



Global Taxonomy Initiative
**REGIONAL ACTION PLAN
FOR SOUTHEAST ASIA
2017-2025**



THE REGIONAL ACTION PLAN

The 1992 Earth Summit in Rio de Janeiro gave birth to the Convention on Biological Diversity (CBD). The three goals of this convention - conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of the benefits arising from the use of genetic resources - have become prime points on the political agenda of most of the world's governments. Achieving these goals depends largely on our understanding of biodiversity. Yet, in many countries of the world, particularly in the tropics, many species remain poorly known or undescribed and unnamed. Taxonomy, the science of describing, naming and classifying organisms, has been hampered by the shortage or lack of expertise at regional or local levels leading to the worldwide efforts of addressing this concern through the Global Taxonomy Initiative (GTI). In fact, a summary report of the First GTI Workshop in Asia stated, "it was a global consensus that no single country has the expertise or funding to fully document its biodiversity, although as a basis for sustainable management of resources, and to ensure adequate access to these genetic resources and the protection of rights at national and sub-national levels (CBD Art. 15), adequate knowledge in taxonomy is vital" (Wilson et al., 2003).

Taxonomic classifications of these biological resources, therefore, will be vital; first, in the comprehensive identification of these potential resources, and second, in the formulation of suitable mechanisms that will regulate industrial and commercial utilization and production of these resources to ensure use efficiency and sustainability in the future, in compliance of CBD and the attainment of the Sustainable Development Goals (SDGs). It will also protect and strengthen the cultural identity, spiritual values and appreciation of biodiversity among the peoples of ASEAN Member States while boosting opportunities for livelihood, business, ecotourism, education and research in the region. Ultimately, it will contribute significantly to the global efforts to meet the SDGs 2030 on the environment and achieve a significant reduction in the rate of biodiversity loss by 2025.



The lack of trained human resources and inadequate capacities on taxonomy has been stressed as one of the obstacles in the implementation of CBD commitments, especially in the ASEAN region. ASEAN's dynamic growth in recent years has increased the pressure on its natural resources. Human activities, the driving force behind the regional growth, threaten the biological resources. Lack of scientific information on biodiversity in this region is a crucial issue in the assessment and prediction of biodiversity changes, caused mainly by the lack of taxonomic capacity in data collection and analysis.

The UN Convention on Biological Diversity (CBD) in its Ninth Meeting of the Conference of the Parties (COP 9) has recognized that the global taxonomic impediment constrains the global biodiversity agenda. In response to this, a GTI Regional Action Plan for South East Asia 2010-2015 was developed by the AMS with China, Japan and Korea through the ACB. The action plan served as the roadmap in addressing the GTI as implemented in the ASEAN region.

This Regional Action Plan 2017-2025 is a continuation of the first regional action plan 2010-2015 and was developed through a workshop participated in by GTI national focal points, some members of the ACB Scientific Advisory Committee, and prominent taxonomists of the ASEAN Member States. The current RAP 2017-2025 will also serve as the roadmap for taxonomy in the region for the next eight years.



Purpose of the GTI RAP 2017-2025

This Regional Action Plan 2017 – 2025 was developed to update the previous one which expired in 2015. As with the first GTI Regional Action Plan, the present one shall serve as the roadmap for ASEAN Member States to address the taxonomic impediment occurring in the region. Specifically, the GTI RAP 2017-2025 shall:

1. guide the GTI national focal points in planning for activities related to taxonomy;
2. be used as an instrument in seeking funds for its implementation and other related activities; and
3. be used to identify activities in contribution to achieving the Aichi Targets Nos. 12 (species extinction) and 19 (science-based information and transfer)



Goals

The GTI RAP
2017-2025
embodies four
goals.

1. address taxonomic needs and strengthen capacities at the national and regional levels based on the priority needs assessment;
2. support the establishment and maintenance of systems and infrastructures needed to obtain, collate, and curate the biological specimens that are the basis for taxonomic knowledge;
3. assist to facilitate an improved and effective infrastructure/system for access to taxonomic information through the existing platforms such as the Regional and National Clearing-House Mechanisms (CHMs), among others; and
4. assist the AMS in generating information needed for decision-making in conservation and sustainable use of biological diversity and its components.

GOAL 1

Address taxonomic needs and strengthen capacities at national and regional levels based on priority needs assessment.

