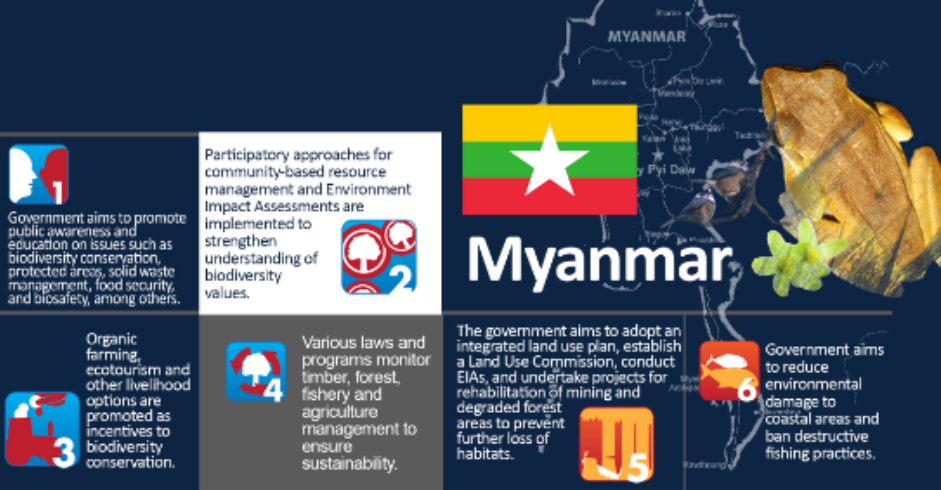
The Malaysia Clearing House Mechanism has been established and frequently updated with an interactive and interoperable species database.



Malaysia is a member of the Biodiversity Finance Initiative and has allocated funds for various biodiversity conservation projects.



The National Biodiversity Strategy and Action Plan is being implemented with the participation of multiple stakeholders.



Myanmar

Government aims to promote public awareness and education on issues such as biodiversity conservation, protected areas, solid waste management, food security, and biosafety, among others.



Participatory approaches for community-based resource management and Environment Impact Assessments are implemented to strengthen understanding of biodiversity values.



Organic farming, ecotourism and other livelihood options are promoted as incentives to biodiversity conservation.



Various laws and programs monitor timber, forest, fishery and agriculture management to ensure sustainability.



The government aims to adopt an integrated land use plan, establish a Land Use Commission, conduct EIAs, and undertake projects for rehabilitation of mining and degraded forest areas to prevent further loss of habitats.



Government aims to reduce environmental damage to coastal areas and ban destructive fishing practices.



Implementation and monitoring of management plans, stronger law enforcement, improved buffer zone management, bans on illegal and unsustainable harvesting practices, biodiversity surveys and research aim to improve sustainable management of agriculture, aquaculture and forestry resources.



Pollution will be addressed through implementation of Environmental Impact Assessments; efficient sewage and wastewater treatment systems; monitoring of air, water and soil quality; increased capacity of relevant personnel; education and public awareness on pollution issues; and collaboration with international organizations and other countries on development of clean technologies.



Survival of vulnerable species will require effective law enforcement; greater ex situ conservation through botanical gardens and zoos; studies of priority species; surveys of biodiversity status; monitoring of the implementation of biodiversity strategies and action plans; support from local communities; and collaboration with international conservation organizations.



Myanmar aims to collaborate with other countries to monitor impacts and management of invasive alien species.



Measures to protect coral reefs include a ban on destructive fishing practices; regular patrols and effective law enforcement; community-based fisheries management; establishment of coastal and marine research centers; and promotion of sustainable fisheries management.



Biodiversity surveys, studies of priority species, and support of local communities will increase protection of critical and vulnerable ecosystems.



Stronger ex situ conservation; technical extension services for farmers on sustainable food production; studies on genetic diversity and conservation of crops and livestock; promotion of organic farming and certification; capacity building and development of gene banks; and greater public awareness will highlight the significance of genetic diversity.



Effective environmental protection and restoration will require multi-stakeholder support and participation; benefit sharing mechanisms; introduction of buffer zone management; introduction of ecotourism and livelihood options that will benefit local communities.



Sustainable forest management; rehabilitation and protection of critical watersheds; land use planning; sustainable agriculture; and reclamation of mining areas will help increase carbon storage and strengthen ecosystem resilience.



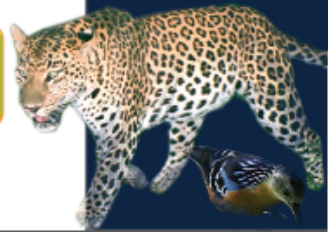
The NBSAP is being updated with the help of the International Union for Conservation of Nature to include provisions on sustainable financing for biodiversity conservation.



The National Biodiversity Strategy and Action Plan is being implemented with the participation of multiple stakeholders.



Local and indigenous communities will benefit from participation in buffer zone management in protected areas; benefit sharing programs; and legislative support.



Myanmar is monitoring the progress of the implementation of the country's Clearing House Mechanism.



Malaysia is a member of the Biodiversity Finance Initiative and has allocated funds for various biodiversity conservation projects.





Philippines

Special attention has been paid to balancing conservation and the economic needs of local communities. Assessments of biodiversity-friendly livelihoods in eight demonstration sites and trainings on the value chain have been conducted under the Partnerships for Biodiversity Project. Development partners such as the UNDP-GEF Small Grants Program, Foundation for the Philippine Environment and the Philippine Tropical Forest Conservation Foundation have been providing support for sustainable biodiversity-friendly livelihood initiatives of people's organizations and local communities.

68 Protected Area Community-based Management Agreements occupying a total area of 38,138.32 hectares has benefited 5,457 households and 15,568 individuals in 21 protected areas. Majority of these households engage in agriculture-related activities.

Legislation has been implemented to protect islands and island passages that are considered irreplaceable and critical habitats for biodiversity including Mindoro, Palawan, Verde Island Passage Marine Corridor and Sulu Sulawesi Marine Ecoregion. Under Decree Order 79 (2012), island ecosystems are among the "No-Go Zones", which are considered closed to mineral contracts, concessions, and agreements.

Various programs focus on ensuring the protection, conservation and sustainable use of watersheds, including the Department of Environment and Natural Resources River Basin Central Office-led preparation of river basin master plans of 16 major river basins. The National Convergence Initiative of various government departments aims to improve, conserve, protect and rehabilitate natural resources and targets 100 watersheds, many of which are outside priority river basins.

The Indigenous Peoples Rights Act (IPRA) of 1997 gives IPs the rights to cultural identity, full ownership and protection of their cultural and intellectual rights; and restitution of any cultural, intellectual, religious and spiritual property that have been taken without their consent (Sec. 32). A Free, Prior Informed Consent is required for activities that may affect spiritual and religious traditions, customs and ceremonies, including the conduct of research on Indigenous Knowledge Systems and Practices.

The communication education and public awareness plan drafted in 2012 is being updated to reflect the increased scope of the Biodiversity Management Bureau and new donor funded projects.

The Philippine Environment Partnership Program recognizes industry organizations and associations that self-regulate and demonstrate superior environmental performance. 57 individual firms have been awarded with a DENR Official Seal of Approval for going beyond compliance and exemplary performance. The Protected Area Recognition Awards recognizes PA Superintendents and staff for impressive efforts, initiatives and innovative practices. Various economic instruments have also been established to encourage conservation and management.

Efforts to reduce loss of natural habitats include a moratorium on the harvesting of timber in natural and residual forests; National Greening Program (which aims to plant 1.5 billion trees from 2011-2016); and reforms in the mining sector.

The draft National Invasive Species Strategy and Action Plan (NISASP) aims to provide an enabling policy and institutional framework for coordinated and multi-sectoral management of invasive alien species.

Critical habitats were created to afford protection of threatened species. To date, seven critical habitats (CH) covering about 100 km were established. These are the Las Pitas - Pararique CH, Cakouas Wetland CH, Rafflesia schadenbergiana CH, Malas Tree Park and Wildlife Sanctuary CH, Carmen CH, Adams Wildlife CH and Magaysay CH for the Hawkbill Turtle.

The Philippines acceded to the Nagoya Protocol through Senate Resolution No. 85 adopted on 25 May 2015.

National Clearing House Mechanism activities are being mainstreamed into regular operations. The Biodiversity Management Bureau is collaborating with the ASEAN Centre for Biodiversity to improve the interoperability of the species and protected areas databases.

Biodiversity conservation values are being integrated in national and sectoral development plans.

Coastal and marine conservation issues are managed through the implementation of the Coral Triangle Initiative; National Integrated Coastal Management Program for Sustainable Development of the Coastal and Marine Environment and Resources of the Philippines; and Sustainable Coral Reef Ecosystems Management Program, among others.

The Global Environment Facility - Food and Agriculture Organization Project on Globally Important Agriculture Heritage Systems has contributed to increase awareness of the importance of agrobiodiversity and recognition of traditional crop varieties and livestock breeds and conservation programs. The Program to Restore Natural Germplasm of the University of the Philippines Los Baños and Department of Science and Technology aims to restore crop diversity and develop new in-vitro conservation strategies.

The Philippines Biodiversity Strategy and Action Plan 2015-2028 provides the road map for biodiversity conservation in the country.

Funding for conservation, such as the Integrated Protected Areas Fund and Wildlife Management Fund, are established through various environmental laws. The Philippines is part of the Biodiversity Financing Initiative (BDFI) through which finance solutions, such as budget realignment, private sector engagement, increased access to sea-marked funds and exploring new finance mechanisms, are being undertaken.



In Singapore, many different organizations and nature interest groups have been conducting outreach activities targeted at the community. These include guided walks, seminars, workshops, exhibitions and competitions to engage the public and increase appreciation of biodiversity among Singaporeans. Some examples include:

- Community in Nature Initiative - an NParks initiated movement to engage different groups in the community to conserve Singapore's biodiversity by bringing together all of NParks' nature-related events, activities and programmes under a single umbrella.
- Festival of Biodiversity - an annual signature community outreach event organised by NParks in collaboration with the Biodiversity Roundtable (a group of stakeholders within the nature community) for the conservation of Singapore's natural heritage. The festival is held over one weekend in a shopping mall, to reach out to those who are unlikely to actively go to natural areas.

Under the Species Recovery programmatic thrust of NParks' Nature Conservation Master Plan, threatened species are identified and prioritised based on endemism, conservation status and habitat range. This will help to guide actions towards increasing populations of the species identified. Various species conservation and recovery programmes are in place, such as the plant clam restocking programme and the freshwater crab conservation working group, for the Singapore freshwater crab (Johora singaporensis). NParks also propagates rare native plants for reintroduction into their natural habitats.

Access and Benefit Sharing processes for non-commercial research is well established, and the policy for commercial research is currently being reviewed. Singapore is not yet a Party to the Nagoya Protocol, but national consultations are currently ongoing to consider if Singapore should accede to the Protocol.

Singapore's NBSAP is currently undergoing review and national targets are being developed. In addition, NParks' Nature Conservation Master Plan is intended to support the implementation of Singapore's NBSAP.

Knowledge of the biodiversity of Singapore is gained primarily through academic research, and this is facilitated through the research permit system of NParks. The information from this research is then disseminated to managers of the areas with biodiversity, to be incorporated into the way the sites are managed. Biodiversity related information is collected and managed, and tools are developed to analyse the data in order to provide timely and relevant information to policy and decision makers. Biodiversity related information is then disseminated using the various initiatives under Strategy 2 - Enhance Education and Public Awareness. Events such as the Festival of Biodiversity are very useful in communicating information on biodiversity to the general public.

NParks' vision of moulding Singapore into a City in a Garden is recognised at the highest levels, where the Prime Minister acknowledged the need to enhance greenery in Singapore in the 2011 National Day Rally speech. Detailed land use planning takes biodiversity into consideration with impact assessments required for development near Nature Areas (areas recognised under the Urban Redevelopment Authority's land use planning as having high biodiversity, to be retained for as long as possible). The Sustainable Singapore Blueprint (SSB) 2015 outlines our national vision and plans for a more liveable and sustainable Singapore, and incorporates targets in various sectors that track efforts in environmental protection such as green and blue spaces.

