UN environment programme

**Convention on Biological Diversity**

SUBSIDIARY BODY ON IMPLEMENTATION
Third meeting
Venue and dates to be determined
Item 7 of the provisional agenda*

## KNOWLEDGE MANAGEMENT AND THE CLEARING-HOUSE MECHANISM

*Note by the Executive Secretary*

### I. INTRODUCTION

1.       In decision 14/25, paragraph 4, the Conference of the Parties requested the Executive Secretary, subject to the availability of resources, to implement various activities related to knowledge management and to submit a progress report on the above activities, including progress on the use of the Bioland tool and its effectiveness, for consideration by the Subsidiary Body on Implementation at its third meeting. The activities include the development of a knowledge management component as a part of the preparatory process for the post-2020 global biodiversity framework, further implementation of the work programme for the clearing-house mechanism and the web strategy for the Convention and its Protocols, further development of national clearing-house mechanisms, identification and promotion of communities of practice and knowledge networks, and continued collaboration with relevant knowledge management initiatives and organizations. In the same decision, the Conference of the Parties endorsed the joint modalities of operation for the clearing-house mechanism of the Convention, the Biosafety Clearing-House (BCH) and the Access and Benefit-sharing Clearing-House (ABSCH).

2.       In decision X/15, the Conference of the Parties adopted the mission, goals and objectives of the clearing-house mechanism for the period 2011-2020, and in decision XI/2, it welcomed the work programme[1] for the clearing-house mechanism in support of the implementation of the Strategic Plan for Biodiversity 2011-2020. The goals and objectives of the clearing-house mechanism served as interlocking elements of a biodiversity knowledge network envisaged in section VI of the Strategic Plan for Biodiversity 2011-2020.

3.       In paragraph 19 of decision XII/2 B, the Conference of the Parties requested the Executive Secretary to develop a web strategy to ensure that all information common or relevant to the clearing-houses, as well as other platforms developed under the Convention, could be accessed centrally to avoid duplication of efforts. In response, the Executive Secretary prepared a web strategy for the Convention and its Protocols[2] and made it available for the thirteenth meeting of the Conference of the Parties. Essentially, the web strategy facilitated the implementation of the first goal of the work programme for the clearing-house mechanism. In decisions XIII/23 and 14/25, the Executive Secretary was requested to update and implement the web strategy in line with the framework for a communications strategy.

4.       The present document provides updates on the implementation of the above-mentioned requests. Section II introduces the draft knowledge management component of the post-2020 global biodiversity

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* CBD/SBI/3/1.

[1] UNEP/CBD/COP/11/31.

[2] See CBD/COP/13/14/Add.1 and CBD/SBI/2/INF/16.

framework and provides an overview of the process through which it was developed. Section III provides a report on the implementation of the work programme for the clearing-house mechanism. Section IV outlines draft elements of a post-2020 work programme for the clearing-house mechanism. Section V provides draft elements of a decision on knowledge management and the clearing-house mechanism.

## II. KNOWLEDGE MANAGEMENT COMPONENT OF THE POST-2020 GLOBAL BIODIVERSITY FRAMEWORK

5.      Pursuant to paragraph 4 (f) of decision 14/25, the Executive Secretary prepared, in consultation with the relevant informal advisory committees, Parties and stakeholders, a draft knowledge management component of the post-2020 global biodiversity framework, which is made available in document CBD/SBI/3/8/Add.1.[3] The draft was made available for peer review and comments during an online discussion forum held from 24 to 28 August 2020. More than 50 persons participated in the discussion forum and in total 65 messages were posted.[4] Preparation of the draft also took into account the experience gained from various knowledge management initiatives and organizations.

6.      The goal of the knowledge management component is to facilitate and support effective implementation of the post-2020 global biodiversity framework by the global community through enhancing the generation, collection, organization, sharing and utilization of data, information and knowledge.

7.      The intended result[5] is that by 2030, quality data, information and knowledge would be readily available, accessible and used as needed by policymakers, planners, decision makers, practitioners and the public at various levels, to facilitate evidence-based biodiversity planning, policy development, decision-making, implementation, monitoring, review and reporting.

8.      The document outlines, among other things, key strategic actions to be undertaken by Parties, relevant organizations and convention secretariats, as appropriate, to enhance knowledge management in support of the post-2020 global biodiversity framework. The strategic actions are grouped into five categories corresponding to key stages of a knowledge management cycle, namely: knowledge generation, knowledge discovery and collection, knowledge organization and sharing, knowledge use or application, and knowledge audit and review.

9.      The Subsidiary Body on Implementation may wish to review and revise, as appropriate, the draft knowledge management component and the draft recommendation along the lines proposed in section V below and forward them for consideration by the Conference of the Parties at its fifteenth meeting.

## III. REPORT ON IMPLEMENTATION OF THE WORK PROGRAMME FOR THE CLEARING-HOUSE MECHANISM

10.     As noted above, the Conference of the Parties welcomed the work programme for the clearing-house mechanism in support of the implementation of the Strategic Plan for Biodiversity 2011-2020 (UNEP/CBD/COP/11/31) and agreed to keep it under review (decision XI/2).

