



Convention on Biological Diversity

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Regional workshop on knowledge management for biodiversity for countries in Asia Bangkok, 11–13 March 2025

Report of the regional workshop on knowledge management for biodiversity for countries in Asia *

Introduction

1. At its fifteenth meeting, the Conference of the Parties to the Convention on Biological Diversity adopted the Kunming-Montreal Global Biodiversity Framework (decision 15/4), setting forth an ambitious agenda to halt and reverse biodiversity loss. Target 21 of the Framework calls for ensuring that the best available data, information, and knowledge are accessible to decision-makers, practitioners, and the public, and effectively used to support biodiversity-related decision-making, planning, implementation, monitoring and reporting. The target emphasizes that the traditional knowledge, innovations, practices, and technologies of indigenous peoples and local communities should be accessed only with their free, prior, and informed consent, in accordance with national legislation.
2. Knowledge management is a strategic means of implementation for the Framework. The systematic collection, organization, sharing, and application of biodiversity data, information and knowledge play a critical role in supporting effective planning, policy development, implementation, monitoring, and reporting.
3. The Conference of the Parties at its sixteenth meeting (decision 16/9 B) adopted a knowledge management strategy to support the implementation of the Framework. The strategy outlines the strategic knowledge management objectives, actions and expected outcomes in support of the Framework's goals and targets. It also describes the implementation and monitoring approaches and underscores the need for collaboration among knowledge holders, researchers, and practitioners to ensure inclusive and effective knowledge management.
4. To operationalize this strategy, the Secretariat launched a series of capacity-building and peer-learning activities at the regional level. These activities aim to contextualize the global knowledge management priorities to national and subregional realities, taking into account regional specificities, institutional structures, and ongoing biodiversity initiatives. By engaging with Parties and regional actors, these workshops support the co-development of tailored responses that strengthen implementation of the Framework.
5. Against this backdrop, the regional workshop for Asia was organized to: (a) review and assess the biodiversity knowledge management landscape; (b) share national and regional experiences, good practices, and lessons learned; (c) identify specific needs, gaps, and challenges in national knowledge management systems; and (d) co-develop practical, context-specific solutions to strengthen

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biodiversity knowledge management at the national level and promote regional cooperation in support of achieving Target 21 of the Framework.

6. The regional workshop on knowledge management for biodiversity for countries in Asia was jointly organized by the ASEAN Centre for Biodiversity, the United Nations Environment Programme Regional Office for Asia and Pacific (ROAP) and the Secretariat of the Convention on Biological Diversity.

7. The workshop was held at the United Nations Conference Centre (UNCC) in Bangkok and was attended by 58 participants representing 22 Parties and 2 organizations representing IPLCs and Women. Several other key stakeholders including representatives from UNDP, NBSAP Accelerator Partnership, coordinators of the Panorama Initiative (IUCN, GIZ), and representatives from the TSC Centres in Asia also attended. The list of participants is available in annex II.

8. The main workshop outcomes are presented in the report below and in annex I. These represent a summary of discussions, and do not necessarily reflect a group consensus.

Item 1

Opening of the meeting

9. The workshop was opened on 11 March 2025, at 9 a.m. by Chayanon Pakdeejit, Secretary-General, Office of Natural Resources and Environmental Policy and Planning (ONEP) and CBD National Focal Point of the Government of Thailand, Astrid Schomacker, Executive Secretary of the Convention on Biological Diversity, Marlene Nilsson, Deputy Regional Director, United Nations Environment Programme (UNEP) Asia and the Pacific Office, and Clarissa Arida, Acting Executive Director, ASEAN Centre for Biodiversity.

10. Chayanon Pakdeejit highlighted the workshop's role in supporting the Kunming-Montreal Global Biodiversity Framework (KMGBF) by enhancing knowledge sharing and removing barriers. She noted that with a comprehensive Knowledge Management Strategy now in place, countries have the tools to translate the Kunming-Montreal Global Biodiversity Framework (KMGBF) into national action. She further emphasized that effective knowledge management is essential for achieving the KMGBF's 23 action targets by ensuring evidence-based, collaborative decision-making.

11. Astrid Schomacker, who addressed the meeting through a video message, highlighted the significance of the sixteenth meeting of the Conference of the Parties to the Convention during which key decisions on resource mobilization, monitoring, knowledge management and other issues were adopted. She noted that with a comprehensive Knowledge Management Strategy now in place, countries have the tools to translate the KMGBF into national action. She also mentioned that effective knowledge management is essential for achieving the KMGBF's 23 action targets by ensuring evidence-based, collaborative decision-making. She expressed gratitude to the Government of Thailand, UNEP, ASEAN Centre for Biodiversity, and PANORAMA Solutions for Nature for collaborating with the Secretariat organizing the workshop, and Denmark for providing the financial support.

12. Marlene Nilsson underlined the urgent need to address biodiversity loss and climate change. She stressed that knowledge must extend beyond conservation circles and integrate sectors like agriculture, finance, and urban planning and focused on the necessity of valuing indigenous and community knowledge alongside scientific data as a key point.

13. Clarissa Arida highlighted the role of ASEAN in coordinating biodiversity knowledge-sharing across member states. She emphasized Target 21 of the Framework, which focuses on ensuring decision-makers and practitioners have access to reliable knowledge for biodiversity management.

14. Mohammad Khalid Sayeed Pasha, IUCN Asia Regional Coordinator for Protected, Conserved and Heritage Areas & IUCN-ARO CBD TSC Support Centre highlighted key barriers to effective biodiversity knowledge management and exchange, such as data fragmentation, limited access to

traditional knowledge, and weak institutional platforms. He underlined the need for collaboration between Technical and Scientific Cooperation (TSC) Support Centers to scale up knowledge-sharing efforts.

15. Dindo Campilan, Regional Director for Asia and Hub Director for Oceania IUCN, welcomed participants to the CBD Regional Workshop on Knowledge Management for Biodiversity in a recorded video message, thanking the Government of Thailand and partner organizations for their support. He highlighted IUCN Asia's role in strengthening technical support, regional cooperation, and capacity building, emphasizing the strategic value of knowledge in biodiversity conservation. Referencing the Kunming-Montreal Global Biodiversity Framework, he stressed the need for better knowledge access, sharing, and application to address challenges like data fragmentation and underutilization of local knowledge. He emphasized that the workshop should aim at fostering discussions and concrete actions to advance biodiversity goals and concluded with a warm welcome to Bangkok and best wishes for success.

16. The workshop lead facilitator, Andreas Brandner from the Knowledge for Development Partnership (K4DP), encouraged participants to embrace an open and collaborative mindset. He emphasized that the workshop is not just about data, information and knowledge but also about building connections and learning from each other's experiences. He urged participants to focus on actionable takeaways rather than just gathering large amounts of information.

17. The session concluded with a group photo and a networking break, setting a positive and collaborative tone for the workshop ahead.

Item 2

Workshop objectives, scope and expected outcomes

18. Representatives of the Secretariat provided an overview of the workshop's objectives and expected outcomes, in particular in terms of strengthening national and regional capacity for knowledge management. These included identification of national and regional knowledge management needs and priorities; development of national biodiversity knowledge management policy frameworks, strategies or action plans; and strengthening of biodiversity knowledge management networks and communities of practice.

19. This was followed by an ice breaking session with the aim to build rapport among the participants. A representatives of the Secretariat asked participants to introduce each other and highlight their expectations from the workshop. The session, which lasted for around 45 minutes, helped participants know each other by name, profession and interest areas.

Item 3

Introduction to the Knowledge Management for Biodiversity Initiative

20. A representative of the Secretariat introduced the Knowledge Management for Biodiversity (KM4B) Initiative,¹ highlighting its role in supporting the implementation of the Framework and the national biodiversity strategies and action plans. Participants gained insights into the support activities of the initiative.

21. A representative of the Secretariat provided a recapitulation of the knowledge management course, which was delivered in 2024, to ensure that all participants shared a common understanding of the key knowledge management principles and concepts that were presented in the 16 training modules of the course. This refresher session also aimed to strengthen participants' ability to contribute effectively to national and international biodiversity goals.