One of Singapore's strategies in the NBSAP is to Safeguard Our Biodiversity, and numerous measures have been taken to maintain or enhance natural areas and to increase habitat connectivity. Some examples of these measures are the recent addition of two new Nature Areas in January 2013 (Jalan Gemala and Pulau Ulu/Beting Bronok), and the development of the Sisters' Islands Marine Park announced in July 2014; measures to improve habitat connectivity include the Eco-Link@BKE, Nature Ways, Round Island Route, Park Connector Network and the Rail Corridor. Finally, restoration efforts at Nature Reserves and habitat enhancement in parks such as Bahan-Ang Mo Kio Park, Tampines Eco Green, Sungei Pandan and Pulau Ubin help to enhance existing habitats.

Various species conservation and recovery programmes are in place, such as the coral nursery and also the giant clam restocking project. Singapore designated the Sisters' Islands Marine Park, our first Marine Park, in 2014, which is intended to protect marine habitats and act as a protected area for species conservation programmes. Singapore also developed the Integrated Urban Coastal Management framework together with PEMSEA to encourage sustainable development of the coastal environment within an urban context.

Singapore has made great efforts to preserve native habitats intact, and to restore connectivity between patches to enhance ecosystem services. Vulnerable groups highlighted in the target are not reliant on biodiversity for their livelihoods in Singapore. The initiatives that contribute towards Aichi Targets 5 and 11 also contribute to the achievement of this target.

Ongoing reforestation programmes at Nature Reserves not only help to improve their resilience as ecosystems, the additional planting also contributes towards sequestration of carbon. In addition, various tree planting programmes outside of the Nature Reserves can also contribute to this target, e.g. Singapore's streetscape planting, including Nature Ways and Southwest Community Development Council's One Million Tree Planting Programme. Similarly, trees planted in habitat enhancement and restoration efforts in areas such as Pulau Ubin and Tampines Eco Green would also help. Singapore's efforts in actively greening her urban infrastructure in the form of vertical greenery and rooftop gardens as part of the City in a Garden vision also greatly increases the capacity of the urbanised areas to contribute to climate change mitigation.

Singapore's NBSAP Strategy 2 - Consider Biodiversity Issues in Policy and Decision-making is also relevant to this target, as the Sisters' Islands Marine Park and the two new Nature Areas (Jalan Gemala and Pulau Ulu/Beting Bronok) were designated under the Urban Redevelopment Authority's Parks and Waterbodies Plan, providing some administrative protection for these sites.

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Thailand

Biodiversity has been integrated in national and local plans and policies, such as the National Economic and Development Plan 2012–2016, and by the private sector through corporate social responsibility programs. There is a need to emphasize biodiversity to maintain genetic diversity and agricultural sustainability.



The Royal Forest Department has established the Model Community Forest Award, which recognizes the best application of local wisdom on and use of community forests. The Green Globe Award recognizes outstanding environmental conservation projects.



The National Biodiversity Strategy and Action Plan has measures to promote knowledge of and public awareness of biodiversity.



With forest cover at 31.57% of the total land area in 2013, the Master Plan on National Forest Resources Protection aims to allocate 40% of the total land areas to forests by 2024.



Sustainable fisheries strategies include control measures for particular gear during the spawning season; prohibition on trawling within 3,000 meters seaward; preservation zones for aquatic animals; introduction of community-based coastal governance; Memorandum of Understanding with fish processors to prevent purchase of raw materials from fishing vessels during the breeding season; and increase in fishnet mesh sizes to 4 cm.



Sustainable management of agriculture, aquaculture, and forestry resources need to be strengthened due to increasing land conversion and demand for food and raw materials.

Thailand aims to combat rising issues in pollution and solid waste management.



The government continues to study measures to control invasive alien species such as giant mimosa, water hyacinth and *Salvinia cucullata*, some of which are found in national parks.



There are various measures to protect the country's rich marine ecosystem, which includes 400 coral species, 12 seagrass species, 35 mangrove species, and large fauna such as sea turtles, dugongs, dolphins, whales and whale sharks.

At least 20% of marine and coastal areas have been designated as protected areas. There are 22 marine national parks and five Ramsar sites.



About 12 species of fauna in Thailand have become extinct and many more are on the brink of extinction. An ongoing campaign protects the rosewood, which is threatened due to its high market value. Other measures to protect species include collaborations with international organizations on wildlife trafficking; a Memorandum of Agreement with the Convention on Migratory Species to protect the dugong; protection of the Irrawaddy dolphin under the patronage of Queen Sirikit; and the "Return Wildlife to Heal the Forest" project, which raises 31 species of wild animals in breeding stations in 29 conserved forests.



Efforts to maintain genetic diversity include the collection of the germplasm of native rice varieties; certification of the pure line of three native rice varieties; and the Agricultural Development Strategy of the 11th National Economic and Social Development Plan 2012–2016, which stresses the growth of climate-resilient species.



Ecosystem rehabilitation is a growing issue as land conversion continues to degrade vital ecosystem services.



Various strategies promote reforestation and forest rehabilitation such as the Master Plan on Water Resources Management 2013-2017 and ASEAN Forest Project and Mangrove Forest Strategic Plan 2014–2018. Other programs that promote climate resiliency are the Low Carbon Municipality, Green City and pollution-free and sustainable city projects.



Although Thailand has yet to ratify the Nagoya Protocol, mechanisms are being set for its implementation.

Updated biodiversity plans include the National Biodiversity Strategy and Action Plan 2008–2012, 4th National Biodiversity Strategy 2015–2021 and Integrated Master Plan on Biodiversity Management 2013–2021.



Funds for biodiversity come from the national budget; Global Environment Facility replenishment funds on catalyzing Sustainability of Thailand's Protected Area System; and the GEF Small Grants Programme and other funding organizations.



The government recognizes traditional knowledge, innovation and practices of indigenous local communities; developed a database on traditional knowledge; and encourages community participation in natural resource management.



The Thailand Clearing House Mechanism is maintained at <http://chm-thai.onep.go.th/> and the NBSAP has an action plan on research and inventory of biodiversity.



Viet Nam

The government aims to strengthen inter-sectoral coordination between the environmental police, market management, customs, rangers, and fisheries authorities; community participation; and media particularly in wildlife law enforcement.



Legal documents, plans and policies and institutional structures will be reviewed to ensure the integration of biodiversity values.



Positive incentives for biodiversity conservation are being developed particularly to expand the protected area system.



There are ongoing awareness programs to prevent the use and consumption of wildlife products and eliminate wildlife trafficking in cooperation with organizations such as the ASEAN Wildlife Enforcement Network and Interpol.



A series of regulations to control commercial logging have been issued to reduce the loss of natural habitats.



There are increasing efforts to strengthen sustainable fisheries management to counter pressures to coastal and marine resources.



Sustainable economic development models are being developed to protect agriculture, aquaculture, and forestry areas.



Wastewater treatment systems and solid waste management programs are being monitored to reduce pollution from unsustainable agriculture, aquaculture and other industrial practices.

The government aims to implement a program to prevent and control invasive alien species up to 2020.



Sustainable management measures have to be developed and implemented to address alarming declines in the health and coverage of coral reef, seagrass, and mangrove ecosystems.



The protected area system has to be reviewed to address gaps in coverage and effective management.



Urgent measures must be undertaken to protect species due to increased pressures from habitat loss and fragmentation, wildlife trafficking, pollution, poor law enforcement, and other threats.

If not addressed, over-exploitation, natural disasters, outdated agricultural practices, population growth and urbanization, climate change and other pressures will undermine the genetic integrity of indigenous species.



Payment for Ecosystem Services; models for protected area management; access and benefit sharing mechanisms; and other measures are being established to maintain ecosystem services.



Viet Nam recognizes its vulnerability to climate change and is stepping up programs to develop climate resilient communities.



Biodiversity strategies are being studied to address overlaps in responsibilities and regulations between key agencies and a fragmented approach to law enforcement.



Alternative livelihoods for indigenous communities are under study to reduce pressures on natural resources.



There is a need to have systematic surveys on biodiversity; develop a national biodiversity database; and create formal mechanisms for information sharing. The National Clearing House Mechanism is not maintained. Viet Nam is currently working with the Japan International Cooperation Agency on establishing a database for select protected areas.

The National Biodiversity Strategy and Action Plan will include a priority to increase state investments in baseline resources for conservation to include biodiversity inventories, monitoring systems to track biodiversity changes, database systems for information sharing and exchange, capacity building for technical staff and other biodiversity conservation activities.



Aichi Targets Traffic Lights

Status of AMS Progress vis-à-vis the Aichi Targets



Most, if not all of the ASEAN Member States (AMS) have taken the necessary actions towards the achievement of this target, as part of national and local plans and programmes and have registered positive outcomes in the 5th National Reports (5NR) to the Convention on Biological Diversity (CBD).



At least half of AMS report that they have mobilized necessary actions towards the achievement of this target.





Less than half of the ASEAN Member States have mobilized initiatives leading towards the achievement of this Aichi Target and have not demonstrated related positive impacts.

....And the indicators provided by the Biodiversity Indicators Partnership

Goal A

Target 1		<p>Various types of campaigns promote awareness and understanding of biodiversity targeting the youth, government and non-government organizations and the private sector. Conflict of resource use and other threats reflect the lack of understanding of some sectors who remain uninformed and unconvinced. A regional CEPA strategy directed at a wider stakeholdership needs to be operationalized and champions for each of the Aichi targets need to be mobilized in each AMS.</p>
Target 2		<p>Half of the AMS have now recognized biodiversity values in their national development plans and other AMS are in various stages of reviewing national frameworks, policies and international treaties to consider the necessary alignments. There is need to expedite this process as several other Aichi Targets depend on the integration of biodiversity into national and local development plans and strategies.</p>

Goal A

<p>Target 3</p>		<p>Incentives for biodiversity-friendly performance recognize exemplary environmental performance of private corporations, for dedication, innovation and commitment of park staff, for model communities, and outstanding projects. Incentives have been incorporated into policy and in the implementation of projects. There is need to consider a review of subsidies harmful to biodiversity and scale up the utility of incentives to pursue the attainment of other Aichi Targets, reforms in policy to favor biodiversity friendly technology in agriculture and accelerate the region's transformation towards the sustainable energy era.</p>
<p>Target 4</p>		<p>National initiatives are reducing impacts on forests, demonstrated through sustainable use strategies and certifications, investments in enforcement of policies, reducing pressures through the diversification of livelihoods and promoting the concepts and practice of shared environmental care. The increase in population of the region has driven the increase of areas allocated to food, timber and natural resource production - imposing corresponding increases in harmful inputs and misuse of technology, indicating that the ASEAN region is overexploiting its natural resources. It is imperative that policies are reformed to make sure that all technology in the region is sustainable in the near future</p>

Goal B

Target

5



In aggregate, ASEAN forests continue to fragment and deplete, despite positive net changes attributed to reforestation efforts of some AMS. Challenges and illegal activities remain unresolved. Floods have become a reminder that natural resource extraction has exceeded its capacity to avert disasters. Despite upscaled efforts, forest cover continue to decline at the regional level indicating that current actions are inadequate to respond at the scale at which pressures and illegal activities persist. Enforcement capacities have to be significantly improved, monitoring and reporting systems enhanced and implemented with a renewed commitment, and extra-regional threats addressed in sync with Aichi Biodiversity Target 1.

Target

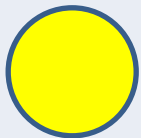
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National policies on gear and seasonal catch controls, conservation partnerships, and integrated land and sea use plans have been mobilized but IUU fishing is still prevalent in the region. Aquaculture appears to pick up the slack in marine capture fisheries but with significant environmental tradeoffs. The development of an ASEAN-wide strategy on sustainable fishing practices may be a means to address this.

Target

7



Forest encroachment, agricultural land conversion and heavy reliance on chemical production inputs threaten ecosystem services essential to the conduct of agriculture in the ASEAN region. Areas allocated to oil palm and rubber continue to increase and the proportion of agricultural land to total land area declines as the urban population of the region increases. There is a need to support and promote agro-ecological farming practices and pursue sustainable agricultural farm practices that employ farm certification schemes.

