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THE PROGRESS OF IMPLEMENTATION OF THE CAPACITY BUILDING STRATEGY FOR THE GLOBAL TAXONOMY INITIATIVE

Note by the Executive Secretary

I. INTRODUCTION

1. At the eleventh meeting of the Conference of the Parties, the Capacity-building Strategy for the Global Taxonomy Initiative was revised, and the Strategy annexed to decision XI/29 with ten strategic actions was welcomed by the Conference of the Parties. In the same decision, the Executive Secretary was requested to report on the progress of implementation of the Global Taxonomy Initiative, based on national reports submitted by Parties to the corresponding meetings of the Conference of the Parties (paragraph 9 of decision XI/29).

2. Accordingly, the Secretariat conducted an analysis on the submissions by Parties of fifth national reports that arrived before 3 April 2016. In addition, the activities indicated in the National Biodiversity Strategies and Action Plans (NBSAPs) that support taxonomic capacity-building were also included in the analysis, as they may indicate the progress on the implementation of the Global Taxonomy Initiative at the national level. The NBSAPs submitted by Parties after January 2011, when the information of Capacity-building Strategy for the Global Taxonomy Initiative became available for Parties, were also analysed.

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3. The information on national implementation of activities in taxonomic capacity building and relevant plans were extracted and reviewed[1] in terms of their relevance with the ten strategic actions described in the Capacity-building Strategy for the Global Taxonomy Initiative (annex to decision XI/29). The regional analysis was conducted based on the regional composition of five United Nations Regional Groups: African Group, Asia-Pacific Group, Central and Eastern European (CEE) Group, Latin American and Caribbean Group (GRULAC), and Western European and Others Group (WEOG)[2].

4. The overview of the information submitted in the fifth national reports and NBSAPs are shown in section II. Some notable findings on progress of implementation of the Global Taxonomy Initiative at the national level are presented in section III. Section IV explains the results of the "Global Taxonomy Initiative Training Course on Rapid Identification of Invasive Alien Species for Achieving Aichi Biodiversity Target 9" supported by the Government of Japan and technical expertise provided by the University of Guelph and networks related to Barcode of Life[3],[4] activities. Lastly, the conclusion is presented in section V of this document.

II. GLOBAL OVERVIEW OF PROGRESS ON THE IMPLEMENTATION OF THE CAPACITY-BUILDING STRATEGY FOR THE GLOBAL TAXONOMY INITIATIVE

5. Among the 196 Parties to the Convention, a total of 177 Parties (88%) have submitted the fifth national report and/or the latest NBSAPs that contain some elements in relevance with taxonomic capacity building. Out of those 177 Parties, a total of 83 Parties (47%) have implemented actions relevant to the Capacity-building strategy for the Global Taxonomy Initiative, whereas no significant action was observed in the reports submitted by 94 Parties (53%). With respect to the former, relevant information was extracted from 62 national reports and 24 NBSAPs. The information submitted from Austria, Timor-Leste and Uganda was taken from both national reports and NBSAPs as these countries have reported on activities and plans in both reporting processes. Among the 83 Parties, 40 Parties have implemented one or more concrete activities at the national level, with one or more strategic actions mentioned in the Capacity-building Strategy for the Global Taxonomy Initiative either planned or set in place. The remaining 43 Parties have laid out plans as national guideline for the future development of projects.

III. ACTIONS TAKEN BY PARTIES IN RELEVANCE WITH THE STRATEGIC ACTIONS OF THE CAPACITY-BUILDING STRATEGY FOR THE GLOBAL TAXONOMY INITIATIVE

A. Global status of national strategies in correspondence to the strategic actions of the Capacity-building strategy for the Global Taxonomy Initiative

6. Each strategic action indicated in the Capacity-building strategy for the Global Taxonomy Initiative (annex to decision XI/29) provides information for Parties and relevant organizations to consider in the context of implementation of the Strategic Plan for Biodiversity 2011-2020 and achievement of Aichi Biodiversity Targets. Figure 2 in the below shows the actions taken by Parties relevant to the strategic actions mentioned in the Capacity-building Strategy for the Global Taxonomy Initiative.

