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

Bonn, Germany, 12–17 January 2015

Item 5 (a) of the provisional agenda*

Initial work programme of the Platform:**task forces on capacity-building, knowledge and data****(including data and management plan/system)****and indigenous and local knowledge systems****Update on the work of the task force on indigenous and local
knowledge systems (deliverable 1 (c))****Note by the secretariat**

By decision IPBES-2/5, the Plenary of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services established a task force on indigenous and local knowledge systems for the period 2014–2018. The terms of reference for the task force are set out in annex IV to the decision. The primary purpose of the task force is the implementation of deliverable 1 (c) of the programme of work for the period 2014–2018 in a manner that supports the implementation of the overall work programme. The annex to the present note provides information about the work of the task force, including activities carried out in accordance with its mandate. It is submitted without formal editing.

* IPBES/3/1.

Annex

Task force on indigenous and local knowledge systems (ILK)

I. Membership of the task force

1. The terms of reference for the task force specify that it be comprised of two Bureau members, three members and one back-up member of the Multidisciplinary Expert Panel, between them covering the five United Nations regions, and up to 20 additional experts on indigenous and local knowledge systems selected according to the Rules of Procedure. The task force is to be led by the MEP, in consultation with the Bureau. Governments and other relevant stakeholders submitted 120 nominations for the Task Force on Indigenous and Local Knowledge Systems. The selection process involved members of the Bureau and the Multidisciplinary Expert Panel together reviewing all nominations that had been submitted, based on examination of nomination templates and CVs for each nominee. Selections were made on the basis of excellence and relevance of candidates' expertise with respect to relevant areas of the work programme. Once selected on merit, further selection was focused on balancing of disciplinary, regional and gender diversity, as well as sectorial aspects (i.e. government and stakeholder nominations).

2. Membership of the task force was agreed by the Bureau and Multidisciplinary Expert Panel as follows, and those invited to be members of the task force accepted with only one exception:

Bureau and MEP

Name	Affiliation	Bureau/MEP	Country
Phil Lyver (co-chair)	Landcare Research, Crown Research Institute, Lincoln	MEP	New Zealand
Edgar Selvin Pérez (co-chair)	San Carlos University	MEP	Guatemala
Alfred Oteng-Yeboah	Department of Botany, University of Ghana, Accra	Bureau	Ghana
Tamar Pataridze	Agency of Protected Areas, Ministry of Environment Protection	MEP (back-up member)	Georgia
Randolph Thaman	University of the South Pacific, Suva	MEP	Fiji
Vladimir Lenev	Permanent Mission of the Russian Federation to the International Organizations in Nairobi	Bureau	Russian Federation

Selected experts

Name	Affiliation	Country
Çiğdem Adem	Public Administration Institute for Turkey and the Middle East, Ankara	Turkey
Constant Yves Adou Yao	Félix Houphouët-Boigny University Abidjan	Côte d'Ivoire
Wilfredo Alanguí	University of the Philippines, Baguio	Philippines

Name	Affiliation	Country
Fikret Berkes	Natural Resources Institute, University of Manitoba, Winnipeg	Canada
Peter Bridgewater	Beijing Forestry University / Australian National University	United Kingdom/Australia
Eduardo Brondizio	Indiana University, Bloomington, Indiana, USA	Brazil
Manuela Carneiro Da Cunha	University of São Paulo	Brazil
Viviana Elsa Figueroa	Secretariat of the Convention on Biological Diversity	Argentina
Rosemary Hill	Commonwealth Scientific and Industrial Research Organisation (CSIRO) , James Cook University, Townsville City	Australia
Kaoru Ichikawa	United Nations University, Institute for the Advanced Study of Sustainability (UNU-IAS) Tokyo	Japan
Peris Mweru Kariuki	Centre for Biodiversity, National Museums of Kenya, Nairobi	Kenya
Madhav B. Karki	Integrated Development Society (IDS-Nepal)	Nepal
Eriks Leitis	Ministry of Environmental Protection and Regional Development of Latvia, Rīga	Latvia
Zsolt Molnár	MTA Centre for Ecological Research, Vácrátót	Hungary
Diego Pacheco	University of the Cordillera, La Paz	Bolivia
Hassan Robba	National Museums of Kenya, Centre for Biodiversity, Nairobi	Kenya
Marie Roué	National Centre for Scientific Research, National Museum of Natural History, Paris	France
Yildiz Thomas	National Centre for Scientific Research, Centre for Functional and Evolutionary Ecology, Montpellier	Mauritius
Dayuan Xue	Minzu University of China, Beijing , Nanjing Institute of Environmental Science	China

Resource Persons

3. In accordance with the terms of reference for this task force, the following individual experts were invited to participate in the task force as resource persons:

Name	Affiliation	Country
Malia Nobrega	International Indigenous Forum on Biodiversity (IIFB) and University of Hawaii	USA (Hawaii)
Catherine Laurent	IPBES Task Force on Knowledge and Data AgroParisTech	France
Jeremiah Pinto	USDA Forest Service, Rocky Mountain Research Station	USA

4. To reinforce the representation of indigenous peoples and to benefit from experience gained in the framework of the International Indigenous Forum on Biodiversity (IIFB) of the Convention on Biological Diversity, Malia Nobrega, an indigenous representative of that organization, was invited as a resource person.

Similarly, Jeremiah Pinto, an experienced indigenous professional with the USDA Forest Service will be invited to future meetings.

5. The work of the task force is supported by a technical support unit whose personnel are in part provided by staff of the United Nations Educational, Scientific and Cultural Organization (UNESCO).

II. Meetings of the task force

6. The first meeting of the task force took place in Paris, France, from 16-20 June 2014, with 18 of the 25 members of the task force able to participate. In addition, Malia Nobrega, representative of the IIFB, and Catherine Laurent, member of the task force on knowledge and data, were able to attend as resource persons. The meeting was hosted by UNESCO.

7. The report of the first meeting of the ILK task force (with annexes removed to save space) is included in Annex 1.

8. Participants were introduced to IPBES and the operations of the task force as part of the Platform. They reviewed their terms of reference and the requests directed to them by the Plenary. They then discussed the work of the task force and the deliverables under five streams of work, along with the related timelines. A mix of plenary and group work developed ideas further under each stream of work, and an action plan was agreed upon for developing proposals and deliverables further during the intersessional period. The five streams of work following the task force terms of reference are:

- (a) To support the establishment of approaches and procedures for working with indigenous and local knowledge systems;
- (b) To oversee the convening of global dialogue workshops and developing regional case studies;
- (c) To undertake piloting of preliminary approaches and procedures for working with indigenous and local knowledge systems in assessments;
- (d) To support the establishment of a participatory mechanism for indigenous and local knowledge systems to facilitate linkages between indigenous peoples and local communities and scientists; and
- (e) To advise on the establishment of a roster and network of experts in indigenous and local knowledge to support the Platform's work.

III. Progress towards task force deliverables

9. Information on progress towards the deliverables of the ILK task force is provided below and in appendices to this information document on work in progress. Feedback is welcome, and should be provided to the technical support unit for the task force, via the Secretariat.

Approaches and procedures for working with ILK in IPBES assessments

10. A work group of nine task force members (F. Berkes, R. Hill (coordinator), M. Karki, P. Lyver, T. Pataridze, E. Pérez, H. Roba, R. Thaman and Y. Thomas) was constituted to lead the intersessional work on developing approaches and procedures for working with ILK in IPBES assessments. A zero-order draft of the approaches and procedures was developed by the work group, which drew upon, amongst other documents, the information document entitled *Initial elements of an IPBES approach: Towards principles and procedures for working with indigenous and Local Knowledge (ILK) systems*, that was prepared by the MEP and Bureau Working Group on ILK for the second meeting of the IPBES Plenary (IPBES/2/INF/1/Add.1), as well as the report on *The Contribution of Indigenous and Local Knowledge Systems to IPBES: Building Synergies with Science* (Thaman et al. 2013) from the IPBES Expert Meeting that took place in Tokyo, Japan (9-11 June 2012). Following a series of exchanges amongst work group members by email, a further advanced first-order draft was circulated to all members of the ILK task force for their comments, corrections and additions.

11. The revised first-order draft of approaches and procedures for working with ILK in IPBES assessments includes inputs compiled from task force members. With the objective of enhancing the work of the Bureau and MEP, it will be subjected to a systematic review at the second meeting of the ILK task force to build on the current elements and resolve outstanding issues with respect to concepts, definitions and terms.

12. Based upon the deliberations of the ILK task force to date, as well as lessons learned from the piloting of approaches and procedures in the framework of the global dialogue workshop on ILK of pollination and pollinators associated with food production, the task force on ILK proposes in Annex 2 an updated and revised step-wise process for building ILK into IPBES assessments. This step-wise process could be applied in ongoing and forthcoming IPBES assessments as interim approaches and procedures for working with ILK, while awaiting the final approaches and procedures that the task force will deliver to the fourth meeting of the plenary in late 2015 or early 2016.

Global dialogue workshop, regional case study reviews and the piloting of preliminary approaches and procedures in the IPBES pollination assessment

13. A work group of seven task force members (M. Carneiro da Cunha, R. Hill, P. Lyver (coordinator), A. Oteng-Yeboah, E. Pérez, M. Roué and R. Thaman) was constituted to lead the intersessional work on a global dialogue workshop and related regional case studies on ILK of pollination and pollinators associated with food production.

14. The work group convened the *Global Dialogue Workshop on ILK of pollination and pollinators associated with food production*, in Panama City, Panama, from 1 to 5 December 2014.

15. Organized in close collaboration with the expert group for the *Assessment on pollination and pollinators associated with food production*, this event had a twofold purpose: (i) to reinforce ILK in the IPBES assessment of pollination and pollinators associated with food production; and (ii) to pilot preliminary approaches and procedures proposed by the ILK task force to build ILK into IPBES assessments.

16. The dialogue workshop brought together one of the co-chairs of the pollination assessment report (V. Imperatriz Fonseca) and five CLAs and LAs responsible for four of the report's six chapters (S. Breslow, D. Buchori, M. del Coro Arizmendi, M. Gikungu and D. Martins), with 10 ILK holders presenting the selected case studies from Indonesia, Kenya, New Zealand, Nicaragua, Panama and Peru, and three ILK

experts from Brazil, France and Guatemala. The co-chairs of the ILK Task Force (P. Lyver, E. Pérez) and two of its members (M. Carneiro da Cunha, M. Roué) guided the process with support from the TSUs for the ILK task force and the pollination assessment, as well as a representative (N. Azzu) of the Food and Agriculture Organization of the United Nations (FAO).

17. The meeting was organized with generous support from the United States Department of Agriculture, hosted by the Smithsonian Tropical Research Institute that also provided the venue and equipment. FAO provided for the travel costs of two ILK holders from the Indigenous Network on Food Sovereignty. New Zealand's National Commission for UNESCO also provided travel and accommodation costs for two Māori ILK holders.

18. The workshop was successful in establishing a productive dialogue between ILK holders and experts, on the one hand, and assessment authors and the co-chair, on the other. In this manner it provided relevant ILK inputs to the first-order draft of the assessment report.

19. This work was supplemented by a regional case study review and analysis of the scientific and grey literature on ILK related to pollination and pollinators associated with food production. This review screened more than 450 sources in three languages (English, French and Spanish) and identified 251 references that made some mention of indigenous and local knowledge (including 146 journal articles, 66 book chapters, reports and theses, and 39 sources from the grey literature). Of these 251 references, 70 proved to be of major interest for the assessment theme, 59 had some useful content and almost half (122) were judged to be of little value. The relevant content from these regional case study reviews was made available to the CLAs of the IPBES assessment for their consideration in the preparation of the first order draft of the pollination assessment.

20. The workshop also allowed for the successful piloting of several approaches and procedures of relevance to reinforcing ILK in IPBES assessments, including the use of a global call for ILK case studies coupled with regional reviews of relevant ILK in the scientific and grey literature, as well as appropriate procedures for selecting ILK holders and experts for the dialogue workshop with authors, and for establishing an equitable relationship and context for productive knowledge sharing.

21. Further information on the Global Dialogue on Indigenous and Local Knowledge about Pollination and Pollinators associated with Food Production including the Proceedings and Workshop Report is included in Annex 3.

