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**Plenary of the Intergovernmental Science-Policy  
Platform on Biodiversity and Ecosystem Services  
Second session**

Antalya, Turkey, 9–14 December 2013

Item 4 (a) of the provisional agenda\*

**Initial work programme of the Platform:  
work programme 2014–2018**

### **Initial scoping for the fast-track thematic assessment of pollination and food production**

#### **Note by the secretariat**

#### **I. Introduction**

1. Recognizing that it would be necessary to move forward with the work programme for 2014–2018 following its approval by the Plenary of the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services at its second session, the Bureau and the Multidisciplinary Expert Panel agreed to prepare, for consideration by the Plenary at that session, a number of initial scoping documents based on the prioritization of requests, suggestions and inputs put to the Platform and the deliverables set out in the draft work programme (IPBES/2/2). The present note sets out the initial scoping for a proposed fast-track thematic assessment of pollination and food production. It has been developed in accordance with the draft procedures for the preparation of the Platform's deliverables (IPBES/2/9).

#### **II. Scope, rationale, utility and assumptions**

##### **A. Scope**

2. The objective of the proposed fast-track thematic assessment of pollination and food production is to assess changes in pollination as a regulating ecosystem service of importance for food production in the context of its role in supporting human well-being and biodiversity maintenance more broadly, with an emphasis on the status of and trends in pollinators and pollination dynamics and diversity, drivers of change, impacts on human well-being of pollination declines and deficits and the effectiveness of responses to pollination declines and deficits.

##### **B. Rationale**

3. An assessment of the kind proposed is required as a means of facilitating the enhancement of policy responses to declines and deficits in pollination as an essential regulating ecosystem service underpinning food production and human well-being. The worldwide economic value of the pollination service provided by insect pollinators – mainly bees – has been estimated at an annual

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\* IPBES/2/1.

value in 2005 of €153 billion (\$217 billion) for the main crops that feed the world. This amounts to 9.5 per cent of the total value of the world's agricultural food production.<sup>1</sup>

### C. Utility

4. The proposed assessment will identify policy-relevant findings for decision-making by Governments, the private sector and civil society in a rapidly changing field and contribute to the implementation of Aichi Biodiversity Target 14 of the Convention on Biological Diversity; demonstrate and allow for the continued review of how an essential and vulnerable ecosystem service contributes to the post-2015 development agenda; and represent an early deliverable of the Platform that highlights how the Platform can contribute to efforts to protect biodiversity and promote sustainable development.

### D. Assumptions

5. The proposed assessment will be based on existing scientific literature and draw on the work of existing institutions such as the Food and Agriculture Organization of the United Nations (FAO), through its work on global action on pollination services for sustainable agriculture,<sup>2</sup> the Global Biodiversity Information Facility,<sup>3</sup> the ALARM ("assessing large-scale risks to biodiversity with tested methods") project of the Centre for Agri-Environmental Research,<sup>4</sup> the "Status and Trends of European Pollinators" project<sup>5</sup> and the work of the Natural Capital Project,<sup>6</sup> including its InVEST ("Integrated Valuation of Ecosystem Services and Tradeoffs") modelling software for mapping and valuing ecosystem services.

## III. Chapter outline

6. It is contemplated that the results of the fast-track thematic assessment will be presented in a five-chapter report, as set out below:

7. Chapter 1 will include a brief review of the diversity of pollinators and pollination systems and their role in supporting food production specifically and human well-being and biodiversity maintenance more generally. It will assess the status of and trends in the biological elements and functions that interact to provide pollination services. The assessment will include the role of native and exotic pollinators, including insects, bats and other mammals, birds and reptiles. It will moreover take into account the role of multiple factors across spatial scales, such as plant community functional composition, pollinator diversity and specificity, climatic seasonality and fluctuations, landscape structure linked to processes of dispersal, and mobility.

8. Chapter 2 will assess the drivers of change of pollinators and pollination services, especially those of importance for food production. It will include an assessment of indirect drivers of change, including trade and policies in areas such as agriculture and spatial planning. It will also assess direct drivers of change in pollination, including the risk posed by climate change, invasive species and diseases, land-use changes, changing agricultural practices and the use of chemicals, including fungicides and insecticides such as neonicotinoids.

9. Chapter 3 will assess the state of and trends in pollination as a keystone process in both human-managed and natural terrestrial ecosystems. It will focus on the contribution of pollination by various pollinator populations to human well-being, based on the role of pollination in maintaining agricultural and natural biological diversity and in safeguarding communities that depend on the use of natural resources, including for medicinal use. Emphasis will be placed on the essential role of pollination in contributing to food security, including with regard to the quality, stability and availability of food as well as its role in income generation. The chapter will assess how pollination deficit can be defined and what areas and agricultural systems are prone to pollination deficits and declines.

<sup>1</sup> <http://www.sciencedaily.com/releases/2008/09/080915122725.htm>.