Goal B

Target

8



AMS have incorporated planned remediation measures in their National Biodiversity Strategy and Action Plans (NBSAPs), Despite legislation and actions being put in place, AMS report on the persistence of pollution. Biodiversity in inland aquatic, coastal and marine ecosystems at the receiving end are most at risk. A region-wide value change that promotes minimum waste, shared technologies from industry partners outside the region should be sustainable and wastes should not be exported to AMS for disposal

Target

9



AMS are aware of the existence of invasive alien species but there is a need to identify the pathways of their introduction, plans to prevent their establishment and agreed actions towards their planned eradication. NISSAPs are in place in Cambodia, Philippines and Indonesia; Malaysia has operationalized its National Action Plan for Prevention, Eradication, Containment and Control of IAS since 2008 and a strong legal regulation system on biological import and export is in place in Viet Nam

Target

10



AMS have reported modest improvements in the condition of coral reefs and gains in mangrove reforestation but in some areas declining coral reef cover and seagrass habitat health related to gaps in governance, land based sources of stress (sedimentation, unsustainable fishing practices, excess agricultural inputs), coral harvesting and exporting and issues related to conflicts in coastal and marine area use (aquaculture, infrastructure) have been reported. Land-based sources of threats, destructive fishing practices and increasing coastal populations, that drive the loss of coastal and marine biodiversity, have not abated.

Goal C

Target

11



The AMS have collectively established protection for 14 percent of terrestrial and 2.3 percent of coastal and marine areas under AMS jurisdictions. There is need to exert more effort to align conservation action with the second part of Aichi Target 11, which is to “manage their PAs effectively and equitably through ecologically representative and well-connected systems of PAs and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes”. There is also a need to expedite action to cover representative examples of the diversity of habitats in the ASEAN region and increase coverage for marine protected areas.

Target

12



The ASEAN region bears the burden of heavy wildlife traffic. Despite the dismantling of some criminal organizations and the confiscation of tons of illegal cargo, trafficking remains rampant. A number of species have gone extinct. This threat is real and the relief of such pressures cannot and will not be abated if actions only come from within the region. The market demands for wildlife from other countries and regions of the world have to stop.

Target

13



In-situ and *ex-situ* efforts are in place to conserve native and wild varieties of crops and livestock. Several gene banks have been established for important crops and livestock species. Out of 7.4 million accessions of plant genetic resources for food and agriculture maintained globally, eight percent are safely stored in gene banks in the ASEAN region. Moreover, evaluation and characterization of these accessions are also being done. There is a need to, establish an interoperable database platform to ensure the safety of these genetic resources and regularly monitor storage facilities.

Goal D

Target

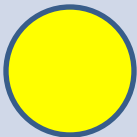
14



Critical ecosystem services in the ASEAN region are taken for granted, undervalued and fail to reflect in market prices. The sustainable management of marine and coastal resources in ASEAN is necessary to support the livelihood of 600 million people who are dependent on this ecosystem. Actions towards achieving related Aichi Targets (4-15) should consider maintaining ecosystem services and restoration of ecosystems.

Target

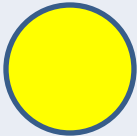
15



AMS have responded by developing climate-smart policies, strategic plans, and made commitments to reduce emissions, reduce vulnerability to climate change impacts, increase awareness, improve the capacity of agencies and increase resilience of ecosystems. There is a need to focus efforts in the restoration of ecosystems with greater CO₂ sequestration value, such as mangrove forests, to attain a better value for effort. AMS should expedite the transition towards sustainable energy through policies that remove incentives to use fossil fuels, enable the consideration of its externalities in the market system and favor a clean energy future for the ASEAN region

Target

16



Six AMS have ratified / acceded to the Nagoya Protocol on access and benefit sharing (ABS). Regional capacity building activities on the development of draft national ABS frameworks and enhancement of AMS' regulatory and institutional frameworks on ABS have been conducted. Regional cooperation on capacity building activities for AMS to develop and implement national measures on ABS will be sustained.

Goal E

Target
17



Nine out of ten AMS have developed and submitted their respective NBSAPs to the CBD. All of these nine submissions have undergone revisions and updating and two have submitted post-2010 versions that take the Strategic Plan for Biodiversity (2011-2020) into account. All AMS have submitted their Fifth National Reports to the CBD

Target
18



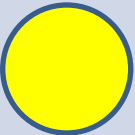
True endangerment of traditional knowledge and customary use may be felt in two AMS, based on the index of linguistic diversity. The change from the use of geographically restricted languages to more cosmopolitan forms threatens the existence of traditional knowledge associated with local languages. Efforts of ILCs in protecting biodiversity through “holy forests and watersheds” have been duly recognized

Target
19



Half of the AMS have taken initiatives to utilize their National CHMs as biodiversity information repositories and the rest are in various stages of organizing their CHMs towards full functionality. A regional CHM was developed to provide an interoperable framework and the means to share and analyze data at the regional level.

Target
20



Recognition of the importance of biodiversity conservation has spurred financial allocations for various activities from local to the national level, although not always in an organized fashion nor streamlined with National Plans and Programmes and the Strategic Plan for Biodiversity.

Aichi Targets Traffic Lights Progress of the implementation of the Strategic Plan for Biodiversity 2010-2020 in the ASEAN region



The ASEAN Region supports globally significant terrestrial and marine biodiversity. It has the most diverse coral reefs in the world and is home to the megadiverse countries of Indonesia, Malaysia and the Philippines. The region also spans several unique bio-geographical units such as Indo-Burma, Malesia, Sundaland and Wallacea. As an intergovernmental regional organization, ACB facilitates cooperation and coordination among the 10 ASEAN Member States (Brunei Darussalam, Kingdom of Cambodia, Republic of Indonesia, Lao People's Democratic Republic, Government of Malaysia, the Republic of Myanmar, the Philippines, Singapore, Thailand, and Viet Nam) and with relevant national governments, regional and international organizations on the conservation and sustainable use of biological diversity, and the fair and equitable sharing of benefits arising from the use of such biodiversity in the ASEAN region.

Acronyms	
AMS	ASEAN Member States
ASEAN	Association of Southeast Asian Nations
CBD	Convention on Biological Diversity
CEA	Cooperation, Education and Public Awareness
CEMS	Cleaning House Mechanisms
ICMS	Integrating and Local Communities
ILU	Illegal, Unreported and Unregulated
NISGP	National Invasive Species Strategy Action Plan
NS	National Reports

With information derived from key sources such as the Fifth National Reports, ASEAN State of the Environment Report, and publications from international and regional conservation organizations, ABO2 paints a regional picture on the progress of achieving the Aichi Targets in the ASEAN Region. The assessment of the implementation of each of the Aichi Targets is viewed through a regional looking glass while acknowledging the contributions of each of the AMS. These traffic lights endeavor to express a fair presentation of the state of the implementation of the Aichi Targets, demonstrate the links between targets, and suggest a means forward. They likewise present the challenges, which the region needs to overcome on the road to 2020.

AICHI BIODIVERSITY TARGETS STRATEGIC GOALS

A Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

- Target 11: By 2020, at least 10 per cent of the world's land and inland waters are under effective systems of conservation and management.
- Target 12: By 2020, at least 10 per cent of the world's coastal and marine areas are under effective systems of conservation and management.
- Target 13: By 2020, at least 10 per cent of the world's coral reefs, mangroves, and other coastal and marine ecosystems are under effective systems of conservation and management.
- Target 14: By 2020, at least 10 per cent of the world's inland and freshwater ecosystems are under effective systems of conservation and management.
- Target 15: By 2020, at least 10 per cent of the world's mountainous areas are under effective systems of conservation and management.

B Reduce the direct pressures on biodiversity and promote sustainable use

- Target 16: By 2020, the rate of loss of all species is halved, and extinction rates of threatened species are reduced by 50 per cent.
- Target 17: By 2020, invasive alien species are controlled or eradicated, and the risk of new introductions and spread of these species is minimized.
- Target 18: By 2020, the use of resources is sustainable, and the rate of deforestation is reduced by 50 per cent.
- Target 19: By 2020, the rate of degradation of natural habitats is reduced by 50 per cent, and the extent of land and sea degradation is minimized.
- Target 20: By 2020, the number of terrestrial and marine protected areas is increased by 10 per cent, and the total area covered by protected areas is increased by 10 per cent.

C To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

- Target 21: By 2020, the extinction of threatened species is prevented, and their natural distribution is maintained.
- Target 22: By 2020, the number of threatened species is reduced by 50 per cent.
- Target 23: By 2020, the number of threatened species is reduced by 50 per cent.
- Target 24: By 2020, the number of threatened species is reduced by 50 per cent.
- Target 25: By 2020, the number of threatened species is reduced by 50 per cent.

D Enhance the benefits to all from biodiversity and ecosystem services

- Target 26: By 2020, the number of people whose livelihoods are dependent on ecosystems is increased by 10 per cent.
- Target 27: By 2020, the number of people whose livelihoods are dependent on ecosystems is increased by 10 per cent.
- Target 28: By 2020, the number of people whose livelihoods are dependent on ecosystems is increased by 10 per cent.
- Target 29: By 2020, the number of people whose livelihoods are dependent on ecosystems is increased by 10 per cent.
- Target 30: By 2020, the number of people whose livelihoods are dependent on ecosystems is increased by 10 per cent.

E Enhance implementation through participatory planning, knowledge management and capacity building

- Target 31: By 2020, the number of people whose livelihoods are dependent on ecosystems is increased by 10 per cent.
- Target 32: By 2020, the number of people whose livelihoods are dependent on ecosystems is increased by 10 per cent.
- Target 33: By 2020, the number of people whose livelihoods are dependent on ecosystems is increased by 10 per cent.
- Target 34: By 2020, the number of people whose livelihoods are dependent on ecosystems is increased by 10 per cent.
- Target 35: By 2020, the number of people whose livelihoods are dependent on ecosystems is increased by 10 per cent.

Status of AMS Progress vis-à-vis the Aichi Targets

- Green:** Most, if not all, of the ASEAN Member States (AMS) have taken the necessary steps towards the achievement of the target in part or full and are on track to meet the target by 2020.
- Yellow:** At least half of the AMS have taken the necessary steps towards the achievement of the target.
- Red:** Less than half of the ASEAN Member States have established initiatives addressing towards the achievement of the Aichi target and have not demonstrated related positive impacts.

- 1. Various types of campaigns promote awareness and understanding of biodiversity targeting the youth, government and investment stakeholders and the private sector. Public education and other efforts reflect the lack of understanding of some sectors who remain unfamiliar and unresponsive to biodiversity. Steps derived from a stakeholder survey are being developed and launched in each of the Aichi targets to be mobilized in each AMS.
- 2. Half of the AMS have now recognized biodiversity values in their national development strategies and are in various stages of reviewing national frameworks, policies and institutional structures to consider the integration of biodiversity. There is a need to expedite this process to avoid other Aichi Targets related to the expansion of biodiversity into national and local development plans and strategies.
- 3. Initiatives for biodiversity-friendly promotion recognize ecological, environmental, historical and cultural, recreational, for education, innovation and community well-being. For the implementation of projects, there is need to consider a review of activities harmful to biodiversity and scale up the ability of individuals to pursue the attainment of sustainable development and reform in policy to foster biodiversity-friendly technology in agriculture and promote the region's transformation towards the sustainable energy zone.
- 4. Projects and policies are reducing impacts on lands, decentralized through viable income strategies and certification, investments in restoration of peatlands, reducing pressures through the dissemination of biodiversity information, the conduct and completion of biodiversity assessments. The increase in population of the region has led to the increase of species habitat loss and natural habitat loss. The increasing population corresponding to an increase in human impact and pressure on the environment. It is imperative that the region is sustainable in the near future.



AMS have embarked on various campaigns to raise awareness of biodiversity among all stakeholders including the youth, media, farmers, indigenous peoples and local communities, academic and scientific groups, non-government organizations, and policy makers to generate greater participation in conservation.

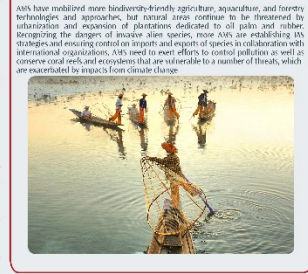


Half of AMS have mainstreamed biodiversity in development plans, structures while others are reviewing policies and frameworks to integrate biodiversity in sustainable development, inclusive programmes and strategies are on the way to enhance conservation performance in conservation and industries in relation to sustainable consumption and production plans are in place across the region. There is a need, however, to strengthen efforts given the rising demand for resources that have substantial impacts on biodiversity in the region.