Objectives:

- 1.1. To identify taxonomic priorities of each AMS and the ASEAN region through needs assessment;
- 1.2. To enhance the taxonomic capacity of the AMS; and
- 1.3. To increase public awareness of the AMS on taxonomy

| Objectives | Strategic Actions | Specific Actions | Timeline |
|--|--|--|-----------|
| 1.1. To identify taxonomic priorities of each AMS and the ASEAN region through needs assessment | 1.1.1. Assess taxonomic needs and identify gap priorities of the AMS | 1.1.1.1. Conduct consultation workshops for specific target sectors (agriculture, forestry, fisheries, etc.), government and non-government organizations, including academe, policy-makers, indigenous and local communities, etc. | 2017-2020 |
| | | 1.1.1.2. Prepare National Taxonomic Needs Assessment Report | 2017-2020 |
| | 1.1.2. Assess taxonomic needs and identify gap priorities of the region | 1.1.2.1. Conduct consultation workshops to facilitate sharing and identification of taxonomic priorities by experts on taxonomy from SEA | 2018-2020 |
| | | 1.1.2.2. Prepare a Regional Taxonomic Needs Assessment Report | 2018-2020 |



GOAL 1

Address taxonomic needs and strengthen capacities at national and regional levels based on priority needs assessment.

| Objectives | Strategic Actions | Specific Actions | Timeline |
|---|--|--|-----------|
| 1.2. To enhance the taxonomic capacity of the AMS | 1.2.1. Develop and implement human capacity building program on taxonomy for AMS | 1.2.1.1. Conduct national and international training courses, internships, fellowship programs, etc. | 2017-2025 |
| | | 1.2.1.2. Conduct para-taxonomic trainings | 2017-2025 |
| | | 1.2.1.3. Conduct taxonomic researches | 2017-2025 |
| | | 1.2.1.4. Sponsor graduate studies on taxonomy | 2017-2025 |
| | | 1.2.1.5. Creation of graduate studies scholarship | 2017-2025 |
| | | 1.2.1.6. Leverage for support for graduate studies scholarships | 2017-2025 |
| | | 1.2.1.7. Develop training modules on the use of existing tool kits e.g species identification, species image recognition, others | 2017-2025 |
| | | 1.2.1.8. Facilitate exchange programs for taxonomy students and taxonomy practitioners between universities, herbaria, and other research institutions | 2017-2025 |
| | | 1.2.1.9. Encourage local staff to attend national and international symposiums on taxonomy. | 2017-2025 |

GOAL 1

Address taxonomic needs and strengthen capacities at national and regional levels based on priority needs assessment.

| Objectives | Strategic Actions | Specific Actions | Timeline |
|------------|-------------------|--|-----------|
| | | <p>1.2.1.10. Conduct training course on methodology assessment for identification of conservation status for national and international red data list</p> | 2018-2025 |
| | | <p>1.2.1.11. Capacity building in DNA barcoding and phylogenetic research.</p> | 2018-2025 |
| | | <p>1.2.1.12. Conduct training on specimen collection process (e.g photography, field notes, DNA material, others)</p> | |
| | | <p>1.2.1.13. Craft a Communication, Education, and Public Awareness (CEPA) Plan on Taxonomy</p> <ul style="list-style-type: none"> - Production of CEPA materials - Translate and popularize technical documents on taxonomy - Develop mobile applications for taxonomy - Promote taxonomy on various channels (social media, print, broadcast, online, others) - Promotion of taxonomy through celebrity endorsers - Edutainment - Audio-visual production - Citizen Science on biodiversity appreciation and conservation - Promote iconic species to inspire various stakeholders to do conservation activities/actions - Events (festivals) | 2017-2019 |
| | | <p>1.2.1.14. Develop policy briefs and strategies for taxonomy at the national level</p> | 2018-2025 |

GOAL 2

Support the establishment and maintenance of systems and infrastructures needed to obtain, collate, and curate the biological specimens that are the basis for taxonomic knowledge

Objectives:

