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COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

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PROGRESS OF THE INTERNATIONAL INITIATIVE FOR THE CONSERVATION AND SUSTAINABLE USE OF POLLINATORS

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I. INTRODUCTION

1. Pollinators play a vital role in achieving the Sustainable Development Goals (SDGs, particularly SDG 2 "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture" and SDG 15: "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss". Pollinators significantly contribute to successful agricultural production, food security and nutrition of a growing global population. Pollination also has positive effects on the whole ecosystem and its services.

2. Considering the urgent need to address the issue of the worldwide decline in pollinator diversity, the 5th Conference of the Parties to the Convention Biological Diversity (CBD) established an International Initiative for the Conservation and Sustainable Use of Pollinators (also known as the International Pollinators Initiative-IPI)[1]. The IPI Plan of Action, subject to regular review[2], was prepared by FAO and the CBD Secretariat. It comprised four elements: assessment, adaptive management, capacity building and mainstreaming.

3. Since the adoption of the IPI Plan of Action and further invitations from the Conference of Parties (COP) to the CBD[3], FAO has undertaken a multi-year initiative to facilitate and coordinate work on pollination issues. In its leading role of coordinating the IPI, FAO established a Global Action on Pollination Services for Sustainable Agriculture[4]. FAO coordinated the global project "conservation and management of pollinators for sustainable agriculture, through an ecosystem approach" (Global Pollination Project), supported by the Global Environment Facility (GEF) and implemented by the United Nations Environment Program (UNEP). In addition to the biannual reporting to CBD COP on progress on IPI implementation[5], FAO has participated in events at national and international levels, provided support to and/or liaised with regional initiatives and developed tools and guidance documents.

4. The Thematic Assessment of Pollinators, Pollination and Food Production (IPBES Assessment) of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has been completed and adopted in 2016[6]. Throughout the preparation of the assessment, FAO provided advice and hosted the third Authors' Meeting in July 2015. The Conference of the Parties (COP) to the CBD, at its 13th Session, adopted Decision XIII/15 on the implications of the IPBES assessment on pollinators, pollination and food production for the work of the Convention[7].

5. Information on the IPBES assessment was provided to the 154th Session of the Council[8], the 25th Session of the FAO Committee on Agriculture[9], and the Ninth Session of the Intergovernmental Technical Working Group on Animal Genetic Resources for Food and Agriculture[10].

6. This document provides information on the Global Pollination Project.

II. RESULTS OF THE GLOBAL POLLINATION PROJECT (2009 -2015)

7. Work under the Global Action, in particular the GEF/UNEP/FAO Global Pollination Project, generated a framework of knowledge that has been developed with and used by the seven partner countries (Brazil, Ghana, India, Kenya, Nepal, Pakistan and South Africa) and beyond. A wide range

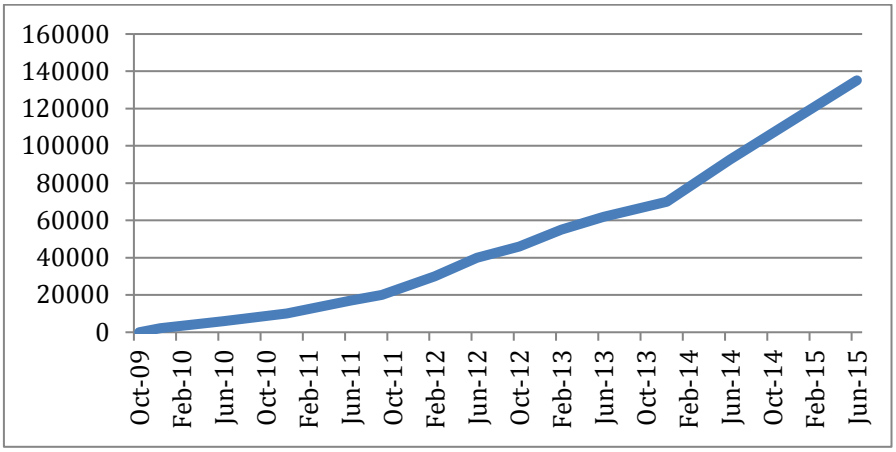
[1] COP decision V/5, section II
[2] COP decision VI/5
[3] E.g. Decision IX/1
[4] http://www.fao.org/pollination/en/
[5] UNEP/CBD/COP/12/INF/37 https://www.cbd.int/doc/meetings/cop/cop-12/information/cop-12-inf-37-en.pdf
[6] http://www.ipbes.net/sites/default/files/downloads/pdf/spm_deliverable_3a_pollination_20161124.pdf
[7] CBD/COP/DEC/XIII/15 https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-15-en.pdf
[8] CL154/INF/4
[9] COAG/2016/INF/7
[10] CGRFA/WG-AnGR-9/16/2.3