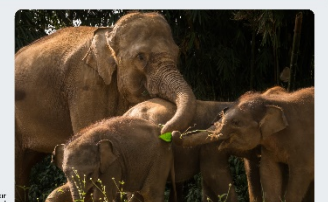
- 5. In Singapore, AMS are continue to tighten and deepen their protection of large wetlands and freshwater ecosystems. In the Philippines, AMS have taken steps to ensure that biodiversity is protected in their urban areas. Public education efforts have been put in place to educate the general public on the importance of biodiversity. In the Philippines, AMS are also working on the development of a national biodiversity strategy. In the Philippines, AMS are also working on the development of a national biodiversity strategy.
- 6. National policies on green and natural capital, conservation and sustainable use of biodiversity are being reviewed. In the Philippines, AMS are also working on the development of a national biodiversity strategy. In the Philippines, AMS are also working on the development of a national biodiversity strategy.
- 7. Some investment, agricultural land conversion and fisheries have been reviewed. In the Philippines, AMS are also working on the development of a national biodiversity strategy. In the Philippines, AMS are also working on the development of a national biodiversity strategy.
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Increasing demand for food, settlements, overexploitation and illegal activities facilitate habitat loss and degradation despite increasing restoration efforts in the region. Increasing demand on all fronts—national, regional and international—the fishery resources has severely stressed sustainable use of marine resources.

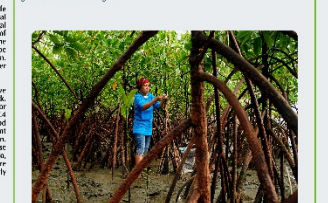


AMS have mobilized more biodiversity-friendly agriculture, aquaculture, and forestry. Facilitate habitat loss and degradation despite increasing restoration efforts in the region. Increasing demand on all fronts—national, regional and international—the fishery resources has severely stressed sustainable use of marine resources.



AMS have collectively established protection for 14 percent of terrestrial and 2.3 percent of marine areas.

As a region of great wealth in biodiversity, ASEAN suffers heavily from wildlife trade, thus, leading to the loss of many of the region's most iconic species. In terms of species, biodiversity in sea and on-land efforts are in place to conserve indigenous crop varieties and livestock breeds. More has to be done, however, in the establishment of gene banks across the region.



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- 11. The AMS have collectively established protection for 14 percent of terrestrial and 2.3 percent of marine areas.
- 12. The AMS have collectively established protection for 14 percent of terrestrial and 2.3 percent of marine areas.
- 13. The AMS have collectively established protection for 14 percent of terrestrial and 2.3 percent of marine areas.
- 14. Critical ecosystem services in the ASEAN region are being lost, under-valued and fail to reflect in market prices. The sustainable management of marine and coastal resources in ASEAN is necessary to support the livelihoods of millions of people who are dependent on this ecosystem. Action towards achieving Aichi Target 14 (NS) should consider maintaining ecosystem services and restoration of ecosystems. AMS may learn from positive approaches such as the Healthy Yaris, Healthy People™ Parks Victoria and the Sustainable Livelihoods Approach that underscore the links between a healthy environment to human health.
- 15. AMS have recognized by developing climate-smart policies, strategic plans, and marine conservation, to reduce emissions, reduce vulnerability to climate change impacts. In some countries, improve the capacity of agriculture and increase resilience of ecosystems. There is a need to be able to assess the realization of ecosystems with greater CO₂ concentration value, such as mangrove forests, to attain a better value for others. AMS should explore the transition towards sustainable energy through policies that remove incentives to use fossil fuels, enable the continuation of its vitality in the market system and favor a clean energy future for the ASEAN region.
- 16. AMS have realized / accorded to the Nagoya Protocol on Access and Benefit Sharing (ABS), regional capacity building activities on the development of draft national ABS frameworks and enhancement of AMS regulatory and institutional frameworks in ABS related activities. Regional cooperation on capacity building activities for AMS in developing and implement national measures on ABS will be sustained.



AMS have collectively established protection for 14 percent of terrestrial and 2.3 percent of marine areas.

Food from marine and coastal resources and safe drinking water systems which are vital to a growing ASEAN population, continue to be undermined by poor resource valuation, pollution and poor management. It has been more imperative to manage climate change pressures, with the development of climate-smart policies, commitments to reduce emissions, and efforts to reduce vulnerability to climate change impacts. In the Nagoya Protocol on access and benefit sharing (ABS), two AMS have ratified and four have acceded. Moreover, regional capacity building measures on the development of national ABS frameworks and capacity enhancement on ABS related to regulatory and institutional frameworks have been conducted.



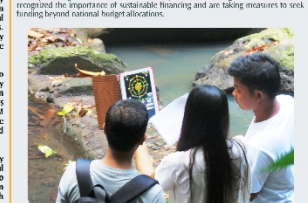
AMS have collectively established protection for 14 percent of terrestrial and 2.3 percent of marine areas.

- 17. Nine out of ten AMS have developed and submitted their respective NSHAPS to the CBD. All of these nine submissions have undergone revision and updating and have submitted post-2010 versions that take the Strategic Plan for Biodiversity (2011-2020) into account. All AMS have submitted their Fifth National Reports to the CBD.
- 18. True engagement of traditional knowledge and customary use may be felt in two AMS, based on the index of linguistic diversity. The change from the use of geographically restricted names to more cosmopolitan forms threatens the existence of traditional knowledge associated with local biocultural heritage. Efforts of ILUs in protecting biodiversity through "holy forests" and "waterfalls" have been duly recognized.
- 19. Half of the AMS have taken initiatives to utilize their National ODS as biodiversity information repositories and the rest are in various stages of organizing their ODS towards full functionality. A regional ODS was developed to provide an intersectoral framework and the means to share and analyze data at the regional level.
- 20. Recognition of the importance of biodiversity conservation has spurred financial allocations for various activities from local to the national level, although not always in an organized fashion nor streamlined with National Plans and Programmes and the Strategic Plan for Biodiversity.



AMS have collectively established protection for 14 percent of terrestrial and 2.3 percent of marine areas.

Two countries in the region have post-2010 versions and all have submitted their 5th National Reports to the CBD. While there is increasing recognition of the role of indigenous people across the region and their traditional knowledge in biodiversity conservation, there remain hesitations to their inclusion. Participation. Five AMS have taken initiatives to use their National Clearing-House Mechanisms (CHMs) as biodiversity information repositories while others are in varying stages of developing CHMs. ACE has developed a regional CHM to share and analyze data at the regional level. AMS have recognized the importance of sustainable financing and are taking measures to seek funding beyond national budget allocations.



AMS have collectively established protection for 14 percent of terrestrial and 2.3 percent of marine areas.

Chapter 2.

ASEAN Biodiversity in a Changing Environment

Forest: Still an overdrawn natural resource

One ASEAN
community
progressing
in harmony
with nature



Forest Vitality

Healthy
Environment

Ways Forward



ASEAN
Forestry Master
Plan



Stop cutting old
growth forests

Landscape
restoration and
ecological and spatial
principles in
reforestation and
rehabilitation
programmes



Prevent forest
encroachment



Green
economy

Protected
area
programme



Forest certification
and labelling



REDD + and
The Bonn Challenge
and pledges on
restoration

Ecological
and green
corridors



Status and Trends



Increasing demand
on wood, fuel,
and paper
products

Infrastructure
development
and forest
encroachment



Agricultural
expansion and
plantation
establishment



0.7% decrease in
ASEAN's forest
cover per year

Forest
degradation
and habitat loss

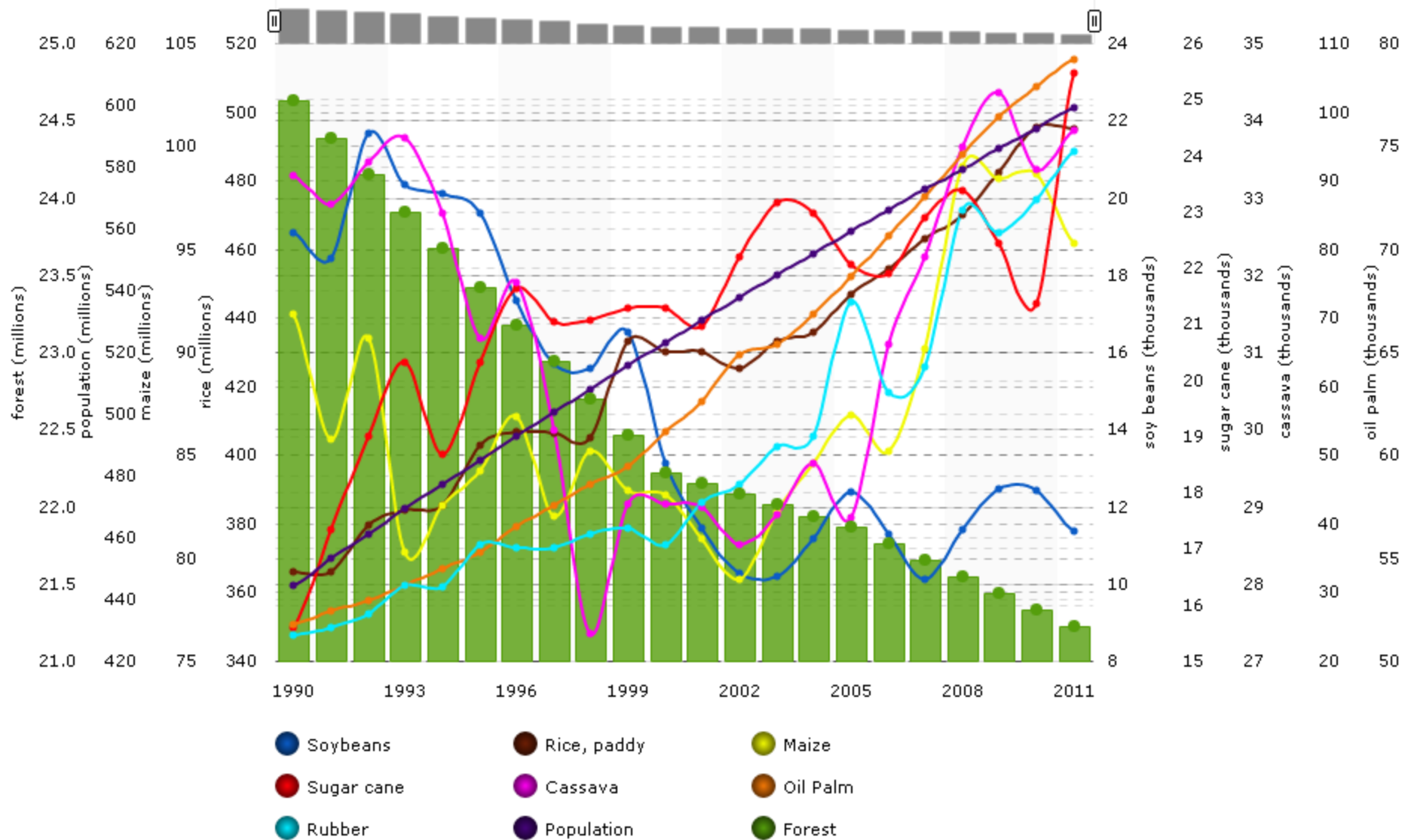


By 2100,
13%-42% loss
of ASEAN species

By 2100,
70% - 90% loss
in habitat area



Trends in population, forest area and area of major crops harvested in the ASEAN region, 1990-2011