11.     In decision 14/25, the Executive Secretary was requested to, among other things, continue implementing the work programme for the clearing-house mechanism in support of the Strategic Plan for Biodiversity 2011-2020 and the 2030 Agenda for Sustainable Development[6] and submit a progress report,

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[3] The meeting of the Informal Advisory Committee on the BCH was held from 1 to 4 December 2020, after the preparation of CBD/SBI/3/8/Add.1; any input from that Committee will therefore be provided separately.

[4] https://www.cbd.int/km/discussion-forum/.

[5] Target 19, as contained in the updated zero draft of the post-2020 global biodiversity framework (CBD/POST2020/PREP/2/1) states that "by 2030, ensure that quality information, including traditional knowledge, is available to decision makers and public for the effective management of biodiversity through promoting awareness, education and research."

[6] See General Assembly resolution 70/1 of 25 September 2015.

including progress on the use of the Bioland tool and its effectiveness, to the Subsidiary Body on Implementation for consideration at its third meeting.

12.     This section provides a summary report on the progress made with the implementation of the work programme for the clearing-house mechanism since the fourteenth meeting of the Conference of the Parties.[7] It summarizes the main activities and achievements under the three goals of the work programme, namely enhancement of the central clearing-house mechanism, establishment or further development of national clearing-house mechanisms, and collaboration with relevant partners to expand and strengthen the clearing-house mechanism network with a view to maximizing mutual benefits and complementarity and promoting open access and interoperability.

## A.  Vision and mission of the work programme

13.     The vision of the work programme for the clearing-house mechanism was to develop a biodiversity knowledge network bringing together the wealth of experience, knowledge and useful good practice cases, tools and guidance developed by various actors around the world and making it readily available through the clearing-house mechanism to facilitate and support enhanced implementation of the Convention.

14.     The mission of the work programme was to contribute to the implementation of the Convention and the Strategic Plan for Biodiversity 2011-2020 through effective information services and other appropriate means to promote and facilitate scientific and technical cooperation, knowledge sharing, and information exchange, and to establish a fully operational network of practitioners, knowledge generators and knowledge brokers, from Parties and organizations and various communities of practice.

15.     The vision and mission will be further pursued as part of the knowledge management component of the post-2020 global biodiversity framework introduced in section II above.

## B.  The central clearing-house mechanism and the web strategy

16.     The first goal of the work programme was to strengthen and maintain a contemporary central clearing-house mechanism that provides effective information services and other appropriate tools and means to promote and facilitate technical and scientific cooperation, knowledge sharing, and exchange of information among Parties and stakeholders at the global level. The main purpose was to make key information and knowledge from around the world easily discoverable and accessible by Parties and stakeholders. The notion of knowledge sharing encompasses exchange of experiences, good practices, lessons learned, expertise, technologies and technical know-how.

17.     Most of the activities under this goal have been implemented through the web strategy for the Convention and its Protocols and in line with the framework for a communications strategy. Since 2018, the Secretariat has continued to integrate and streamline the web infrastructure and content to foster coherence across all clearing-houses and other platforms hosted by the Secretariat and to ensure that information common or relevant to the various platforms can be submitted and accessed centrally.

### 1.  Central clearing-house mechanism platform

18.     The Secretariat maintained and further developed the central clearing-house mechanism platform,[8] the Convention website and the thematic portals,[9] as well as specialized online tools accessible through the

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[7] Previous progress reports on the clearing-house mechanism are presented in documents CBD/CHM/IAC/2019/1/2, CBD/SBI/2/9 (section V), CBD/COP/13/INF/15, UNEP/CBD/COP/12/INF/2 and UNEP/CBD/COP/11/13/Add.2.

[8] This encompasses the CHM (https://chm.cbd.int/search), BCH (http://bch.cbd.int) and ABSCH (http://absch.cbd.int).

[9] The thematic portals include the portal on ecologically or biologically significant marine areas (www.cbd.int/ebsa), the coral reefs portal (www.cbd.int/coral-reefs/), the Traditional Knowledge Information Portal (www.cbd.int/tk), the Bio-Bridge Initiative matchmaking platform (https://www.cbd.int/biobridge/platform), the platform on business and biodiversity (http://www.cbd.int/business), the web portal for cities and subnational governments (http://www.cbd.int/subnational), the GIASIPartnership Gateway (http://giasipartnership.myspecies.info), and the Rio Conventions Pavilion (http://www.riopavilion.org).

central clearing-house mechanism platform, to assist Parties in implementing the Convention and its Protocols.[10]

19.     In line with the strategic approach to use publicly available out-of-the box tools and services, the Secretariat has started migrating the Convention website main engine to the Drupal content management system.[11] It also continued to develop and maintain metadata and common formats for the online information services.