7. Five Parties (3% of Parties that submitted reports), namely China, Morocco, Pakistan, Palau, and Suriname have implemented one or more activities relevant to the Action 1 on assessments of taxonomic needs and capacities at the national, sub-regional and regional levels. Noting that the

[1] Raw data of the analysis on the progress of implementation of the capacity building strategy for the global taxonomy initiative https://www.cbd.int/gti/review.shtml

[2] United Nations regional groups: http://www.un.org/depts/DGACM/RegionalGroups.shtml

[3] The International Barcode of Life project (iBOL) http://www.ibol.org/

[4] The Consortium for Barcode of Life (CBOL) http://www.barcodeoflife.org/content/about/what-cbol

assessment of needs and identification of existing capacity help integration of components of taxonomic capacity in national policy development process, the actions taken by these Parties seemed to have facilitated achievement of Target 17 on NBSAPs and contributed to achieve Target 19 on biodiversity knowledge improvement and sharing.

8. Five Parties (3% of Parties that submitted reports), namely China, Germany, Palau, the Republic of Korea, and South Africa have implemented one or more actions relevant to Action 2. Action 2 refers to regional and sub-regional workshops for CBD/GTI national focal points as well as representatives of relevant governmental sectors to facilitate cooperation and raise awareness of the importance of taxonomy. In relation to Aichi Biodiversity Targets, this action addresses Target 1 on awareness, 17 on NBSAPs and 19 on biodiversity knowledge.

9. A total of 18 Parties (10% of Parties that submitted reports) have implemented one or more actions relevant to Action 3 on technical and academic training for both current and future professional taxonomists to improve the quality of taxonomic skills and knowledge. These actions directly support achieving Targets 1 and 19 at the national level. For example, Lao People's Democratic Republic has developed some curricula for Bachelor of Science and Master of Science at the National University of Laos in Botany and Zoology, along with a taxonomy database to train future taxonomists and improve the quality of taxonomic knowledge.

10. A total of 13 Parties (7% of Parties' submitted reports) have implemented one or more actions relevant to Action 4. Action 4 refers to the development and sharing of taxonomic tools such as genetic and DNA sequence-based identification tools, as well as risk-analysis tools to expand national capacity to identify and analyse species. Action 4 addresses almost all of Aichi Biodiversity Targets with provision of species identification services, in particular Target 9 on invasive alien species, and facilitates understanding of the status of biodiversity by the wide range of public to achieve various Targets. (Targets 1, 2, 5, 8, 9, 10, 11, 12, 13, 14 and 16.)

11. Out of 15 Parties whose tools for their action plan were described in the reports, 8 countries, namely Austria, Bangladesh, Colombia, Costa Rica, Mauritius, South Africa, Suriname and Uganda, have utilized a DNA sequence-based species identification method in their strategies. Notably, Austria has established the Austrian Barcode of Life Initiative (ABOL), which aims to register all species through DNA barcoding and facilitate both scientific research and practical use of the information.

12. A total of 23 Parties (13% of Parties that submitted reports) have implemented one or more actions relevant to Action 5. Action 5 refers to the enhancement of human capacity and infrastructure to identify and monitor biodiversity, including biodiversity-related database development and maintenance, which support achieving Targets 17 on NBSAPs, 19 on knowledge improvement and sharing and 20 on resource mobilization.

13. A total of 23 Parties (13% of Parties that submitted reports) have implemented one or more actions relevant to Action 6. Action 6 refers to supporting the establishment of biodiversity information facilities and development of information systems necessary to collect biological information. Action 6 particularly addresses Aichi Biodiversity Targets 1, 17, 19 and 20 on resource mobilization.