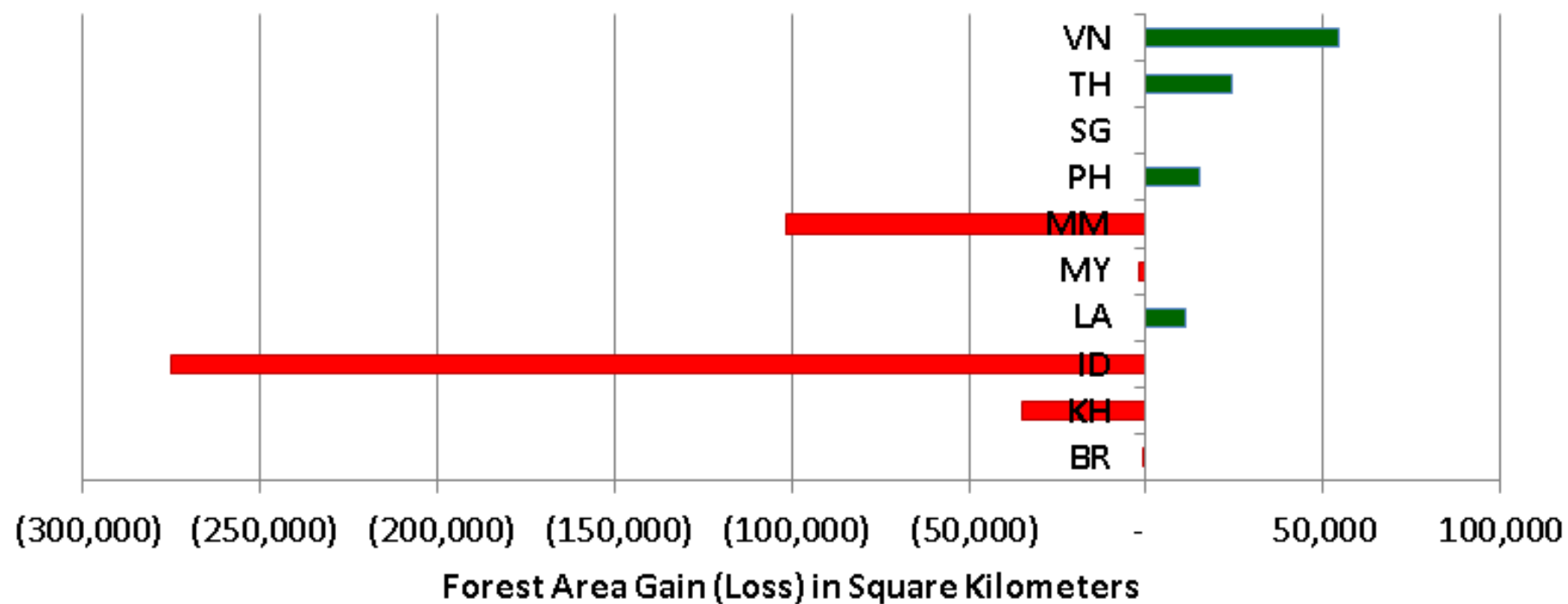


Possible indicator graph for AICHI Target 5: Loss of habitats

Sources of data:

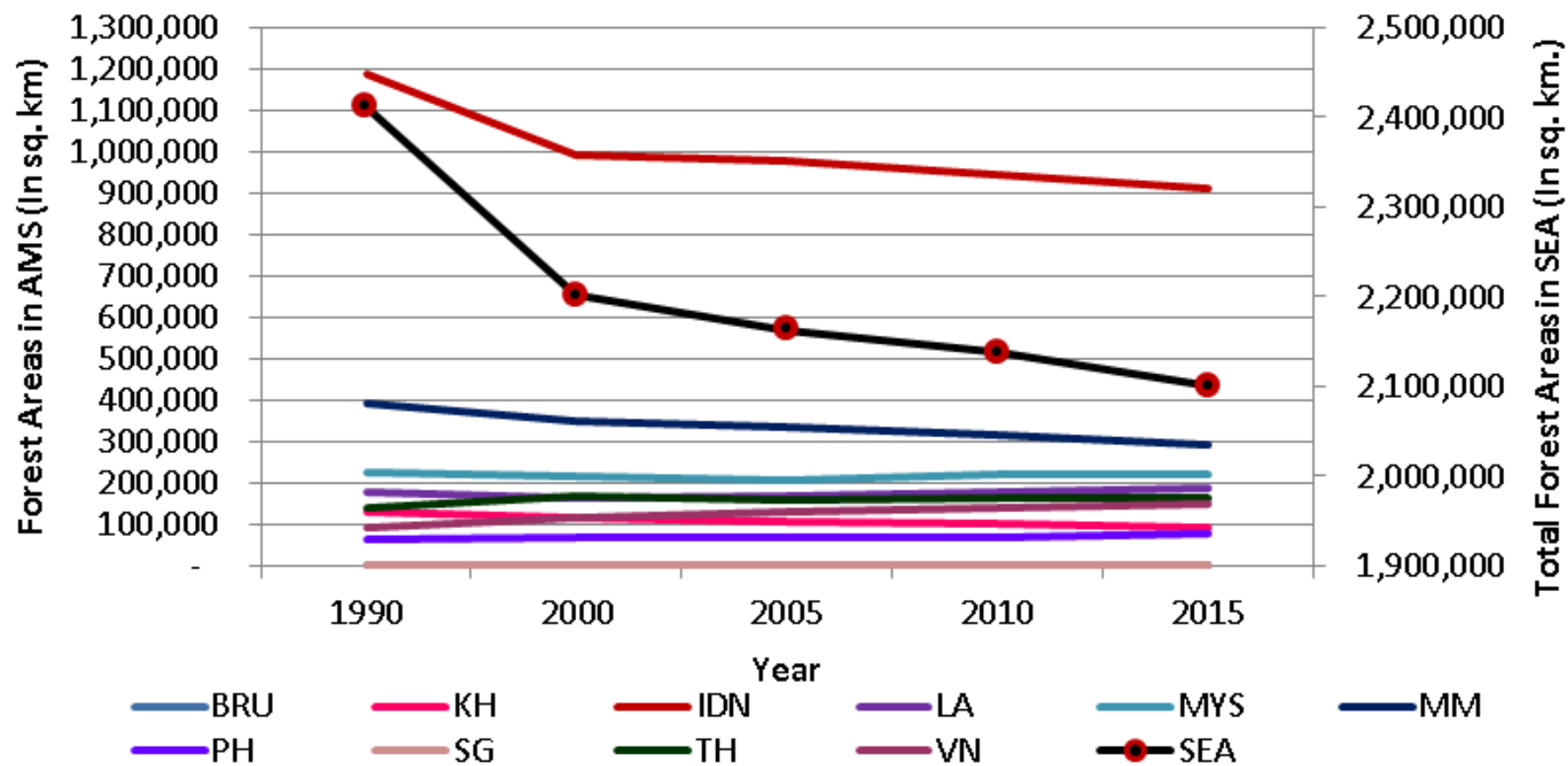
FAOSTAT

Figure 2. State of Forest Gains (Losses) in Southeast Asia by Country, 1990-2015



Source of base data: *FAO Global Forest Resource Assessment (GFRA) 2015*

Figure 1. Extent of Forest Areas in Southeast Asia (1990-2015)



Source of base data: FAO Global Forest Resource Assessment (GFRA) 2015

PRESSURES

Genetic erosion 

Conversion of agricultural lands 

Decline in pollination services 

Invasive Alien Species 

STATE

 54 local breeds
 10 endangered
 5 extinct

 71 local breeds
 1 endangered

 52 local breeds
 3 endangered
 3 extinct


Increased production through high-yielding varieties and breeds 

Agricultural area  Forest area

1990: 1.07M sq km	1990: 2.41M sq km
2013: 1.31M sq km	2013: 2.11M sq km

Urban population  % Arable area

1961: 42M	1990: 64
2013: 283M	2013: 53

Increased use of pesticides 

2006: 42,773 tonnes
2013: 64,311 tonnes


Agricultural Biodiversity Conservation

Sustaining genetic diversity to enhance agricultural productivity




WAYS FORWARD

Ex situ and *in situ* conservation

- Increased accessions of crop and livestock genetic resources in genebanks
- 


Making crucial information available

- Ex situ* accessions
 - In situ* best practices
 - Status and trends of pollinators
- 

Development / establishment of ASEAN Regionally Important Agro-Ecological Heritage Systems (ARIAHS)



Improving the ASEAN policy framework for agricultural biodiversity



Inland Waters: ASEAN's most threatened habitats

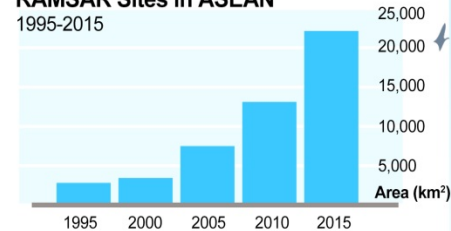


Threats to ASEAN's lakes, rivers, and peatlands



Source: AMS' Fifth National Reports to the CBD

RAMSAR Sites in ASEAN 1995-2015



Ways Forward

Establish a regional agenda that supports the alignment of social and political interests with responsible conservation governance of inland waters.

Increase interest at all levels of governance in massive reforestation with particular focus on riparian reforestation to address erosion issues and reduce impacts brought about by flooding and landslides.



Conduct further study and research to assess the importance and total economic value of inland water ecosystems to the country's economy and to the people that are solely depending on these areas for their livelihood.

Strengthen the existing laws and policies governing the management and sustainable use of the biodiversity and natural resources in these areas.



Implement information dissemination programme in coordination with the ASEAN Member States for the policy maker in particular and for the people in general, to understand the importance of protecting and conserving these areas.

Employ ecosystem-based approach to management, which is based on the application of appropriate scientific methodologies focused on levels of biological organization, which encompasses the essential structures, processes, functions, and interactions among organisms and their environment.



ASEAN's Response

AMS with policies on wetland conservation

- Indonesia
- Malaysia
- Philippines
- Thailand
- Viet Nam



25%

of the remaining tropical peat swamp forests in ASEAN are in designated protected areas.



Source: Biodiversity and Conservation of Tropical Peat Swamp Forests

8 out of 10 AMS are parties to the Ramsar Convention on Wetlands designating a total area of **18,007 sq km** of inland wetlands.



Source: Ramsar Convention on Wetlands



Urban biodiversity: Nature in tight spaces

Challenges

Many cities in the region are located in critical biodiversity habitats.

Rapid urban growth could lead to more land conversion.

Poor understanding of the benefits of having rich biodiversity in the city.

Environmental consideration including biodiversity being the least priority against economic and industrial progress.

- ✓ Conserving small areas of forests, floodplains, estuaries and coastlines protects species and strengthens ecosystems services.
- ✓ Urban biodiversity keeps cities clean and cool.
- ✓ Nature areas provide habitats for resilient species.
- ✓ Greening idle areas with urban farming helps supply food and employment and promote appreciation of biodiversity.
- ✓ Green areas, such as parks, clean the air and calms the body and mind.