20.     The Secretariat also continued to use modern translation technology, such as the SDL Trados Studio 2017 web translation software, to optimize the maintenance of the information services of the Convention in all United Nations languages in a cost-effective and efficient manner. It explored optimum solutions available within the United Nations system while improving access to the global roster of United Nations translators.

21.     The Secretariat continued to integrate the web infrastructure and content to foster coherence across all three clearing-houses and other platforms hosted by the Secretariat. This has helped to improve content management and to allow information common or relevant to the various platforms to be submitted and accessed centrally to avoid duplication of efforts. It also implemented a single login function allowing users to create and maintain their user accounts[12] to access the clearing-houses and to edit their content, as authorized. It also made improvements to the visual appearance of the new CHM information services.

22.     Furthermore, the Secretariat is implementing the joint modalities of operation for the clearing-house mechanism of the Convention, the Biosafety Clearing-House and the Access and Benefit-sharing Clearing-House, which seek to ensure, to the extent possible, that common approaches are taken in the development and administration of the clearing-houses, while preserving the specific functionalities unique to each clearing-house.

## 2.  Convention website

23.     Another major accomplishment was the launch of the new Convention website (www.cbd.int) on 18 December 2019. Some of the new features of the website include its modern look, its adaptability to small size screens (e.g. mobile phones and tablets), a new architecture that makes it easier to find content, and the better integration of social media campaigns with website content. The website also allows Secretariat staff to create and manage content on the site, which allows for increased coverage of current issues. The Secretariat continues to streamline web content publication and foster consistent branding across the website, and has seamlessly integrated the legacy web pages into the new website to allow gradual review and migration of content without interruption of access by visitors and search engines.

24.     Planned activities include further improvement of the Convention website and other information services in terms of content, services, appearance, user-friendliness, usability and accessibility, taking into account feedback from users, and in accordance with the web strategy and the communication strategy.

## 3.  Information exchange services

25.     The Secretariat continued to develop and maintain tools to allow easy access to and exchange of relevant information, including information on implementation activities and reference material such as case-studies, best practices, learning and guidance material, multimedia resources as well as information about organizations, experts, events, resources and opportunities through modern interfaces based on open standards. For example, the CHM application programming interface (API) has been improved and maintained to strengthen interoperability between the central clearing-house platforms and the national

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[10] The specialized online tools accessible through the central CHM platform include the online national reporting tool, the financial reporting framework, the decision tracking tool (https://www.cbd.int/decisions/tracking/), the national targets database (www.cbd.int/nbsap/targets/), and the virtual library for biodiversity-related resources (https://chm.cbd.int/).

[11] The United Nations Office of Information and Communications Technology (OICT) has selected Drupal as the content management system for United Nations websites.

[12] https://accounts.cbd.int.

clearing-house mechanism websites and other information systems, databases/repositories and platforms of Parties and partners as a way to facilitate enhanced access to and exchange of information.[13] Specialized clearing-house mechanism online services built on the new web infrastructure, including the ABS Clearing-House, the online reporting tool, the decision tracking tool and the Bioland tool, all use this API to store and retrieve their records.[14]

26.     Furthermore, the information submission workspaces and services of the clearing-house mechanism[15] have been strengthened to enhance information and knowledge exchange by allowing Parties to submit and update records directly online and in real time.

27.     Various collaboration tools, including discussion forums and online conferences services, have also been established and strengthened to encourage Parties and stakeholders to interact, collaborate and share ideas and experience in an informal and user-friendly way, while also providing quick access to relevant information. During the COVID-19 crisis, the Secretariat used state-of-the-art technologies to conduct virtual meetings with interpretation in the six official languages of the United Nations,[16] which has allowed continuity of the Convention's core activities.

28.     Planned activities include full migration of the Biosafety Clearing-House databases to the new web infrastructure; development of visualizations and charts to view clearing-house filterable information for different record types; and development of an aggregator system for collecting information from national clearing-house mechanism platforms to make it easily discoverable and accessible from the central clearing-house mechanism platform.

### 4.   *Network of experts and practitioners among Parties and partners*

29.     The Secretariat continued to collaborate with the United Nations Development Programme (UNDP) and other partners to maintain the NBSAP Forum website (http://nbsapforum.net) which connects, through various communities of interest, experts and practitioners involved in the preparation and implementation of national biodiversity strategies and action plans (NBSAPs).

### 5.   *Guidance for Parties and partners on exchange of information*

30.     The Secretariat continued to provide technical guidance and support to Parties and organizations to enhance exchange of information through the clearing-houses. This includes, but is not limited to, the documentation and publication of specifications for the CHM application programming interface (API) and interoperability protocols as well as provision of access to the repository of API integration examples. Technical documentation for web developers on the CHM API is available from the GitHub online repository.[17]

31.     The Secretariat also developed and made available to Parties and users common formats, controlled vocabularies, and other technical guidelines, including guidance on information submission and validation processes.

