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# COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

## Item 11.1 of the Provisional Agenda

### Eighteenth Regular Session

27 September – 1 October 2021

## SUSTAINABLE USE AND CONSERVATION OF INVERTEBRATE POLLINATORS, INCLUDING HONEY BEES

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## I. INTRODUCTION

1. The Commission on Genetic Resources for Food and Agriculture (Commission) adopted at its Seventeenth Regular Session the Work Plan for the Sustainable Use and Conservation of Micro-organism and Invertebrate Genetic Resources for Food and Agriculture (Work Plan).<sup>1</sup> The Work Plan addresses micro-organisms and invertebrates as functional groups and foresees that two of these groups will be addressed at each session of the Commission. For this Session, the Work Plan foresees that the Commission will address pollinators, including honey bees, and biological control agents and biostimulants.<sup>2</sup>

2. Under the Work Plan, the Commission addresses each of the functional groups on the basis of:

- a summary of the status and trends of conservation, use and access and benefit-sharing, based on previous work of the Commission, existing literature and, as appropriate, an open survey that may also compile best practices with respect to their sustainable use and conservation;
- a mapping of regional and international organizations and other institutions most relevant for the functional group and the identification of strategic areas of possible collaboration; and
- an analysis of the gaps and needs, and possibilities for the Commission and its Members to address them.<sup>3</sup>

3. The document *Progress report on the implementation of the international initiative for the conservation and sustainable use of pollinators*<sup>4</sup> describes progress made in the implementation of the International Initiative for the Conservation and Sustainable Use of Pollinators (International Pollinator Initiative).

4. In 2016 and 2019, respectively, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and FAO published global assessments addressing pollinators.<sup>5,6</sup> To facilitate the Commission's consideration of pollinators, including honey bees, at the current session, FAO coordinated the preparation of the draft study *Sustainable use and conservation of invertebrate pollinators, including honey bees*<sup>7</sup> (draft study) by a number of expert authors. The draft study is based on a literature review, data analyses, the results of a questionnaire sent out to all Members and interested stakeholders, and a qualitative data analysis of National Biodiversity Strategies and Action Plans (NBSAPs). Building on the information contained in the above reports and the draft study, this document provides up-to-date information on the status and trends of invertebrate pollinators, maps relevant regional and international initiatives, identifies gaps and needs and seeks the Commission's guidance as to how work in this area should be advanced.

## II. STATUS AND TRENDS OF INVERTEBRATE POLLINATORS, INCLUDING HONEY BEES

5. Almost 90 percent of flowering plant species depend, to different degrees, on pollinators (both vertebrate and invertebrate) and the pollination services they provide; approximately three-quarters of the world's crops producing fruits and seeds for human consumption depend, at least in part, on pollinators for sustained production, yield and quality. Animal-pollinated crops are rich in micronutrients, and there is growing evidence making the direct link between pollinators and pollinator-dependent crops and nutritionally adequate diets, especially for the developing world. These crops contain, in some cases, significant levels of the lipids, vitamin A and related carotenoids, vitamins C and E, lycopene, antioxidants  $\beta$ -cryptoxanthin and  $\beta$ -tocopherol, calcium, fluoride and folate (iron), etc. needed for healthy human diets.

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<sup>1</sup> CGRFA-17/19/Report, *Appendix E*.

<sup>2</sup> CGRFA-17/19/Report, *Appendix E*, paragraph 14.

<sup>3</sup> CGRFA-17/19/Report, *Appendix E*, paragraph 7.

<sup>4</sup> CGRFA-18/21/11.3/Inf.1.

<sup>5</sup> <https://ipbes.net/assessment-reports/pollinators>

<sup>6</sup> <http://www.fao.org/state-of-biodiversity-for-food-agriculture/en/>

<sup>7</sup> CGRFA-18/21/11.1/Inf.1.

6. Worldwide, agriculture is now almost twice as dependent on pollinators as it was 60 years ago. The agricultural area represented by pollinator-dependent crops was 19.4 percent in 1961 but had increased to 32.8 percent by 2016. In other words, the pollinator-dependence of global agriculture – measured in terms of the proportion of area cultivated with pollinator-dependent crops – increased by ~70 percent from 1961 to 2016.