Regional case study reviews

22. A work group of seven task force members (K. Ichikawa, P. Kariuki (coordinator), M. Karki, Z. Molnár, E. Perez, M. Roué and C. Yao) was constituted to lead the intersessional work on regional case study reviews

23. The work group is compiling and analysing scientific and grey literature on key case studies and examples of working with ILK and ILK holders in order to identify success factors and barriers with respect to procedures, approaches and participatory mechanisms in different regions and sub-regions, as a basis for a comparative analysis. The review also aims to identify best practice in each region and to assist in populating the IPBES roster of experts on ILK.

24. Reviews of regional case studies are continuing throughout 2015 in order to broaden the analysis and the identification of gaps so as to better inform the ILK approaches and procedures and the participatory mechanism.

Establishment of a participatory mechanism

25. A work group of six task force members (W. Alangui, P. Bridgewater, M. Carneiro da Cunha, V. Figueroa, P. Mweru Kariuki and D. Pacheco (coordinator)) was constituted to lead the intersessional work on establishing a participatory mechanism (PM). M. Nobrega of the International Indigenous Peoples Forum on Biodiversity (IIFB) was invited to review initial drafts as a resource person.
26. The working group was tasked with developing the scope and functions of the PM, its principle functions and a framework for action.
27. An overview of the main issues discussed in relation to the PM can be found in Annex 4, including the context for its establishment, its goals, roles and functions, its enabling structures, and financing. Moreover, the proposed structure of the PM document is presented as well as recommendations.
28. To further facilitate the work of the Bureau and MEP in 2015, further discussions will take place within the ILK task force to develop the proposal further through a systematic review and the inclusion of recommendations that ensure it is operational across all scales and embracing all of the functions of IPBES.

A roster and network of ILK experts

29. A work group of five task force members (P. Bridgewater, M. Karki, E. Leitis, T. Pataridze (coordinator) and D. Xue) was constituted to lead the development of criteria and parameters for a roster of experts for working with ILK in the framework of IPBES.
30. Pilot criteria, parameters and procedures for nominating and selecting members of the roster were developed and implemented (cf. Annex 5). A pilot call for nominations was sent to the ILK task force members on 25 September 2014. The selection process as per the criteria was initiated by task force members on 20 October 2014.
31. Work is on-going to ensure geographic and gender balance, as well as balance of indigenous peoples, local knowledge holders, scientists and other experts.
32. Work is on-going to ensure that all nominated experts are aware of the implications and agree to being included in the roster. Once this is resolved, as well as several technical issues related to maintaining and access to the database, the pilot roster will be made available for wider comment.
33. In the meantime, IPBES expert groups, task forces and other stakeholders are encouraged to contact the ILK task force for the contact details of relevant ILK experts. Their feedback on the potential uses they identify for the roster will inform its further development.

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**Annex 1: Report on the first meeting of the IPBES
Task Force on Indigenous and Local Knowledge Systems**



**Intergovernmental Platform on Biodiversity and Ecosystem Services
(IPBES)**

Meeting Report

**First Meeting
of the
IPBES Task Force on
Indigenous and Local Knowledge Systems**

16-20 June 2014, Salle XIV
UNESCO Headquarters
Paris, France

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Introduction:

The 1st meeting of the IPBES Task Force on Indigenous and Local Knowledge Systems (ILK) was held at UNESCO Headquarters in Paris from 16-20 June 2014. The meeting agenda appears in [Annex 1](#), the list of participants in [Annex 2](#), and the list of ILK Task Force member with their bionotes in [Annex 3](#).

The overall objectives of the meeting were to address the tasks under Objective 1 (c) of the IPBES Work Programme for 2014-18. This objective (also referred to as Deliverable 1(c)) is outlined in more detail in the following paragraph that is usefully cited in full[†]:

Procedures, approaches and participatory processes for working with indigenous and local knowledge systems.

The importance of indigenous and local knowledge to the conservation and sustainable use of ecosystems has been acknowledged in the Platform's Operating Principles, as well as in Article 8 (j) of the Convention on Biological Diversity and Aichi Biodiversity Target 18. The Platform will promote a meaningful and active engagement with indigenous and local knowledge holders in all relevant aspects of its work. Under the lead of the Multidisciplinary Expert Panel in consultation with the Bureau, a task force for the period for the work programme 2014–2018 will facilitate [a roster and network of experts](#) (item 7 below) to support the Platform's work, a number of [global dialogue workshops](#) (item 6 below) of indigenous and local knowledge experts, a review of [regional case studies](#) (item 5 below) to inform the Platform's procedures for and approaches to working with indigenous and local knowledge, and the delivery of a preliminary and final set of [procedures and approaches](#) (item 4 below) for working with indigenous and local knowledge systems. The task force will also establish a [participatory mechanism](#) (item 8 below) for indigenous and local knowledge systems to be established under the Platform, oriented to facilitate the linkages between indigenous and local communities and scientists and to strengthen the quality of indigenous peoples' participation in the development of the deliverables of the Platform. The activities under this deliverable will be backstopped by the [capacity-building activities](#) (item 9 below) called for in deliverable 1 (b), such as the suggested fellowship programme. This deliverable will, together with deliverable 1 (d), constitute a coherent approach to working with different [knowledge systems across scales](#) (item 9 below). The deliverable responds to requests received. It is envisaged that the deliverable will contribute to achieving Aichi Biodiversity Target 18, on traditional knowledge.

Opening Session:

The meeting opened with welcoming remarks from the representative of the Director-General of UNESCO, Jean-Yves Le Saux, Director of the Division for Programme and Budget, Bureau of Strategic Planning. This was followed with a welcome from Alfred Oteng-Yeboah, Bureau member for IPBES and Member of the ILK Task Force, and finally words of welcome from the Executive Secretary of the Platform, Anne Larigauderie.

Session 1: Co-chairs welcome and introductions

Phil Lyver and Edgar Perez, co-chairs of the Task Force on ILK, then led the Session 1 of the meeting during which Task Force members had an opportunity to introduce themselves and speak briefly about their past experiences of relevance to indigenous and local knowledge of biodiversity and ecosystems services. The meeting was also informed of the 7 members of the Task Force who were not able to attend this first

[†] IPBES/2/17, Annex 1, para. 8(c)

meeting due to prior commitments: Çiğdem Adem, Fikret Berkes, Edouardo Brondizio, Viviana Figueroa, Vladimir Lenev, Hassan Robba, and Yildiz Thomas. Brief self-introductions were also made by the attending members of the IPBES Secretariat, UNESCO's Technical Support Unit for the ILK Task Force, and supporting UNESCO staff and temporary assistance.

Session 2: Introduction to IPBES and the aims and modus operandi of the task force

Session 2 provided the opportunity for all Task Force members, some of whom had no prior working experience with IPBES, to understand the nature and goals of the Platform, as well as the *raison d'être* for the ILK Task Force. Anne Larigauderie, as Executive Secretary of the IPBES Secretariat, introduced the members to IPBES, its conceptual framework and the 2014-2018 work programme, as well as progress to date. Douglas Nakashima, as Head of the Technical Support Unit (TSU) for the ILK Task Force, outlined the responsibilities of the ILK Task Force as follows:

- (a) To oversee the development of procedures and approaches for working with indigenous and local knowledge systems, including convening global dialogue workshops and developing case studies;
- (b) To undertake work to facilitate the input of indigenous and local knowledge systems to deliverables 1 (d), 2, 3 and 4 (c), in particular in piloting the preliminary procedures and approaches for working with indigenous and local knowledge systems in the fast-track, thematic, regional and subregional assessments. Lessons learned from the piloting should be fed into the work under deliverable 1 (c);
- (c) To advise on the establishment of a roster and network of experts in indigenous and local knowledge to support the Platform's work;
- (d) To support the establishment of a participatory mechanism for indigenous and local knowledge systems to facilitate linkages between indigenous and local communities and scientists;
- (e) To support the Bureau and the Multidisciplinary Expert Panel in reviewing any indigenous and local knowledge issues arising from the Platform's scoping processes and assessments and in convening dialogues and undertaking other activities to address such issues;
- (f) To liaise as necessary with the task force on capacity-building and the task force on knowledge and data so as to ensure that they address issues concerning local and indigenous knowledge in an appropriate manner.

Furthermore, in carrying out its work, the Task Force on ILK will also:

- (a) Ensure that all its activities draw effectively on existing experience, complementing and building upon existing initiatives relating to indigenous and local knowledge systems;
- (b) Advise on strategic partnerships and engagement with other partners that help to deliver improved engagement with indigenous and local knowledge systems and help to facilitate and coordinate the support provided by strategic and other partners;
- (c) Encourage the direct involvement of its members, as well as that of other relevant organizations, in capacity-building activities that address priority needs agreed upon by the Plenary;
- (d) Encourage the involvement of indigenous and local knowledge-holders in all stages of the deliverables of the Platform's work programme;
- (e) Encourage the involvement of indigenous peoples in the Platform.

The deliverables expected from the Task Force were also presented, as well as the timeline for delivery that was decided upon at the second meeting of the Plenary of IPBES. These appear in the following Table:

16 to 20 June 2014	1st Meeting of the Task Force on ILK
7-11 July 2014	4 th MEP and Bureau meeting: -report on outcomes from the 1 st Task Force meeting
10 October 2014	Deadline for working documents for IPBES 3 Submit working documents: a. draft preliminary procedures and approaches for working with ILK in IPBES; b. draft proposal for a participatory mechanism for ILK.
30 November 2014	Deadline for information documents for IPBES 3 Submit information documents for IPBES 3: a. Final Report from the first ILK Task Force Meeting; b. Roster of experts and criteria of selection; c. Report on lessons learned from regional case study reviews, piloting process and other ILK issues arising from the Platform's work.
12-16 January 2015	3rd Meeting of the Plenary of IPBES
First quarter 2015?	2 nd meeting of the Task Force on ILK
Third quarter 2015?	3 rd meeting of the Task Force on ILK
October 2015	Deadline for working documents for IPBES 4 a. Final procedures and approaches for ILK; b. Final proposal for a participatory mechanism for ILK.

Session 3: Development of procedures and approaches for working with indigenous and local knowledge systems

Session 3 was led by Phil Lyver and Edgar Perez. It consisted of a brief presentation by Phil Lyver, a presentation by Randy Thaman on the initial proposals from the Tokyo workshop (9-11 June 2013), followed by break-out group discussions and final feedback and debate in plenary.

Phil Lyver presented an overview of current IPBES procedures for assessments. He outlined the four functions of IPBES, before reviewing some of the key outcomes from the report *"The Contribution of Indigenous and Local Knowledge Systems to IPBES: Building Synergies with Science"* (UNESCO 2013), which is the report of the international expert meeting held in Tokyo in June 2013. He also reviewed the IPBES procedures for assessments with a view to considering how ILK might be fed into the process. He pointed out that assessment lead authors (LAs) will not only work from peer-reviewed and grey literature, but also unpublished literature, including ILK "provided that its inclusion is fully justified in the context of the IPBES assessment process". He also noted that each assessment will be different, so there may be a need to adapt approaches and procedures.

Randy Thaman presented on the discussions and proposals that were developed at the preceding IPBES expert meeting in Tokyo. He emphasised the need to rethink the relationships between the sciences and ILK. He highlighted the principles for engagement with ILK as described on pages 58 and 59 of the Tokyo expert meeting report (UNESCO 2013):

- Problem-oriented approach/multi-causal approach
- Sciences and ILK should be linked from project conception to outputs
- Building mutual trust and respect
- Recognition and involvement of resource owners/users and knowledge holders
- Involvement of appropriate local intermediaries and leadership
- Ethical approaches to working with indigenous peoples and local communities
- Free, prior and informed consent (FPIC)
- Clear and mutually-agreed upon agendas
- Sharing the benefits of research
- Need for compensation/provide return value

He then presented a series of steps for working with ILK and for synergizing ILK and science in the context of IPBES assessments. Some of these were elaborated at the Tokyo meeting and are presented in the aforementioned report (p 83).

After a short plenary discussion, the task force was divided into 4 breakout groups to consider the following questions:

- a) Given the current design of assessment processes, what hurdles, pitfalls and gaps limit or prevent ILK from being included in the IPBES processes?
- b) What fundamental pre-conditions (values and principles) must be met for IPBES to engage in a respectful manner with ILK-holders?
- c) What procedures and approaches could be adopted to engage ILK and ILK-holders in IPBES assessments as currently designed?
- d) How might IPBES procedures be reorganised or transformed to better accommodate ILK and ILK-holders in its functions?