## C.   National clearing-house mechanisms and the Bioland tool

32.     The second goal of the work programme for the clearing-house mechanism is to ensure national clearing-house mechanisms provide effective information services to facilitate the implementation of national biodiversity strategies and action plans. The specific objectives are to ensure that all Parties have the capacity to sustain effective national clearing-house mechanisms; high-quality national clearing-house mechanism

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[13] For example, interoperability has been established with relevant information systems and databases of the European Union, India, Kenya and Spain, and of partners such as InforMEA. Other countries have also expressed interest in exchanging information with the central clearing-houses through the API.

[14] The source code of these online systems is available as open-source projects for developers on the GitHub online repository at https://github.com/scbd.

[15] The information submission services can be accessed through the CHM (https://chm.cbd.int/), BCH (https://bch.cbd.int/) and ABSCH (https://absch.cbd.int/).

[16] For example the special virtual sessions held from 15 to 18 September 2020: https://www.cbd.int/conferences/sbstta24-sbi3-prep.

[17] https://github.com/scbd.

websites are in place, national information is exchanged; Parties collaborate and share knowledge; and that partners and the Secretariat contribute to the development of national clearing-house mechanisms.

33.     In paragraph 4 (b) of decision 14/25, the Conference of the Parties requested the Executive Secretary to continue to support the efforts of Parties to establish, sustain, and further develop their national clearing-house mechanisms, including through development and promotion of the Bioland tool. It further requested the Executive Secretary to facilitate and organize training, in collaboration with Parties and relevant organizations. The Secretariat provided support for the development of national CHMs during 2019 and 2020 in three main areas: further development of the Bioland tool, workshops and increased leverage of the central CHM and partners through content linkages, interoperability and remote training support.

34.     This subsection summarizes the main activities and achievements made towards the establishment or further development of national clearing-house mechanisms. It also highlights the progress made with the use of the Bioland tool and its effectiveness.

*1.     Enhancement of national clearing-house mechanisms*

35.     Pursuant to paragraph 4 (b) of decision 14/25, the Secretariat continued to support the efforts of Parties to establish, sustain, and further develop their national clearing-house mechanisms, including through the development and promotion of the Bioland tool and training activities, in collaboration with Parties and relevant organizations.

*(a)     Development of capacity to establish and sustain national clearing-house mechanisms*

36.     The Secretariat co-organized two capacity-building workshops on national clearing-house mechanisms during the 2019-2020 period and supported three workshops organized by partners.

37.     A face-to-face subregional workshop on national clearing-house mechanisms for the member States of the Gulf Cooperation Council was held in Riyadh from 14 to 18 April 2019. A total of 19 government officials from Bahrain, Oman and Saudi Arabia were trained on how to establish and sustain effective national clearing-house mechanisms in support of their NBSAPs and how to use the Bioland tool to establish and further develop their national clearing-house websites.

38.     A three-day online training workshop on the use of the Bioland tool was also co-organized with the Association of Southeast Asian Nations (ASEAN) Centre for Biodiversity from 25 to 27 March 2020 as a preliminary activity to the regional workshop for ASEAN on national clearing-house mechanisms. Participants from five member States of ASEAN (Indonesia, Malaysia, Philippines, Singapore and Thailand) attended. This was preceded by an online training-of-trainers on the use of the Bioland tool for 10 staff of the ASEAN Centre for Biodiversity, which was held from 10 to 12 March 2020. The "train-the-trainer" component equipped the staff with ample knowledge and skills to enable them to introduce the Bioland tool to other countries for the curation and sharing of biodiversity data within the region as well as to establish a Bioland-based regional clearing-house mechanism website.[18]

39.     The Secretariat also supported, in collaboration with Belgium and France, two workshops on the Bioland tool in August and September 2019 in Burundi and in Belgium respectively. Participants from 12 countries that established national CHM websites using the Portal Tool Kit (PTK)[19] attended the workshops. A follow-up workshop, which included three virtual sessions, was organized by Belgium and France in October 2020 for the same countries.

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[18] For more information, see https://aseanbiodiversity.org/2020/03/16/asean-training-on-biodiversity-information-sharing-tool-goes-online/.

[19] The participants were from Burkina Faso, Burundi, Benin, Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Guinea, Guinea-Bissau, Madagascar, Morocco, Niger and Togo.

*(b)    Establishment of high-quality national clearing-house mechanism websites*

40.    The Secretariat further developed the Bioland tool,[20] and launched its new version in December 2019 through notification 2019-112. The key features of the new version include improved usability, better multilingual support, stronger integration with the Convention's interoperability APIs and partner information systems such as the Biodiversity Indicators Partnership's dashboard.