7. Approximately 10 percent of crop production is dependent on pollination services; this is calculated to have a global annual market value of up to USD 577 billion.<sup>8</sup> Without pollinators, many plant species would decline and eventually disappear. This would threaten nature, human well-being and the economy. Without animal pollination, changes in global crop supplies could result both in increased prices to consumers and in reduced profits to producers; the relative economic impacts of these pollinator losses could be the highest in several regions of Africa. Around EUR 3.7 billion of the European Union's annual agricultural output is directly dependent on insect pollinators.<sup>9</sup> In California (United States of America), almond growers produce 80 percent of the total global share of almonds, utilizing over 1 million managed honey-bee hives to maintain a USD 6 billion industry.<sup>10</sup> In the United States of America, the value of wild pollinators for a mere seven crops has been estimated at over USD 1.5 billion annually. In Argentina, the value of native bumble-bee pollination in apple production was evaluated; where bumble bees were excluded, fruit set and the number of fruits decreased by almost a half, and farmers saw a 2.4-fold decrease in earnings. However, the monetary value of pollination is difficult to estimate precisely, and there is a lack of evidence on the non-monetary economic values of pollinators and pollination services.

#### *Status and trends of pollinators*

8. Several new global studies confirm that wild pollinators are declining. They support previous reports showing wild bee populations declining in occurrence and diversity (and abundance for certain species) at local and regional scales, with evidence primarily from Northwest Europe and North America. Previous assessments of wild bee status had highlighted data limitations for some regions (Asia, Africa, Latin America and the Caribbean, the Near East and the Pacific), which precluded any general statement on their regional or global status. A new study published in 2021, based on Global Biodiversity Information Facility (GBIF) records of wild bees, reveals that about 25 percent fewer species were reported between 2006 and 2015 than before the 1990s. The authors conclude that there have been declines in species richness of bees in all continents except Oceania and that this appears to be a relatively recent trend that accelerated in the 1990s.

9. A second new study mapped global bee species richness by accounting for bee checklists, verified observations and published records. The largest hotspot areas for bee species richness were reported in the southwestern United States of America, the Mediterranean Basin into the Middle East, and Australia.

10. Nearly one-quarter of bumble bee species assessed using the International Union for Conservation of Nature (IUCN) Red List criteria are categorized as threatened. The proportion of threatened bumble bees varies by region: Europe (21.0 percent), North America (26.0 percent), Mesoamerica (45.5 percent) and South America (12.5 percent); assessments for Asia, the most bumble-bee species-rich region, are pending. Although efforts to document the status of bumble bees have increased, there are still many regions<sup>11</sup> that have not been assessed and/or are data deficient.

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<sup>8</sup> Values reported for 2015 in USD, taken from the IPBES Assessment report on Pollinators, Pollination and Food Production (<https://ipbes.net/assessment-reports/pollinators>).

<sup>9</sup> European Commission. 2021. *Progress in the implementation of the EU Pollinators Initiative*, COM(2021) 261 final. Brussels. (also available at [https://ec.europa.eu/environment/pdf/nature/conservation/species/pollinators/Progress\\_in\\_the\\_implementation\\_of\\_the\\_EU\\_Pollinators\\_Initiative.pdf](https://ec.europa.eu/environment/pdf/nature/conservation/species/pollinators/Progress_in_the_implementation_of_the_EU_Pollinators_Initiative.pdf)).