- 2.1. To provide access to taxonomic information
- 2.2. To improve biological collections as sources of taxonomic information
- 2.3. To increase quantity of specimen collections and available taxonomic information
- 2.4. To identify and establish taxonomic reference centers

| Objectives | Strategic Actions | Specific Actions | Timeline |
|---|--|--|-----------|
| 2.1. To provide access to taxonomic information to AMS | 2.1.1. Provide support access to and generation of taxonomic information. | 2.1.1.1. Gain access to taxonomic literature, publications, taxonomic specimens on-line / digital | 2017-2025 |
| | | 2.1.1.2. Digitize type specimens and integrate to the CHM | 2017-2025 |
| | | 2.1.1.3. Upgrade libraries thru digitizing of publications and integrate to the CHM | 2017-2025 |
| | | 2.1.1.4. Standardize the interoperability of databases / platforms in the AMS for data management | 2017-2025 |
| | 2.1.2. Share taxonomic information between and among AMS | 2.1.2.1. Conduct workshops, symposia, and consultation meetings | 2017-2025 |
| | | 2.1.2.2. Establish a program for exchange of materials between institutions / researchers | 2017-2025 |
| | | 2.1.2.3. Facilitate/Develop specimen loan programs among AMS | 2017-2025 |

GOAL 2

Support the establishment and maintenance of systems and infrastructures needed to obtain, collate, and curate the biological specimens that are the basis for taxonomic knowledge

| Objectives | Strategic Actions | Specific Actions | Timeline |
|---|--|---|---|
| | 2.2.3. Strengthen the coordination/facilitative roles of GTI National Focal Points | 2.2.3.1. Institutionalize connection between the GTI focal point person and CBD focal institution 2.2.3.2. Allocate resources for operational activities of the GTI focal point | 2017-2025 2018-2025 |
| 2.2. To improve biological collections as sources of taxonomic information | 2.2.1. Implement measures to secure specimen longevity | 2.2.1.1. Improve facilities (building, cabinets, air conditioning, microscopes, others) 2.2.1.2. Conduct training on herbarium and museum curatorship 2.2.1.3. Establish standard pest (insects / fungi / bacteria) management protocol of collected specimens (poisoning & other treatments) | 2017-2025 2017-2025 2017-2025 |
| 2.3. To increase quantity of specimen collections and available taxonomic information | 2.3.1. Rationalize/simplify the permit system for specimen collection and transport | 2.3.1.1. Facilitate sharing of different permit-securing systems of each AMS for inter and intra-country specimen collection activities | 2017-2020 |
| | 2.3.2. Facilitate collections and exchange of specimens through national and regional policy development underpinning mutual benefit between the source and receiver of specimen | 2.3.2.1. Initiate discussion towards crafting of policy recommendation in terms of developing protocols for regional movement of specimens for national museums / botanic gardens / herbaria (e.g. EU policy in specimen movement) | 2021-2025 |



GOAL 2

Support the establishment and maintenance of systems and infrastructures needed to obtain, collate, and curate the biological specimens that are the basis for taxonomic knowledge

| Objectives | Strategic Actions | Specific Actions | Timeline |
|--|--|--|-----------|
| | | 2.3.2.2. Conduct training on specimen collection process (e.g photography, field notes, DNA material, others) | |
| 2.4. To identify and establish taxonomic reference centers | 2.4.1. Strengthen existing networks for regional cooperation in the development and establishment of taxonomic reference centers | 2.4.1.1. Assist in the establishment of new and improvement of existing taxonomic reference centers (herbaria, botanic gardens, museums, arboreta, aquaria, culture collections, etc.) | 2018-2025 |

GOAL 3

Assist to facilitate an improved and effective infrastructure/system for access to taxonomic information through the existing platforms such as the Regional and National Clearing-House Mechanisms (CHMs), among others

Objectives:

- 3.1. To establish and maintain national CHMs containing species database; and
- 3.2. To improve the cooperation of the AMS through sharing of information through the ASEAN CHM, other Multilateral Environmental Agreements (MEAs), and among GTI, CHM and CBD Focal Points

| Objectives | Strategic Actions | Specific Actions | Timeline |
|---|---|---|-----------|
| 3.1. To establish and maintain national CHMs containing species database; | 3.1.1. Establish and maintain national CHMs containing species database | 3.1.1.1. Identify organizations and individuals with species information and establish data sharing protocols <i>(Data sharing protocols refer to agreements among stakeholders' network in the collection, updating, and access of data contributed to the CHM species database)</i> | 2017-2019 |
| | | 3.1.1.2. Establish and update species checklist <i>(Species checklist refers to the collated list of species (with taxonomic information) of all member organizations in a CHM network. Information on species abundance and distribution may be included if readily available)</i> | 2017-2020 |
| | | 3.1.1.3. Conduct national level trainings in data encoding, species database organization and management, and CHM establishment and maintenance | 2017-2020 |
| | | 3.1.1.4. Develop and update species database in the national CHMs based on the species checklist | 2017-2025 |
| | | 3.1.1.5. Identify and develop new knowledge products and tools (products derived from the database) | 2018-2025 |