¹ The KM4B Initiative is a Secretariat-led programme aimed at strengthening national capacities in knowledge management for biodiversity: <https://km4b.cbd.int/>.

Item 4**Introduction to the knowledge management strategy to support the implementation of the Kunming-Montreal Global Biodiversity Framework adopted by the Conference of the Parties to the Convention on Biological Diversity at its sixteenth meeting**

22. Representatives of the Secretariat made a presentation of the knowledge management strategy to support the implementation of the Kunming-Montreal Global Biodiversity Framework adopted by the Conference of the Parties to the Convention on Biological Diversity at its sixteenth meeting. They explored the critical role of knowledge management in supporting the Framework and described its applicability in catalysing and guiding the development and implementation of national and regional biodiversity knowledge management strategies.

Item 5**Role of knowledge management in supporting the implementation of national and regional biodiversity strategies and action plans**

23. This session included presentations and discussions on how knowledge management can be leveraged to support the effective implementation of national and regional biodiversity strategies and action plans. It provided participants with a forward-looking perspective on how knowledge management can serve as a foundational enabler of biodiversity outcomes.

24. Andreas Brandner delivered a presentation on the fundamentals of knowledge management, drawing on insights from his extensive experience in the field. He described knowledge management as a targeted, integrated, and systematic approach to searching, capturing, curating, sharing and applying knowledge. He highlighted the importance of defining clear knowledge management goals that are closely aligned with national biodiversity priorities, to ensure that knowledge management efforts are purposeful and results-oriented.

25. Mr. Brandner identified persistent challenges to effective knowledge management. These included the varying definitions and understandings of KM across organizations, the prevalence of knowledge silos—where NGOs, Governments, academia, and the private sector often operate in isolation—and the limited engagement of certain stakeholder groups, particularly business and industry. He noted the critical need to improve accessibility of knowledge for a wide range of stakeholders, including farmers, indigenous peoples and local communities, and policymakers.

26. Furthermore, Mr. Brandner stressed the importance of developing national knowledge management strategies that foster knowledge partnerships and integrate diverse knowledge systems, including scientific, traditional, and experiential knowledge. He underlined the need for countries to articulate clear knowledge agendas, design KM models that align with national and organizational priorities and establish monitoring and evaluation frameworks to assess progress and ensure continuous improvement.

27. In closing, Mr. Brandner shared a set of recommendations and best practices emerging from global and regional experiences. These included fostering knowledge inclusivity by engaging indigenous peoples and local communities, women and youth; promoting the use of digital platforms and knowledge hubs; encouraging biodiversity-friendly business models with financial incentives; ensuring the quality and reliability of knowledge to counter misinformation; and establishing physical knowledge spaces such as biodiversity knowledge centres and community information hubs to strengthen outreach and engagement.

28. Balakrishna Pisupati, Head UNEP India led the next session as a guest speaker. Drawing on his over two decades of experience with global biodiversity processes, Mr. Pisupati outlined the evolution of knowledge management within the biodiversity agenda, tracing its development from the 2002 Hague Ministerial Declaration adopted at the sixth the Conference of the Parties to the

Convention on Biological Diversity²—which emphasized information exchange and capacity-building—as a foundational moment for global biodiversity knowledge efforts, to the comprehensive approach embedded in the Kunming-Montreal Global Biodiversity Framework adopted in 2022. He noted that the scope of biodiversity targets has expanded significantly, now encompassing issues such as pollution reduction, sustainable consumption, and cross-sectoral integration—further increasing the complexity of knowledge management needs.

29. Mr. Pisupati also offered conceptual clarity by distinguishing between data, information, knowledge, and wisdom—each of which plays a distinct role in effective biodiversity planning and action. He stressed the importance of engaging a broad range of stakeholders to ensure that knowledge management systems are inclusive and representative. In critiquing current national biodiversity strategies and action plans, he pointed to persistent gaps in stakeholder involvement, particularly from marginalized groups and non-environmental sectors.

1. Importantly, Mr. Pisupati emphasized that knowledge management must not be reduced to database systems alone. He argued for a more integrated and dynamic approach to KM—one that includes practitioners’ knowledge from farmers, indigenous peoples and local communities, civil society, and the private sector, all of whom are essential to achieving the targets of the Framework.

30. In conclusion, Mr. Pisupati outlined a set of key steps for advancing knowledge management at the national level. He encouraged countries to embed KM into their national biodiversity strategies and action plans (NBSAPs) through dedicated action plans. He also called for enhanced stakeholder mobilization and engagement, including collaboration with indigenous peoples and local communities, policy actors and businesses. He also emphasized the urgency for capacity building, including tailored training for government officials, researchers, and private sector representatives to strengthen KM practices. Furthermore, he advocated for systematic reporting processes that reflect contributions from all relevant knowledge holders and for continued dialogue through workshops and platforms to monitor progress and adapt KM strategies based on practical learning.

Item 6

Experiences, challenges and success stories in national biodiversity knowledge management

31. The meeting re-convened with introductory remarks by Mr. Brandner, who emphasized the growing importance of KM as a strategic enabler for achieving the goals and targets of the Framework. He emphasized that effective national implementation efforts depend not only on access to the best available biodiversity data, information and knowledge, but also on the systems, institutional structures and skills that allow knowledge to be shared, applied, and sustained across government and society.

32. Mr. Pisupati provided an overview of the global knowledge management landscape, drawing attention to how KM frameworks have evolved and how they are now being reflected in the development and revision of national biodiversity strategies and action plans (NBSAPs). He highlighted Target 21 of the Framework, noting its emphasis on making the best available data, information and knowledge widely accessible and usable to support effective biodiversity governance and management. Mr. Pisupati stressed the need for equitable knowledge-sharing practices, including the appropriate inclusion of indigenous and local knowledge systems, based on their free, prior, and informed consent (FPIC).

33. Mr. Pisupati also introduced the “whole-of-government and whole-of-society” approach as a critical pillar for building inclusive, multisectoral KM systems. This approach encourages engagement across ministries, sectors, and all actors of society to ensure knowledge is not siloed but integrated into decision-making processes at all levels.

² www.cbd.int/doc/meetings/cop/cop-06/other/cop-06-min-decl-en.pdf.

34. The session then transitioned to a presentation of country-level responses to knowledge management, based on initial analyses of submissions under the Framework. It was noted that while some countries have already articulated specific national targets and frameworks for KM within their NBSAPs, others are still at early stages of development. Common focus areas emerging from these documents included:

- (a) The collection, governance, and accessibility of biodiversity data;
- (b) Capacity-building, including training and institutional strengthening;
- (c) The recognition and integration of indigenous knowledge;
- (d) Development of appropriate legal and policy frameworks;
- (e) The establishment of monitoring and reporting mechanisms.

35. A comparative analysis was provided, categorizing national efforts into broad groups. Countries with more mature KM systems tend to have institutionalized platforms for knowledge exchange, often coupled with multi-stakeholder collaboration. In contrast, many developing countries are still in the process of creating foundational KM infrastructure, such as biodiversity databases and inter-agency coordination mechanisms. Key challenges were noted across both contexts, including the absence of data governance policies, limited financial resources, and the lack of enabling legislative frameworks.

36. The presentations concluded with a synthesis of knowledge management needs and challenges based on the review of NBSAPs.

37. The core needs included:

- (a) The development of centralized national knowledge repositories;
- (b) The deployment of improved digital tools and interoperable data platforms;
- (c) The establishment of stronger cross-sectoral and international partnerships.

38. The major challenges identified were:

- (a) Lack of formal mechanisms for inter-organizational knowledge transfer;
- (b) Concerns related to intellectual property rights and data sovereignty;
- (c) Insufficient funding
- (d) Lack of skilled personnel;
- (e) Difficulties in integrating traditional and local knowledge into formal systems;
- (f) Persistent technical barriers, including inconsistencies in data formats and reporting requirements.

39. The second part of the session featured small group discussions designed to elicit practical insights and peer learning around national experiences with biodiversity knowledge management. Participants were divided into breakout groups and invited to reflect on two guiding questions: (a) What is currently working well in knowledge management for biodiversity; and (b) what areas require further improvement. The format encouraged open exchange and cross-country comparisons, allowing for a richer understanding of both enabling factors and persistent challenges.