<sup>10</sup> [https://www.nass.usda.gov/Statistics\\_by\\_State/California/Publications/Specialty\\_and\\_Other\\_Releases/Almond/Forecast/202005almpd.pdf](https://www.nass.usda.gov/Statistics_by_State/California/Publications/Specialty_and_Other_Releases/Almond/Forecast/202005almpd.pdf)

<sup>11</sup> The regions referred are those of the IUCN Species Survival Commission Bumblebee Specialist Group (BSBG) found at <https://bumblebeespecialistgroup.org/regions/>

11. Managed honey-bee colonies unequivocally contribute significantly to agricultural productivity by delivering pollination services. Globally, managed honey-bee hives have increased by ~80 percent over the last 60 years; however, trends and data availability differ greatly among regions. For example, in Africa there was a continuous increase in the number of hives of ~150 percent (1961–2019), while Asia had a stronger continuous increase of over 300 percent in the number of hives (early 1960s to present).<sup>12</sup> Continued research and development on honey bees is valuable. Still largely unquantified is a relatively recent global phenomenon of rapidly increasing urban beekeeping, an activity of presumed sizable sociological and ecological consequences.

12. Stingless bees also make a substantial contribution to ecosystem functioning and pollination services in some regions/countries and for certain crops. Like honey bees, stingless bees are eusocial and therefore make frequent flower visits and could contribute significantly to delivering pollination services, including to crops. A census of stingless bees that highlighted the domestication potential of 560 species was recently completed for three different regions of the world: Neotropical (431 species); Indo-Malayan/Australasian (91 species); and Afrotropical (38 species). However, stingless bees and their links to crop pollination remain understudied in these regions.

13. Studies on the status of subspecies (geographic races) of invertebrate pollinators are mostly lacking; the subspecies-level information reported here is focused on honey-bee subspecies and honey-bee genetic resources, which are under threat. Native or indigenous honey-bee subspecies have adapted through evolution to local environmental conditions (as with most local breeds of animals). They have greater resilience and resistance to threats and provide critical reservoirs of genetic resources and diversity.

14. Based on morphology, phenotypes, behaviour and genetics, five distinct honey-bee evolutionary lineages, and 29 distinct subspecies, can be distinguished, 1) A-lineage – Africa, 2) M-lineage – western and northern Europe and central Asia, 3) C-lineage – central and southern Europe, 4) O-lineage – Caucasus, Turkey, Middle East, Cyprus, Crete/Middle East and western Asia, and 5) Y-lineage – Arabian Peninsula and Ethiopian highlands.

15. A variety of *in situ* and *ex situ* conservation strategies can be used to safeguard honey-bee subspecies and genetic diversity and meet the demands of beekeepers, including genetic assessment of populations, gamete cryopreservation, effective breeding strategies for genetic improvement of local subspecies (e.g., selection programmes and artificial insemination programmes) and establishment of a common repository for characterization data. To date, there are only a few honey-bee conservation programmes, a majority of which are concentrated in Europe – which may be a result of the region's high honey-bee subspecies diversity being endemic to Europe. There is a need for a stronger network and collaboration among institutions and researchers, involving common approaches for collecting, cataloguing, storing and using genetic material. A few initiatives are currently being set up, such as a working group on honey-bee gene banking led by the International Federation of Beekeepers' Associations (Apimondia); however, efforts need to be increased and coordinated for effective conservation.

#### *Causes of decline of pollinators*

16. The importance of drivers and the risks they pose for pollinators (i.e., loss), differs from region to region. New evidence shows the most important direct drivers across all regions are land-use change (land cover and configuration), intensive agricultural management and pesticide use. Additional drivers of pollinator loss include environmental pollution, invasive alien species, including introduced bees, pathogens and climate change. Climate change is likely to increase in importance as a major driver, likely exacerbating the risks from other drivers.

17. Various regions of the globe have experienced different rates of agricultural intensification. In the last 25 years, more areas have been brought under cultivation in developing regions. Various factors associated with agricultural intensification affect pollinator health and plant–pollinator interaction, either directly or synergistically. In regions of the Global South, trends continue towards

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<sup>12</sup> Detailed regional variations in honey-bee hive trends are elaborated in CGRFA-18/21/11.1/Inf.1.

agricultural expansion, conventional intensification and urbanization, which in part is driven by international trade.