14. A total of 24 Parties (14% of Parties that submitted reports) have implemented one or more actions relevant to Action 7. Action 7 refers to the development of human and infrastructural resources to strengthen the existing biological collections, which addresses most of the Aichi Biodiversity Targets, including 1, 2, 4, 5, 9, 10, 11, 12, 13, 14, 16, 19 20. For example, China has preserved more than 30 million biological specimens; it has expanded one national long-term biological specimen collection and one national replication collection. In addition, 10 national mid-term seed banks were renewed. A total of 32 national culture collections were also renovated and 7 culture collections were newly established. From the specimen collections mentioned above, four hundred and twenty three thousand distinct genetic materials deriving from endemic crops and their wild relatives have been preserved.

15. A total of 35 Parties (20% of Parties that submitted reports) have reported that they have implemented one or more actions relevant to Action 8. Action 8 refers to databases enhancing the quality and predictability of the work using simulation models on biodiversity; thereby these activities seem to facilitate science-based national planning and actions to achieve Targets in various biomes.

16. A total of 38 Parties (about 22% of Parties that submitted reports) have implemented one or more actions relevant to Action 9, which aimed to facilitate all-taxa inventories in the areas associated with socio-economic or scientific interests. Nonetheless, the activities and plans of these Parties on creating inventories target specific taxonomic groups rather than all taxa. Therefore, the statistics on Action 9 shown in Figure 1 below are not necessarily all-taxa inventory, rather inventory of biodiversity in selected groups of organisms of Parties' or scientists' interests. For example, in Finland, the Finnish Inventory Programme for Marine Underwater Environment (VELMU) was established with a target period of 2011-2016. The revised inventory plan came into effect in 2011 consisting of 17,000 observation sites for sampling and producing data to create a knowledge basis for underwater environment.

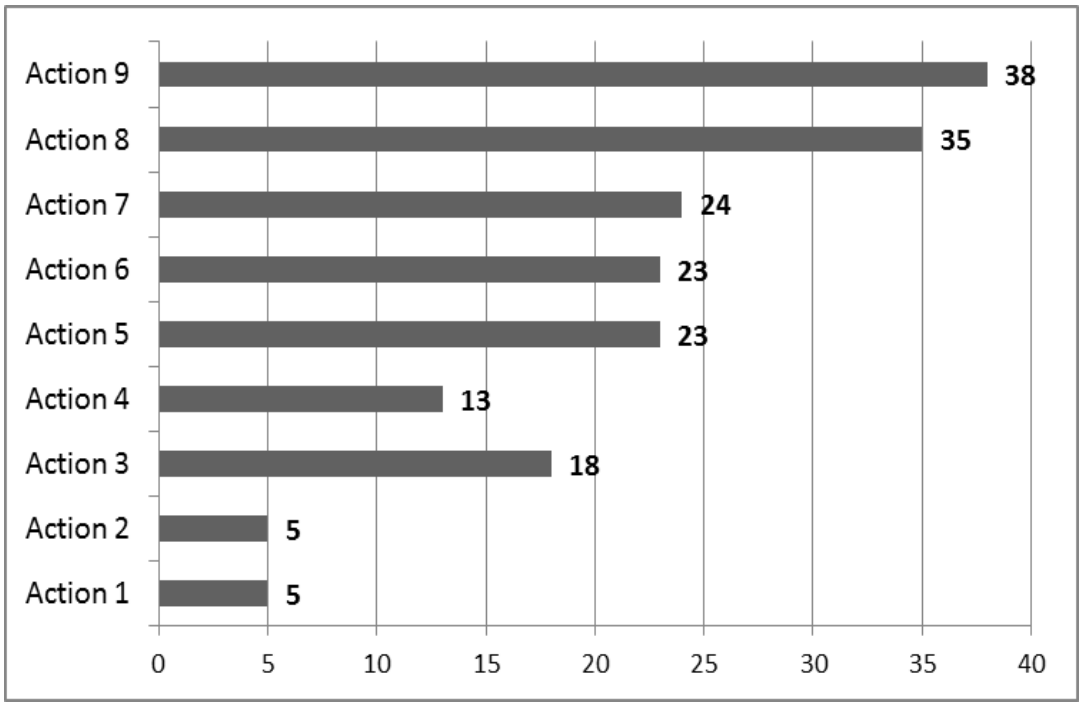

Figure 1. Overview of the strategic actions taken by Parties based on the information retrieved from Fifth national reports and NBSAPs