40. In response to the first question, participants shared a range of best practices and success stories. These included the development of national biodiversity knowledge hubs; the use of digital platforms to support public access to environmental information; structured collaboration between ministries and academic institutions; and the strengthening of partnerships and networks as a key enabler for successful implementation.

41. On the second question, participants identified several areas in need of further development, including gaps in formal KM frameworks, in particular where institutional responsibilities remained unclear or fragmented. The key challenges and obstacles in cross-sectoral data sharing and scaling up efforts included technical incompatibilities and misalignment with national policy frameworks, limited awareness of KM tools and insufficient capacity at subnational levels.
42. Key takeaways from the group discussions included the need for countries to move beyond ad hoc knowledge management activities and toward the institutionalization of KM across strategies, policies, institutions and processes. Participants emphasized the importance of strengthening national knowledge-sharing networks and improving coordination mechanisms. Legal frameworks for data governance were identified as foundational, particularly to address issues related to data access, ownership, and quality. Additionally, access to digital tools, platforms, and financial resources was noted as critical to building and sustaining effective KM systems.
43. Facilitators concluded the first day by reiterating the importance of translating the discussion outcomes into concrete actions. Countries were encouraged to build on the momentum generated by the workshop to reinforce their national biodiversity knowledge systems. A follow-up session is planned to review progress, assess evolving needs, and identify further opportunities for regional and global cooperation in advancing knowledge management under the Kunming-Montreal Global Biodiversity Framework.
44. The second day of the workshop opened with a brief recap of the discussions and outcomes from the first day. The facilitators emphasized the importance of continuity and encouraged participants to build on the insights generated during the previous sessions.
45. The session then transitioned into a focused discussion on Target 21 of the Framework, which is a cross-cutting enabler rather than a standalone thematic target. Participants were reminded that Target 21 plays a foundational role in supporting the implementation and monitoring of the other KMGBF targets by ensuring that data, information, and knowledge are made accessible to decision-makers and practitioners. The discussion drew clear links between Target 21 and other targets, such as Target 2 on ecosystem restoration and Target 3 on protected areas and other effective area-based conservation measures (OECMS), highlighting the interconnected nature of effective biodiversity action. Particular attention was given to the role of indigenous knowledge in biodiversity management, with several speakers stressing the need to recognize, respect, and integrate traditional knowledge systems based on the principle of free, prior, and informed consent.
46. The session also included presentations from country representatives and partner organizations on their national and institutional experiences in biodiversity knowledge management. These group presentations covered diverse contexts but revealed several shared themes, best practices and lessons learned. These included the use of multi-stakeholder consultations to shape knowledge policies, efforts to foster cross-sectoral collaboration among government, academia, and civil society, and the integration of knowledge management objectives within NBSAPs. Presenters also reflected on the value of regional exchanges for peer learning and the co-development of innovative KM solutions.
47. Participants reported back from the group discussions held on the previous day, outlining both strengths and ongoing challenges in national biodiversity knowledge management. Several areas were identified as working well, including the use of multi-stakeholder consultations, the integration of KM into national policies and strategies, and the establishment of digital platforms for biodiversity data. Awareness of the importance of KM in biodiversity planning was also noted to be increasing across countries.
48. Key challenges identified included the absence of formal mechanisms to manage and integrate traditional knowledge, limited financial and human resources, and a lack of standardized data-sharing protocols. Capacity gaps were also flagged, particularly in relation to technical KM skills. These included limited expertise in digital platform development, weak institutional capacity for systematic knowledge-sharing, insufficient training opportunities for KM practitioners, and a lack of structured curricula in academic institutions for biodiversity-related KM. Participants also noted hesitancy in

inter-agency collaboration and duplication of efforts, as well as the need for better cross-sectoral alignment with broader national and global frameworks, including the SDGs.

49. Recommendations focused on the need to establish national KM platforms, strengthen institutional arrangements, and develop standard protocols for data governance. Participants also called for improved financing—potentially through public-private partnerships—and greater inclusion of underrepresented groups, including indigenous peoples, women, and youth. Aligning KM strategies with national development plans and the SDGs was seen as essential for long-term impact.

50. Key takeaways included a call for greater regional and subregional collaboration, stronger linkages between biodiversity KM, climate action, and sustainable development, and more strategic use of digital tools.

51. Participants expressed interest in continuing the dialogue through future sessions focused on funding opportunities and collaborative regional initiatives.

Item 7

Introduction to the development of national knowledge management policy briefs

52. The session focused on reviewing and refining a proposed framework for national biodiversity knowledge management (KM), which could support countries in drafting KM policy briefs and strategies. Participants worked through thematic areas that could be used to structure the framework and reflect common KM priorities and practices across the region.

53. Ten thematic areas were reviewed and discussed as potential elements that countries may consider when developing national biodiversity KM strategies (see annex I).

54. On the basis on group feedback, several adjustments were proposed to improve the framework:

- Replace the term "fake news" with a focus on quality information standards.
- Merge overlapping topics to avoid redundancy and streamline the framework.
- Increase emphasis on traditional knowledge, in alignment with KMGBF Target 21.
- Promote cross-sectoral KM partnerships, including with sectors like agriculture and finance.
- Improve interoperability of digital KM platforms and tools.
- Expand KM training and capacity-building opportunities, especially for technical staff.
- Explore innovative financing mechanisms, including private sector engagement.
- Include monitoring and evaluation measures, such as KM performance indicators.

55. Annex I details the complete KM regional agenda for Asia as proposed by participants.

56. Agreed next steps from the session included:

- (a) Final review and validation of the KM framework incorporating participant feedback.
- (b) Alignment of national KM strategies with the revised regional framework.
- (c) Continued subregional collaboration, including follow-up consultations and engagement with technical support centers.

57. The session produced actionable outcomes and key elements of a national KM framework. Key priorities identified were inclusivity, digitalization, institutional integration, sustainable financing, and the creation of practical tools to support KM implementation at national and regional levels.

58. The participants also discussed ways of translating regional knowledge management frameworks into actionable national strategies. Drawing from practical experiences, including Uganda's national KM policy, participants discussed how to localize regional guidance and implement KM within national biodiversity policies and action plans.

59. The discussion highlighted key challenges in implementation, such as limited financial and human resources, unclear strategic direction, and lack of institutional buy-in. The participants proposed the following strategies to overcome these challenges:

- (a) Establishing knowledge partnerships within and across ministries and institutions;
- (b) Integrating KM directly into national biodiversity strategies and action plans;
- (c) Engaging universities and research institutions to serve as hosts for national KM centers.

60. Participants also identified practical barriers in knowledge management for biodiversity and proposed possible practical solutions:

- (a) The main challenges include:
 - Inadequate funding and resource allocation.
 - Weak institutional support for KM functions.
 - Limited technical capacity in KM.
 - Fragmented stakeholder engagement.
 - Absence of digital KM infrastructure.
- (b) The solutions proposed include the following:
 - Mobilize funding from sources such as GEF, UNDP, and regional biodiversity mechanisms.
 - Create national knowledge-sharing networks and communities of practice.
 - Foster cross-sectoral collaboration between government, civil society, academia, and private sector.
 - Introduce standardized KM procedures, including documentation protocols and quality assurance mechanisms.

61. A stepwise roadmap for implementing national KM strategies was developed, structured around the following six key pillars:

- (a) Stakeholder & Knowledge Mapping - Identify knowledge holders and data gaps across institutions and communities;
- (b) Partnerships and Collaboration Networks - Promote regional alliances and communities of practice on thematic areas (e.g., climate, marine ecosystems);
- (c) Digital Knowledge Platforms - Develop national KM repositories compatible with existing databases;
- (d) Integration into NBSAPs - Embed KM as a core component of national biodiversity planning;
- (e) Resource mobilization - Explore mixed funding strategies, including low-cost, high-impact pilot projects;
- (f) Quality Standards - Define best practices for data collection, validation, and sharing, with an emphasis on scientific rigor and transparency.