18. In 2016, IPBES reported that pesticides, particularly insecticides, have a broad range of lethal and sublethal effects on pollinators under controlled experimental conditions and highlighted that, at the time, there were few available field-level studies assessing the effects of pesticides on bees (other than honey bees) at field-realistic doses. Since then, studies conducted in Europe and North America on the effects on wild bees of actual field exposure to pesticides have found adverse, including sublethal, impacts such as reductions in nests and offspring produced for ground-nesting bees and reductions in bee density, colony growth and reproduction for bumble bees and other solitary bees nesting above ground. There is still a lack of evidence available in other regions.

19. Since 1995, trends in patterns of total pesticide use (including insecticides, herbicides and fungicides) differ across the regions of the world. There were substantial increases in total pesticide use in parts of North and South America and Asia. It is important to note that the use patterns of specific pesticide groups in different regions have not remained uniform during this period. For example, herbicide use has increased substantially in many parts of the world, particularly in North and South America and Africa. In the case of insecticides, use per unit area has grown substantially in certain regions of the world, for example in Oceania and marginally in African countries. In South America, Southern Asia and Central Asia there are decreasing trends in insecticide use per unit area. However, it should be noted that for the assessment of environmental impacts, quantity has to be seen together with hazardous properties and on the actual use of the pesticides.

#### *Sustainable management practices and conservation measures*

20. For honey bees, there are three types of breeding programmes: commercial, conservation and research. These breeding programmes are important for many European native subspecies, which may be hybridized or replaced by, for example, *Apis mellifera carnica* or *Apis mellifera ligustica*. *Apis cerana* is facing similar threats of replacement and hybridization in Asia. Breeding programmes provide the opportunity to conserve genetically attractive local subspecies. Honey bees are considered to be animal genetic resources for food and agriculture relevant for the conservation of genetic diversity and breeding, and as such their data are documented in the Domestic Animal Diversity Information System (DAD-IS).<sup>13</sup>

21. Pollinator-friendly management practices, systems and processes have the potential to maintain rich and abundant wild pollinator communities if sustained over time. These processes and systems include sustainable intensification, agroecology, organic farming and integrated pest management (IPM). Such approaches aim to increase long-term crop productivity by enhancing beneficial biodiversity, including pollinator diversity, and associated ecosystem services/nature's contributions to people, while minimizing the use of synthetic inputs and cropland expansion. Recent studies support a focus on ecological processes and on ecological intensification<sup>14</sup> as an important solution to pollinator declines that will also provide other benefits such as natural biocontrol, better soil function and sustained food security.

22. Many broader conservation efforts, for example the maintenance of habitat diversity or increasing habitat richness, have a positive effect on a wide range of organisms, including invertebrate pollinators. Evidence has demonstrated that the protection of larger areas (>10 ha) of natural/semi-natural habitat helps to maintain pollinator habitats at regional or national scales. Likewise, targeted conservation actions for pollinator habitat have enhanced overall biodiversity and other ecosystem

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<sup>13</sup> <http://www.fao.org/dad-is/en/>

<sup>14</sup> For the purposes of the draft background study, ecological intensification was taken to be a process rather than an end point. It provides one path towards higher crop yield that fits within the original sense of sustainable intensification. Ecological intensification emphasizes management to enhance ecological processes that support production, including biotic pest regulation, nutrient cycling, and pollination; there is an explicit focus on conserving and using functional biodiversity. The result is a farm that is likely to meet the definition of a diversified farming system (Garibaldi *et al.*, 2019. Policies for Ecological Intensification of Crop Production. *Trends in Ecology and Evolution*, 34(4): 282–286)

services such as reduction of pest populations (improved natural pest control), improvement of soil quality and protection against soil erosion etc.

### *Policy and regulations*

23. While an increasing number of countries have adopted national pollination strategies, pollinator-related issues are usually not addressed by a single dedicated law or regulation. Instead, they are usually integrated/mainstreamed in, or covered by, national laws of various kinds, such as those addressing endangered species, the authorization and use of pesticides, trade in bee products such as honey or livestock breeding. Administrative responsibility for such laws often lies with different government agencies at national and regional levels. National laws specifically addressing pollinators usually focus on honey bees in the context of beekeeping (trade, biosecurity, pests/diseases, hive products, breeding regulations, etc.). The disparity in pollinator-related competences often makes the development and implementation of a coordinated strategy for the protection of pollinators difficult and cumbersome.