After the break-out groups reported back, further discussions were held in the plenary. The Task Force discussed the terms: principles, approaches and procedures. As an initial framework, there was a general agreement that:

- 'principles' could refer to the highest-level values/ethics that would guide the work on ILK, including considerations such as free prior informed consent (FPIC), equitable benefit-sharing, human rights, property rights, including IPRs, etc. (cf. Box 1)
- 'approaches' could describe the manner in which the 'principles' are operationalized; and
- 'procedures' could refer to the methodologies and/or step-wise process to be followed to bring ILK into IPBES assessments (cf. Box 2)

Box 1. EXAMPLES of ILK PRINCIPLES (extracted from the Tokyo Report)

Free, prior and informed consent (FPIC)

FPIC, as described in the UN Declaration on the Rights of Indigenous Peoples, is increasingly considered the universal standard for equitable engagement with indigenous peoples and local communities. Synergies between indigenous and local knowledge holders and scientists cannot be developed without partnership, and partnership cannot be established without mutual consent and a clear understanding of the objectives, reasons for and possible benefits of IPBES engagement with ILK systems.

Ethical approaches

In the framework of IPBES, scientists need to be aware of the ethical requirements for working with indigenous and local knowledge holders and in indigenous and local communities. They must tailor their methodologies and protocols accordingly. Examples of relevant ethical guidelines include:

- The Tkarihwaí:ri Code of Ethical Conduct to Ensure Respect for the Cultural and Intellectual Heritage of Indigenous and Local Communities Relevant to the Conservation and Sustainable Use of Biological Diversity;
- Cultural safety guidelines and agreements between scientists and ILK holders that guide their behaviour, responsibilities and accountability relating to knowledge acquisition, ownership, release, implementation, sharing, and community capacity building.

Recognizing and respecting intellectual property (IP)

- Intellectual rights relating to indigenous and local knowledge that is of interest to IPBES must be recognized and assured. Indigenous and local knowledge holders must be identified and clearly acknowledged as co-authors, which achieves the dual goal of insuring both recognition and ownership of the outputs, as well as providing a basis for their involvement in policy-making to address biodiversity issues.

Equitable Benefit-sharing

- Outputs and benefits from IPBES assessment processes must be equitably shared with ILK-holders and communities. If scientists ask local communities to share their knowledge, then this participation should be fully recognized by scientists, and in return their research findings and outputs should be fully shared. There is great scope for including local ILK experts as co-authors of IPBES outputs. This would achieve the dual goal of ensuring their recognition and ownership of the outputs, as well as providing a basis for their involvement in policy-making to address biodiversity issue
- Joint work between indigenous and local knowledge holders and scientists must be based on mutual consent, and a clear understanding of the objectives, reasons for and possible benefits of IPBES engagement with ILK systems.

Box 2. SAMPLE PROCEDURES: Step-wise methods to mobilize ILK for IPBES Assessments (extracted from Tokyo Report – see annotated version in Annex 4)

1. Conditions for Appropriate Engagement

- *Establishing mutual trust and respect*
- *Involvement of appropriate local intermediaries and leadership*
- *Recognition of resource owners/users and knowledge holders*

2. Identifying Relevant ILK for IPBES assessments

- *Primary Sources: Identification by ILK holders and ILK researchers*
- *Identifying groups or individuals with specialized knowledge*
- *Gender-specific knowledge and IPBES assessments*
- *Geographic considerations when identifying relevant ILK holders*
- *Relevant indigenous practices and techniques for IPBES assessments*
- *Bridging knowledge systems requires bridging worldviews*

3. Methodologies

- *Dialogue Workshops*
- *Mobilizing ILK-holders through community-based work sessions*

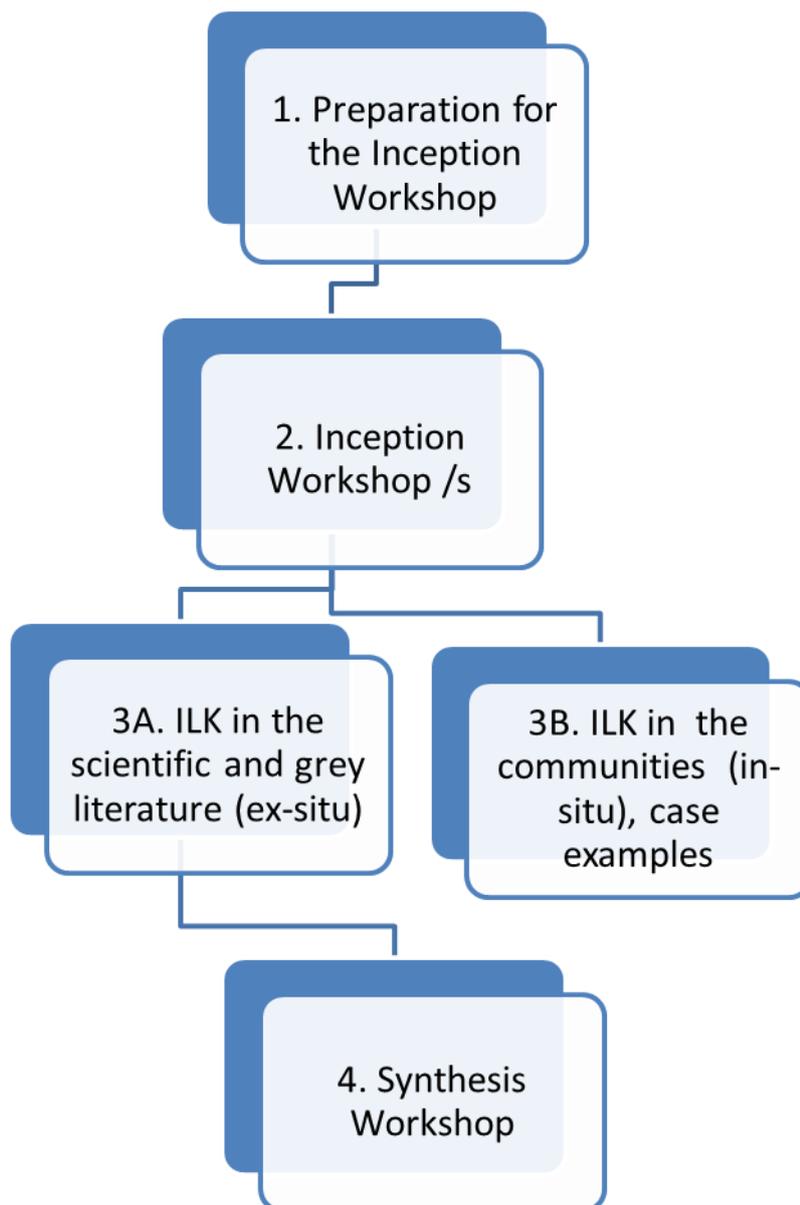
To advance the work on ‘principles, approaches and procedures’ a group of Task Force members met in the evening to define a step-wise process to bring ILK into IPBES, and notably feed into the on-going fast-

track assessment on pollination. Ro Hill presented this process to the plenary for further discussion (cf. Fig. 1).

Follow-up on ‘Principles, procedures and approaches’

It was agreed that this proposal provided a framework for step-wise procedures that could then be further populated and enriched as follow up to this first Task Force meeting. The following Task Force members agreed to take the lead on this task.

Task /output	Proposed working group members (to be further discussed)
Procedures and approaches	Ro HILL (coordinator), Madhav B. KARKI, Tamar PATARIDZE, Randolph THAMAN.

Figure 1. Draft Steps in a Fast-track Assessment Procedure**Session 4. Review of Regional and Subregional Case Studies**

Session 4 addressed the Task Force deliverable:

- A report on lessons learned from regional case study reviews, piloting process and other ILK issues arising from the Platform's work by 30 November 2014

It was organized around a brief presentation by Edgar Perez, a discussion before break-out group discussions and a final feedback in plenary.

The characteristics and dynamics of indigenous and local knowledge systems may differ from one place to another, or from one socio-ecological system to the next. There may also be significant regional differences in the nature of interactions between knowledge systems, and the traditions of research

involving indigenous knowledge holders. For example, there are strong traditions of engagement with indigenous and local knowledge research across the Pacific Islands, but these differ from the extensive work done across the circumpolar Arctic. Similarly, ethnobiological research undertaken in Latin America, differs in its approach from ILK work in Africa, Asia or Eastern Europe. Regional similarities and differences may be usefully recorded, as they may enrich the work to develop procedures and approaches for working with ILK in IPBES, as well as participatory mechanisms for ILK holders.

After a short plenary discussion, the task force was organised into 5 break-out groups to consider the following four questions:

- a) What key regional or subregional work with ILK should be included in the regional case study reviews in order to enrich the Task Force deliverable on procedures and approaches for working with ILK and for building it into IPBES?
- b) Are there different schools/traditions of ILK work that should be captured in these reviews? And are these schools/traditions regional or trans-regional in scope?
- c) Do you have specific recommendations on how the case study reviews should be conducted in order to optimize their contribution to the deliverable on ILK?
- d) Can you propose experienced candidates to conduct these regional reviews?

During further discussion in plenary, the task force agreed to begin its work on this deliverable by conducting regional or subregional reviews of the scientific and grey literature relating to ILK (including source materials that use diverse media). These reviews are to be carried out with a focus on gleaning lessons learned on principles, approaches and procedures for working with ILK and building synergies with science. These reviews could also compile information on efforts to build participatory mechanisms with a comparative analysis of the pros and cons of different modalities. They could equally contribute to building regional rosters of experts.

A Table for the initial compilation of this information was presented, and several suggestions were made to enrich and improve the data to be collected.

Follow-up on Reviews of Regional Case Studies

1. Finalise Table for regional/subregional reviews of the scientific and grey literature relating to ILK (adding categories and refinements from TF members)
2. Populate this Table with key case studies from the scientific/grey literature that have high potential to provide lessons learned regarding: procedures and approaches; and participatory mechanisms, while reinforcing the roster of experts.
3. Extract lessons learned (positive and negative) and do comparative analyses within and between regions/subregions

The following Task Force members agreed to take the lead on this deliverable:

Task /output	Proposed working group members (to be further discussed)
Regional reviews	Peris KARIUKI (coordinator), Constant Yves ADOU YAO, Kaoru ICHIKAWA, Madhav B. KARKI, Zsolt MOLNÁR, Edgar PEREZ, Marie ROUÉ.

Session 5: Designing a participatory mechanism for indigenous and local knowledge systems to facilitate linkages between indigenous and local communities and scientists

At the second session of the Plenary of the Intergovernmental Platform on Biodiversity and Ecosystem Services, Members took a decision to request the:

‘Multidisciplinary Expert Panel and the Bureau, with support from the time-bound task force on indigenous and local knowledge systems, to establish in 2014 a roster and network of experts and a participatory mechanism for working with various knowledge systems;’ (IPBES/2/17)

To implement this decision, it was decided that the Task Force on Indigenous and Local Knowledge Systems would:

‘establish a participatory mechanism for indigenous and local knowledge systems to be established under the Platform, oriented to facilitate the linkages between indigenous and local communities and scientists and to strengthen the quality of indigenous peoples’ participation in the development of the deliverables of the Platform.’

In fulfilment of the Term of Reference to ‘support the establishment of a participatory mechanism for indigenous and local knowledge systems to facilitate linkages between indigenous and local communities and scientists’ (IPBES/2/17), presentations were made on examples of methods to reinforce peoples’ participation at different scales and the Task Force developed initial proposals for a participatory mechanism.

The Task Force began initial discussions on elements of a participatory mechanism emphasizing trust, a polycentric approach, sustained engagements, benefits-sharing and the need for the Platform to be relevant for indigenous and local knowledge holders by supporting their aspirations and issues[‡]. Members considered capacity building to be integral to a participatory mechanism including through strengthening governments, networks, institutions; scientists sharing, strengthening and empowering ILK communities to use of appropriate new research; peer to peer teaching; customary forms (of teaching and learning); community-level workshops/conferences to showcase successful engagements between ILK and science. Information sharing was identified as a way to feedback and disseminate information on IPBES and to generate interest in IPBES. Issues that could be further elaborated in this regard included the need to use appropriate forms and languages.

The Task Force promoted the development of a participatory mechanism within the different functions of the Platform to be centred on strengthening at local, national and international levels, including the need for dialogue meetings with indigenous peoples and local communities in their own places and territories and through their own structures and institutions. Modalities of participation within the assessment function could include giving credit to ILK holders.