ASEAN'S RESPONSE

ASEAN Initiative on Environmentally Sustainable Cities

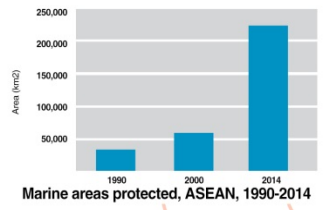
ASEAN Environmentally Sustainable City Award programme

Singapore Index on Cities' Biodiversity

Coastal and Marine Ecosystems

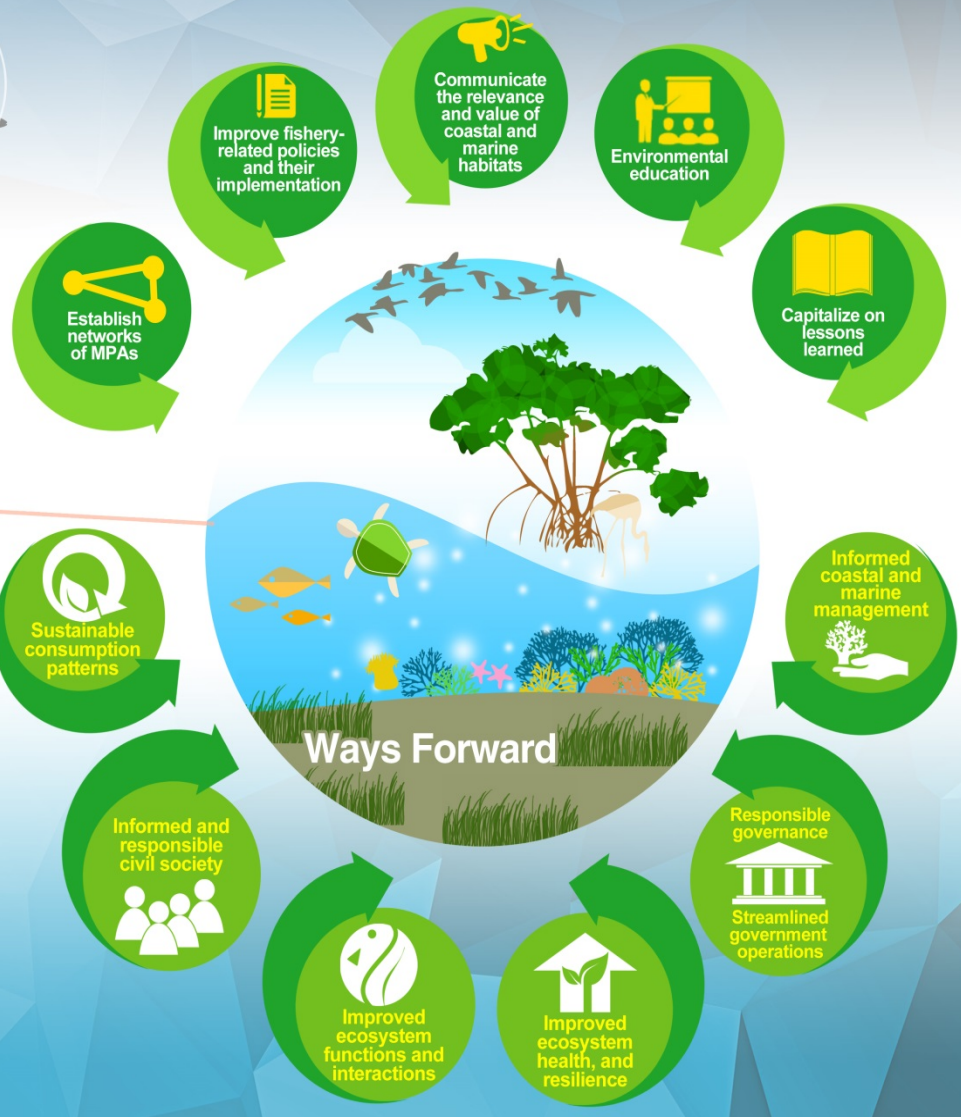
Healthy coasts, healthy ASEAN

Fishing Down the Food Web
 Source: Pauly et al, Science, 1998



ASEAN's Response

There is a notable increase in coastal and marine conservation initiatives demonstrated through a number of management strategies and sustainable development programmes at the regional, national, and local levels



Taxonomy

You cannot conserve what you do not know

A region known for its biodiversity richness, ASEAN is also the most vulnerable with most member states facing tremendous threats to their natural wealth. Identifying species before they are identified is thus crucial to what species and ecosystems must be prioritized for effective biodiversity conservation and management.

The extent of undiscovered species is high for all other taxa

1,361 identified reptiles

3,258 identified birds

585 identified amphibians

56,120 identified plants

1,037 identified mammals

AP-BON
Asia Pacific Biodiversity Observation Network



Partnerships



Trainings



Knowledge Management

Efforts to Strengthen Taxonomy in ASEAN

Ways Forward



Assess the impact of the Global Taxonomy Initiative Regional Action Plan 2010 – 2015.

Chart the course of taxonomy for the next five years (2016 – 2020) in a Regional Action Plan for Taxonomy.



Survey the extent of taxonomy studies and research in ASEAN.

Develop a communication, education and public awareness plan for taxonomy for ASEAN Member States.



Make taxonomic information inter-operable among databases in the ASEAN Member States.


Improve *ex situ* programs in the region.




Access and Benefit Sharing

Ensuring the fair and equitable sharing of benefits from the utilization of genetic resources

ABS refers to the agreement between user and provider in the access of genetic resources and how benefits are shared between them.

 **Prior and Informed Consent (PIC)** seeks from appropriate representatives and shares information on the purpose for accessing genetic resources or traditional knowledge before actual access.

 **Mutually Agreed Terms (MAT)** states monetary and non-monetary 'benefits in exchange for access as agreed between user and provider.

 **Traditional Knowledge** refers to knowledge of indigenous and local communities that are rich sources of information for bio-product development.

 **Compliance** is observance of obligations to ensure sharing of benefits when genetic resources leave a provider country.

OPPORTUNITIES



Research and Development: advances in biotechnology



USD 262B worth of global market products

Potential Income Generation: Creation of products worth billions



6 of 10 ASEAN Member States are Parties to the Nagoya Protocol

Development of ABS Frameworks: More ASEAN Member States are acceding to the Nagoya Protocol and/or developing national ABS policies.

WAYS FORWARD



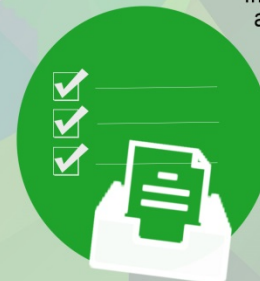
Raise public awareness and increase stakeholders' participation



Regional cooperation and capacity building



Implement legislation and administrative or policy measures on ABS.



Formulate national regulatory and institutional frameworks on ABS



Protect genetic resources from misappropriation and misuse



Wildlife Conservation

Protecting ASEAN's natural heritage



ASEAN's Response



Various laws were also promulgated to conserve wildlife

Increase in area and number of protected areas



Endangered species action plans prepared

Law enforcement and cooperation between and among enforcement agencies on illegal trade.



Transboundary biodiversity conservation



Various research on species at risk are conducted, such as studies in human-wildlife conflict, habitats and prey, and species distribution and population.



Communication, education and public awareness








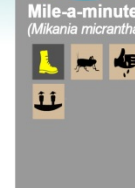




Breeding and captive propagation programs

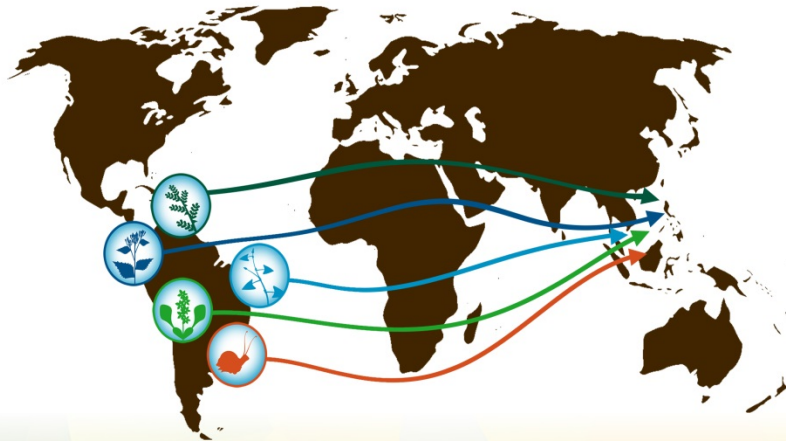
Allies in Wildlife Conservation



Invasive Alien Species in the ASEAN Region

 <p>Water Hyacinth (<i>Eichhornia crassipes</i>)</p> 	 <p>Siam Weed (<i>Chromolaena odorata</i>)</p> 	 <p>Catclaw (<i>Mimosa pigra</i>)</p> 	 <p>Mile-a-minute (<i>Mikania micrantha</i>)</p> 	 <p>Golden Apple Snail (<i>Pomacea canaliculata</i>)</p> 
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Top 5 Invasive Alien Species in the ASEAN Region



Common Pathways of IAS

Flooding and other natural disasters	Intentional release
Biological control	Landscape improvement
Breeding and propagation	Medicinal use
Trade	Ornamental purposes
Escape from confinement	People foraging
Fisheries	People sharing resources
Garden waste disposal	Research
Hitchhiker	Smuggling
Horticulture	

Impacts of IAS

Limiting the availability of sunlight	Species reduction	Causes forest fires
Competing for nutrients	Provides refuge for snakes	Affects agricultural lands and fisheries
Impedes fishing activities and water transport	Blocks river traffic	Hinders growth of native plants
Clogs waterways	Causes bushfires	Disturbs aquatic life
Lowers dissolved oxygen levels	Fatalities due to leaf toxicity	Requires more funds for prevention, control, and elimination
Habitat loss	Displaces indigenous forage/grass species	Ecosystem pollution due to chemical pesticides
Magnifies costs of clean-up activities	Increases cost of farm management	Massive rice production losses
Provides cover for crocodiles	Harbors agricultural pests	Poses danger and health hazards to humans

Ways Forward



Capacity Building on Taxonomy
Effective control and management measures can only be implemented when exotic species are correctly and properly identified.

Information Sharing through the ASEAN CHM
ASEAN Member States should make all IAS-related information available in information sharing platforms such as the Clearing-House Mechanism.



National Invasive Species Strategic Action Plan (NISSAP)
To prevent the spread of IAS in natural habitats, all ASEAN Member States should have their own NISSAPs. To date, only Cambodia, Indonesia, and the Philippines have drafted their NISSAPs.



Awareness Raising
Understanding the impacts and implications of IAS can help intensify efforts on IAS prevention, control, and eradication.



Research
In-depth research, survey, and analysis of priority IAS in the ASEAN region, including its pathways of introduction, should be conducted.

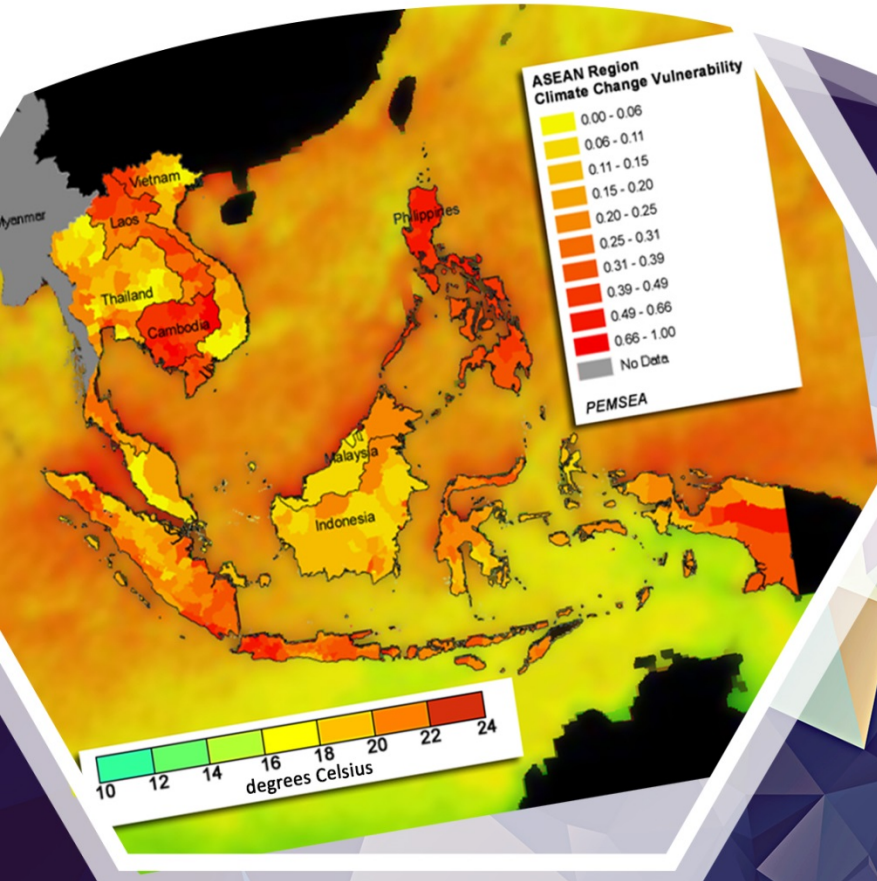


Aichi Biodiversity Target 9

By 2020, invasive alien species and their pathways are identified; priority species are controlled or eradicated; and measures are in place to manage pathways to prevent their introduction and establishment.

Climate Change and Biodiversity

Seeking solutions to ensure resiliency



Ways Forward



Innovate to mitigate the negative impacts of climate change



Promote new knowledge, practices, and technologies to adapt to climate change



Provide local and national action plans complementing the ASEAN Socio-Cultural Community blueprint



Enhance projects and policies on Reducing Emissions from Deforestation and Forest Degradation and biodiversity conservation



Implement disaster risk reduction plan consistent with National Biodiversity Strategy and Action Plans



60% of the terrestrial AHPs are vulnerable to climate change



14% of the marine AHPs will be affected



Industry and transportation increase carbon pollution levels



Altitudinal migration of forests, extinction of many species, and reduction in diversity of ecosystems



Distribution of plant and animal species shifts to higher altitude



Climate change affects terrestrial and coastal ecosystems, food production, human health, and livelihood, among others.