of knowledge products were prepared including, for economic valuation of pollination services, determining the risks of pesticides to wild bees, detecting and evaluating pollination deficits in crops, socio-economic evaluation of pollinator-friendly practices and monitoring pollinator communities.

Global achievements

8. Several publications filled existing knowledge gaps on how to integrate conservation issues and sustainable use of pollinators in agriculture and food production, and to better understand the value of pollinators and pollination and potential threats by agricultural practices. It also assists in the understanding of crop yield gaps due to pollination deficit and promotes material on pollinator-friendly practices in agriculture. A complete list of tools, guidelines and publications prepared by FAO under the Global Action on Pollination Services is provided in Annex 1.

9. A schema to manage pollinator interaction data was developed and is utilized by project partners. At the global level, a Pollination Information Management System (PIMS)[11] was developed and implemented. The PIMS is being used increasingly as shown in the graph below.



10. Three regional Pollinator Initiatives were established in Africa, North America and Oceania, to enhance awareness on pollinators and pollination, to connect people, information, knowledge and promote discussions on pollinators and pollination.[12]

National achievements

11. Brazil, Ghana, India, Kenya, Nepal, Pakistan and South Africa, supported by FAO, collated a reference list of over 4 000 bibliographic resources on crop pollination. These included hard-to-find studies on crop pollination in smallholder agriculture and tropical and subtropical agriculture. The references were fed into the global PIMS.

12. Through national project implementation mechanisms, field demonstration sites were established and information was collected to form the basis for community consideration, testing and adaptive management of practices in addition to plans conserving pollinators for sustainable agriculture.

13. All the countries conducted “needs assessments” which were used to identify where targeted training interventions would be most suitable. Training material was developed by all the countries and adapted to the target audience, e.g., material for training of trainers; material for training farmer community groups; formal curriculum material and material specific to taxonomic identification.

[11] http://www.fao.org/pollination/pollination-database/en/
[12] http://www.fao.org/pollination/major-initiatives/en/

14. Scoping studies of policy options, as a basis for national pro-pollinator policies, were developed in the countries. Policy areas were identified where impact could be made by introducing pollinator conservation and management issues such as risk reduction in pesticide use. Policy events – from different entry points, depending on the specificity of the country, took place in all countries. Examples include national policy dialogues, consultative policy discussions, inputs to national legislation, policy briefs and policy recommendations. All countries developed national web-portals[13], and there is also a global website[14].

III. CONCLUSIONS

15. Notwithstanding the expiry of the GEF/UNEP/FAO Global Pollination Project at the end of 2015, FAO has since made every effort to continue implementing the IPI Action Plan. FAO will continue to mainstream the pollinators and pollination agenda across FAO's work programme and projects, in particular on biodiversity and ecosystem services activities and agro-ecology.

16. Subject to the availability of the necessary resources, FAO will contribute, in collaboration with its partners, to the implementation of CBD COP Decision XIII/15 on *Implications of the IPBES assessment on pollinators, pollination and food production for the work of the Convention*, and will continue to develop its activities under the IPI mandate. FAO will collaborate closely with the CBD Secretariat in the review of the implementation of the IPI and the preparation of a draft updated and streamlined plan of action, including capacity-building, based on the IPBES Assessment and including the most recent knowledge, for consideration by the Subsidiary Body on Scientific, Technical and Technological Advice at a meeting held prior to the fourteenth meeting of the Conference of the Parties.

[13] http://www.fao.org/pollination/major-initiatives/en/
[14] http://www.fao.org/pollination/en/

ANNEX 1

ANNOTATED LIST OF PUBLICATIONS AND TOOLS PREPARED UNDER THE GLOBAL ACTION ON POLLINATION SERVICES FOR SUSTAINABLE AGRICULTURE

Publications

Barbara Gemmill-Herren (ed.) 2016. *Pollination Services to Agriculture: Sustaining and Enhancing a Key Ecosystem Service*. Earthscan/Routledge and FAO

This book focuses on the specific measures and practices that the emerging science of pollination ecology is identifying to conserve and promote animal pollinators in agroecosystems. It reviews the expanding knowledge base on pollination services, providing evidence to document the status, trends and importance of pollinators to sustainable agricultural production. It provides practical and specific measures that land managers can undertake to ensure that agroecosystems are supportive and friendly to pollinators. It draws on the Global Pollination Project.