GOAL 3

Assist to facilitate an improved and effective infrastructure/ system for access to taxonomic information through the existing platforms such as the Regional and National Clearing-House Mechanisms (CHMs), among others

| Objectives | Strategic Actions | Specific Actions | Timeline |
|---|---|---|-----------|
| 3.2. To improve the cooperation of the AMS through sharing of information through the ASEAN CHM and other Multi-lateral Environmental Agreements (MEAs) | 3.2.1. Develop and implement capacity building program on the establishment and maintenance of CHMs | 3.2.1.1. Conduct regional trainings in data encoding, species database organization and management, and CHM establishment and maintenance | 2017-2025 |
| | | 3.2.1.2. Develop and update species databases in the ASEAN CHM | 2017-2025 |
| | | 3.2.1.3. Translate species data to English language | 2017-2025 |
| | 3.2.2. Establish linkage with other Multilateral Environmental Agreements (CITES, CMS, Nagoya Protocol, Cartagena Protocol) | 3.2.2.1. Conduct consultation workshops with MEAs to ensure the interoperability of species information at the national level | 2017-2020 |
| | 3.2.3. Strengthen the cooperation among the CHM, GTI, and CBD focal points | 3.2.3.1. Facilitate information exchange activities for the CHM, GTI and CBD focal points | 2017-2025 |

GOAL 4

Assist AMS in generating information needed for decision-making in conservation and sustainable use of biological diversity and its components.

Objectives:

- 4.1. To conduct taxonomic inventory in AHPs, PAs and other conservation areas
- 4.2. To conduct national assessment of the conservation status of species of AMS
- 4.3. To address the cross cutting issues in the CBD such as Climate Change, Agrobiodiversity, Crop wild relatives, Access and Benefit Sharing (ABS), Invasive Alien Species, Traditional knowledge, among others

| Objectives | Strategic Actions | Specific Actions | Timeline |
|--|--|---|-----------|
| 4.1. To conduct taxonomic inventory in AHPs, PAs and other conservation areas | 4.1.1. Generate information needed for decision-making in conservation and sustainable use of biological diversity and its components. | 4.1.1.1. Conduct research and development activities in priority conservation areas | 2017-2025 |
| | | 4.1.1.2. Identify biodiversity hotspot areas and critical ecosystems | 2017-2025 |
| | | 4.1.1.3. Develop / update geo-maps of species and habitats | 2017-2025 |
| 4.2. To conduct national assessment of the conservation status of species of AMS | 4.2.1. Review and assess conservation status of species (IUCN, IAS, CITES, CMS, etc.) | 4.2.1.1. Conduct research and development activities | 2018-2025 |



GOAL 4

Assist AMS in generating information needed for decision-making in conservation and sustainable use of biological diversity and its components.

| Objectives | Strategic Actions | Specific Actions | Timeline |
|--|---|---|-----------|
| 4.3. To address the cross cutting issues in the CBD such as Climate Change, Agrobiodiversity, Crop wild relatives, Access and Benefit Sharing (ABS), Invasive Alien Species, Traditional knowledge, among others | 4.3.1. Develop programs to address cross cutting issues | 4.3.1.1. Conduct assessment studies of crop wild relatives, traditional varieties, etc. | 2018-2025 |
| | | 4.3.1.2. Conduct studies on species responses to climate change | 2018-2025 |
| | | 4.3.1.3. Conduct studies on the impacts of IAS on native biodiversity | 2018-2025 |
| | | 4.3.1.4. Conduct studies on the impacts of GMOs on native biodiversity | |
| | | 4.3.1.5. Conduct ethno-biological studies (relation biological resources and human) | 2018-2025 |