The X-axis represents the total number of Parties with one or more actions implemented in relevance to each strategic action and Y-axis represents the strategic actions described in the Capacity-building Strategy for the Global Taxonomy Initiative (annex to decision XI/29). Note that the number of Parties for each strategic action does not represent a mutually exclusive number of national actions between each strategic action. This is due to the fact that some national actions are observed to be relevant to two or more of the strategic actions.

B. Regional distribution of national strategies in correspondence to the strategic actions described in the Capacity-building strategy for the Global Taxonomy Initiative

17. With regard to the regional distribution of strategic actions described in the Capacity-building strategy for the Global Taxonomy Initiative, most actions were observed by 28 Parties from the Asia-Pacific group, followed by 24 Parties from the African group. Additionally, 12 Parties from the Western European and Others Group (WEOG), 10 Parties from the Latin American and Caribbean

Group (GRULAC), and 9 Parties from the Central and Eastern European group (CEE), have demonstrated activities and/or plans implemented.

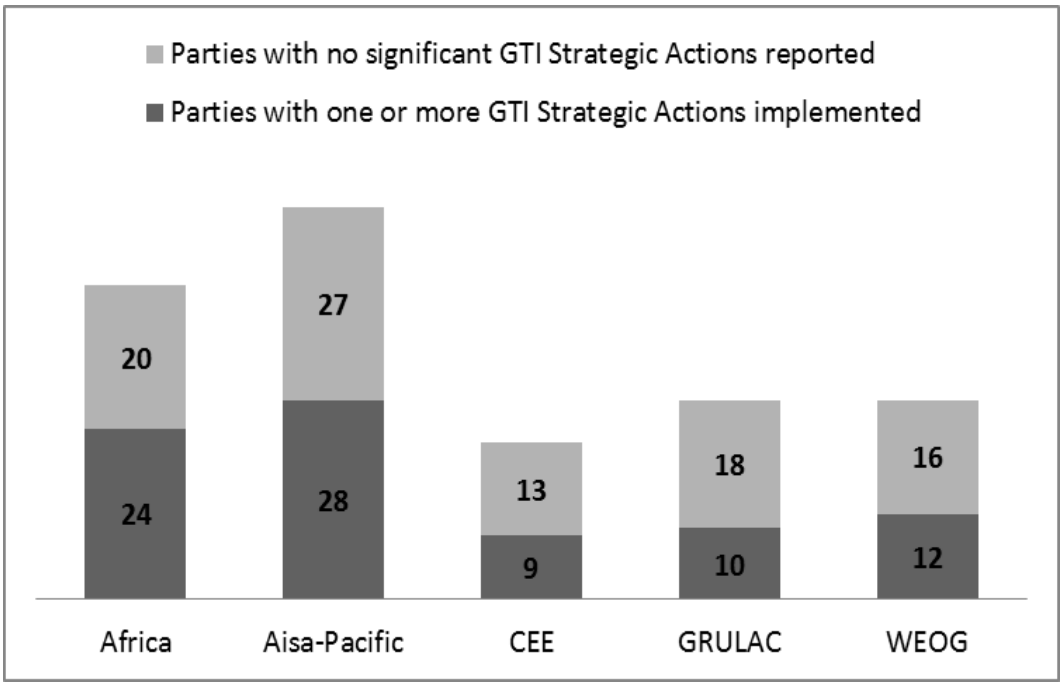

Figure 2. Overview of the regional progress status based on the five United Nations regional groups