24. The situation at international level is similar to that at national level. The responsibility for pollinator-related issues lies with different bodies and instruments and there is no single dedicated body at global level overseeing the status of pollinators and coordinating action on the protection of pollinators and pollination services across relevant fora and instruments. The International Pollinator Initiative has led to significant and noteworthy progress, and this is reflected in many national and subnational initiatives, projects and even laws addressing pollinators. However, to date there is no dedicated body that reviews the status of pollinators at regular intervals, coordinates the exchange of knowledge and experiences in a systematic way and aims to ensure coordinated action at global level.

25. National Biodiversity Strategies and Action Plans (NBSAPs) are policy instruments for framing the aims and objectives of the Convention on Biological Diversity (CBD) in national contexts and guiding national actions. A qualitative analysis of NBSAPs in a 173-country database (covering all NBSAPs available on the CBD website)<sup>15</sup> found that 117 country NBSAPs had an average of only 0.0142 percent inclusion of the words “bee/s”, “beekeeping”, “pollinators” or “pollination”. This indicates relatively little acknowledgement of the critical role pollinators and pollination play in achieving many conservation objectives, but at the same time highlights large opportunities to increase awareness among decision-makers.

### **III. GLOBAL AND REGIONAL POLLINATOR INITIATIVES**

26. At its fourteenth meeting, the Conference of the Parties to the CBD adopted the Plan of Action 2018–2030 for the International Pollinator Initiative<sup>16</sup> and emphasized that the purpose of the Plan of Action was to “help Parties, other Governments, indigenous peoples and local communities, relevant organizations and initiatives to implement decision XIII/15”.<sup>17</sup> The purpose of the of the International Pollinator Initiative is to support countries and stakeholders implement the four overall objectives:

- a) “In implementing coherent and comprehensive policies for the conservation and sustainable use of pollinators at the local, subnational, national, regional and global levels, and promoting their integration into sectoral and cross-sectoral plans, programmes and strategies;
- b) In reinforcing and implementing management practices that maintain healthy pollinator communities, and enable farmers, beekeepers, foresters, land managers and urban communities to harness the benefits of pollination for their productivity and livelihoods;
- c) In promoting education and awareness in the public and private sectors of the multiple values of pollinators and their habitats, in improving the tools for decision-making, and in providing practical actions to reduce and prevent pollinator decline;

<sup>15</sup> <https://www.cbd.int/nbsap/>

<sup>16</sup> CBD/COP/DEC/14/6.

<sup>17</sup> <https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-15-en.doc>

- d) In monitoring and assessing the status and trends of pollinators, pollination and their habitats in all regions and to address gaps in knowledge, including by fostering relevant research”.<sup>18</sup>

27. Within the same decision, it was noted that FAO would facilitate the implementation of the International Pollinator Initiative through guidance and technical advice to countries and support decision-making processes on pollination, including on the use of chemicals in agriculture, protection programmes for native pollinators in natural ecosystems, promotion of biodiverse production systems, crop rotation, monitoring of native pollinators and environmental education.

28. In addition to the International Pollinator Initiative, a number of regional and national pollinator initiatives have since been established. There are four regional initiatives (the African Pollinator Initiative, the European Pollinator Initiative, the North American Pollinator Protection Campaign and the Oceania Pollinator Initiative), with a fifth, the Asian Pollinator Initiative, in early stages of development. In addition to regional initiatives, there are approximately 31 national initiatives developed or in the process of being developed. These initiatives, however, are not being developed equally across regions and vary in scope and ambition: in North America, both Canada and the United States of America have national initiatives; Europe and Central Asia has 15 national initiatives (representing 31 percent of the countries within the region); Latin America and the Caribbean has 6 national pollinator strategies (representing 18 percent of the countries within the region); Asia has 4 national pollinator initiatives (representing 16 percent of the countries within the region); and Africa has 3 national pollinator strategies (representing 6 percent of the countries within the region). The Near East and North Africa has only one national initiative (representing 4.8 percent of the countries within the region). There are no national pollinator strategies for the Southwest Pacific region, and the sole national pollinator strategy in the Near East and North Africa region is in its very early stages of development. Lastly, as part of the work completed under the International Pollinator Initiative, an Indigenous Peoples’ Pollinators Initiative was launched.<sup>19</sup> Furthermore, FAO, in partnership with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), is preparing a regional grant application to the International Climate Initiative financing body under the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) for a project on addressing knowledge gaps on pollinators and pollination services in the Latin American and the Caribbean region.<sup>20</sup>