At the international level, the Task Force proposed that the participatory mechanism would be responsible for promoting participation of indigenous peoples and local communities at different scales under the IPBES and for fulfilling the functions and deliverables of the Platform, including the strengthening of national participatory mechanisms and that academic institutions could play the role as the bridge to the indigenous and local knowledge holder. They further considered that a participatory mechanism under the IPBES can fulfil the following functions:

[‡] In the following paragraphs, a summary of key points from the group discussions is provided. Members of the Task Force working on this item will have further access to the group discussion reports as well as notes of the sessions to further elaborate these items in the development of the proposal on the participatory mechanism.

- 1) provide technical support to ILK holders to record, compile, manage and to apply the information required to underpin IPBES activities;
- 2) create platforms for knowledge sharing and comparison;
- 3) connect ILK holders with the scientific community; and
- 4) provide training on the importance of ILK and also train specifically the scientific community to build greater mutual respect.

The Task Force proposed the development of participatory mechanisms within the structure of the Platform including enabling MEP to access UN-accredited organizations such as the UNPFII, enhanced participation of indigenous and local knowledge holders within the meetings of Platform. One example of enhanced participation at the meeting of the Task Force on Indigenous and Local Knowledge included the invitation to a representative of the International Indigenous Forum on Biodiversity as a resource person.

To operationalize the participatory mechanism, Task Force members considered institutional arrangements in relation to the development of a participatory mechanism under the IPBES including strengthening role of national governments and the role of neutral forums such as academic institutions. Initial proposals were made to enable regular, adequate and predictable funding.

An initial timetable for the development of a participatory mechanism could include the first 2 years for the establishment of the participatory mechanism and a global network platform; this process will include capacity-building, peer-to-peer training, local conferences showcasing successful examples of working together (between ILK and science); a third year for dialogue; and a 4th year – conference to involve a larger number of ILK holders and members of the scientific community.

For next steps in relation to the development of a preliminary participatory mechanism by 10 October 2014 for presentation at the third meeting of the Plenary of IPBES (January 2015) and the presentation of a final participatory mechanism by October 2015 at the fourth meeting of the Plenary of IPBES (December 2015), the following Task Force members agreed to pursue the work on this deliverable.

Task /output	Proposed working group members (to be further discussed)
Participatory mechanism	Diego PACHECO (coordinator), Wilfredo ALANGUI, Peter BRIDGEWATER, Manuela CARNEIRO DA CUNHA, Peris Mweru KARIUKI. Malia NOBREGA-OLIVIERA of the IIFB (as a Resource Person)

Session 6 on the Global Dialogue Workshop was led by Alfred Oteng-Yeboah and Phil Lyver.

Through discussion in Plenary the Task Force members agreed that global dialogue workshops could serve to draw together the regional and subregional experiences from the regional case study reviews. The workshops could also bring together ILK holders and natural and social scientists in order to engage in a tripartite knowledge exchange around developing procedures and approaches to synergize ILK with science and participatory mechanisms. In addition, the workshop may provide opportunities for building capacities of ILK holders about IPBES, and of scientists about ILK.

Such workshops might first be developed at subregional or even subnational levels in order to ensure that indigenous and local knowledge holders are engaged with at scales that align optimally with the spatial extent of their knowledge. This scaling from the local to the regional to the global may assist in formulating procedures and approaches for IPBES that address the challenge of working across spatial scales. A global event in 2015 to pool together regional lessons learned recorded in 2014 may provide useful traction towards fulfilling IPBES deliverable 1(c).

Conclusion: The proposal to organize a Global Workshop to bring together the regional and subregional experiences from the case study reviews was endorsed by the Task Force. The members also recognized

that such an event could also provide the opportunity for two-way learning and capacity-building involving both ILK-holders and scientists. If the Global Dialogue Workshop was to be linked to a specific assessment, then it could also provide an opportunity to assist in the piloting of the Initial Procedures and Approaches developed by the Task Force on ILK, while providing for the contribution of ILK to the assessment

These discussions led to the decision to elaborate a proposal to the FTA on pollination, which would assist in bringing relevant ILK into that assessment, while also piloting the initially proposed ‘principles, approaches and procedures’ for ILK, and contributing to the objectives of the capacity-building and knowledge & data task forces (cf. Annex 5: Proposal for the FTA on Pollination). More specifically, the proposed joint activities could:

- contribute towards bringing ILK into the fast track thematic assessment on pollination;
- contribute to mutual and interactive capacity-building of scientists and ILK holders on building synergies between knowledge systems in the framework of IPBES;
- pilot initial procedures and approaches for working with ILK in IPBES, as well as initial elements of a participatory mechanism;
- contribute to reinforcing the liaison between the Capacity-building, Data & Knowledge and ILK Task Forces.

While no funding has been provided as yet for a Global Dialogue Workshop, the Task Force agreed to actively seek funds to hold such an event. The first opportunity would be to approach the FTA on Pollination and Pollinators and the Capacity-building Task Force to discuss with them the possibility of pooled funding. The proposal is to be presented for consideration at the first authors’ meeting for the pollination assessment (30 June to 4 July 2014), as well as the fourth MEP/Bureau meeting (8–10 July 2014), to explore opportunities to pool resources to achieve these multiple objectives.

A group of Task Force members was identified to follow up on this element of Deliverable 1(c).

Task /output	Proposed working group members (to be further discussed)
Global workshop (pollination)	Phil LYVER (coordinator), Manuela CARNEIRO DA CUNHA, Ro HILL, Alfred OTENG-YEBOAH Edgar PEREZ, Marie ROUÉ, Randolph THAMAN

Session 7: Establishment of a roster and network of experts for working with indigenous and local knowledge systems

One of the expected outputs of the Task Force on Indigenous and Local Knowledge Systems, as decided at the Second Plenary Session of IPBES, is a “Roster and Network” of Experts on ILK. This concept was discussed at Bureau and MEP Meetings in Capetown, South Africa and Antalya, Turkey. At the Second Plenary Meeting of IPBES, it was decided that the ILK task force will “facilitate a roster and network of experts to support the Platform’s work” (IPBES/2/17, pg. 55).

The Task Force is expected to deliver:

- An information document on a roster of experts including, inter alia, criteria for selection by 30 November 2014 for presentation to the Third Plenary Meeting of IPBES in January 2015.

This item was considered during session 7 of the first meeting of the ILK Task Force. The session consisted of a brief presentation and follow up discussion.

Upon the request of the co-chairs, a joint presentation was delivered by Randy Thaman (Fiji) and Serena Heckler (TSU). Based up discussions of the roster and network concept that were held at Bureau and MEP meeting in Capetown, South Africa and Antalya, Turkey, Randy presented the purpose and reasons for a roster and network of experts:

- Enhance IPBES' ability to identify and mobilize relevant and qualified expertise.
 - With particular reference to the assessments-current and future.
- There are many well-qualified people, particularly representatives of ILK communities and those with experience in building synergies between ILK and MS who were not included in the Task Force, but who, through such a Roster and Network, could contribute to the objectives of the Task Force and of IPBES.
- Develop regional and subregional subsets of the Task Force that could advocate and energise the building of synergies between ILK and MS in assessments at the regional, subregional, national and local levels.
- Provide access to capacity building and technical support at the subregional and local levels.
- Provide links to build awareness of the importance of IPBES and the critical role and contribution that ILK can provide to the success of IPBES in the context of the IPBES Conceptual Framework
- To link ILK experts to specific ongoing and future assessments and deliverables.

He also made some points on the categories of experts who might be included in the Roster, making it clear that to be effective a roster should include individuals with a wide range of experience, but that it must also be clear about what those experts would be asked to do and what the expectations might be of people using the roster.

With respect to indigenous and local knowledge, the roles of experts to be included on a roster might encompass:

- a) Indigenous and local persons with first-hand and/or inherited expert knowledge about the biodiversity or ecosystem service domain that is the subject of a given assessment;
- b) Formally trained scientists about ecosystem service from ILK holder communities
- c) individuals (indigenous or non-indigenous) with expert knowledge about local community networks, and who can assist in identifying the locally-recognized ILK experts (men and women) for a specific biodiversity or ecosystem service domain;
- d) individuals with expert knowledge of the scientific and grey literature on ILK related to the targeted biodiversity or ecosystem service domain;
- e) individuals (indigenous or non-indigenous) with expertise in working with indigenous knowledge holders to record/compile/analyse relevant ILK;
- f) individuals (indigenous or non-indigenous) with expertise in facilitating a constructive dialogue between ILK holders, natural scientists and/or policy-makers;
- g) other ...

He also pointed out that the task force should think through what kinds of information should be included on the experts:

- a) nature and substantive topic(s) of ILK expertise
 - a. Eg. Agrobiodiversity, sacred biodiversity and sacred sites, pollination, sustainable forest management, invasive alien species (and other planned assessments—see Objective 3);
 - b. Also process categories, such as participatory mechanisms, community-based participation and education and capacity-building?
 - c. Point to consider: should be related to IPBES area of expertise, rather than standard academic themes (eg. Conservation of useful plants, rather than medicinal plants)?
 - d. ILK-holders? Indigenous representatives, indigenous organizations' representatives, indigenous /indigenist/native scholars.
- b) spatial and temporal boundaries of this ILK expertise
 - a. Given the strong support for strengthening synergies between ILK science at sub-regional, national and local level, should the RNE be focused primarily at sub-regional groupings and/or national and community level initiatives. Eg. Geocultural regions and subregions (eg. SE Asia, W Africa, Arctic and E Europe) recognised by UN Permanent

Forum on Indigenous Issues as a basis for capitalizing on existing biodiversity and ecosystem conservation initiatives and alliances.

c) other ...

Serena Heckler took presented some examples of rosters of experts that have been developed for other intergovernmental processes and presented some key issues that the task force should consider and decide upon before the TSU took over the task of developing the roster.

The first example was the Convention on Biological Diversity's roster of experts on Access to Genetic Resources and Benefit-sharing. The roster is relatively small with 67 experts listed by country. The roster is searchable by thematic area of expertise, with themes ranging from economics to biology to traditional knowledge. It is also searchable by UN Language and any other language. It was noted that ILK Task Force member Dayuan Xue is listed on the roster. It was also noted that the links to further information about the experts lead to 404 error messages, so the vitality of the roster is not immediately obvious from the website.

The second example was the UNFCCC's roster of experts and although Serena does not know how effective the roster is in practice, several points of interest were illustrated on the website. Firstly, the roster incorporates experts on three very specific technical areas, suggesting that it was designed with particular uses in mind. It was also pointed out that this roster of experts is much larger than the CBD ABS roster with over 1000 experts. The experts are nominated by countries and the countries are responsible for ensuring that the roster is updated regularly. The fact that a mandate was required to ensure updating of the roster suggests that this has been an area of difficulty. Furthermore, it was noted that the public face of the roster provides minimal information on the experts, although more information is collected via the nomination form, so it must be held somewhere, but that access to the roster is restricted in some way. Finally, Serena briefly showed the fields of expertise from the nomination form, pointing out that these fields of expertise are limited and precise. It would be up to the task force to define the areas of expertise to be covered in the task force.

These two examples have thrown up a number of specific issues that the task force should decide upon. Aside from technical questions that accompany the development of any database, there are some unique issues related to the challenge of bringing scientists and ILK-holders together in a non-hierarchical way:

- What are the specific objectives of the roster? Is it to provide contributors on ILK for the assessments? Will it serve other purposes, such as those highlighted in the various purposes and reasons for a roster and network, for instance, would it network ILK researchers and holders; providing expert advice for local communities; serve as a mechanism for others to participate in IPBES' activities, etc.?
- Should it be open access or should access be restricted? Several elements should be taken into account when considering this issue, for instance who will search the roster, what specific tasks would the experts be expected to fulfil?
 - For instance, if ILK-holders were included as experts on the roster, it would be unrealistic to expect that an assessment author could directly access the roster and freely choose any listed expert.
 - There is therefore a role for intermediaries between ILK-holders and assessment authors. Who would those intermediaries be, how would they be chose. Would the intermediaries be the point people listed as "experts" on the roster or would there be a mechanism whereby the intermediaries access the roster and follow the interaction between assessment authors and ILK-holders?
- Who will nominate experts for the roster and what will the criteria be for vetting and approving nominations?

The task force should also consider some technical questions. Where should the roster, as a database, be housed? Who should maintain and update it? How big should it be? How to ensure that it will be used? Will the task force propose a procedure to ensure that it is consulted by assessments?

