

International Pollinator Initiative

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Consultant to CBD on the Development of a New Plan of Action for
the IPI

In **1996**

**The United Nations Convention on Biological Diversity (CBD)
multi-year program of activities on the conservation and
sustainable use of agricultural biodiversity**

- adopted at the Third Meeting of the Conference of Parties to the Convention on Biological Diversity in 1996.
- recognizes that agricultural biodiversity is fundamental to issues of food security,
- one of the important links is in the dependence of crops on a diverse variety of insect pollinators.

In **2000**

the Conference of the Parties to the Convention Biological Diversity established an International Initiative for the Conservation and Sustainable Use of Pollinators (also known as the International Pollinators Initiative-IPI)

- Requested the development of a plan of action
- Invited the Food and Agriculture Organization of the United Nations to facilitate and co-ordinate the Initiative in close co-operation with other relevant organisations.
- A Plan of Action was prepared by FAO and the CBD secretariat. <https://www.cbd.int/decision/cop/?id=7147>

The key objectives of this first phase of International Initiative for the Conservation and Sustainable Use of Pollinators (IPI) has been to promote coordinated action worldwide to:

- Monitor pollinator decline, its causes and its impact on pollination services;
- Address the lack of taxonomic information on pollinators;
- Assess the economic value of pollination and the economic impact of the decline of pollination services; and
- Promote the conservation, restoration and sustainable use of pollinator diversity in agriculture and related ecosystems.

To achieve these objectives, the IPI was structured around four elements:

- Assessment
- Adaptive management
- Capacity building
- Mainstreaming

The International Pollinator Initiative:

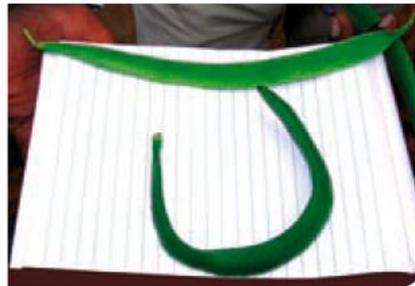
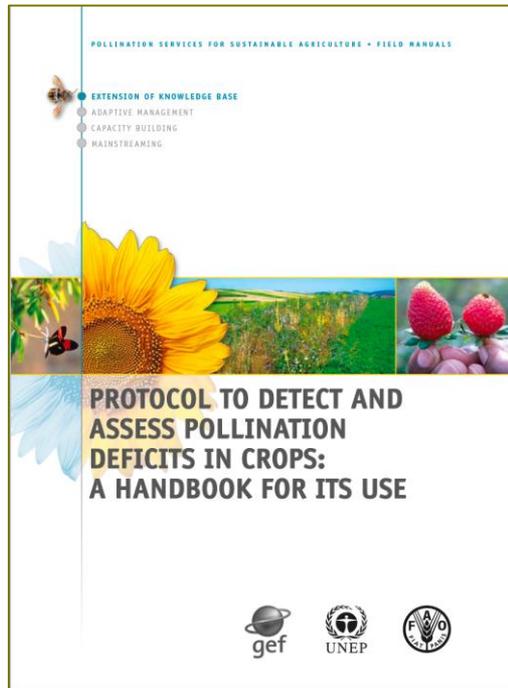
- comprises the work and contribution of the **many people and organizations** around the world who are concerned with the fate of pollinators.
- Corresponding to the **structure of the Plan of Action**, FAO was able to submit and receive funding for a GEF project, the Global Pollination Project, from 2009-2015

FAO's contribution to the IPI, under the structure of the IPI, has been:

- National pollination projects in 7 countries: Brazil, Ghana, India, Kenya, Nepal, Pakistan and South Africa
- 22 Crop-focused sites where research, application of protocol, and work on farming training was applied, on apples, buckwheat, cardamom, cashew, chili pepper, cotton, cocoa, melon, mango, mustard, tomato, onion, rape, sunflower, french bean
- Work on awareness-raising and policy development in each country

Assessment

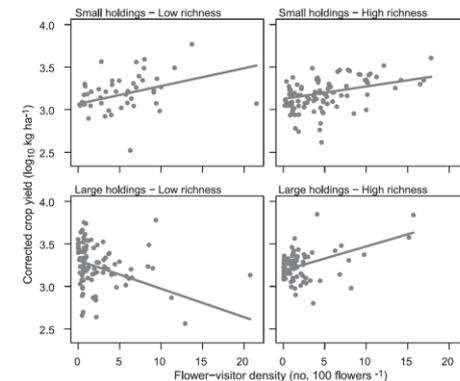
- Methodology, approach and protocol to monitor pollinators at regional, national, or international scales and assisted partner organizations in South Africa, Nepal, Pakistan, Kenya and Ghana to apply the protocol, and analyze results;
- Methodology, approach and protocol to detect crop pollination deficits and assisted partner organization in Argentina, Brazil, Colombia, Norway, Kenya, Ghana, South Africa, Indonesia, Nepal, China, Pakistan and India to apply the protocol, and analyse results, in a Science publication
- Review of the state of knowledge of climate change impacts and a methodology to assess potential vulnerability of national pollinator loss to climate change;
- Excel tool and guidelines for the economic valuation of pollination at a national scale;
- Approach to assess the value of pollination services at the farm scale, working with IIED and with researchers in Latin America and Africa to develop participatory socio-economic valuation of pollinator-friendly practices;
- Commissioned Laurence Packer at the University of York, Canada to develop a Key to the Bee Families of the World;