IV. TRAINING FOR TRAINERS

18. In 2015, a pilot training activity in DNA Barcoding Techniques and Methodologies was held in partnership between the Secretariat and the International Barcode of Life project (iBOL), delivered by the Biodiversity Institute of Ontario (BIO), that aimed to support CBD Parties in the implementation of the Strategic Plan for Biodiversity 2011-2020 (decision X/2) and the Capacity-building Strategy for the Global Taxonomy Initiative (annex to decision XI/29), with a particular focus on empowering developing countries to identify invasive alien species using some rapid DNA-based approaches (DNA barcoding). As a result of this activity, 22 Parties received online training and 11 Parties received hands-on training in Guelph, Canada, facilitated by BIO. The hands-on trainees also had the opportunity to participate in the 6th International Barcode of Life Conference, which provided them an opportunity to join international collaborative networks on the application of DNA barcoding.

19. The activities for the 2015 training course were carried out according to the following timeline:

Activity Number and Event Description	2015											
	January	February	March	April	May	June	July	August	September	October	November	December
1. Request for nominations from CBD National Focal Points												
2. Review of nominations received by SCBD												
3. Delivery of the online training course for selected candidates												
4. Preparation of the training venue at the University of Guelph												
5. Delivery of the hands-on training course for selected candidates												
6. Post-training follow up and project reporting												

20. The complete report of the training course can be found at https://www.cbd.int/gti/training.shtml.

21. This activity received overwhelmingly positive reviews from the participants, as well as their respective organizations, indicating a strong demand for specialized DNA barcode training as a tool to aid in detection and monitoring of invasive alien species by Parties to the Convention, particularly by developing countries. To this end, the Secretariat launched a second round of training for 2016 and increased the training capacity to 30 Parties for the online module and 15 for the hands-on module. The online segment of the training course if currently ongoing. Selected Parties for the 2016 round can be found at https://www.cbd.int/doc/notifications/2016/ntf-2016-046-gti-en.pdf.

V. CONCLUSION

22. The importance of taxonomy that underpins implementation of the Strategic Plan for Biodiversity 2011-2020 was recognized by most of the Parties that submitted fifth national reports. The incorporation of taxonomic capacity building for biodiversity management into national policy has been initiated by 47% of Parties, globally. Half of this 47% appeared to have laid out plans for future actions, and the other half has already implemented activities related to taxonomy.

23. The majority of reported actions were conducted by national institutions and/or through collaboration with international project activities with expert organizations, including major natural history collections, herbaria/botanical gardens, culture collections or global networks of taxonomic institutions. The project based activities are inevitably limited to a short term timeframe, and long term capacity building seems to be difficult to operationalize internationally. Paragraph 11 of decision XI/29 invited Parties, academic institutions and relevant organizations to support long-term training programmes, including internships, fellowships and under- and post-graduate trainings to improve taxonomic and related skills of human resources. However, most of the analysed reports did not contain information on the expected collaboration of the national and academic or expert organizations to develop long-term support in taxonomy. In line with Article 18 of the Convention on Technical and Scientific Cooperation, Parties, academic institutions and expert organizations should be further encouraged to take collaborative actions to continuously develop capacity building projects.

24. The Global Taxonomy Initiative training for trainers has provided an opportunity for young taxonomists to acquire knowledge and techniques on DNA sequence based rapid species identification. This opportunity was successful in exposing young taxonomists to the implementation of the Strategic Plan for Biodiversity, and in the efforts to spread taxonomic knowledge around the

world, particularly in developing countries. It is important that these trained trainers of the Global Taxonomy Initiative can continue to lead taxonomic capacity-building at the national and regional levels with sufficient opportunities and financial resources after the training.

25. To do so, trained experts in taxonomy, technologies and infrastructure, taxonomic information, databases and data systems for use in the implementation of national biodiversity strategies, should be reviewed and reported on in the future national reports of the Parties. Therefore, national and international collaboration for capacity-building in taxonomy will be monitored at the national level, and related technologies, such as DNA sequencing, biodiversity data systems and their application needs for biodiversity, can sufficiently inform the process of the Convention. More coordinated and streamlined plans and actions in regional or global level taxonomic capacity-building should be considered at the upcoming coming meeting of the Conference of the Parties.

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