41.    The Secretariat provided support to various Parties to set up new or revamp their existing national clearing-house mechanism websites using the Bioland tool. To date, five Bioland-powered CHM websites have been activated and published. These include Belgium, Burundi, Canada, France and the ASEAN Centre for Biodiversity.[21]

42.    The Secretariat also collaborated with a project entitled "Using the CBD Clearing-House Mechanism to strengthen biodiversity data acquisition and data sharing", initiated by Belgium and France with funding from the Global Biodiversity Information Facility (GBIF) CESP2019-010,[22] which is assisting seven francophone countries[23] to migrate their Portal Tool Kit (PTK)-based national clearing-house mechanism websites to the Bioland tool-powered platforms and develop better integration with GBIF data via a Bioland-compatible plug-in. In addition, five other countries affiliated with the project are in the process of adopting the Bioland tool as well.[24]

43.    As well, the Secretariat provided technical support to 12 additional countries.[25] These included countries that had expressed interest in using the Bioland tool, or had participated in training workshops in 2016 to 2018 and had Bioland instances established for them as part of the training and learning exercise.

### 2.    Award for national clearing-house mechanisms

44.    In paragraph 15 of decision XII/2 B, the Conference of the Parties requested the Executive Secretary to propose, in collaboration with the Informal Advisory Committee to the Clearing-House Mechanism, a process to grant, at the thirteenth, fourteenth and fifteenth meetings of the Conference of the Parties, subject to the availability of resources, an award to the Parties that would have made the most significant progress in the establishment or further development of their national clearing-house mechanisms. The second set of awards was granted at the fourteenth meeting of the Conference of the Parties.[26]

45.    The process for the third set of awards, to be granted at the fifteenth meeting of the Conference of the Parties, was launched in February 2020 via notification 2020-018. Parties were invited to complete and submit a questionnaire as indication of their interest in being considered for the awards. Owing to the COVID-19 pandemic, the deadline to apply for an award was extended to 31 December 2020 via notification 2020-061, issued on 14 August 2020.

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[20] The Bioland tool is a turnkey solution for establishment of national clearing-house websites, developed by the Secretariat with funding from the Japan Biodiversity Fund. It is based on an open source content management system (Drupal) and includes templates that allow countries to collate and present national biodiversity information in a coherent manner and in multiple languages. A public demonstration of a national CHM website using the Bioland tool is available at https://demo.chm-cbd.net/.

[21] Belgium (https://www.biodiv.be), Burundi (https://bi.chm-cbd.net/), Canada (https://biodivcanada.chm-cbd.net/), France (https://biodiv.mnhn.fr/) and the ASEAN Biodiversity Centre (https://asean.chm-cbd.net/).

[22] See https://www.gbif.org/project/79ZRBGx5dNXYpR2ijHKebK/using-the-cbd-clearing-house-mechanism-to-strengthen-biodiversity-data-acquisition-and-data-sharing.

[23] The project countries are Benin, Cameroon, Democratic Republic of the Congo, Guinea, Madagascar, Niger and Togo, as well as Belgium and France.

[24] These are Burkina Faso, Burundi, Côte d'Ivoire, Guinea-Bissau and Morocco.

[25] The 12 countries are Albania, Bhutan, Egypt, Guyana, Kazakhstan, Netherlands, Oman, Palestine, Philippines, Switzerland, Uganda and Zimbabwe.

[26] The award recipients for existing national clearing-house mechanism websites were Burundi (gold), Colombia (silver) and Morocco (bronze) and those for new websites were Indonesia (gold), Sri Lanka (silver), and Guinea-Bissau (bronze). In addition, certificates of achievement were presented to Canada, Guatemala, Honduras and Malaysia.

46.     At its meeting held virtually on 9 July 2020, the CHM-IAC, among other things, recommended that the award be continued for another 10 years in view of its popularity among Parties. It was argued that continuation of the award would serve as a useful incentive for Parties to create, maintain and further improve their national clearing-house mechanisms.

## D.   The clearing-house mechanism network and services

47.     The third goal of the work programme for the clearing-house mechanism was to expand and maintain the clearing-house mechanism network and services. To date, more than 100 Parties have established national clearing mechanism websites linked to the central clearing-house mechanism.[27] In addition, the Secretariat continued to collaborate with various organizations, networks and initiatives, which have supported or linked their information systems, databases/repositories and platforms to the clearing-house mechanism network. For example:

(a)     The Information Portal on Multilateral Environmental Agreements (InforMEA), [28] established through the Multilateral Environmental Agreement Information and Knowledge Management (MEA-IKM) Initiative, continued to automatically harvest key information (including decisions, news, events, national focal points, national reports) from the Convention's website and the clearing-houses and make them searchable and accessible through the InforMEA platform by a broader audience. Further progress has been made in improving interoperability with InforMEA, in enhancing the usability of the InforMEA website, in reviewing terminology for the Law and Environment Ontology (LEO) portal and in promoting the use of the Akoma-Ntoso[29] format adopted for United Nations documents;

(b)     The Data and Reporting Tool (DART) project,[30] implemented by the United Nations Environment Programme (UNEP) in collaboration with the Secretariat and other partners, also seeks to facilitate the exchange of information and data through the clearing-house mechanism. Among other things, an API has been established to facilitate interoperability between the DaRT website, hosted on the InforMEA server, and the Bioland tool;