<sup>2</sup> Bernard Vaissière, Breno Freitas and Barbara Gemmill-Herren, *Protocol to Detect and Assess Pollination Deficits in Crops: A Handbook for its Use* (Global Environment Facility, United Nations Environment Programme and Food and Agriculture Organization of the United Nations, 2011).

<sup>3</sup> The Global Biodiversity Information Facility provides access to over 300 million standardized primary biodiversity records globally.

<sup>4</sup> [http://www.reading.ac.uk/caer/project\\_alarm.html](http://www.reading.ac.uk/caer/project_alarm.html).

<sup>5</sup> <http://www.step-project.net/>.

<sup>6</sup> [www.naturalcapitalproject.org](http://www.naturalcapitalproject.org).

10. Chapter 4 will assess economic methodologies for determining the value of pollination for food production and the economic impacts of declines in food-relevant pollinator populations. It will assess the extent to which the current estimates of the economic value of pollination for food production reflect the contributions of pollination to food security and development as identified in chapter 3. It will also assess methodologies and approaches for undertaking such valuations at the national and local levels.

11. Chapter 5 will assess responses to risks associated with the degradation of pollination services and opportunities to restore and strengthen those services. Experience in the use of tools and methodologies for mapping, modelling and analysing options for action will be assessed based on existing work by actors such as FAO, including by assessing how ecological uncertainties can be managed and research and monitoring needs met. The chapter will furthermore assess how an understanding of pollination declines and deficits can help advance practices and policies, particularly for land-use management, horticulture and agriculture, including through innovative approaches such as ecologically intensified agriculture. The assessment of response options will include considerations of policy trade-offs.

#### IV. Process and timetable

12. The proposed process for undertaking the fast-track thematic assessment and the timetable for carrying it out are outlined in the following table.

<i>Time frame</i>		<i>Actions</i>
2013	Fourth quarter	The Plenary reviews and approves the initial scoping exercise prepared by the Multidisciplinary Expert Panel (14 December, 2013)
	Fourth quarter	The Panel issues a call, through the secretariat, to Governments and other stakeholders for the nomination of experts (report co-chairs, coordinating lead authors, lead authors and review editors) to conduct the assessment, based on the results of the scoping exercise approved by the Plenary (9 December 2013–10 January 2014).
2014	First quarter	The Panel, via e-mail and teleconferences, selects the co-chairs, coordinating lead authors, lead authors and review editors using the approved selection criteria (see IPBES/2/9) (11–24 January)
	First/second/ third quarters	The report co-chairs, coordinating lead authors and lead authors prepare an initial draft report and summary for policymakers (25 January–25 July). The authors meet in February to further develop the annotated outline and the sections and chapters that have been assigned to them, and again in early July to finalize the report and prepare the summary for policymakers
	Third quarter	The draft report and the summary for policymakers are reviewed by experts, and Governments and other stakeholders (26 July–12 September)
	Third/fourth quarters	The report co-chairs, coordinating lead authors and lead authors revise the first draft report and summary for policymakers under the guidance of review editors and the Panel. The authors and review editors, with a small number of Panel members, meet once to prepare the final draft report and summary for policymakers (13 September–7 November)
	Fourth quarter	The summary for policymakers is translated into all the official languages of the United Nations (8 November–5 December)
	Fourth quarter	The final draft report and summary for policymakers are sent to Governments and other stakeholders for final review (6 December–6 February)
2015	First quarter	Governments send written comments on the summary for policymakers to the secretariat by 31 January
	First quarter	The Plenary reviews and accepts the report and approves the summary for policymakers (starting after 8 February)

## V. Cost estimate

13. The table below shows the estimated cost of conducting the assessment and preparing the assessment report.

(United States dollars)

<i>Year</i>	<i>Cost item</i>	<i>Assumptions</i>	<i>Cost</i>
2014	First author meeting (75 co-chairs, coordinating lead authors and lead authors, plus 4 Multidisciplinary Expert Panel/Bureau members, plus 1 technical support staff member)	Meeting costs (1 week, 80 participants) (25 per cent in kind)	15 000
		Travel and DSA (60 x \$3,000)	180 000
	Second author meeting (75 co-chairs, coordinating lead authors and lead authors, plus 4 Panel/Bureau members, plus 1 technical support staff member)	Meeting costs (1 week, 80 participants) (25 per cent in kind)	15 000
		Travel and DSA (60 x \$3,000)	180 000
	Third author meeting (75 co-chairs, coordinating lead authors and lead authors, plus 12 review editors, plus 4 Panel/Bureau members, plus 1 technical support staff member)	Meeting costs (1 week, 92 participants) (25 per cent in kind)	18 750
		Travel and DSA (69 x \$3,000)	207 000
Technical support	1 full-time equivalent professional position (50 per cent in kind)	75 000	
2015	Participation by 2 co-chairs and 2 coordinating lead authors in the third session of the Plenary by	Travel and DSA (3 x \$3,000)	9 000
	Dissemination and outreach (summary for policymakers (10 pages) and report (200 pages))	Translation of the summary for policymakers into all of official languages of the United Nations languages, publication and outreach	117 000
<b>Total</b>			<b>816 750</b>