A number of key issues must be considered by the Task Force in relation to its establishment:

- The limited capacity of the TSU in terms of budget and human resources to manage such a roster must be taken into account when planning its size and complexity.
- The exact purpose for which the roster will be used and by whom it will be accessed must be clarified in order to design a roster that is fit for purpose. For instance, if it is expected that assessment authors would independently access and draw experts from the Roster, this will limit what kinds of experts can be included. A range of factors, including language barriers, differing expectations of what comprises “expertise” and how it is expressed would make direct, unmediated collaboration between most assessment authors and many ILK-holders unproductive.

Proposal: To clarify with MEP and Bureau exactly how they see the Roster being used by IPBES.

- For this reason, it may be impractical to attempt to meet the needs of IPBES assessments and to increase participation of ILK-holders, indigenous peoples and local communities with the same roster.
- There must be some clarity about how to ensure that the Roster offers some value to the experts enrolled upon it. How to ensure appropriate tasks, equitable distribution of tasks and that the experts are actually contacted?
- A nomination and vetting process should be decided upon. While the process should be as inclusive as possible, it must be kept in mind that—as pointed out above—some end-users of the roster may have specific expectations of what experts do and how they do it. This may make the inclusion of certain types of experts counterproductive. Will there be “quotas” or some other way of ensuring a balance of experts?
- How might the Roster link to other outputs of the Task Force, such as the participatory mechanism and the regional case study reviews?

A group will be established to consider the outstanding points, develop the proposal for the roster and prepare the information document for the second plenary meeting of IPBES.

Task /output	Proposed working group members (to be further discussed)
Roster of experts	Tamar PATARIDZE (coordinator), Peter BRIDGEWATER, Madhav B. KARKI, Eriks LEITIS, Dayuan XUE

Session 8: Liaising with IPBES task forces on capacity-building and on knowledge & data

Three task forces have been created for the Platform. In addition to the Task Force on ILK, there exists a:

1. Task Force on Capacity Building - to identify priority capacity-building needs to implement the Platform’s work programme, and to match those needs with resources; and
2. Task Force on Knowledge and Data - to address the priority knowledge and data needs for policymaking by catalysing efforts to generate new knowledge, and by developing an information and data management plan.

All three task forces are responsible for liaising with each other in order to ensure that their respective mandates are fulfilled in a comprehensive and coherent manner.

Catherine Laurent, member of the Task Force on Knowledge and Data, presented an update on the debates and outcomes of the first Task Force meeting that recently took place in the Republic of Korea. Salvatore Arico, who represented UNESCO at the Task Force meeting, also provided his insights in view of UNESCO’s contributions of technical support for the Task Force. Following a presentation by Bureau member Alfred Oteng-Yeboah, the members of the task force on ILK also considered how best to work with the capacity-building task force in order to jointly identify the priority capacity-building needs to effectively and appropriately build ILK into the work of the Platform.

With respect to capacity-building, members considered how the capacity of ILK-holders and communities might be built to better understand and engage with the IPBES work programme, in particular its thematic, regional and global assessments. This may include capacity building for ILK holders in order to allow them to better understand the nature and functioning of IPBES in order for them to decide how they may wish to engage with IPBES and what benefits they may derive from the work of IPBES and the sharing of their knowledge on biodiversity and ecosystem services.

Similarly, there may be a need to build the capacities of scientists and decision-makers with respect to ILK, countering certain misconceptions they may have about indigenous peoples and indigenous and local knowledge, and reinforcing their understanding of the nature and characteristics of IK, as well as procedures and approaches for working with ILK in accordance with internationally-recognized standards such as the UN Declaration on the Rights of Indigenous Peoples. There may also be a significant need for capacity building on both sides in order to create the necessary conditions for dialogue and a mutually-beneficial knowledge-sharing.

Follow-up

Task /output	Proposed working group members (to be further discussed)
Liaison with other TFs	Edgar PEREZ (coordinator), Peter BRIDGEWATER, Manuela CARNEIRO DA CUNHA, Phil LYVER, Alfred OTENG-YEBOAH, Diego PACHECO, Marie ROUÉ.

Concluding Session:

The final session of the meeting was led by the co-chairs, Phil Lyver and Edgar Perez, with support from Doug Nakashima of the Technical Support Unit. During this session the priority follow-up tasks were identified and discussed, and sub-groups of Task Force members were constituted to lead the follow-up work. While these sub-groups, guided by a coordinator, are to take the lead on their assigned tasks, all Task Force members are welcome and expected to contribute to and comment on each and every element. Indeed, to benefit from the collective expertise of the group, it is important that all members provide inputs across the full range of deliverables. The present composition of sub-groups is presented below. Additional adjustments are anticipated, including the assignment of Task Force members who were unable to attend the first meeting to specific sub-groups.

Task /output	Proposed working group members (to be further discussed) [§]
1. Procedures and approaches	Ro HILL (coordinator), Madhav B. KARKI, Tamar PATARIDZE, Randolph THAMAN
2. Participatory mechanism	Diego PACHECO (coordinator), Wilfredo ALANGUI, Peter BRIDGEWATER, Manuela CARNEIRO DA CUNHA, Peris Mweru KARIUKI Malia NOBREGA-OLIVIERA of the IIFB (as a Resource Person)

[§] This initial assignment of members to working groups has been subsequently revised and updated with the addition of members who were not able to be present at the Paris meeting or members who expressed interest to contribute to additional task force deliverables.

3. Regional reviews	Peris KARIUKI (coordinator), Constant Yves ADOU YAO, Kaoru ICHIKAWA, Madhav B. KARKI, Zsolt MOLNÁR, Edgar PEREZ, Marie ROUÉ
4. Global workshop (pollination)	Phil LYVER (coordinator), Manuela CARNEIRO DA CUNHA, Ro HILL, Alfred OTENG-YEBOAH Edgar PEREZ, Marie ROUÉ, Randolph THAMAN
5. Roster of experts	Tamar PATARIDZE (coordinator), Peter BRIDGEWATER, Madhav B. KARKI, Eriks LEITIS, Dayuan XUE
6. Liaison with other TFs	Edgar PEREZ (coordinator), Peter BRIDGEWATER, Manuela CARNEIRO DA CUNHA, Phil LYVER, Alfred OTENG-YEBOAH, Diego PACHECO, Marie ROUÉ

Annex 2: Interim Approaches and Procedures to build ILK into IPBES assessments

1. The ILK task force is working towards developing final approaches and procedures for building ILK into IPBES assessments for the fourth meeting of the Plenary in late 2015 or early 2016. In the meantime, a number of IPBES assessments are underway and task force members underline the importance of taking on board ILK in these efforts.
2. To this end the ILK task force has proactively engaged with the first IPBES assessment: the assessment on pollination and pollinators associated with food production. In particular a Global Dialogue Workshop (1-5 December 2014, Panama) that brought together ILK holders and experts with one of the assessment co-chairs and five authors has permitted the task force to pilot its initial proposals for approaches and procedures and derive a number of lessons learned.
3. Based on lessons learned from this engagement, the ILK task force provides in this annex a set of *interim* approaches and procedures for building ILK into IPBES assessments, including a set of step-wise procedures. The task force encourages all on-going and upcoming IPBES assessments to apply these interim approaches and procedures in order to ensure the adequate consideration of ILK, alongside science, in their assessment processes. In addition to reinforcing the ILK component of their assessments, lessons learned from these efforts will be invaluable for the further development of the final ILK approaches and procedures.
4. The following *interim* approaches and procedures are proposed by the ILK task force:

DRAFT PRELIMINARY APPROACHES FOR WORKING WITH INDIGENOUS AND LOCAL KNOWLEDGE	
1.	Putting indigenous peoples and local communities and their places first
2	Finding mutual goals, benefits and benefit-sharing
3	Recognising and supporting rights and interests
4	Recognising and respecting diverse world views underpinning ILK systems
5	Establishing mutual trust and respect and an equitable intercultural space for dialogue
6	Ensuring free, prior and informed consent (FPIC)
7	Recognizing and respecting intellectual and cultural rights (ICR)
8	Practicing reciprocity, giving back and capacity building
9	Ensuring culturally appropriate storage of and access to information
10	Utilising formal and informal agreements and statements

DRAFT PRELIMINARY PROCEDURES FOR WORKING WITH INDIGENOUS AND LOCAL KNOWLEDGE	
1	Mobilising ILK holders and ILK researcher/practitioners through networks
2	Mobilising ILK-holders with appropriate techniques, methods and tools
3	Mobilising participatory approaches to support indigenous and local knowledge and

	practice contributions
4	Convening local to global dialogue workshops during diverse phases of IPBES assessments
5	Recognising ‘community’: understanding social structures and identifying groups or individuals with specialized knowledge
6	Considering gender and gender-specific knowledge
7	Supporting local studies, multiple scales and cross-scale linkages
8	Respecting ILK systems’ validation procedures
9	Building dialogue addressing uncertainty between ILK and science
10	Implementing the work with ILK in assessments of IPBES through a dynamic interactive cycle

Interim step-wise Procedure to build ILK into IPBES assessments

Note: An initial step-wise procedure developed by the ILK task force was piloted in the framework of the IPBES assessment on pollination and pollinators associated with food production (see Section III. paras 12-19 above). Lessons learned from that experience have been incorporated into the revised and expanded procedure outlined below.

STEP 1: Global Call for submissions on ILK relevant to the assessment theme

- Global call for submissions of relevant ILK and to identify key ILK-holders for a given assessment theme (e.g. key bodies of scientific and grey literature, primary ILK holders and relevant research).
- Call distributed via virtual networks as well as traditional media, and in multiple languages to broaden outreach (N.B. the pollination assessment call was circulated in English, French and Spanish with corresponding online forms to record feedback).
- ILK task force members can assist in targeting the call to networks with relevant ILK expertise.
- The wording of the call must be carefully considered in order to reach and be accessible to a broad audience of ILK holders and experts.
- Sufficient time must be allowed for the call to be circulated through multiple networks so as to ensure broad outreach, and to allow ILK holders and experts sufficient time to respond (at least 6 weeks as a minimum).
- Response to the call may be usefully reinforced by convenors and assessment authors personally approaching indigenous peoples and communities to encourage and support their submission of responses (N.B. for the pollination assessment, 45 submissions were received of which 37 were relevant to the assessment theme. The regional distribution of the 37 relevant submissions was: 13 from Africa; 13 from Latin America and the Caribbean; 8 from Asia-Pacific; 4 from WEOG; and none from Eastern Europe^{**}).

STEP 2: Identify relevant ILK holders and experts, as well as scientific and grey literature

^{**} One submission included case studies in both Africa and Asia-Pacific regions and therefore is listed under both region.

- From the global call, relevant ILK literature and other sources can be compiled. This initial database can be further supplemented by targeted literature review conducted by expert group or task force members and TSUs.
- Relevant sources of ILK can be prepared for assessment authors by specifically identifying knowledge and information of key importance to specific chapters or sub-chapters in the assessment outline (using eventually a digital table format)
- From the global call, relevant ILK holders and scientists with best-suited ILK expertise can be identified for participation in a global dialogue workshop (N.B. for the pollination assessment, ILK holders and experts were selected from six sites covering four regions).

STEP 3: Work with selected ILK holders to prepare their inputs for the Global Dialogue workshop

- Contact selected ILK holders and ILK scientists to brief them on IPBES and the specific assessment, agree on terms of engagement (including prior and informed consent), and prepare their participation in the workshop.
- Virtual meetings with ILK holders and experts to plan and prepare inputs.
- Logistical preparations for global dialogue workshop.

STEP 4: Global Dialogue Workshop with ILK holders/experts and CLAs and LAs

- Holding workshop in an indigenous community benefits the process by providing cultural context, processes, and environment for facilitating the discussion and dissemination of knowledge.
- Build dialogue and mutual understanding between authors and ILK holders/experts, and align expectations.
- Carefully design the workshop agenda so as to allow ILK holders/experts to play a central and lead role in framing debate and exchange throughout the workshop. Avoid scientific or assessment presentations that risk pre-defining the workshop as a science-based endeavor as this may inhibit and/or limit ILK contributions.
- Work in plenary to define shared themes and then break in to smaller group to facilitate in-depth dialogue around ILK of relevance to the assessment theme.
- Identify priority themes by asking the ILK holders/experts what themes they want to speak to, and asking CLAs and LAs what they want to learn more about from ILK holders/experts.
- From these dialogues between ILK holders/experts and CLAs and LAs develop a set of Proceedings that provide a first recorded ensemble of relevant ILK to CLAs and LAs during their preparation of the First-order draft (FOD).