62. Mr. Pisupati provided a reflection on the discussions and made the following recommendations with emphasis on practical and scalable KM strategies:

- (a) Start with knowledge mapping to identify holders and gaps;
- (b) Utilize communities of practice as cost-effective collaboration tools;
- (c) Prioritize the development of digital platforms and knowledge hubs;
- (d) Embed KM mechanisms in existing biodiversity projects rather than creating stand-alone structures;
- (e) Strengthen cross-sectoral partnerships for broader engagement.

63. The session concluded with a proposal on the following short-, medium-, and long-term next steps:

- (a) Short-Term (0-6 months):
 - (i) Finalize regional KM frameworks and begin national adaptation;
 - (ii) Map stakeholders and biodiversity knowledge resources;
 - (iii) Set up informal KM networks and secure seed funding;
- (b) Medium-Term (6-12 months):
 - (i) Launch national digital knowledge platforms;
 - (ii) Formalize KM strategies in NBSAPs;
 - (iii) Pilot KM initiatives at regional or ecosystem level;
- (c) Long-Term (1-3 years):
 - (i) Institutionalize national KM policies;
 - (ii) Scale up KM activities with sustainable funding;
 - (iii) Monitor and evaluate KM effectiveness.

64. The second session reinforced that knowledge management is fundamental to effective biodiversity conservation. Participants committed to taking concrete steps toward integrating KM into their national strategies. Future discussions will focus on securing funding, implementing digital knowledge-sharing systems, and fostering long-term institutional commitment.

65. The final session of the workshop provided an opportunity for participants to reflect in groups and collectively on key dimensions of biodiversity knowledge management (KM), building on the framework adopted during the KM4B meeting in Bogotá. Mr. Brandner encouraged participants to explore eight core themes in KM: partnerships, inclusion, awareness, management excellence, digitalization, academic engagement, resource mobilization, and knowledge standards. Working in groups, participants discussed challenges and proposed practical solutions. Each group presented its findings in a plenary session.

66. The themes and actions and solutions that emerged from the group discussions are summarized in the table below.

<i>Identified issues</i>	<i>Proposed solutions</i>
Knowledge partnerships and agendas	
Need for improved coordination across sectors and levels.	Centralized biodiversity databases with API integration.

Gaps in indigenous and local community participation	National CHMs with expanded mandates. Multilingual e-learning platforms. Inclusive non-formal education initiatives (e.g., webinars, community training). Takeaway: KM agendas must remain flexible while ensuring coordination and inclusiveness.
Knowledge inclusion	
Many national policies lack formal recognition of traditional knowledge.	Embedding traditional knowledge across NBSAPs. Establishing multi-level stakeholder platforms. Mandating stakeholder representation in national KM policy development. Takeaway: Multi-stakeholder platforms are critical for inclusive biodiversity knowledge systems.
Awareness programmes	
Awareness efforts are hampered by limited funding and disjointed messaging	Increase investment in outreach and capacity-building. Conduct targeted sectoral campaigns. Reward mechanisms for conservation actions. Use community-based and digital media. Takeaway: Effective communication must be tailored to audience types—from policymakers to communities.
Knowledge management excellence	
Institutional KM remains weak.	National KM policies for biodiversity. Assigning clear KM roles and responsibilities within public institutions. Establishing professional KM networks. Takeaway: Institutionalizing KM ensures long-term capacity and continuity.
Knowledge Hubs & Digitalization	
Fragmentation of biodiversity knowledge systems, limiting coherence, interoperability and effective regional knowledge sharing	A regional CHM for Asia Expanded CHM functionality Promotion of AI and open data platforms. Create new digital sharing mechanisms. Takeaway: Digital platforms are central to bridging KM gaps and enhancing accessibility.
Academic centres for knowledge science	

Absence of structured KM curricula in biodiversity-related programs	University-level KM course integration. Collaboration with global KM experts. Dedicated KM research centres in biodiversity. Takeaway: Academia must play a central role in building KM expertise and advancing research.
Business models and resource mobilization	
Resource limitations	Public-private partnerships and eco-taxation. Incentives linked to access and benefit-sharing (ABS). Citizen-engagement funding models. Takeaway: KM funding requires innovation and linkages to economic value.
Data Standards & Infrastructure	
Data inconsistencies and lack of interoperability	National and regional data standardization. Open access and verification protocols. Clear policies to support networked knowledge-sharing. Takeaway: Reliable biodiversity KM depends on standardized, open, and quality-controlled data.

67. The session concluded with consensus on following next steps:

- (a) Finalize and document proposed national KM action plans;
- (b) Strengthen regional and national collaboration through knowledge hubs;
- (c) Develop financial and policy frameworks to support KM implementation;
- (d) Maintain momentum through ongoing stakeholder engagement.

68. In conclusion, participants reaffirmed that effective knowledge management is essential to the successful implementation of biodiversity policies and programmes at all levels. The session proposed the above solutions to guide future action, with strong emphasis on coordination, inclusion, digital innovation, and sustainable financing as key enablers of KM excellence.

Item 8

Implementation of knowledge management at the regional level

69. This session focused on operationalizing regional biodiversity knowledge management strategies and aligning them with national priorities under the Kunming-Montreal Global Biodiversity Framework (KMGBF). Participants examined regional needs, reviewed ongoing initiatives, and explored ways to strengthen technical and institutional collaboration across the region. The session was enriched by presentations from key regional partners and culminated in a group exercise to define subregional priorities and draft an initial roadmap for implementation.

70. The ASEAN Centre for Biodiversity (ACB) provided a reflection on its two-decade journey in advancing biodiversity KM across Southeast Asia. ACB showcased tools such as the ASEAN Clearing-House Mechanism (CHM) and its dashboard-based biodiversity visualization platform.

These tools serve as central pillars for data access and policy support, enabling evidence-based conservation strategies across ASEAN Member States.

71. IUCN Asia presented its work as a Technical and Scientific Cooperation (TSC) centre and outlined its ongoing biodiversity monitoring and capacity-building initiatives. The presentation emphasized the need for both regional and inter-regional collaboration to ensure consistency in KM practices and to scale learning across borders.

72. FAO introduced its Biodiversity Knowledge Hub as a tool to support alignment with KMGBF targets, while UNEP highlighted global support services designed to strengthen national biodiversity reporting. UNESCAP added insights into efforts to link biodiversity data with climate change impacts, further underscoring the importance of cross-thematic data integration.

73. Despite strong initiatives, several key challenges were identified. Participants noted the lack of coordination between national and regional biodiversity data systems, insufficient funding to support long-term KM projects, and wide disparities in technical capacity. The need for harmonized national biodiversity monitoring frameworks was also emphasized as critical to aligning with the KMGBF.

74. Participants worked in groups to identify subregional priorities and develop action plans. These discussions were guided by three core questions: (1) How can subregional cooperation benefit KM for Biodiversity (KM4B)? (2) How can TSC centres and regional partners support KM4B? and (3) How should regional collaboration be organized? Participants were tasked with proposing objectives, solutions, and an implementation roadmap at the subregional level.

75. The second session of the day spotlighted PANORAMA – Solutions for a Healthy Planet, a global initiative that promotes peer learning and the scaling up of successful biodiversity and sustainability solutions. This included a presentation and live demonstration by Ms. Helga Mahler (GIZ) and Ms. Marie Fischborn (IUCN), and concluded with an interactive discussion on the platform’s application to biodiversity KM.

76. PANORAMA is an open-access, neutral platform hosting over 1,500 solutions contributed by governments, NGOs, academia, and the private sector. Its unique structure is based on “building blocks”—modular, replicable components of each solution that describe what was done and how it was achieved. This method supports not only the transfer of best practices, but also the adaptation of solutions to new contexts.

77. PANORAMA puts strong emphasis on qualitative knowledge—the “how” behind biodiversity interventions—as a complement to quantitative data systems. It fosters a global community of practice, supports multi-sectoral integration (e.g., biodiversity, climate, agriculture, and health), and is actively expanding its language offerings and user support features.