POLLINATOR DIVERSITY

Mutually beneficial pollinator diversity and crop yield outcomes in small and large farms

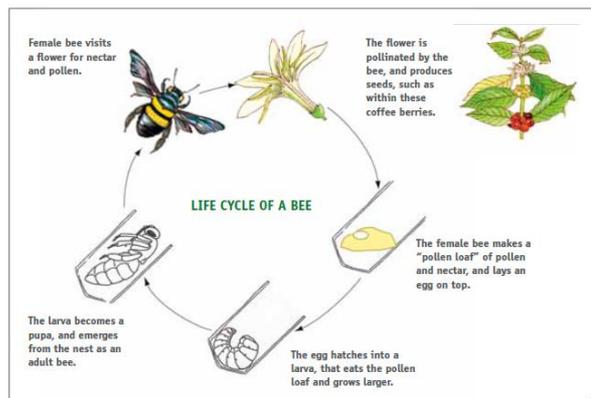
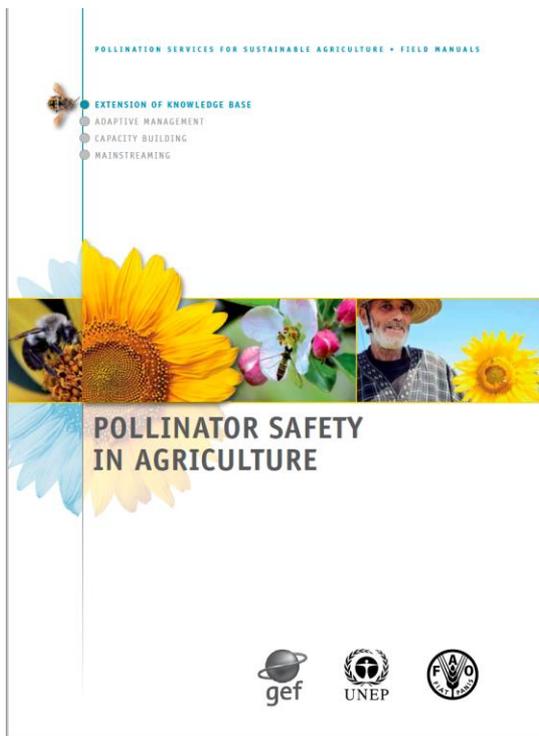
Lucas A. Garibaldi,^{1,4} Luísa G. Carvalheiro,² Bernard E. Vaissière,³ Barbara Gemmill-Herren,⁴ Juliana Hipólito,⁵ Breno M. Freitas,⁶ Hien T. Ngo,⁷ Nadine Azzu,⁸ Agustín Sáez,⁸ Jens Åström,⁹ Jiandong An,¹⁰ Betina Blochtein,¹¹ Damayanti Buchori,¹² Fermín J. Chamorro García,¹³ Fabiana Oliveira da Silva,¹⁴ Kedar Devkota,¹⁵ Márcia de Fátima Ribeiro,¹⁶ Leandro Freitas,¹⁷ Maria C. Gaglianone,¹⁸ Maria Goss,¹⁹ Mohammad Irshad,²⁰ Muo Kasina,²¹ Alípio J.S. Pacheco Filho,⁶ Lucía H. Piedade Kíill,¹⁶ Peter Kwapong,²² Guiomar Nates Parra,¹⁵ Carmen Pires,²³ Viviane Pires,²⁴ Ranbeer S. Rawal,²⁵ Akhmad Rizali,²⁶ Antonio M. Saraiva,²⁷ Ruan Veldtman,^{28,29} Blandina F. Viana,⁵ Sidia Witter,³⁰ Hong Zhang¹⁰



- Methodology, approach and protocol to detect crop pollination deficits and assisted partner organization in Argentina, Brazil, Colombia, Norway, Kenya, Ghana, South Africa, Indonesia, Nepal, China, Pakistan and India to apply the protocol, and analyse results, in a Science publication