STEP 5: Follow-up the workshop with ILK Work Sessions in selected pilot sites

- Work sessions at selected pilot sites with relevant ILK holders and scientists, focusing on the objectives identified at the Global Dialogue Workshop. This work will include compilation, recording and systematization of ILK.
- Relevant ILK from the work sessions may provide further inputs for the drafting of the FOD (time permitting) or may serve during the Review of the FOD in order to correct and refine inputs on ILK.
- Other initiatives at national and subnational levels, including ILK workshops and pilot studies, may also contribute additional relevant ILK knowledge and experiences to the given assessment.

STEP 6: ILK incorporated into the drafting of the Second-order Draft

- ILK holders/experts participate in the Second Authors' meeting in order to present ILK findings and discuss, review and further enhance the delivery of ILK to CLAs and LAs.
- ILK holders/experts and ILK task force members can support the CLAs and LAs in their review of comments on the FOD that pertain to ILK.
- Final phase of work with authors to assist with the incorporation of ILK, and verify with ILK-holders its appropriate formulation and acknowledgement.

STEP 7: Feedback to ILK holders and communities

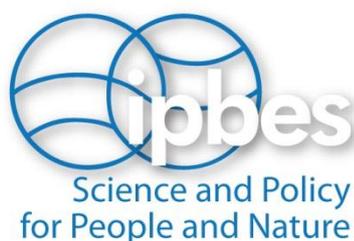
- ILK holders and experts present the relevant ILK (and scientific) information contained within the draft assessment report to contributing ILK communities for awareness-raising, verification and feedback

STEP 8: Lessons learned on ILK approached and procedures

- Analysis of lessons learned from the piloting of ILK approaches and procedures so as to further inform the decision document for Plenary-4.

**Annex 3: A Global Dialogue on ILK about Pollination and Pollinators
associated with Food Production -**

Proceedings and workshop report



DRAFT

**A Global Dialogue on Indigenous and Local Knowledge about
Pollination and Pollinators associated with Food Production:
Proceedings and Workshop Report**

Organized by the

Task Force on Indigenous and Local Knowledge Systems
Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

in collaboration with the

IPBES Expert Group for the Assessment on
Pollination and Pollinators associated with Food Production

with support from

United States Department of Agriculture
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Panama City, Panama

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(N.B. annexes removed to save space)

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Part I

**Proceedings
of the
Global Dialogue on
Indigenous and Local Knowledge about
Pollination and Pollinators associated with Food Production**

I.1. Xingu Park indigenous Peoples, Brazil: Indigenous and local knowledge of pollination and pollinators associated with food production

Contributed by Simone Athayde, Leader, Amazon Dams Network, Tropical Conservation and Development Program (TCD), University of Florida. Research Associate, Instituto Socioambiental – ISA, Brazil.

[The paragraphs below have been extracted from the overall Proceedings text to illustrate the nature of ILK collected on the pollination and food production theme. The full Proceedings contain additional information.]

(...)

2. Diversity of pollinators

- How indigenous peoples articulate the concept of pollinators and pollination? This is a follow-up question that we don't have definite answers.

For indigenous societies at Xingu Park, all natural resources have spirits. Shamans have the power to communicate with these supernatural beings and cure illnesses provoked by them. During our work with four indigenous groups within the “Bees Ethnoecology” educational project, we found that all communities were not aware of the process of pollination as academic knowledge defines it. Rather, the concept of pollination might be compared with the notion of “fertilization”, as referred by Kuna leader and chief Don Belizário during the IPBES global dialogue workshop.

As Posey noted, myth is an important vehicle for transmission of ecological knowledge. In Kayapó cosmology, an ancient shaman called “wayanga” taught their ancestors how to live, work and defend themselves like social insects, gaining his knowledge observing bee, wasp and ant behavior (Posey 1979). In indigenous Amazonian cosmology, humans and bees have the same status and respect for each other, reflecting a worldview in which animals, plants and humans spiritual and material forms are transitory and dynamic.

For indigenous teachers of Xingu Park, what defines biodiversity is the presence of spirits that exist for both biotic and abiotic beings as defined by academic science. They articulate the concept of biodiversity as : “Biodiversity is the variety of living beings that exist in nature. In the indigenous science, all the beings are alive. All the natural resources are alive and have their spirits. For example: rocks, trees, rivers, birds, wind, fish, earth, water, clay and all the kinds of animals. Therefore, all the natural resources must be respected. For various peoples, the spirits of the natural resources that die continue to exist. We have many rules to respect each living being that exist in nature”. Indigenous teachers of Xingu Park, November, 2000 cited by Athayde et al. (2002).

- **Appreciation of diversity** (mentioned by Manuela Carneiro da Cunha). Diversity is a key aspect in keeping both exotic and native species in balance and thus avoiding heightened competition and extinction. Keeping diversity in indigenous lands also involves developing economic alternatives for indigenous peoples. Studies that provide opportunities for listing and cataloguing the diversity of pollinators among indigenous groups should be encouraged, along

with biological/ecological studies of these pollinators, to inform status and trends, as well as conservation and management options for areas or pollinators in risk.

- Species in risk – both pollinators and plant species (e.g. priority species), such as Brazil nut in the Paquiçamba Indigenous Land that will be impacted by the Belo Monte dam in the lower Xingu watershed.
- **Exotic species introduction:** policy-makers and managers need to be aware of the risks of introducing exotic species in natural ecosystems, since the chain results of these introductions might be largely unknown and underestimated (Manuela Carneiro da Cunha warning, as well as comment by Maori representative James Doherty). Our paper documents indigenous and non-indigenous perspectives on the relationship of the exotic introduced Africanized honeybee and the stingless bees in Xingu Park (Athayde et al. JEE). Specific information and reflections about this topic can be found in our paper. Below, I highlight three testimonies of indigenous representatives on the topic, that illustrate the complexity of this discussion and the lack of a general agreement about the positive or negative outcomes of this introduction:

According to Sutã Yudja, a woman from the Tuba Tuba village:

“The European bee caused the disappearance of the bee “kati wila”, because before the arrival of the “europa” it was so easy to find “kati wila”. When you wanted to hunt this bee, you could find it easily and there was abundant honey. After the “europa” came, this bee disappeared does not exist anymore”. Sutã Yudja, elderly woman from Tuba Tuba Village.” (Athayde et al. JEE)

Chief Kuiuissi Kysêdjê views this as a positive aspect:

*“Right after the arrival of *Apis mellifera*, the other bees probably found its presence odd. However, they got used to the presence of *Apis*. Now there are flowers for everybody and I see no problem with the apiculture activity, once the beekeepers are not increasing the number of bees, only taking the families from the wild and putting in the beehive box. I like apiculture, because there is more honey for consumption by the community and also for sale.”*

Korotowĩ Taffarel, a young Ikpeng teacher in Moygu village adds:

*“- If we want to increase beehive boxes for *Apis* and also have native bees in boxes, we cannot precipitate the results of what is going to happen, that the *Apis* will harm the other bees. But with the experience, watching and doing, we will be able to observe the changes. Nobody knows what happens now, maybe later, as time passes.”* (Athayde et al. JEE)

All 4 groups involved in this project were not originally from the Xingu Park’s region and, as a result of migration, could be more willing to accommodate new species into their cosmology (cultural specificities/context specific knowledge). Implications for the field of human ecology and other related scientific areas, in the recognition of the dynamic and mobile aspects of indigenous knowledge in contemporary contexts. In Xingu Park, apiculture and meliponiculture are viewed as sustainable activities that can maintain biological and cultural diversity in Amazonian landscapes, while providing food security and income generation (Athayde et al. JEE).

(...)

I.2. Dayak and Malay communities, Indonesia: Indigenous and local knowledge of pollination and pollinators associated with food production

Contributed by Valentinus Heri and Nicolas Cesard

[The paragraphs below have been extracted from the overall Proceedings text to illustrate the nature of ILK collected on the pollination and food production theme. The full Proceedings contain additional information.]

ABOUT RAFTER BEEKEEPING IN BANGKA-BELITUNG (BB) – Nicolas Cesard

In South and South-East Asia, honey collectors take significant risks in going to collect wild honey from the Asian giant honeybees (*Apis dorsata*), a species known to nest in the open-air underneath the branches of large trees or in high cliffs. Despite accidents, this honey collection continues to be practised intensively in season because honey and bee brood provide essential energy foods as well as additional income from the sale of any excess.

In BB, the *sunggau* technique (and more broadly the rafter technique) is directly inspired by the ecological habits of *Apis dorsata*. It recreates the living conditions sought-after by the bees: the *sunggau* is not exposed to the prevailing winds and its situation maximizes a morning or an evening exposure to the sun. Moreover, its hidden position discourages possible predators (except humans). The method is the result of long time observations of bee colonies in the wild/*in situ*, on large trees in particular, but also of multiple collections (bee harvesting). ...

The harvesting of honey requires to understand the development of the comb and the biology of the bees to determine the right time to collect, but also to allow the bees to come back. On sites, at a short distance, the beekeepers will regularly observe the activities of the bees from and to the comb and on its surface. They observe also that the bees stay on the comb during rainy days (and consume their food stocks) and that they continue to forage during moon nights. Most of the observations taking place around or on the surface of the comb, several indications allow the beekeepers to know that the harvesting time is approaching.

The beekeepers match up various visual indications (pre-harvesting signs, and post-harvesting signs once the bees have left the comb and when the brood is visible). They are attentive first to bloomings. They know that the bees arrive when the flowers open and that the bees leave the comb a few days after the last flowerings. The beekeepers rely, in particular, on the observation that once the flowers are dry, the bees have finished to produce honey and the cells containing honey are been closed. Also, when the harvesting time is approaching, the direct observation of the comb gives several indications that confirm its evolution. For instance, the beekeepers observe also the bee activity on and around the comb: when the bees do less trips to look for nectar, or when they stay almost immobile on the pollen cells, the beekeepers know that the stock of pollen is almost depleted and that the bees are not producing honey anymore.

The flowerings constitute the main signal for the harvesting. However if the beekeepers know when the bloomings will take place, they can hardly predict their abundance and how long they will last, from one year to the other (because mainly of climatic variations). They know however how the bees will behave during the flowerings. The fact in particular that they abscond quickly after a short flowering (generally without produce new queens), but also that they can stay on the comb and stock pollen and honey longer if more flowers appear.

According to the most experienced beekeepers, the best time to harvest honey is a bit before the end of the flowering, and when the flowering (or another flowering) lasts, a second harvest can take place generally two weeks, and even three weeks, after the arrival of the bees on the rafter. The harvesting being decided on the observation that the flowers dry out, the beekeepers hurry the harvest. They know that the bees, without new flowers, are going to consume their pollen to feed their larvae, but also consume the honey for themselves.

Without new flowerings, the beekeepers know by experience that the bees will stay only a few days on the comb before swarming. The wisest action (to obtain a maximum of honey) is to anticipate the bees by proceeding quickly to the harvesting. To do so, the beekeepers smoke the bees (forcing them to abscond), then take the honey and the brood. The situation changes if more flowerings are coming: the beekeepers know that if they take the honey but leave the brood, and even the pollen, they can proceed to another harvest, and even a third. They know that the bees will lay new eggs and then wait for their larvae to grow.

(...)

Heri: ... in Kalimantan – we have three types 1) rafter 2) the single comb (lower trees, often a single comb on a branch), not on big tree. The first to know about it can collect it, and 3) lalau trees – owned by clan/family. It is a big tree with many branches, around 10-40 colonies can settle on one single tree and nest there. Bees come back at each season. Those trees belong to the same family/clan from a long time. For the tall tree, people have a ceremony. When you start to climb the tree, people perform a song. When you harvest, you have to remember the song, if you do not the bees will attack you. Better before to make sure you know it.

(...)

Nicolas: ... According to people, bee development depends on flowers. After 15 days, one can see the wings on the larvae. Some knowledgeable elders say each flowering (flowers with pollen) ends with a queen cell on the comb. They will appear between two weeks and one month after the arrival of the swarm.

(...)