78. Building on PANORAMA’s existing communities of practice and its structured approach to peer learning, participants suggested establishing a new “Knowledge Management for Biodiversity” community within the platform. This dedicated space would enable KM practitioners to exchange strategies, share implementation experiences, and collaborate across countries and regions. The idea was well received as a practical interim solution, particularly given that the CBD’s own knowledge communities are still under development. Further consultations were proposed to define the scope, structure, and possible alignment with future CBD-led platforms.

79. In addition, Mr. Khalid introduced a new AI-driven tool - the Protected and Conserved Areas Knowledge Kit (PCA Knowledge Kit) - developed in collaboration by IUCN and GIZ. This tool provides access to over 100 biodiversity conservation tools and includes AI-powered recommendations, offline access, and automated reporting functionalities in its upcoming version.

80. Key Takeaways:

(a) Regional institutions like ACB, IUCN, and FAO are playing a central role in operationalizing KM strategies aligned with KMGBF goals;

- (b) Coordination gaps, funding limitations, and uneven capacity remain key barriers to regional KM implementation;
- (c) PANORAMA provides a scalable, community-based solution for sharing qualitative KM solutions;
- (d) “Building blocks” methodology enables adaptability and context-based learning;
- (e) A proposed Knowledge Management for Biodiversity community within PANORAMA could enhance peer-to-peer exchange;
- (f) AI-powered KM tools like the PCA Knowledge Kit offer new opportunities for interactive and scalable learning. In version 2.0 of the PCA Knowledge Kit integration of PANORAMA Solutions;
- (g) Further alignment between national and regional KM efforts is needed through TSC centres and joint action plans.

Item 9

Funding opportunities and partnerships for knowledge management

81. This session focused on exploring financing mechanisms and partnerships to support biodiversity knowledge management at national and regional levels. The presentations, delivered by representatives from UNDP, UNEP, and associated initiatives, provided participants with practical insights into available funding streams and how to align KM initiatives with broader biodiversity financing strategies.

82. Ms. Kamille Rosales from UNDP introduced the Biodiversity Finance Initiative (BIOFIN), a globally recognized methodology for assessing and mobilizing biodiversity finance. She walked participants through BIOFIN’s five-step approach: policy and institutional review, biodiversity expenditure review, financial needs assessment, development of a biodiversity finance plan, and implementation and monitoring of financing solutions. BIOFIN is currently implemented in 41 countries and is expanding to an additional 90 countries with support from the Global Environment Facility (GEF). Participants were encouraged to collaborate with BIOFIN teams in their countries to embed KM considerations in national biodiversity finance planning.

83. Ms. Maudie Fraser from UNEP introduced the Kunming Biodiversity Fund, which was launched in May 2024 with an initial contribution of 1.5 billion Chinese Yuan (approximately USD 210 million) from China. The fund supports developing countries in accelerating and scaling biodiversity finance, with seven thematic priorities: ecosystem restoration, biodiversity mainstreaming, sustainable use, business and consumer integration, benefit-sharing of genetic resources, prevention of invasive species, and overall resource mobilization. Projects related to knowledge management—including communications and indigenous knowledge documentation—have already been funded. Stakeholders were advised to subscribe to the fund’s mailing list for updates on upcoming calls for proposals. The next call for proposals under the Kunming Biodiversity Fund is expected in late 2025, offering a key opportunity to mobilize additional resources.

84. Ms. Catherine Madden from UNEP, introduced the NBSAP Accelerator Partnership. This initiative aims to support countries in strengthening and implementing their national biodiversity strategies and action plans, with a focus on fast-tracking support, enhancing political engagement, strengthening monitoring systems, and promoting whole-of-government and whole-of-society approaches. The partnership provides matchmaking services for technical and financial support, and regional facilitators are being deployed to help countries coordinate biodiversity actions. Participants were invited to engage with the Accelerator and submit funding requests.

85. The discussion that followed highlighted a number of key issues and takeaways, including the following:

- **Funding Accessibility:** Participants sought clarity on eligibility, proposal timelines, and application procedures. UNEP emphasized that proposal calls are periodic and come with detailed guidance.
 - **Knowledge Management Gaps:** Participants noted challenges in securing funding specifically for KM and emphasized the need to better integrate KM into broader biodiversity finance mechanisms.
 - **Regional Collaboration:** There was strong support for joint subregional proposals that allow for shared learning and more efficient resource use.
 - **Climate-Biodiversity Integration:** Participants discussed i biodiversity finance with climate finance, such as through the NDC Partnership, to strengthen synergies and broaden funding sources.
86. Based on the session, the following next steps and recommendations were agreed:
- **Engage with National Focal Points** to ensure funding proposals align with national strategies and frameworks.
 - **Subscribe to funding updates** via mailing lists and portals to stay informed about opportunities.
 - **Leverage BIOFIN and NBSAP processes** to embed KM priorities early and improve funding efficiency.
 - **Explore the FIRE Database** (<https://fire.biofin.org>) to search for biodiversity finance opportunities from public and private sources.
 - **Promote cross-sectoral collaboration**, particularly between biodiversity and climate finance teams, to maximize synergies and unlock blended finance options.
87. In summary, this session provided participants with valuable insights into the funding landscape for biodiversity knowledge management. With multiple mechanisms available—including the Kunming Biodiversity Fund, BIOFIN, and the NBSAP Accelerator Partnership—participants left with concrete recommendations for advancing KM within their national biodiversity agendas.

Item 10

Closing of the meeting

88. During the final session participants reviewed key workshop outcomes, identified the implementation priorities, and discussed concrete follow-up actions. The Secretariat presented the draft national KM policy briefs and the subregional action plans for strengthening subregional collaboration and defining mechanisms for sustaining momentum beyond the workshop.
89. A central theme of the session was the need to assess and update the current knowledge management status in each country. Participants underscored the importance of aligning KM systems with the Kunming-Montreal Global Biodiversity Framework and establishing a clear roadmap for future action. Discussions emphasized the role of knowledge hubs as essential infrastructures for data exchange, coordination, and collaboration at national and subregional levels.
90. Participants proposed the development of national and subregional knowledge hub networks. These would address coordination gaps across governance levels and serve as platforms for data management, dialogue, and stakeholder engagement. Operationalizing these hubs would involve:
- (a) Collecting, optimizing, and managing biodiversity data efficiently;
 - (b) Facilitating intergovernmental and community dialogues;
 - (c) Establishing CHM-like structures and National Knowledge Partnerships to link local, national, and regional knowledge systems.

91. Financial and technical sustainability emerged as a key concern. Countries highlighted the need to secure long-term funding from donors and co-partners, while also recommending integration of KM activities into national budgets to reduce dependency on short-term projects. A structured stakeholder mapping process was suggested to align funding opportunities with national KM needs.
92. A number of regional priorities and solutions were identified, including:
 - (a) Enhancing biodiversity data accessibility and quality;
 - (b) Building technical capacity among biodiversity professionals;
 - (c) Integrating traditional and indigenous knowledge systems into KM frameworks;
 - (d) Leveraging technological innovation (e.g. AI-based monitoring, citizen science apps);
 - (e) Strengthening awareness campaigns and cross-border biodiversity cooperation.
93. Participants called for the development of national and regional KM action plans, including assessments of KM4B readiness, creation of integrated biodiversity databases, and targeted engagement of ministries, research institutions, and conservation agencies. To avoid duplication, countries were encouraged to utilize existing platforms such as the CHM, GBIF, and global biodiversity networks.
94. Several cross-cutting challenges and recommendations were discussed:
 - (a) The lack of standardized data collection methods at subregional and regional levels prompted a call for global dialogue on harmonization;
 - (b) KM was recognized as more than just data—it encompasses human interaction, learning, and co-creation of knowledge;
 - (c) Participants advocated for establishing social knowledge networks and partnerships, facilitated by dedicated Technical and Scientific Cooperation (TSC) centres;
 - (d) Concerns about the sustainability of KM platforms were addressed through suggestions to embed KM into national policy and budgetary frameworks.
95. The participants adopted the following set of concrete next steps:
 - (e) Each subregion will strengthen its KM framework with support from the CBD Secretariat and regional TSC centres;
 - (f) A community of practice will be created, comprising KM4B participants, to sustain ongoing collaboration;
 - (g) An informal regional core team was identified to support this community, with a term of reference to be shared separately.
96. The following individuals volunteered to be part of this core team:
 - Dhirendra Kumar Pradhan, Nepal
 - Shuraim Faisal, Saudi Arabia / National Center for Wildlife
 - Delia Binny, Singapore / National Parks Board
 - Umaira Ahmed, Republic of Maldives
97. These volunteers will assist in developing regional mandates based on the knowledge needs analysis conducted during the workshop. They will facilitate the continuity of collaborative efforts and support the formation of thematic working groups under the new community of practice.
98. In conclusion, the workshop marked a strong commitment from participants to take ownership of biodiversity knowledge management at national and regional levels. Key elements identified for follow-up included:

- (a) Establishing and strengthening biodiversity knowledge hubs;
- (b) Enhancing technical capacity and cross-border collaboration;
- (c) Leveraging existing digital platforms for biodiversity knowledge-sharing;
- (d) Developing sustainable funding mechanisms;
- (e) And maintaining a vibrant community of practice for long-term regional cooperation.