#### IV. GAPS AND NEEDS

29. The draft study highlights many of the scientific and technical gaps that still exist for invertebrate pollinators. Basic information on diversity, abundance, richness and occurrence is lacking due to taxonomic challenges and the absence of standardized monitoring protocols, both of which could be complemented and supported by citizen scientists. Earlier this year, the European Commission – Joint Research Centre developed an elaborate proposal for an EU Pollinator Monitoring Scheme<sup>21</sup> within the EU Biodiversity Strategy.<sup>22</sup> The proposed scheme would provide a cost-effective, pragmatic approach to monitoring several invertebrate pollinator taxa simultaneously using a standardized approach. Implementing this standardized approach in other regions lacking baseline data on pollinators would enable direct comparisons of pollinator data and could help inform decision-makers.

30. Despite the tremendous effort made by the research community in recent decades, there are still significant gaps in research on and knowledge of invertebrate pollinators and pollination services. These knowledge gaps (i.e. scientific/knowledge advances) are not equally distributed across regions. For example, data on bee distribution are highly heterogeneous, with records largely missing for most of Asia, Africa, the Middle East and parts of South America, although data on abundance and population trends are generally lacking globally. In terms of drivers, understanding of the most proximate causes of pollinator decline associated with habitat loss and fragmentation is limited,

<sup>18</sup> CBD/COP/DEC/14/6, Annex I, paragraph 5.

<sup>19</sup> A list of the initiatives can be found in CGRFA-18/21/11.1/Inf.1.

<sup>20</sup> CGRFA-18/21/11.3/Inf.1, paragraph 7.

<sup>21</sup> <https://ec.europa.eu/jrc/en/science-update/proposal-eu-pollinator-monitoring-scheme-eu-poms>

<sup>22</sup> [https://ec.europa.eu/environment/strategy/biodiversity-strategy-2030\\_en](https://ec.europa.eu/environment/strategy/biodiversity-strategy-2030_en)

despite land-use change having been identified as the largest risk to pollinators. For example, in Africa, the impact of land-use change (cover and configuration) on pollinators and their subsequent impacts on people and their well-being are still largely unknown. We do not yet know well the impact of single drivers on pollinators and pollination services let alone the impact of multiple drivers and threats on pollinators (e.g., climate change plus other drivers). Lastly, knowledge and studies on the impact of management practices on all invertebrate pollinators and pollination services are also lacking, including in the following areas: meta-analyses on the effects of organic farming on pollinators, pollination and crop yield; the effect of reducing pesticides (ecological intensification) on both crop productivity and pollinator populations; changes to the resilience of pollinator populations and communities following the application of ecological intensification interventions; and the direct and indirect effects of honey bees and other managed bees (including stingless bees) on wild plants and wild pollinators via competition and pathogen spillover.