Heri: We have recorded the production of honey not only in our site but the Forest Honey Network Indonesia collect all the information about production. It is decreasing because of the reasons Nicolas said. Because of deforestation – due to oil palm plantations which are monoculture, but also as I mentioned before, forest fires are a big problem. From 1997 onwards and for three years there was a problem producing honey in Danau Sentarum (DS). The fires are coming from palm oil plantations because of clear-felling of the forest. The local people open ladang (local name for fields after clearing forest, generally on mountain slopes) – they use swidden cultivation - on a smaller scale than big palm oil plantations – “We send smoke to Malaysia and Singapore”.

(...)

Nicolas [on Bangka-Belitung/BB]: local beekeepers notice that the honeybees bring lots of pollen from the oil palm plantations nearby (red/yellow pollen). I don't know how much it affects the quality of honey though.

(...)

Heri: Economic value of honey. In the past, Malay (Melayu) people in DS gave honey to their king (as a tax). Before we introduce the new (cleaning) technique, forest honey prices were very low. The price of honey followed the price of sugar. This is why we wanted to give more value to honey. We struggled because a lot of buyers are tricky – they will ask the lowest price for the honey. We tried to increase the quality of the honey, but it was not enough. We had to create the association of DS honey harvesters to have a fix price for honey when traders come. Now local buyers cannot ask for lower prices. Since the price is fixed and higher than before, more people are doing rafter beekeeping in DS. Honey is more expensive because it has a higher quality. The bee harvesters have learned from the association how to process/extract honey in cleaner and more hygienic ways. People do not press the honey combs by hands anymore. The honey is seven times more expensive than before.

I.3. Ogiek peoples of Kenya: Indigenous and local knowledge of pollination and pollinators associated with food production

Contribution by John Samorai Lengoisa

Compiled with support from Marie Roué and Doug Nakashima

[The paragraphs below have been extracted from the overall Proceedings text to illustrate the nature of ILK collected on the pollination and food production theme. The full Proceedings contain additional information.]

(...)

The Ogiek are traditional forest dwellers that occupy the highlands of Kenya in the region known today as the Mau Forest. We identify with the forest and are its caretakers. Homes are made without using large pieces of wood, but only branches and twigs. Traditional livelihoods were based on hunting and gathering, eating fruits and roots and hunting birds, gazelle, hyrax and other animals. Bees were central to Ogiek culture. Indeed honey and bees defined everything, as food, medicine, alcoholic beverage, trade good and even a means to get married. Bees and forest were essential to the Ogiek. This tie was “so clear, so nice”.

We used to gather wild honey – and were not beekeeping or using log hives. Our people were living in most of the highlands and forests in Kenya, including Mount Kenya, Mount Elgon, Eburu and Ngong Hills, before we were displaced. Today the Ogiek community that depends on honey is making hives and hanging them in the forest, but still when they go to the forest they gather those that nest in the ground and those that nest in the trees. Harvesting and beekeeping go together.

(...)

Seasonal migration of bees and people: During the dry season we expect the bees to migrate to cooler regions – and the communities move with them. People follow the bees. To understand this seasonal movement, you need to understand the landscape zones which are part of the Ogiek system of landscape use and management (see Ogiek peoples’ ancestral territories atlas at ogiekatlas.net)

(...)

Our life was honey gathering and hunting of animals across the zones. We used to follow bees when the bees migrate across these areas. When the bees migrate, then this area will be dry. Then the community would move to the next zone. Before they move they would make sure they had preserved enough food, and then they would have to move to the next zone. In every ecological zone, each clan had a storage site and storage structures called *kesungut*, a long log-like structure (like traditional log hives but longer) in which honey was stored made of cedar wood, as cedar does not decay. It was buried or raised above the ground, sometimes on a stand of double tripods, and left there for later use. *kesungut* were respected by people. No one was allowed to tamper with them.

Once the harvest season in a zone ended, some honey and roasted meat from wild game smeared with honey, was stored in the *kesungut*. Honey was also a preservative for the meat. We were worried about the future, because we were never sure of how much food would be in another zone. If we had not enough honey when we were in another zone, we could go back to get some food (honey) from the *kesungut*. On the other hand, in a good year, one could accumulate a fair volume of honey across the zones so that when one arrived in the highest and generally most productive zone, it was possible to envisage ambitious goals such as paying bride price if one were to be married.

When people are going to harvest in *tirap* they will sing. Once they get a bountiful harvest - there will be a lot of Ogiek celebrations. Because there is a lot of honey, there will be a lot of marriages. The harvest is full about that – again honey and preservation.

Honey was also stored in caves because we have so many caves in this Eburu region and Lake Nakuru regions. Now the caves are in the national park where we do not have any more access. We have still one cave, *Njoro river cave* but it is becoming a historic site and no longer a storage site.

Now about honey, we had different honey on different parts of the territory. In the lowlands, bees use to nest in *geringotinik* (cavities in rock cliffs or holes in rocky ground) or in *poonet* (cavities in the trees). The lowland bees (*Segemik op soywo*) are smaller, dark-coloured and sting a lot. The type of honey produced by the lowland bees was dark brown, sometimes greyish and bitter tasting.

Now that we can only live in the highlands, we can no longer access the nesting areas of the lowland bees *Segemik op mo-o*. In the highlands there is only forest, no rocks. So here we get stingless bees, *gosomeg*, that nest underground. Still other types of bees nest in the trees and in tree cavities. They produce a good quantity of honey. The stingless bees *gosomeg* are small, slimmer and have yellowish stripes. They are docile. The highland bees produce a yellowish to white honey which is sweet and highly-valued, and that people prefer. The color of the honey lightened as we went to higher zones.

(...)

Honey is highly valued – let me start from the eating of the brood. They knew when the time was right. When they realized there was brood, but no honey, then the brood was not eaten. If the brood was harvested then it was given only to children and older people. It is usually milky. For old people it was to give them longer lives and for children it helped them grow and improved their health. In my experience it works, because I was able to see my great-grandfather who lived in the forest with all the old ways.

Our honey has medicinal values. When children take medicine against infection, they need honey to mix with it. A woman in childbirth, if she is experiencing pain, an herbal treatment can be provided to increase contractions. Honey was added so she can take the treatment. For the newborn ... I used to see this from my grandmother who was a traditional medicine woman. Their whole alimentary canal had to be cleansed. Plants were boiled, and milk and honey were given to the child. Honey was given to treat many ailments in children .

(...)

Honey is used to welcome our leaders and given to people that are honoured. I remember some senior government officials were given honey as a sign of honour. Today, for graduation, honey is given as a sign of honour.

Ogiek are known to be great herbalists who treat a lot of diseases. So a lot of people come to get our traditional medicines. That is how we can relate well with our neighbours. We have a good relationship with our neighbours because they come for our honey and medicine. In exchange, we receive grains such as maize, beans, millet and sorghum from the Kikuyu community .The Maasai give us milk.

People come to buy our honey because it is unique in its kind – white honey of *tirap*, and yellow-liquid honey from stingless bees. It is nice almost a yellowish liquid and very sweet. Ogiek sell by the tin. The tin has its price 2.5 or 3 dollars. They presented as weighing 2 kilos but in actual fact they may weigh more like 5 kilos. That why we are suffering now because a lot of people come for our honey. They order before we harvest, so once harvested, the honey is taken away.

(...)

Definitely there was that threat of eviction but the people have engaged with the government. We managed to convince the government and got court injunctions, and we challenged the kind of settlement that was taking place there because it was irregular, highly politicized and benefitting non deserving people. The allocation of land went beyond the forest boundaries severely diminishing our forest zones. In 2008, the government set up a Task Force called “Mau TF”, and the report which was tabled in parliament – recommended in line with conservation of forests that Ogiek should be protected. But that report was shelved unfortunately. Ogiek people have been evicted, but the community as a whole hasn’t been evicted. The Ogiek have nowhere else to go once evicted. We moved to the African court – now the matters are in court – they realize we took this to outside courts – a local ruling was in favor of Ogiek ,the Letuya et al vs the government and others and the national lands commission was directed to quickly open Ogiek register and initiate their settlement. The ruling was going to reduce the area we were going to be given. Now the ruling is ambiguous – we see many threats.

I.4. Tūhoe Tuawhenua (Maori), New Zealand: Indigenous and local knowledge of pollination and pollinators associated with food production

Contributed by James (Tahae) Doherty and Kirituia Tumarae Tekā
 Tribal affiliation: Tūhoe Tuawhenua, New Zealand
 Compiled with support from Phil Lyver

[The paragraphs below have been extracted from the overall Proceedings text to illustrate the nature of ILK collected on the pollination and food production theme. The full Proceedings contain additional information.]

Background – Tūhoe Tuawhenua

It was in the homeland at Ruatāhuna that the original Tūhoe Tuawhenua ancestors *Hinepukohurangi* (the Mist Maiden) and *Te Maunga* (The Mountain) first came together. These origins keep Tuawhenua close to the spirit of the land, the mist and the mountains. ... The importance and relevance of water and purity can never be over-stated for Tuawhenua. The belief that water is the blood of the land is at the heart of their worldview and culture. ... When Tuawhenua talk about purity in their culture it reflects the ‘mauri’ (life essence) of the environment. When referring to the purity of any form (e.g., water, lands, plants) – ‘mauri’ is the term that is used frequently by Māori. So when the environment has been impacted, Tuawhenua refer to the mauri being damaged. ... It is the purposed of IPBES – to mend the mauri of global biodiversity.

(...)

Value of pollinators to Tūhoe Tuawhenua

... Insect pollinators were historically important for pollinating staple food crops such as the different varieties of rewai or Māori potatoes planted by Tuawhenua. The birds were also important both as pollinators but also food species. Fruit on native trees (e.g. toromiro, *Prumnopitys ferruginea*) resulting from pollination were hugely important at certain times of the year for fattening birds like kererū for eating. The provision of such foods for the community was an important expression of *mana* (authority) of Tuawhenua. The ability to provide these foods on the table for visitors was a demonstrated the health of the Tuawhenua environment and the ability of Tuawhenua as a *kaitiaki* (environmental guardian) to look after that environment.

Honey was not considered a major part of the Tuawhenua diet, although it had some important uses indirectly associated with food production. ... The honey harvest used to occur once a year in Ngāputahi and Ruatāhuna and was mainly kept for the old people and babies. Elders used to eat the honey comb directly or use it as a sweetener. ... An important use of honey was to assist babies to suckle from the breasts of their mothers. Honey was smeared around the nipple on the areola to help baby latch onto the right place. ... When babies were teething honey also smeared a rākau (or stick) or kōhatu (piece of stone) for babies to suck and break open the gums and allow the teeth to emerge.

An indicator of the appropriate time to collect honey was when the rata (*Metrosideros robusta*) tree was in full flower around Christmas (late December). But harvesting honey was regulated with Tuawhenua having periods for harvesting honey and then periods when they took a break from honey harvesting. These breaks were when the toxic plants such as wharangi (*Brachyglottis repanda*; rangiora), tutu (*Coriaria spp.*) and ongaonga (*Urtica ferox*; tree nettle) were in flower. The wharangi flowered in December so the elders would allow a 2-3 weeks space for flowering then 2-3 week buffer period for toxin to dilute in honey before you resumed harvest. The tutu flowered mostly around mid-December but could continue right through to May. But at the start of season the tutu flowers prolifically then it wanes so the toxin become increasingly diluted in the honey allowing it to be harvested again. But tutu does not grow

everywhere in the heavy forest and is mostly confined to disturbed (e.g. slips) or open sites (e.g. river-beds). Kirituia's father would take her to areas where tutu did not grow so they could harvest the honey safely.

The recently developed *Te Manawa* honey initiative by the Tuawhenua Trust is an important local industry for gaining prominence within the community. The industry is selling both on the national and international markets providing employment, apiarist and business training and a source of income for local Tuawhenua in the community.

(...)

Decline in native bees and honey collection and use by Tūhoe Tuawhenua

...The old people mainly collected honey from mid-December to the end of January, but the season could run through to the end of March, or even May, depending on the length of the flowering season of trees in the forest. Tuawhenua elders would tell the children to always keep an eye out for the bees in the area within their hapū (sub-tribe) areas. For James and Kirituia, it was their fathers and uncles that used to collect the honey. The Tuawhenua honey gatherers observed a decline in the abundance of hives over a 20 year period beginning around the mid-1950s to 1960. ... The honey gatherers found the hives harder and harder to locate. Before the decline Tuawhenua would search and collect honey from 20-25 hives in an area about 1 to 5 km radius around their homes. By the mid-1980s the abundance of hives had under-gone a major decline with gatherers collecting honey from 1 to 5 hives in that same 1 to 5 km radius area. The hives totally disappeared from the Ngāputahi area over the decade from 1990 to 2000. Kirituia collected honey with her father for three seasons in the late 1950s in the forests around Ruatāhuna. By then, her father was noticing declines in the abundance of hives in the area. They had to climb higher in altitude up the mountainsides in each time they wanted to collect honey. In 1961 Kirituia and her father failed to get honey from the forest around their home in Parekaeaea (in Ruatāhuna). The only location they could continue to get it was up at Maungapohatu which was at higher altitude. ...