99. The workshop officially closed at 5 p.m. on 13 March 2025, with closing remarks delivered by representatives from UNEP, the ASEAN Centre for Biodiversity, and the Secretariat of the Convention on Biological Diversity.

Annex I

Knowledge Agenda for Biodiversity in Asian countries resulting from the Regional Knowledge Management for Biodiversity Workshop, Bangkok, Thailand | 11-13 March 2025

A. Background

1. Knowledge Management (KM) is recognized by the Parties of the Convention for Biological Diversity through various decisions, and a Knowledge Management Strategy of the Convention has been adopted at the sixteenth meeting of the Conference of the Parties in 2024. As countries have developed their national initiatives to strengthen KM in the context of biodiversity, CBD continues to support national efforts through various instruments. The “Knowledge Management for Biodiversity (KM4B) Initiative has been launched in 2023 to support the national initiatives and add value with a portfolio of activities. A KM4B training course was offered online to develop capacities and create a common understanding of knowledge management. On this basis, regional workshops are facilitated to share experiences in person, identify knowledge gaps and needs and work toward solutions.
2. The regional workshop for Asian countries took place in Bangkok from 11 to 13 March 2025. The workshop was a starting point to connect as a community, learn from each other and identify areas for urgent action. The Knowledge Agenda for Biodiversity builds on the experiences of the first workshop in Bogotá and includes also new perspectives. It has been drafted during the workshop based on inputs by workshop participants and resource persons.
3. This knowledge agenda is not an official governmental or inter-governmental strategy, but it intends to provide an understanding of pressing challenges, possible solutions and recommended action without claiming to be a comprehensive or sufficient list of action points. The participants intend to foster the dialogue, inspire the uptake on national levels, e.g. by integrating these objectives and action points into the national biodiversity strategies and action plans (NBSAPs). The countries can refer to this regional concept in their national strategies while reflecting their specific national context.
4. A KM4B Community of Practice has been established to sustain the collaboration and communication beyond the workshop and other interested parties and partners are invited to join to further develop this agenda and put it into practice.

Knowledge Agenda for Biodiversity for Asia



Key actions to be taken

5. A total of 10 work packages are proposed with a total of 30 recommended actions. It is an ambitious package, but considering that the lives of species, the health of environment, the wealth of people, and the sustainability of our region and the planet are rooted in the ability to make the best use of knowledge for our future, no effort must be spared to advance Knowledge Management.
6. The 10 work packages are briefly outlined in this policy brief. For each package a dedicated policy brief shall be developed. The countries have the lead in implementing the Agenda in their countries, the four Subregional Centres for Technical and Scientific Collaboration (TSC Support Centres) are supporting the countries and coordinating joint activities on the subregional and regional level.

Overview of 10 packages**1. Knowledge Partnership and Knowledge Agenda***Challenge*

7. Knowledge on biodiversity-related topics and challenges is scattered across the sectors and stakeholder groups. There is a lack of coordination and collective action among the different sectors. There are many knowledge gaps in the biodiversity frameworks and the participation from Indigenous Peoples and local communities is limited.

Solution

8. Partnerships on the development and dissemination of knowledge need to be strengthened and communities need to be engaged more. Stakeholder groups with limited knowledge about biodiversity need to be engaged with non-formal education programs such as webinars and community training. Partnerships need to follow a common knowledge agenda; Communities of Practice deepen the collaboration in a wider number of thematic areas. Technical platforms, like database systems with Application Programming Interface (API) integration and national Clearing House Mechanisms (see package 5) need to support the partnerships. Policies related to biodiversity should be integrated or aligned.

Action

9. The following key actions are recommended:
 - 1) Map relevant stakeholders, institutions and communities working on Biodiversity conservation (who is doing what).
 - 2) Form national biodiversity knowledge partnerships; organize regular stakeholder dialogues to align biodiversity strategies across sectors; co-create national/local knowledge agendas
 - 3) Ensure biodiversity is included in policies across climate action, urban planning, economic development among others. Require inter-ministerial collaboration to mainstream biodiversity in national strategies
 - 4) Communicate and share knowledge in multiple languages
 - 5) Foster knowledge communities / networks, share good practices, push for commitments
 - 6) Introduce joint biodiversity projects between industries
 - 7) Strengthen knowledge inclusion at local level with non-formal education

2. Traditional Knowledge Inclusion Programme*Challenge*

10. Indigenous Peoples (IPs), local communities (LCs), women, people with informal education, the youth, and other groups do not receive enough attention and are often excluded from national biodiversity policies. This can have various reasons, ranging from socio-economic reasons to demographic or geographic reasons and many more. The consequence is that some groups of citizens cannot use information and knowledge available, they cannot benefit and they cannot contribute to it. The negative consequences are multiple.

Solution

11. National Biodiversity Strategies and Action Plans should recognize traditional and local knowledge in all biodiversity targets and multi-level platforms shall be established to facilitate participation. National policies should require representation from all stakeholder groups.

Action

12. The following key actions are recommended:

- 1) Assure that inclusion and participation is embedded in the NBSAPs. NBSAP focal points should lead the process of development of the multi-stakeholder platform in consultation with the representatives of organisations of IPs, LCs, women, youth, academia, research organisations, NGOs, other government bodies beyond the environment bureaus, and other groups.
- 2) Tools created and capacity-building efforts should be inclusive for all actors; identify and promote technologies helping disadvantaged people to access biodiversity
- 3) Trainings for public and private bodies to become knowledge inclusive

3. Knowledge Awareness Programme

Challenge

13. Everybody can contribute to biodiversity as long as they know what and how. However, there is a lack of funding for awareness-raising and the communication channels are limited. The collaboration among stakeholders to raise awareness is limited.

Solution

14. Create open-access, multi-sector biodiversity platforms. Promote regional and international knowledge sharing. Establish national and regional biodiversity networks that bring together governments, NGOs, businesses, and researchers (see also action item 1). Awareness-raising programmes can work through media, but loving nature – a key goal of awareness raising – requires also to be in touch with nature. Therefore, info points or knowledge centres need to be created in places where nature is and where people can contribute. Still, the media will play a key role in raising awareness, and role models/biodiversity ambassadors can add to it as well.

Action

15. The following key actions are recommended:

- 1) Increase funding opportunities for awareness-raising and capacity-development
- 2) Develop sector-specific awareness campaigns, use community-based outreach and digital platforms. Develop biodiversity awareness apps that provide real-time information
- 3) Create biodiversity content in multiple languages to enhance accessibility
- 4) Partner with TV, radio, and newspaper to integrate biodiversity content into mainstream news

- 5) Work with local storytellers, artists, and musicians to communicate biodiversity messages creatively.
- 6) Community-based outreach programs by using local NGOs, schools, and cultural centres to spread biodiversity messages through direct engagement
- 7) Introduce reward systems for biodiversity conservation contributions

4. Knowledge Management Excellence Programme

Challenge

16. Knowledge is a critical resource, and a lot of knowledge is developed, applied, organised, aailed, maintained, and captured by organizations, like governmental agencies, scientific institutions, NGOs, international organisations, local communities and Indigenous Peoples. However, organisations may lose critical knowledge due to poor knowledge retention, weak institutional KM capacities, and inadequate knowledge-sharing mechanisms. Institutionalizing knowledge management across biodiversity sectors ensures sustainable conservation efforts.