Adaptive Management

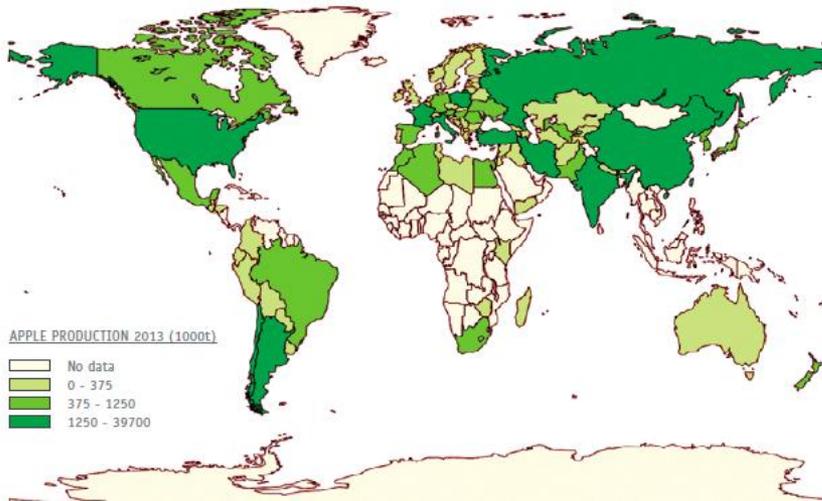
- Worked with partners to test vulnerability of different bee taxa to a series of pesticides in Kenya, Brazil and the Netherlands, and to develop a risk assessment procedure for the risks of pesticides to pollinators;
- **FAO developed, as part of a risk assessment of pesticides to pollinators; a publication describing the vulnerability of different bee groups to pesticides**
- FAO coordinated, along with other partners, a special session at Apimondia, “ApiEcoFlora” in San Marino, in 2014, focusing on integrated pollination management, which resulted in a high-impact publication on non-bee pollinators;



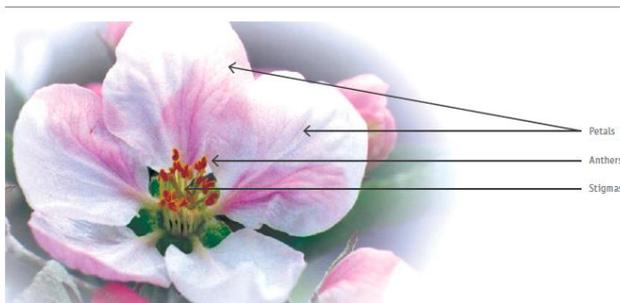
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Capacity building

- Developed a perspective and guidance manual on managing weeds to benefit pollinators.
- Carried out training and developed a manual on apple pollination;
- Farmer field school training on pollination developed in many countries



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Mainstreaming

- Global workshop on possible policy responses to pollinator deficits convened 2013, and from this a pollinator policy analysis paper was developed;
- Conducted a global survey and compiled data on honey bee health from 104 countries that will be published by FAO soon;
- To share the findings of the work carried out for the International Pollinator Initiative more widely, FAO edited an Earthscan/Routledge book with IPI partners and collaborators around the world, published in 2016: “Pollination Services in Agriculture: Sustaining and Enhancing a Key Ecosystem Service”;
- FAO has commissioned the rewrite and republication, edited by David Roubik, now called “The Pollination of Cultivated Plants: A Compendium for Practitioners”, expanded into three volumes with a wealth of practical and scientific information. It will soon be published by FAO.

Current Status

- The outcomes of the GEF Project, and the IPBES assessment have led to a renewed focus on pollination
- The Convention on Biological Diversity, in its last COP, has called for a new Plan of Action for the IPI
- Development of the Plan of Action is underway; expert advisory meeting held in November 2017 in Rome, taking into consideration of what we have learned
- The Plan of Action is being built on the recommendations of the CBD for actions on:
 - **Enabling Policies and Strategies**
 - **Promote pollinator-friendly habitats and sustainable (agro)ecosystems and pollinator husbandry**
 - **Reduce risks from habitat loss, pathogens, invasives, pesticides and climate change**
 - **Increase awareness, share knowledge and improve valuation tools for decision making**
 - **Foster research, assessment and monitoring**
- The Plan of Action for the next 10 years will be presented to the next SBSTTA (Subsidiary Body for Science, Technology and Technical Advice) meeting in April 2018

Key considerations for a next phase

- Large advances have been made on expanding the knowledge base
- Management and implementation of pollinator-friendly practices, and developing enabling policy needs to be the central focus going forward
- But a standalone pollination focus is not effective; farmers never manage for pollination alone, nor do policy makers
- **There is a need to broaden the focus to consider pollination as a component of a broader suite of agroecological principles which all need to be tackled together**

Key considerations for a next phase (my personal reflections)

- One practical take-home message for future funding priorities: In the past a whole generation of extension workers, and farmers, have been trained in Green Revolution/high input approaches, which have not worked in many contexts; what is most needed now is train up a new cohort of agroecological researchers and extension workers to take forward a new wave of sustainable agriculture in the developing world, and developed world alike.
- What remains missing is a clear framework for incorporating pollinator conservation and agroecological principles into policy, on multiple levels.



Thank you

From all the little things that run the world