(c)     The United Nations Environment Programme's World Conservation Monitoring Centre (UNEP-WCMC) is contributing to the UNEP world environment situation room, [31]which will be interoperable with the central clearing-house mechanism platform. UNEP-WCMC is also implementing a technical and scientific cooperation project with Morocco to build a national biodiversity platform. UNEP-WCMC also prepared a "Compendium of guidance on key global databases related to biodiversity-related conventions" and made them available in the six official languages of the United Nations;[32]

(d)     The Secretariat is working with the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), including its task force on knowledge and data, to make information and knowledge generated through IPBES accessible through the clearing-house mechanism network;[33]

(e)     The Global Biodiversity Information Facility (GBIF) has established interoperability with the central clearing-house mechanism platform to allow Parties to access and share data and information from GBIF to support their work at the national level;[34]

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[27] https://www.cbd.int/chm/network/.

[28] https://www.informea.org.

[29] Akoma Ntoso (Architecture for Knowledge-Oriented Management of African Normative Texts using Open Standards and Ontologies) is an international standard for representing executive, legislative and judiciary documents in a structured manner.

[30] DaRT is a tool aiming at supporting Parties to multilateral environmental agreements (MEAs) in organizing, sharing, and maintaining information, data and knowledge across conventions to facilitate national reporting (https://dart.informea.org/).

[31] https://environmentlive.unep.org/media/html/situation/situation_room.html#.

[32] The compendium is available at https://www.unep-wcmc.org/resources-and-data/biodiversitysynergies.

[33] https://ipbes.net/.

[34] https://www.gbif.org/.

(f)      The ASEAN Centre for Biodiversity has established a regional clearing-house mechanism[35] and is providing support to ASEAN member States to establish their national clearing-house mechanism websites to enhance exchange of biodiversity-related information in the subregion;

(g)      The Biodiversity Information System for Europe (BISE), a single entry point for data and information on biodiversity supporting the implementation of the European Union biodiversity strategy and the Aichi Biodiversity Targets in Europe, serving as the clearing-house mechanism for the European Union (http://biodiversity.europa.eu), is also linked to the central clearing-house mechanism platform;

(h)      Other organizations, networks, processes and initiatives contributing information to the clearing-house mechanism network include the IUCN Species Information Service,[36] the UN Biodiversity Lab, the Encyclopedia of Life (EOL), the International Barcode of Life Initiative (iBOL), the Group on Earth Observations Biodiversity Observation Network (GEO BON), the Digital Observatory for Protected Areas (DOPA), the Knowledge Hub of the United Nations Convention to Combat Desertification, and the United Nations Open Sustainable Development Goals (SDG) Data Hub.

48.      These and other initiatives and institutions are outlined in information document CBD/SBI/3/INF/13, and others are identified in the "Compendium of guidance on key global databases related to biodiversity-related conventions" developed by UNEP-WCMC.[37]

### E.   Work of the Informal Advisory Committee to the Clearing-House Mechanism

49.      The Informal Advisory Committee to the Clearing-House Mechanism (CHM-IAC) continued to provide advice to the Executive Secretary on various issues within its mandate, including guidance on implementation of the work programme for the clearing-house mechanism. Three meetings of the committee were held: in Montreal from 17 to 19 June 2019,  in Montreal on 26 November 2019, and online on 9 July 2020. The Committee provided advice on matters related to the improvement of the central clearing-house mechanism, implementation of the web strategy, actions and partnerships for strengthening national clearing-house mechanisms, award for national clearing-house mechanisms, knowledge management, and technical and scientific cooperation.[38]

50.      Pursuant to paragraph 5 of decision 14/24 B, the mandate of the Informal Advisory Committee to the Clearing-House Mechanism is expected to end at the fifteenth meeting of the Conference of the Parties, following the consideration of the establishment of an informal advisory group on technical and scientific cooperation.

### IV.   DRAFT ELEMENTS OF A POST-2020 WORK PROGRAMME FOR THE CLEARING-HOUSE MECHANISM

51.      The clearing-house mechanism, and its various components,[39]  will play a major role in supporting the implementation of the post-2020 global biodiversity framework. In particular, it will facilitate and support the various means of implementation for the post-2020 global biodiversity framework, including technical and scientific cooperation, knowledge management, communication, capacity development and resource mobilization, as well as the enhanced planning, reporting and review mechanism. Such support may include facilitation of exchange of data, information and knowledge; access to expertise, technologies and technical know-how; sharing of experiences, good practices and lessons learned; networking among Parties and stakeholders; access to opportunities for collaborative research, learning and peer-to-peer support; as well as matchmaking between Parties and stakeholders that require assistance and those that can provide assistance.

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[35] https://asean.chm-cbd.net/.

[36] https://www.iucnredlist.org/assessment/sis.

[37] The compendium is available at https://www.unep-wcmc.org/resources-and-data/biodiversitysynergies.