Solution

17. Excellent Knowledge Management at the organisational level is a prerequisite for its effective use in the sector as a whole. Knowledge Management needs to be professionalized in all institutions that play a vital role in the biodiversity ecosystem. KM Policies for public administrations provide a critical framework, as biodiversity is not a stand-alone issue in public administration. KM positions in biodiversity bodies are key, a community of such key actors can benefit the collaboration significantly. Professional consultants or societies can give support once they are engaged and recognized.

Action

18. The following key actions are recommended:
 - 1) Develop a National Knowledge Management Policy and Strategy for the public administration
 - 2) Establish KM roles in public institutions
 - 3) Support professional societies in Knowledge Management and train stakeholders in KM

5. Clearing House Mechanisms and National Knowledge Hubs

Challenge

19. Knowledge Hubs are essential for knowledge sharing, mutual learning, coordinated action, and upscaling of innovation and best practices. The Clearing House Mechanisms are a key element and shall be further upgraded to facilitate the full spectrum of knowledge processes from searching/finding, acquiring, creating, sharing, applying, capturing, and managing knowledge. However, capacity limitations, expertise gaps, fragmentation and insufficient integration are hindering the progress. AI can be utilized more.

20. CHM can be developed to work as National Knowledge Hubs or could be complemented by such additional platforms. Integration of data through knowledge graphs (semantic metadata) is a key to benefit more from existing data/information and to provide reliable knowledge, also when using AI.

Solution

21. Establish a regional clearing house mechanism for Asia. Promote cooperation between regional, subregional, and national CHMs. Expand the functionalities of existing CHM and further develop existing metadata for better linkages and more reliability. Existing apps supporting

biodiversity shall be promoted and linked, technology innovation for biodiversity shall be supported and encouraged.

Action

22. The following key actions are recommended:

- 1) Establish a regional CHM for Asia within 5 years
- 2) Exchange ideas on how to promote IT solutions/ digitalization / AI metadata applications
- 3) Further develop the CHMs to more comprehensive and inclusive National Knowledge Hubs
- 4) Advancing metadata (national, subnational, local) for data linking and integration
- 5) Disseminate supportive apps and adopt innovative IT tools to biodiversity

6. Advanced Knowledge Processes

Challenge

23. The knowledge necessary to protect the environment and biodiversity may exist, but the dissemination, the application, the coordination and other knowledge processes may fail as they are not coordinated and not managed. Efforts are made and capital is invested in the development of data, information, and knowledge, but the impact is still limited.

Solution

24. Establish professional management for key knowledge processes. Enhance knowledge sharing and management practices, create a stakeholder map to support and better manage the knowledge flows. Focus on sharing and disseminating good practices to the right users, capturing and sharing traditional practices and indigenous knowledge with Free, Prior and Informed Consent (FPIC) of Indigenous Peoples, and adopting and integrating international experiences.

Action

25. The following key actions are recommended:

- 1) Developing mechanisms for sharing and disseminating good practices to the right users, making better use of the regional CHM
- 2) Cooperate with other regional or subregional CHMs
- 3) Develop mechanisms for capturing/sharing of traditional practices and indigenous knowledge with Free, Prior and Informed Consent (FPIC) of Indigenous Peoples
- 4) Advancing processes of adopting international experiences in the countries

7. Academic Centres for Knowledge Sciences

Challenge

26. Although knowledge is undoubted as a fundamental resource for environmental, societal and economic development, academic centres that are specifically catering to knowledge sciences are lacking. Existing academic centres for biodiversity focus mainly on scientific research. There is little awareness of Knowledge management in general and the number of professionals who can teach Knowledge Management for Biodiversity is insufficient.

Solution

27. Influence the establishment of academic centres/institutions to include KM in their curriculum and operations. Collaborate with experts from abroad on knowledge management for biodiversity

and engage them to build these capacities in the countries. Disseminate and promote Knowledge Management for Biodiversity.

Action

28. The following key actions are recommended:

- 1) Influence academic centres offering biodiversity-related courses to include KM in their curriculum and operations
- 2) Collaborate with experts abroad to train-the-trainers and establish joint KM4B-centres
- 3) Disseminate and promote Knowledge Management for Biodiversity, start at community level

8. Business Models and Resource Mobilization

Challenge

29. Everybody likes biodiversity, but when it is in conflict with income or even the economic existence of people, the priorities are not always on biodiversity. Business models which combine profit with biodiversity conservation are needed and need to be shared. Also, the financial resources for conservation and KM4B are not enough.

Solution

30. Efforts need to be made to identify, develop, and disseminate successful business models where benefitting biodiversity also benefits the income of people or at least is not in conflict. Harmful incentives need to be identified and replaced and new, positive incentives need to be developed. Where the development of new models requires initial funding, a specific biodiversity innovation fund can support new initiatives. Cross-sector partnerships should be incentivized.

Action

31. The following key actions are recommended:

- 1) Develop an action plan for resource mobilisation
- 2) Develop co-financing models where multiple organizations contribute to conservation funding
- 3) Make the case for KM – in terms of economic value, demonstrate efficiencies in costs
- 4) Make the value of ecosystem services through KM understandable
- 5) More income through access and benefit sharing (ABS) through improved KM
- 6) Money for data: encourage data sharing by providing financial incentives, e.g. GBIF resource sharing model
- 7) Taxing environmentally harmful businesses/practices and funnelling this back to conservation and KM; environmental fees to protected areas
- 8) Fines for individuals who harm the environment (e.g. littering).

9. Quality information standards

Challenge

32. The lack of standardized biodiversity data formats and interoperability across various systems poses a significant challenge to effective conservation and decision-making. Different organizations, countries, and sectors use varied methodologies and verification standards, leading to inconsistencies in data quality and reliability. Additionally, accessibility to biodiversity-related information remains

limited due to fragmented databases, restricted data-sharing policies, and the absence of open-access platforms. These challenges hinder the ability of policymakers, researchers, and conservationists to make informed decisions based on accurate and comparable biodiversity data.

Solution

33. To address these challenges, a concerted effort is needed to develop and adopt internationally recognized biodiversity data standards that ensure consistency, accuracy, and interoperability. Establishing digital data-sharing platforms that integrate metadata harmonization can enhance collaboration and facilitate seamless exchange of biodiversity information across different institutions. Moreover, implementing open-access biodiversity databases will increase transparency, enabling stakeholders—including governments, researchers, and local communities—to access and utilize high-quality data for conservation planning, policy development, and environmental monitoring.

Action

34. The following key actions are recommended:

- 1) Establish national and regional biodiversity information standards
- 2) Strengthen data verification and peer-review processes
- 3) Encourage capacity-building for data collection and management
- 4) Promote public-private partnerships to improve data accessibility

10. Knowledge Infrastructures and Centres

Challenge

35. The fragmentation of biodiversity knowledge across multiple platforms, institutions, sectors, and communities limits the accessibility and practical application in conservation and policy-making. Knowledge generated by scientific research, government agencies, Indigenous Peoples, and local communities often remains siloed, leading to duplication of efforts and missed opportunities for collaboration. Additionally, the lack of coordination and structured mechanisms for integrating diverse knowledge sources—especially Indigenous and traditional knowledge—prevents holistic and inclusive conservation strategies. Without a well-established knowledge infrastructure, decision-makers face challenges in leveraging biodiversity data effectively for governance, sustainable development, and ecosystem management.