Global temperature increase of 0.4 – 2.6°C by 2055 and 0.3° to 4.8°C by 2090

Status and Trends

Valuing Biodiversity:

Mainstreaming biodiversity in economy and business

Biodiversity valuation tools

- ✓ The Economics of Ecosystems and Biodiversity (TEEB)
- ✓ National Capital Accounting (NCA)
- ✓ Payment for Ecosystem Services (PES)

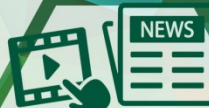
Ways Forward



Use available tools to give value to biodiversity.



Provide incentives for businesses to mainstream biodiversity.



Develop CEPA materials and tools on the link between the economy, business, and biodiversity.



Involve the business sector in the development and implementation of sustainable production guidelines.



Promote dialogues among government, businesses, and other relevant stakeholders.

Lack of information of the economic value of biodiversity.



Challenges

Insufficient awareness in the business community of the ecological and economic importance of biodiversity.

Lack of ASEAN-wide network of businesses with common biodiversity goals.

Inadequate prioritization of business and biodiversity in national communication, education and public awareness programmes.

Limited involvement of the business sector in biodiversity conservation.

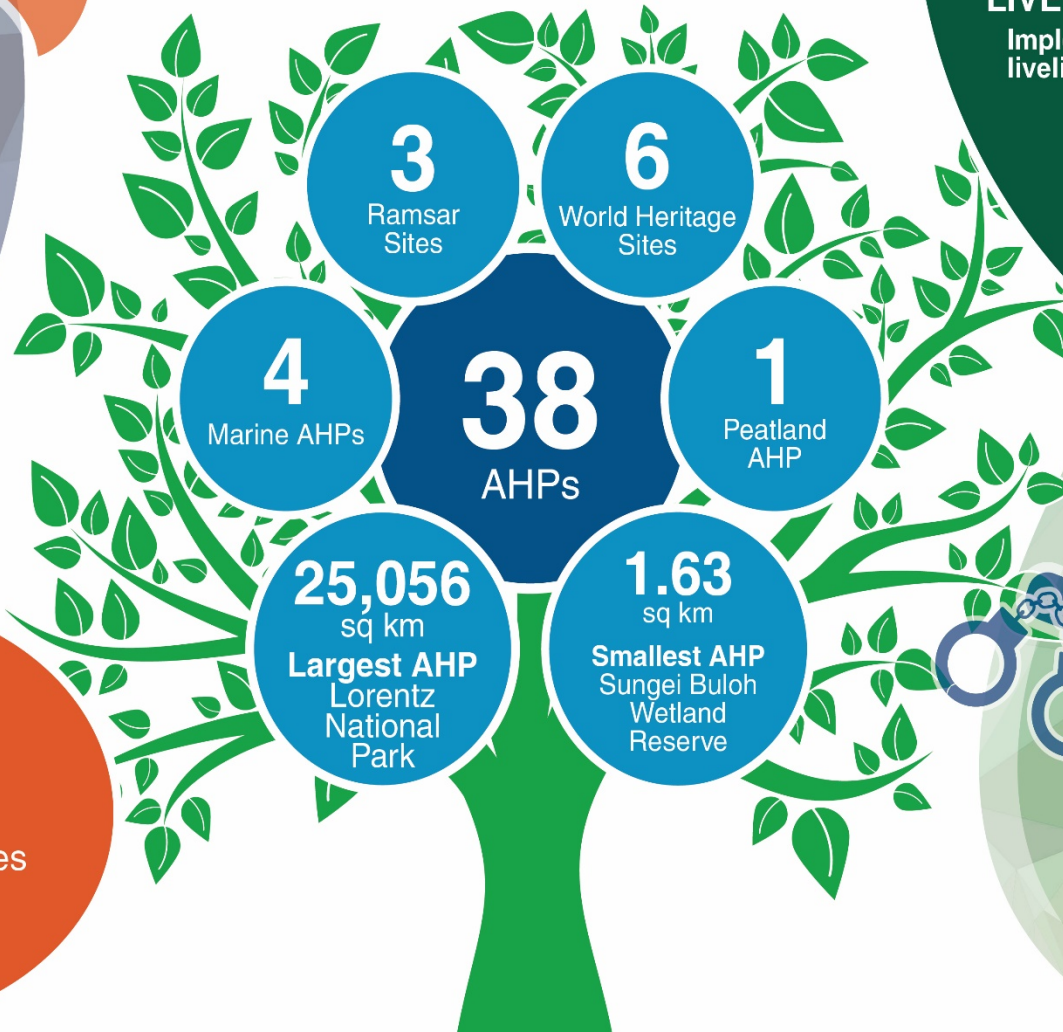


Chapter 3.

**Enhancing implementation:
ASEAN's priority actions to achieve
the Aichi Biodiversity Targets**



ASEAN Heritage Parks and Protected Area Management



THREATS

Encroachment
Illegal logging
Invasive alien species
Poaching
Mining

WAYS FORWARD

AWARENESS

Raise public awareness



FINANCE

Mobilize additional financial resources



LIVELIHOOD

Implement alternative livelihood opportunities



INDIGENOUS PEOPLES AND LOCAL COMMUNITIES (IPLCs)

Generate active participation



Biodiversity Information Management: Cultivating a Culture of Information Sharing



CHM or Clearing House Mechanism

is a biodiversity information platform to facilitate information sharing and scientific and technical cooperation in pursuing global, regional and national goals towards the conservation and management of biological resources.

Ways Forward



Tap natural history museums



Maintain global partnerships



Continue to enhance capacities on CHM management and data organization



Continue developing biodiversity information management related tools



Tap academic institutions as network of data partners



Promote a culture of biodiversity information sharing



Pursue CHM-content enhancement activities

Challenges



Species and PA data are NOT in common format



Language Barriers



Limited technical capacity and financial resources

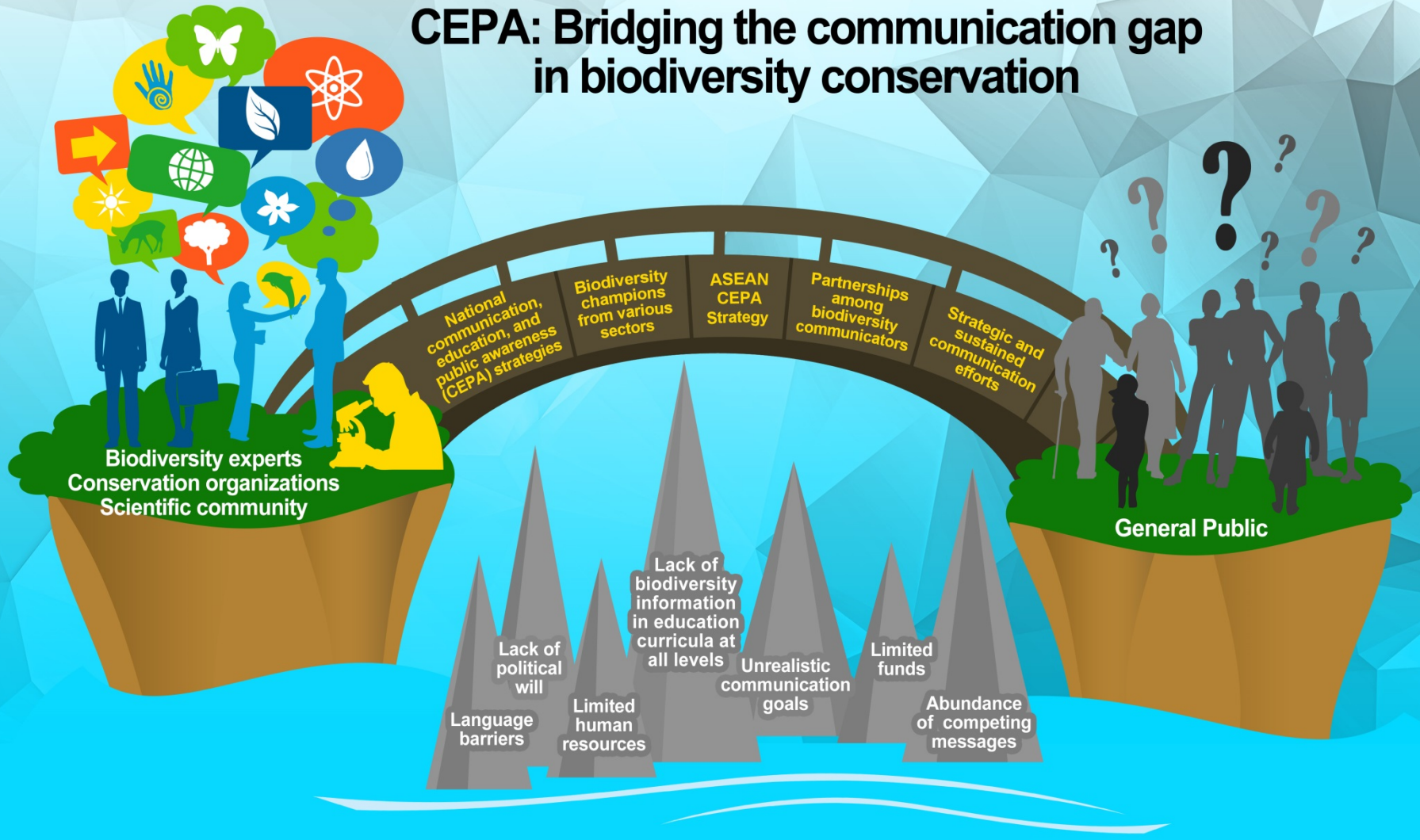
AMS willingness to share species

chm.aseanbiodiversity.org

All AMS must support the ASEAN CHM

data in global scientific discussions

CEPA: Bridging the communication gap in biodiversity conservation



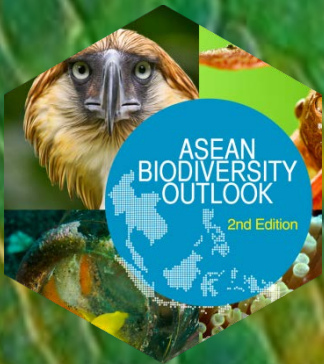
Chapter 4.

The ASEAN Biodiversity Outlook: 2020 and Beyond

Where we are at this midpoint of implementation



- Economic progress in the past 25 years have imposed corresponding pressures on biodiversity and ecosystems functions.
- Drivers of biodiversity loss
 - have grown in complexity, brought about by general increases in population, regional economy, land conversion for agriculture and other uses, pollution and changes in consumption patterns
 - loss persist in the ASEAN
 - result in habitat change, the root cause being poor governance.