[38] Reports of the three CHM-IAC meetings are available at https://www.cbd.int/chm/iac/meetings/.

[39] Including the information, matchmaking and networking services, as well as implementation and reporting support tools.

52.     The future work programme for the clearing-house mechanism in support of the post-2020 global biodiversity framework will include new activities as well as activities that are ongoing or have not been completed. The following is an indicative list of actions to be taken in the near term and medium term:

(a)     Further updating and implementation of the web strategy for the Convention and its Protocols in line with the communications strategy;

(b)     Further development and integration of the web infrastructure and content to foster coherence and integration across all clearing-houses and other information services hosted by the Secretariat;

(c)     Operationalization of the joint modalities of operation for the CHM, BCH and ABSCH;

(d)     Refinement and implementation of policies and standard operating procedures governing the web platform to ensure consistency in terms of content management;

(e)     Maintenance of the CHM application programming interface (API) and provision of source codes of newly developed tools to Parties and partners to facilitate interoperability;

(f)     Full migration of the Biosafety Clearing-House databases and online services to the new web infrastructure;

(g)     Further improvement of the clearing-house(s) search functionality and search results integration and visualization;

(h)      Development of a user interface (UI) kit to facilitate the search and registration of records and ensure consistency across the clearing-houses;

(i)     Further development and maintenance of the Convention web infrastructure, including maintenance of web technologies; backups, updates and maintenance to servers; and information technology security compliance;

(j)     Development and deployment of the new CHM information services (including the post-2020 targets cross-linking tool);

(k)     Strengthening of the Bio-Bridge Initiative matchmaking platform;

(l)     Strengthening of the online collaborative platforms, including online discussion forums, and videoconferencing facilities;

(m)     Contribution to further development of the Data and Reporting Tool for multilateral environmental agreements (DaRT), and its integration and interoperability with the central CHM platform and the Bioland tool, to assist Parties in their national reporting processes;

(n)     Development of new, and refinement and updating of existing, terminology, metadata and common formats for the Convention online information services and related classifications;

(o)     Continued management of the taxonomy and tagging guidelines for the online repositories;

(p)     Coordination of the semantic tagging of official documents in line with the United Nations Semantic Interoperability Framework for normative and parliamentary documents (UNSIF);

(q)     Further development and promotion of the Bioland tool to facilitate the establishment and strengthening of national clearing-house mechanism websites;

(r)     Strengthening the interoperability between the Bioland tool and relevant information systems (including the central CHM, ABSCH, BCH, DaRT, GBIF, and others);

(s)     Capacity development for national clearing-house mechanisms, including use of the Bioland tool to establish or improve national CHM websites;

(t)     Further implementation of the award for national clearing-house mechanisms;

(u)    Further collaboration with the MEA-IKM initiative in order to increase access to and sharing of biodiversity-related information and knowledge via InforMEA, including through further work on interoperability, common vocabularies, and thesauri;

(v)    Continued collaboration with the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), including through the task force on knowledge and data;

(w)    Further collaboration and strengthening of interoperability with other partner organizations, initiatives and networks in order to make relevant data, information, knowledge, expertise, technologies and other technical and scientific resources hosted by them accessible through the central and national clearing-house mechanism platforms.

53.    While the Secretariat will continue to play a key role in facilitating and supporting further development and strengthening of the clearing-house mechanism, including maintenance of its central portal as a global biodiversity knowledge hub, it cannot handle this daunting and expanding task on its own. It will need the continued contribution and support of Parties and various partner organizations. In this regard, the Secretariat will place emphasis on mobilizing and strengthening partnerships with Parties and relevant organizations, initiatives and networks to implement the new work programme for the clearing-house mechanism.

54.    The Secretariat will leverage the opportunities and possibilities for enhancing technical and scientific cooperation, knowledge management and communication offered by new digital technologies.[40] As part of the broader means of implementation for the post-2020 global biodiversity framework, it will collaborate and synergize its efforts with relevant global initiatives and strategies such as the UNEP Digital Transformation Initiative, the United Nations Environment Global Data Strategy, the World Environment Situation Room, the United Nations Roadmap for Digital Cooperation, the UN Biodiversity Lab, the Digital Earth initiative and others.

55.    The Subsidiary Body on Implementation may wish to consider the progress report above and the proposed draft elements of a possible future work programme for the clearing-house mechanism, including measures to leverage digital transformation for biodiversity, and make recommendations for consideration by the Conference of the Parties along the lines suggested in section V below.