Solution

36. Establishing biodiversity knowledge centres can integrate, link, synthesize, and disseminate knowledge. Such centres can be virtual knowledge hubs and clearinghouses, digitally linking data, information, and knowledge. They can also be physical centres, in local communities and near Indigenous Peoples, to ensure real participation in both ways, giving and taking. Central and decentral centres should be connected to access the knowledge of other centres and contribute to the shared body of knowledge. Local/decentral centres can facilitate local knowledge strategies, contextualize knowledge to local realities, translate local knowledge for policy-making, and assure FAIR conditions of knowledge sharing. Assure that local people with limited technical infrastructure (IT-equipment, electricity, internet, etc), digital skills, and language barriers can participate in the biodiversity dialogues.

Action

37. The following key actions are recommended:

- 1) Fostering the establishment and linkages of knowledge centres on local, national, sub-regional, and regional level. Share, link, and align biodiversity knowledge strategies on these levels.
- 2) Technical assistance and infrastructure for local communities and indigenous peoples, guardians of knowledge, to contribute and benefit from digital knowledge hubs and CHMs
- 3) Foster local knowledge-sharing networks and capacity-building initiatives
- 4) Ensure ethical and inclusive knowledge mobilization

Annex II

List of participants

No	Country	Name
<i>Parties</i>		
1	Thailand (host country)	Chayanan Pakdeejit Secretary-General, Office of Natural Resources and Environmental Policy and Planning
2	Bangladesh	Abu Nayeem Mohammed Maruf Khan, Deputy Secretary Ministry of Environment, Forest and Climate Change
3	Brunei Darussalam	Zaeidi Berudin Head of Heart of Borneo Centre Forestry Department Ministry of Primary Resources and Tourism
4	Brunei Darussalam	Mardani Mahadi Acting Deputy Director of Forestry cum Assistant Director of Forestry Forestry Department, Ministry of Primary Resources and Tourism
5	Cambodia	Bunthan Keat Office Chief of Biodiversity Policy and Coordination Ministry of Environment
6	China	Li Gu Director Level Official Department of International Cooperation, Ministry of Ecology and Environment
7	India	Raghu Kumar Kodali CBD National Focal Point Ministry of Environment Forest & Climate Change
8	Indonesia	Dhandi Ega Ramadhan Representative Directorate of Biodiversity Conservation of Species and Genetics Ministry of Environment and Forestry
9	Iraq	Ali Neamah Salman Chief Biologist Ministry of Environment
10	Jordan	Ahmad Abbaas Head of Biodiversity Division Ministry of Environment
11	Lao People's Democratic Republic	Soukvilay Vilavong Deputy Director Ministry of Natural Resources and Environment
12	Lebanon	Jeff Hanna Gerges Environmental Specialist Department of Ecosystems Ministry of Environment
13	Malaysia	Mohd Rosli bin Che Wan Pura IT Officer Ministry of Natural Resources and Sustainability
14	Maldives	Umaira Ahmed Senior Environment Analyst Ministry of Climate Change, Environment and Energy
15	Mongolia	Judaa Munkhdush Wildlife manager and conservation officer Ministry of Environment and Climate Change
16	Nepal	Dhirendra Kumar Pradhan Joint Secretary Ministry of Forest and Environment

17	Pakistan	Riaz Ahmed Wagan Chief Conservator of Forests Forest and Wildlife Department Government of Sindh Ministry of Climate Change
18	Philippines	Angie Lou Barcenilla Alcantara Ecosystems Management Specialist Biodiversity Management Bureau
19	Saudi Arabia	Faisal Shuraim – National Focal Point for CBD
20	Saudi Arabia	Wasayf Allahyani – Terrestrial Specialist Department of Invertebrates National Center for Wildlife
21	Singapore	Delia Binny Biodiversity Manager/ Biodiversity Information and Outreach National Biodiversity Centre National Parks Board
22	Sri Lanka	Surani Devika Pathirana Assistant Director Ministry of Environment
23	Thailand	Benchamaporn Wattanatongchai Director of Biodiversity National Focal Point Section, Biodiversity Management Division, Office of Natural Resources and Environmental Policy and Planning
24	Thailand	Dalad Senthong Environmental Professional Level, Biosecurity Section, BMD, Office of Natural Resources and Environmental Policy and Planning
25	Thailand	Ronnakorn Satetaboon Environmental Practitioner Level, Office of Secretary-General
26	Thailand	Sikarin Rattanapirom Dissemination Technical Officer, Office of Secretary-General
27	Thailand	Chinnawat Wanjit Environmental Practitioner Level Office of Natural Resources and Environmental Policy and Planning
28	United Arab Emirates	Ahmed Adnan Alhemeiri Senior Biologist Ministry of Climate Change and Environment
29	Viet Nam	Quynh Trang Representative Ministry of Environment
<i>Indigenous peoples and local communities</i>		
30	Thailand	Lakpa Nuri Sherpa Head of Environment Programme Asia Indigenous Peoples Pact
31	Nepal	Ms. Bharati Kumari Pathak Executive Advisor Women Rights and Resource Network
<i>Partners and regional Technical and Scientific Cooperation centres</i>		
32	International Union for Conservation of Nature - Asia Regional Office	Mohammad Khalid Pasha Asia Regional Head Protected, Conserved and Heritage Areas
33	International Union for Conservation of Nature - Asia Regional Office	Olivier Chassot Senior Project Coordinator ALUla Protected Area Network
34	International Union for Conservation of Nature - Regional Office for West Asia	Hany El Shaer ^a Regional Director

35	International Union for Conservation of Nature - Asia Regional Office	Saebyeol Seo Korea National Park Service Asia Protected Areas Partnership Coordinator
36	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	Helga Mahler Project Manager & PANORAMA Partnership Coordinator
37	International Union for Conservation of Nature	Marie Fischborn Senior Manager – knowledge management PANORAMA Partnership Coordinator, KM and Library Team
38	Food and Agriculture - Regional Office for Asia	LI Jia Forestry Officer
39	Knowledge Management for Development Partnership	Andreas Brandner Executive Director
40	United Nations Development Programme	Kamille Rosales ^a Project Officer Biodiversity Finance Analyst BIOFIN
41	United Nations Development Programme	Saran Selenge Project Coordinator PANORAMA - Solutions for a Healthy Planet
42	Association of Southeast Asian Nations - Centre for Biodiversity	Clarissa Arida Acting Executive Director
43	Association of Southeast Asian Nations - Centre for Biodiversity	Arvin Diesmos Director of Biodiversity Knowledge Management Department
44	Association of Southeast Asian Nations - Centre for Biodiversity	Christine Ely Nuevo Diego Director of Knowledge Management Division
45	Association of Southeast Asian Nations - Centre for Biodiversity	Pauline Carmel Joy Eje Knowledge Management Officer
46	Association of Southeast Asian Nations - Centre for Biodiversity	Roesyvette Hernandez, Knowledge Management Associate
47	Secretariat of the Convention on Biological Diversity	Abhinav Prakash Information Management Officer
48	Secretariat of the Convention on Biological Diversity	Frederic Vogel Knowledge Management Officer
49	United Nations Environment Programme - Regional Office for Asia and the Pacific	Marlene Nilsson Deputy Regional Director
50	United Nations Environment Programme - Regional Office for Asia and the Pacific	Yujeong Kim Senior Programme Management Officer
51	United Nations Environment Programme - Regional Office for Asia and the Pacific	Balakrishna Pisupati Head, India Office
52	United Nations Environment Programme - Regional Office for Asia and the Pacific	Makiko Yashiro Programme Management Officer
53	United Nations Environment Programme - Regional Office for Asia and the Pacific	Haruethai Wongpimonporn Administrative Assistant
54	United Nations Environment Programme -World	Charlotte Hicks Senior Technical Officer, NbS team

	Conservation Monitoring Centre	
55	United Nations Development Programme	Christina M. Supples Gabreski ^a Global Project Manager GEF Global Umbrella Programme to Support NBSAP Update and Seventh National Reports
56	United Nations Development Programme	Katherine Madden ^a Coordinator NBSAP Accelerator Partnership
57	United Nations Economic and Social Commission for Asia and the Pacific	Yi-Ann Chen Associate Economics Affairs Officer Environment and Development Division
58	United Nations Environment Programme - Regional Office for Asia and the Pacific	Maudie Fraser Associate Programme Officer Nature-based Solutions and Global Biodiversity Framework

^a Online