## V. INVERTEBRATE POLLINATORS IN THE WORK OF THE COMMISSION

31. As FAO facilitates the implementation of the International Pollinator Initiative, and the International Pollinator Initiative objectives align with the objectives of the Commission's Work Plan, there are opportunities for the Commission and its members to contribute to the International Pollinator Initiative within the Work Plan.
32. As important components of "associated biodiversity", pollinators are covered by the Commission's draft policy response to *The State of the World's Biodiversity for Food and Agriculture*,<sup>23</sup> which also refers to the implementation of the International Pollinator Initiative.<sup>24</sup>
33. As regards the International Pollinator Initiative's objective of implementing coherent and comprehensive policies for the conservation and sustainable use of pollinators, the establishment and implementation of policies such as national pollinator strategies and NBSAPs are opportunities for action available to the Commission's Members. Reference to pollinators could also be considered in the development or revision of national strategies for the implementation of the Commission's global plans of action.
34. Indigenous peoples and local communities and their knowledge can be a source of solutions to current challenges, exemplified by recently published literature on biocultural approaches to pollinator conservation. Knowledge co-produced through an inclusive, participatory process among many groups of stakeholders, including indigenous peoples and local communities, can result in better, more acceptable, meaningful and tailored solutions for each local context. Going forward, therefore, the work of FAO and the Commission on pollinator-related activities and initiatives should continue to acknowledge indigenous peoples and deliberately include their participation in decision-making.
35. All activities related to the topic of invertebrate pollinators undertaken under the Work Plan could be regularly reported to FAO and the International Pollinator Initiative in order to build synergies (and avoid duplication of efforts) with national projects and research up to 2030. Similarly, the International Pollinator Initiative, under its Plan of Action (2018–2030), hopes to develop a number of tools and guidance documents at the national, regional and global levels; the Commission and its Members could promote and encourage the use of the guidance documents and implementation of the tools at the national level.
36. With regard to the International Pollinator Initiative's objective of promoting education and public awareness of the value of pollinators and their habitats, improving tools for decision-making and providing practical actions to reduce and prevent pollinator decline, the Commission could amplify and leverage work on awareness raising and capacity development through existing channels at different levels.
37. Regarding the International Pollinator Initiative's objective of monitoring and assessing the status and trends of pollinators, the Commission, at its Sixteenth Regular Session, requested FAO to

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<sup>23</sup> FAO. 2019. *The State of the World's Biodiversity for Food and Agriculture*. J. Bélanger & D. Pilling (eds.). FAO Commission on Genetic Resources for Food and Agriculture Assessments. Rome. (also available at <http://www.fao.org/documents/card/en/c/ca3129en>).

<sup>24</sup> CGRFA-18/21/7.2., Action 3.3.10.

consider including domesticated honey bees, and potentially other pollinators, in DAD-IS.<sup>25</sup> Given the scarcity of data on wild pollinators,<sup>26</sup> the Commission, at its Seventeenth Regular Session, requested FAO to include in DAD-IS data fields for monitoring the diversity of managed honey bees of relevance for food and agriculture.<sup>27</sup> Progress is reported in the document *Status of the development of the Domestic Animal Diversity Information System*.<sup>28</sup> Opportunities exist to strengthen collaboration and cooperation between organizations and institutions on the monitoring and reporting of pollinator-related data and activities.

## VI. GUIDANCE SOUGHT

38. The Commission may wish to:
- i. take note of and provide comments on the draft study;
  - ii. request FAO to finalize and disseminate the study;
  - iii. request FAO to ensure that the findings of the study are taken into consideration in its work relevant to pollinators and in the implementation of the International Pollinator Initiative;
  - iv. invite countries to promote the sustainable use and conservation of pollinators, including honey bees, ensure they are given due consideration in local, national, regional and international policies and policy development processes, and report national data on the diversity of managed honey bees to DAD-IS;
  - v. request FAO to consider the need for and modalities of a global pollinator platform to address pollinators and pollination services at global level, facilitate and coordinate national action, and agree on activities at global scale in line with and in support of existing activities and initiatives, and to report to the Commission at its next session; and
  - vi. consider how it can respond to the findings and recommendations of the study, once finalized, and what follow-up actions are needed to ensure that the Commission and its Members continue to strengthen their work on pollinators, including honey bees.

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<sup>25</sup> CGRFA-16/17/Report Rev.1, paragraph 46.

<sup>26</sup> CGRFA-17/19/11.2/Inf.3 Rev.1, paragraph 18.

<sup>27</sup> CGRFA-17/19/Report, paragraph 92.

<sup>28</sup> CGRFA-18/21/10.2/Inf.3.