## V.   ELEMENTS OF A DRAFT DECISION

56.    Based on the information provided above, the Subsidiary Body on Implementation may wish to recommend to the Conference of the Parties that it adopt a decision along the following lines:

*The Conference of the Parties,*

*Recalling* decisions 14/25, XIII/23 B, XII/2 B and XI/2,

*Also recalling* the work programme for the clearing-house mechanism in support of the Strategic Plan for Biodiversity 2011-2020,[41]

*Emphasizing* the critical importance of easy and timely access to quality data, information and knowledge in supporting the effective implementation of the post-2020 global biodiversity framework,

1.    *Welcomes* the knowledge management component of the post-2020 global biodiversity framework contained in the note by the Executive Secretary;[42]

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[40] For example, digital technologies, such as artificial intelligence, big data analytics, cloud computing, the Internet of Things, smartphones and machine learning have made it possible, easier and faster to store and transmit large volumes of data; to discover and mine data from various digital sources around world; to analyse, integrate and visualize data from various sources; and to interconnect, pool and exchange data between computer systems and websites. Digital communication technologies, including web-based video conferencing and social media, have also made it easier to communicate and share information and knowledge.

[41] See decision XI/2, para. 11, and UNEP/CBD/COP/11/31.

[42] CBD/SBI/3/8/Add.1.

2.      *Invites* Parties, other Governments, biodiversity-related conventions and relevant organizations to implement the strategic actions outlined in the knowledge management component referred to in paragraph 1 above, with a view to enhancing the generation, collection, organization, easy and timely access to and effective utilization of data, information and knowledge to support the effective implementation of the post-2020 global biodiversity framework and the national biodiversity strategies and action plans;

3.      *Invites* Parties, other Governments, the Global Environmental Facility, and relevant organizations in a position to do so, to provide financial, technical and human resources support to enable developing country Parties and Parties with economies in transition to implement the strategic actions outlined in the knowledge management component referred to in paragraph 1 above, as a key component for the successful implementation of the post-2020 global biodiversity framework and the national biodiversity strategies and action plans;

4.      *Invites* organizations, networks, processes and initiatives supporting the generation, discovery, capture, management and use of biodiversity-related data, information and knowledge to establish, in collaboration with biodiversity-related conventions, a global biodiversity knowledge network to, among other things, promote and facilitate coordination, collaboration, interconnection and networking among them with a view to making biodiversity data and information and knowledge more readily available and accessible for biodiversity planning, policy and decision-making, implementation, monitoring, reporting and review;

5.      *Takes note* of the progress made in the implementation of the work programme for the clearing-house mechanism in support of the Strategic Plan for Biodiversity 2011-2020, and the draft elements of a post-2020 work programme for the clearing-house mechanism, outlined in the note by the Executive Secretary;[43]

6.      *Requests* the Executive Secretary to develop, taking into account the draft elements referred to above, a work programme for the clearing-house mechanism for the period until 2030, aligned with the knowledge management component of the post-2020 global biodiversity framework, the long-term strategic framework for capacity development, and the enhanced planning, reporting and review mechanism, and to make it available for consideration by the Subsidiary Body on Implementation at its fourth meeting and subsequently by the Conference of the Parties at its sixteenth meeting;

7.      *Requests* the Informal Advisory Committee on Technical and Scientific Cooperation,[44] as per its mandate, to provide the Executive Secretary with advice on the development and implementation of the work programme for the clearing-house mechanism in support of the post-2020 global biodiversity framework;

8.      *Invites* Parties, other Governments and relevant organizations, as appropriate, to continue providing financial, technical and human resources support to enable developing country Parties and Parties with economies in transition to strengthen their national clearing-house mechanisms, and to develop or upgrade their national clearing-house mechanism websites using the Bioland tool;

9.      *Requests* the Executive Secretary, subject to the availability of resources:

(a)      To facilitate, in collaboration with partner organizations, the implementation of the knowledge management component of the post-2020 global biodiversity framework;

(b)      To continue to support the efforts of Parties to establish, sustain and further develop their national clearing-house mechanisms, including through:

(i)      Further development of the Bioland tool in response to the needs of Parties and users and relevant technological developments;

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[43] CBD/SBI/3/8.

[44] See CBD/SBI/3/7, annex III.

(ii)     Development of training and guidance material on the use of the Bioland tool;

(iii)     Development of guidance for CHM national focal points on the coordination of CHM-related activities at the national level to support effective implementation of national biodiversity strategies and action plans;

(iv)     Development of Bioland instances for Parties that have not yet established a national clearing-house mechanism website, using the information provided on the respective country profile pages on the Convention website, for their review and further development;

(v)     Continuation of the award for national clearing-house mechanisms until 2030;

(c)     To further develop the central clearing-house mechanism to promote and facilitate technical and scientific cooperation, knowledge management, communication and enhanced planning, implementation, monitoring, reporting and review processes;

(d)     To continue collaboration with relevant initiatives, organizations and networks supporting the generation, capture, management and effective use of biodiversity-related data, information and knowledge, including the Information Portal on Multilateral Environmental Agreements (InforMEA);

(e)     To leverage relevant digital technologies to, among other things, improve the discovery, collection, analysis, aggregation, storage, accessibility, searchability, visualization and exchange of biodiversity-related data, information and knowledge;

(f)     To submit a first progress report on the above activities for consideration by the Subsidiary Body on Implementation at its fourth meeting.

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