FAO. 2016. *A manual on apple pollination*, by C.S. Sheffield, H.T. Ngo & N. Azzu. Rome.

This publication provides information on the management of bee pollinators in apple orchards.

FAO. 2016. *A quantitative approach to the socio-economic valuation of pollinator-friendly practices: A protocol for its use*, by L.A. Garibaldi, M. Dondo, J. Hipólito, N. Azzu, B.F. Viana & M. Kasina. Rome.

This publication provides an approach for the socio-economic valuation of pollinator-friendly practices at a landscape/farm level, with practical examples from Brazil and Kenya.

FAO. 2016. *Protocol to detect and monitor pollinator communities: Guidance for practitioners*, by G. LeBuhn, S. Droege, E. Connor, B. Gemmill-Herren & N. Azzu. Rome.

Addressing the need for global collaboration, this publication provides guidance on using a common methodology for monitoring pollinator diversity and abundance.

FAO. 2015. *Crops, weeds and pollinators - Understanding ecological interactions for better management*, by M.A. Altieri, C.I. Nicholls, M. Gillespie, B. Waterhouse, S. Wratten, G. Gbèhounou & B. Gemmill-Herren. Rome.

This publication looks at managing agricultural systems through an ecological approach, building upon beneficial biological interactions and finding positive synergies between pollination and weed management.

FAO. 2015. *Policy analysis paper: Policy mainstreaming of biodiversity and ecosystem services with a focus on pollination*, by T. Rose, C. Kremen, A. Thrupp, B. Gemmill-Herren, B. Graub & N. Azzu. Rome.

Addresses the need to strengthen the interface between the scientific community, knowledge-holders and policymakers, and build capacity for and strengthen the use of science and knowledge in policymaking on ecosystem services, with a focus on pollination

FAO. 2014. *Pollinator safety in agriculture*, by D.W. Roubik. Rome.

Contributing to knowledge management of pollination services in sustainable agriculture, FAO and its partners have assembled evidence related to wild pollinators, to advance understanding of pollinator's risks to pesticides, through their natural history.

FAO. 2013. *Potential effects of climate change on crop pollination*, by M. Kjøhl, A. Nielsen & N.C. Stenseth. Rome.

Recognizing that the interactions between climate, crops and biodiversity are complex and not always well understood, FAO has coordinated this review of the potential effects of climate change on crop pollination.

Tools

FAO. 2013. *Aspects determining the risk of pesticides to wild bees: Risk profiles for focal crops on three continents*, by H. van der Valk & I. Koomen. Rome.

This publication is a tool to better understand the pesticide exposure of key crop pollinators (honey bees, but also wild bees) through the development of risk profiles for cropping systems in three countries.

FAO. 2012. *Handbook for participatory socioeconomic evaluation of pollinator-friendly practices*, by M. Grieg-Gran & B. Gemmill-Herrren. Rome.

FAO and IIED have developed this 5-step guide to help farmers evaluate the benefits, and costs of applying pollinator-friendly practices.

FAO. 2011. *Protocol to detect and assess pollination deficits in crops: A handbook for its use*, by B.E Vaissière, B.M. Freitas & B. Gemmill-Herren. Rome.

As a contribution to the International Pollinators Initiative, FAO and its partners have developed a protocol for assessing and detecting pollination deficits in crops.

FAO. 2009. *Guidelines for the economic valuation of pollination services at a national scale*, by N. Gallai & B.E. Vaissière. Rome.

FAO and INRA have developed a tool for assessing the value of pollination services and national vulnerabilities to pollinator declines. These guidelines explain the use of the tool.

FAO. 2008. *Rapid assessment of pollinators' status*. Rome.

This first assessment of the status of pollinators under the International Pollinators Initiative addresses progress in different approaches to conserving and sustainably using pollination services.

FAO. 2008. *Initial survey of good pollination practices.* Rome.

Profiles of pollinator-dependent cropping systems from around the world.