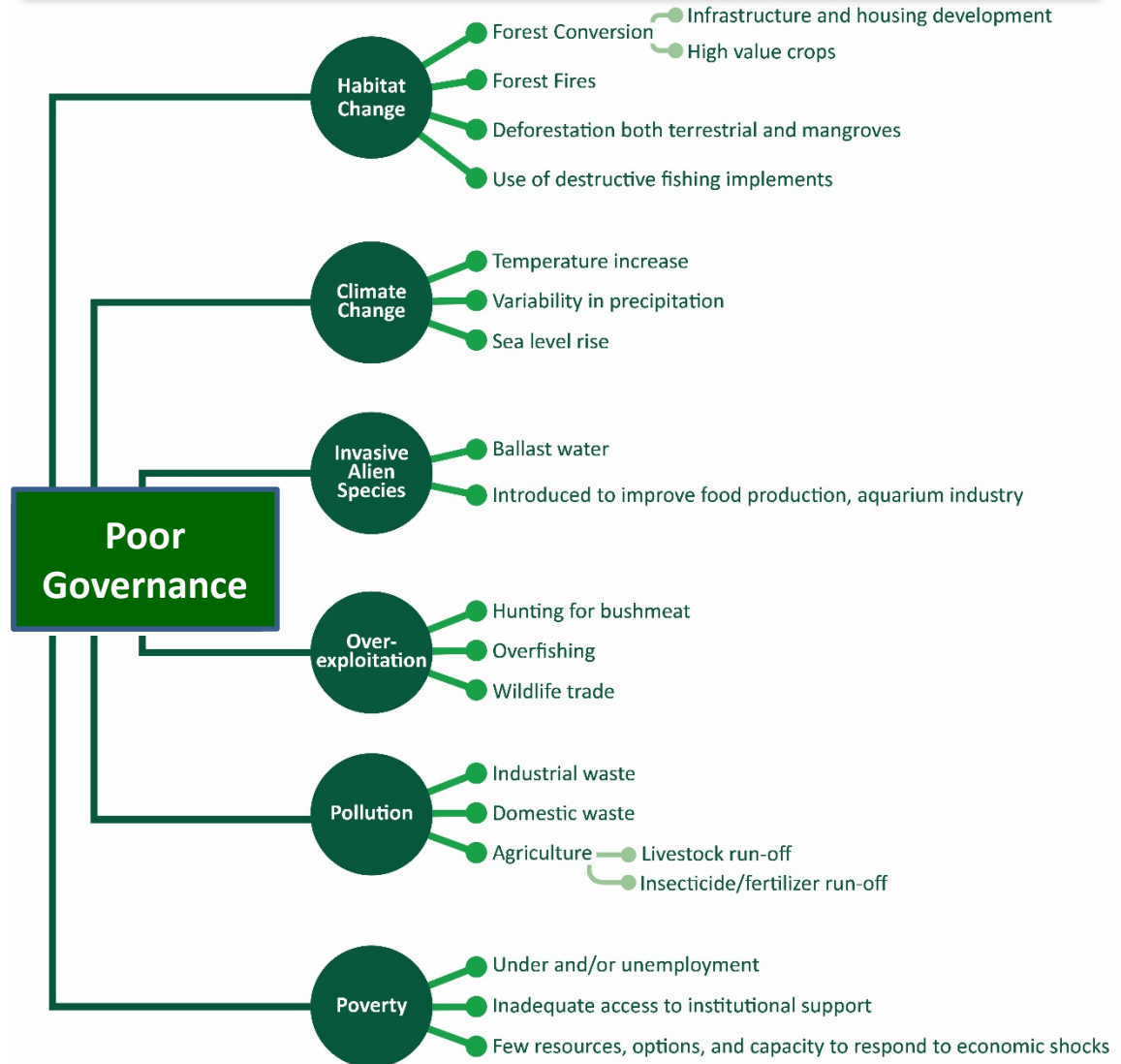
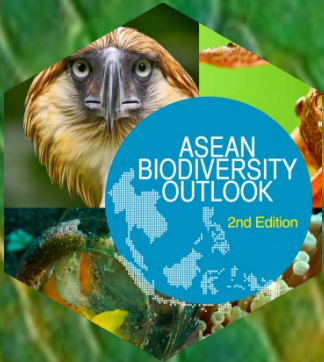


Where we are at this midpoint of implementation

COP13-COPMOP8-COPMOP2
CANCUN, MEXICO 2016



MAINSTREAMING BIODIVERSITY FOR WELL-BEING
CONVENTION ON BIOLOGICAL DIVERSITY



Moving innovative actions at the national level: continue current mainstreaming activities

Pursue a long term development framework supported by highly skilled, informed and motivated citizens

Promote biodiversity as central to sustainable development

Prioritize actions for implementation

Minimize risks and promote security

Involve the private sector beyond corporate social responsibility programs

Develop and promote incentives that facilitate the understanding of biodiversity and its ecosystem services

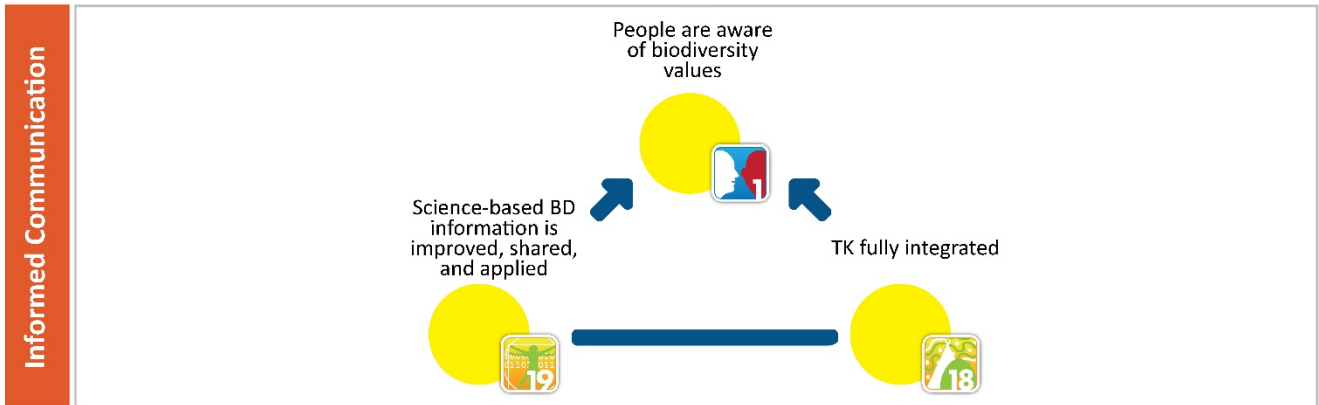
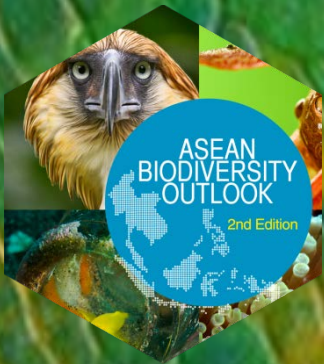
Integrate biodiversity concerns into planning, budgeting, implementation, monitoring and evaluation of policies, programs, activities of national development

Provide options and the capacity to mainstream biodiversity including industry standards, codes of conduct, guidelines, biodiversity integration into legal frameworks and certification schemes.

Mainstream biodiversity in all levels of governance

Incorporate targets in various sectors

Proposed Implementation Framework



Towards a strategic approach to ensuring environmental sustainability in ASEAN - **ASEAN Socio-Cultural Blueprint 2025**

The logo for the ASEAN Socio-Cultural Community Blueprint 2025. It features the word "ASEAN" in large white capital letters, with "SOCIO-CULTURAL COMMUNITY" in smaller white capital letters below it, and "BLUEPRINT 2025" in blue capital letters at the bottom. The background is a gradient of orange and red with blue and yellow curved lines.

ASEAN SOCIO-CULTURAL COMMUNITY BLUEPRINT 2025

- ASEAN has committed to support the full implementation of the Strategic Plan for Biodiversity 2011–2020 and the Aichi Biodiversity Targets
- Strategic measures have been agreed upon by AMS to ensure that biodiversity and natural resources in ASEAN are conserved and sustainably managed
- ASEAN Socio-Cultural Blueprint 2025 encompasses key result areas to conserve and sustainably manage biodiversity and natural resources and promote environmentally sustainable cities, sustainable climate, and sustainable consumption and production

Towards a strategic approach to ensuring environmental sustainability in ASEAN - **ASEAN Strategic Plan on Environment (ASPEN)**



ASEAN 2025:
FORGING AHEAD
TOGETHER

The **ASPEN** is being developed in line with the **ASEAN Vision 2025**. It will cover seven strategic priorities on environment and sustainable development:

- 1) **nature conservation and biodiversity;**
- 2) **coastal and marine environment;**
- 3) **water resources management;**
- 4) **sustainable cities;**
- 5) **climate change;**
- 6) **chemicals and wastes; and**
- 7) **environmental education.**

ASPEN will also cover **sustainable consumption and production as a priority theme**. These major thematic areas identified by ASEAN will be a critical contribution of the region in achieving the Aichi biodiversity targets.

Towards a strategic approach to ensuring environmental sustainability in ASEAN - **ASEAN Strategic Plan on Environment (ASPEN)**




**ASEAN 2025 :
FORGING AHEAD
TOGETHER**

ASPEN will define the institutional coordination and partnerships among ASEAN bodies and entities

ASEAN Centre for Biodiversity will continue to support the ASEAN Working Group on Nature Conservation and Biodiversity (AWGNCB)

ASEAN will implement programs to conserve and effectively manage key biodiversity areas, including protected areas and transboundary protected areas for both terrestrial coastal and marine areas.

Other priority thematic areas are ecosystem services, ecotourism, species conservation, wildlife management, taxonomic capacity, and invasive species management.



Clearly, there is an urgent need to work together at the national, regional, and global levels for parties to the CBD to save biodiversity and enhance benefits to people by 2020

Thank you for your support!!

Accelerating actions to halt biodiversity loss in ASEAN: Necessary Actions to Achieve Biodiversity Targets by 2020

Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Goal A

Heighten awareness and institutionalize communication, education and public awareness strategies through multi-sectoral approaches; engage more stakeholders and build their capacity, including mobilizing champions on biodiversity; and streamline CEPA activities among various sectoral agencies

Expedite the development of national and local policies and strategies that integrate biodiversity and poverty reduction

Review subsidies and policies harmful to biodiversity (such as in industrial forests, mining, and agriculture).

Accelerating actions to halt biodiversity loss in ASEAN: Necessary Actions to Achieve Biodiversity Targets by 2020

Goal B

Reduce direct pressures on biodiversity and promote its sustainable use

Significantly improve enforcement capacities and establish monitoring and reporting systems.

Develop an ASEAN Forestry Master Plan, foster Green Economy, and establish ecological corridors.

Develop an ASEAN-wide strategy on sustainable fishing practices and enhance national fisheries policies on gear and seasonal catch controls, conservation partnerships, and integrated land and sea use plans

Secure sustainability of small-scale fisheries to alleviate poverty and food security.

Accelerating actions to halt biodiversity loss in ASEAN: Necessary Actions to Achieve Biodiversity Targets by 2020

Goal B

Reduce direct pressures on biodiversity and promote its sustainable use

Promote agro-ecological farming practices to increase food production and conserve agrobiodiversity.

Accelerate CEPA campaigns for key stakeholders and the public to develop and adopt waste management practices (reduce, reuse, and recycle).

Identify pathways of introduction, prevention, and eradication of invasive alien species.

Develop appropriate policies, incentives and penalty systems to decrease pressures on coral reefs, mangroves and inland waters.

Accelerating actions to halt biodiversity loss in ASEAN: Necessary Actions to Achieve Biodiversity Targets by 2020

To improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity

Goal C

Expand protected area networks, in particular on coastal and marine areas and ensure effective protected area management.

Enhance protected area management planning by updating and effectively implementing management plans, enhancing collaborative management and incorporating climate actions.

Accelerate updating of management plans towards the effective management of all AHP sites.

Enhance protection of ecologically-representative and well-connected systems of protected areas, including transboundary management of protected areas.

Implement a comprehensive and collaborative species conservation program that addresses wildlife trafficking at national, regional, and global scales.

Accelerating actions to halt biodiversity loss in ASEAN: Necessary Actions to Achieve Biodiversity Targets by 2020

Goal D

Enhance benefits from biodiversity and ecosystems services for all

Undertake ecosystems restoration activities, including assessments and mapping, especially mangroves, with greater carbon sequestration value.

Enhance protection and restoration of ecosystems services

Enhance capacity building activities to assist AMS to enhance or develop and implement national legislative, policy or administrative measures and institutional structures on access and benefit sharing

Foster regional dialogues to enhance the interface among biodiversity, health and human well-being.

Accelerating actions to halt biodiversity loss in ASEAN: Necessary Actions to Achieve Biodiversity Targets by 2020

Enhance implementation through participatory planning, knowledge management, and capacity building

Strengthen partnerships at the regional level to support the implementation of CBD Strategic Plan and the Aichi Biodiversity Targets.

Continue to recognize and document traditional knowledge and practices of indigenous and local communities for the conservation and sustainable use of biodiversity

Forge partnerships that promote biodiversity information management and undertake training courses to increase capacity and optimize the use of national Clearing-House Mechanisms as knowledge platforms.

Strengthen resource mobilization efforts, and explore and implement innovative financing schemes to sustainably finance biodiversity initiatives.

Goal

E