(...)

Decline in bird pollinators of importance to Tūhoe Tuawhenua

The kererū (*Hemiphaga novaseelandiae novaseelandiae*) is culturally and ecologically significant bird for Tuawhenua Māori (Lyver et al. 2008; Lyver et al. 2009) and Te Urewera forests respectively. It is involved in pollination and seed dispersal – it is the only remaining bird in NZ forests with the gap capable of swallowing large fruit from trees like tawa. As a pollinator, the kererū visits a number of trees when it feeds carefully plucking off the petals and eating the reproductive organs of the flower. It however does not eat the flower every time so in doing so completes the process of pollination. Kererū have been observed by our Tuawhenua elder with pollen with on its beak and mouth and feathers around the head (James Doherty pers. comm. 2014). Some of the trees that the kererū pollinates include the kōwhai (*Sophora spp.*) and kotukūtukū (*Fuchsia excorticata*). Tuawhenua acknowledge however that the effectiveness the kererū as a pollinator is unknown. Other birds such as the kōkō (tui, *Prothemadera novaeseelandiae* – endemic passerine and is one of the largest members of NZ's honeyeater family) and pihipihi (silver-eye; *Zosterops lateralis lateralis* – small omnivorous passerine bird) have a clearer role in pollination. Kōkō are known by Tuawhenua to pollinate native trees with tubular-shaped flowers such as the rewarewa; kotukūtukū and kōwhai, mountain harakeke (flax), but also introduced shrubs and trees such as the bottle-brush (*Callistemon spp.*) and blue-gum (*Eucalyptus spp.*) in NZ. The pihipihi was self-introduced into NZ in 1832 and quickly became firmly established. It is recognised by our Tuawhenua kaumātua (respected elder) as a pollinator for plants like raupō (*Typha angustifolia*; bulrush), rata, kaiwēta (*Carpodetus serratus*), kaikōmako (*Pennantia corymbosa*) and rimū.

Dramatic declines in native birds such as the kererū, kōkō and pihipihi have been observed by Tuawhenua elders over the last century in Te Urewera, especially in the last 60 years. The kererū and pihipihi were super-abundant forming large flocks of hundreds, even thousands, of individuals at times. Tuawhenua elders have recognised a similar pattern of decline in both the kererū and pihipihi populations. While the koko have also declined it is believed these birds have adapted quicker than the other species to alternate dietary opportunities presented by introduced shrubs and trees which have supported their numbers more.

A range of indicators have been used by Tuawhenua to monitor changes in kererū populations in Te Urewera. For example, prior to 1950 Tuawhenua hunters observed the following ecological and social indicators to monitor the abundance of kererū in their forests and subsequently changes in those populations:

(...)

Drivers of change in pollinators within Te Urewera

Chemical residues are one of the biggest issues for biodiversity and its impact on pollination and pollinators. The uptake of chemicals within plants passed through the system in the flowers. When it is sprayed directly onto flowering plants it can also then be taken up by the pollinators and other insects. New Zealand has wide-spread use of chemicals for weeds in our country because of the huge number of plant introductions of which many have turned to weeds. The only control option is to use chemicals – and we spray those and now it might be affecting the pollinators that feed on those plants. Those are the types of concerns that Tuawhenua have in their region. NZ has thousands of types of chemicals in use in agriculture, and horticulture. Our pollinators are exposed to them all the time.

Toxins are also an issue in the control of pests in NZ. These toxins are dropped from the air with little control over where that it lands or where it goes. Some years ago one Tuawhenua elder was part of a group that did trials looking at the effect of 1080 (Sodium fluoroacetate) on forest *rongoa* (medicinal plants). All the medicine plants trialled took up 1080 for about a month with a little bit more being grown out of the plant's system. The elders then asked what impact did the 1080 have on the medicinal properties of Tuawhenua plants? And also what is the spiritual purity of the plant now that chemicals have passed through it? Tuawhenua people are also great gatherers of food from the forest. So the study also looked at our food plants the result was exactly the same. All plants took up this 1080 compound.

Tuawhenua recognised a range of possible drivers of declines experienced in the pollinator communities over the last 75 years within Te Urewera. Much of the cause was placed on the introduction of exotic invertebrates and vertebrates into New Zealand throughout the European colonisation period. The introduction of rodents (e.g. *Rattus spp*), mustelids (e.g., *Mustela ermine* - stoat), possums (*Trichosurus vulpecula*), feral cats (*Felis catus*) and wasps (*Vespula spp*) have directly or indirectly impacted the pollination communities. Tuawhenua elders believe no thought given back in the day to the introductions of animals like the possum. What was important was trade in fur it provided. As possum (and other introduced mammal) densities increased within Te Urewera the impact on the vegetation quickly became apparent. When the possum arrived in NZ in 1837, it was a nocturnal vegetarian and as densities increased the impact on the trees through defoliation became quickly apparent. The possum's appetite for eating the flowers on the native trees also contributed to removing a food source for the native bees (Note: possum was introduced into the Ruatahuna area in early 1940s). With its establishment, range expansion and increase in densities scientists discovered possums were also eating the eggs and young chicks of native birds. Tuawhenua elders also reported that they foraged the native bee hives during the night. This together with predation from rats, feral cats and mustelids has been a major contributor to the decline in bird numbers and other pollinator species within Te Urewera.

(...)

Also, unknown was the impact that the largest man-made exotic pine (e.g. *Pinus radiata*) forest in the southern hemisphere was having on native forest pollination. *Pinus* pollen is blown by the wind, and it was reported by one elder that at times the forest was hidden behind a wall of wind-blown pollen grains. Concerned was expressed regarding the impact foreign pollination could be having our indigenous flora. Tuawhenua elders recognised that the impact from these drivers on pollinators and pollination of their forests is currently unknown.

I.5. Guna People of Panama: Indigenous and Local Knowledge about Pollination and Pollinators associated with Food Production

Contributors:

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Compiled with support from: Serena Heckler

[The paragraphs below have been extracted from the overall Proceedings text to illustrate the nature of ILK collected on the pollination and food production theme. The full Proceedings contain additional information.]

(...)

Panama national law number 20 protects indigenous intellectual property. This was introduced because of all the studies that people from elsewhere have come and carried out with us. These people have become famous and we indigenous peoples have been left with nothing. Indigenous knowledge holders have never received any prizes or awards for our knowledge. However, we have our knowledge, we have never thought that we are worth less than other people. We have always been self-sufficient. Our ancestors never needed food from other countries. The world was created in such a way that all animals, even the smallest, have their role to play. And humans have a responsibility in this world. Over the years, we have lived together with natura and nature has been the master of all of us. No one has been created by human beings. No one has invented anything [only transformed it]—we have only transformed the flight of birds into the flight of airplanes. Before there were no calendars as we have now, but we knew the month when we looked at the trees. We knew when it was time to go fishing. We could hear the grasshoppers call and we knew that it was 5 o’clock in the morning and time to fish in the mangroves.

Nature was our teacher and we were friends with her and we are here to learn more about this. Listening to you, I was struggling with the concept of pollination. I didn’t completely get it. Pollination, there are many pollinators, not just bees. For example, the birds that fly from one place to another. Bees fly from one branch to another and carry with them the pollen and maybe we see a change in the colour of the trees. An ant visits a flower, travelling to another one, carrying the pollen from one to the next. That is how I understand it. Seeing all of this, I have to say that the Guna have a different way of seeing things. ...

Bees are part of Guna subsistence on their own—they don’t produce honey. You who are working on beekeeping, you surprise me, how you use the insects so that they produce honey. Yes, we are afraid of the Africanized bees, they have killed many people. How can we use your knowledge to get the Africanized bees to go back where they came from? They have attacked our people, we have to hide under our overturned boats to hide from them. But it is a secret how to harvest honey. If I wanted that secret, I would ask you [respectfully]. It would be a process of mutual exchange, teaching and learning. Maybe you can help us because the world is changing.

(...)

We do not see pollination as a separate theme. But rather that everything—trees, rivers, the wind, even human beings—participates in the process. We cannot separate them. According to the indigenous way of seeing things, everything is integrated. Pollination for the Guna does not have to do just with land, but also with marine-coastal environments.

It is important to inventory pollinators and pollinated plants to know what is out there and diagnose the situation. But this would have to be a community inventory, which could raise awareness with the people about the importance of pollinators. But it would have to be done in the right way. For a long time, researchers have been coming to our territory, taking away all the information and there is no return to the community, especially when everything is done in another language that is not ours. It is therefore necessary that indigenous researchers be part of the research teams as partners and co-investigators to ensure that the people's priorities and concerns are reflected in the design and methodology of the projects. Also the return of the results of the projects and equitable sharing of the benefits should be part of the basic research plan. In this way, the indigenous collaborators and co-investigators can ensure follow-up and can share the information with the authorities in our language. It also gives confidence to the people that they are part of the initiative. Furthermore, the form of [knowledge sharing] should be appropriate [to encourage transmission and to build trust], to motivate the wisemen and wisewomen to share, you must talk and share with them—in this way, the information can be collected. ...

(...)

When we speak of pollination, we don't depart completely from the idea of values. For us pollination gives rise to more forests, to more life and this has different values, for example a medicinal value. Ants bring different fruits and seeds and when they begin to accumulate them, for the Guna people, this has a medicinal value and not just food value. Also economically, we have been surprised by the capitalist world by its way of valuing things economically. In our world, the food, medicine, and spiritual values cannot be accounted for economically. The value of our knowledge cannot be counted in numbers. A wise Guna in a conference once said, in the industrial world, your development impoverishes us more even though I am offering my traditional knowledge. The pollination affects the local flora, our forests are being affected. Kunayala is a route of migratory birds. How many things are they depositing? There are birds that only existed between Ecuador and Peru, but are arriving here with climate change and are bringing with them the plant species that they eat.

(...)

Amongst the Guna people, knowledge transmission occurs on several levels: 1) Sabbibe-nega (from the mother's womb). Our elders say that children learn from their mother's womb. For this reason, it is necessary to be careful how you speak around a pregnant woman because the baby is listening; 2) we also speak about a more complex and mystical transmission when we speak about how the "neles" (seers) learn, through dreams; 3) another form of knowledge transmission is through lullabys, in which the role of the woman is fundamental, since it is the mothers, grandmothers and sisters that transmit, through their songs, knowledge related to the roles that boys and girls will be expected to play in Guna society; 4) another basic aspect is the Congress house, the place where community members meet and speak about different topics related to daily life, the political struggles of the Guna people or other themes; 5) Even after the death of a Guna, through specialized songs that only the specialist in "Masar igar" can sing. This is the expert that must guide the dead through the river rapids whence came the Guna people. It is for this reason that the river is considered sacred. Therefore, if someone does damage to the river, it infringes upon the traditional knowledge of our people.

Indigenous women transmit their knowledge through practice, women have an important role, for example in the care of maize, it is the women who administer the production of maize. When the men harvest it, they bring it to the home where the women have the power to decide how much will be saved for the next planting, how much will be distributed to the community and how much will be kept back for the family's consumption. ... In fact, when there used to be hunting, women decided the distribution of the meat, decided how much they would share out and how much they would eat. Mothers teach their children how to do this. Before, the grandmothers would sit down with the children to weave, design and sew the molas (a type of Guna art), at the same time, they explain the significance of the designs. The designs are collective and the mothers teach them to the children. Nowadays, we are losing the transmission of these designs, so we are looking for alternative ways of recuperating this knowledge in some way through intercultural bilingual education.

I.6. On indigenous peoples and local community concepts of diversity and agro-biodiversity

From group discussions involving:

S. Athayde, M. Carneiro da Cunha, M. del Coro Arizmendi, R. Garcia, E Gonzalez López, V. Imperatriz Fonseca, A. López, B. López, F. López Miro, J. Lopez Maldonado, E. Perez, P. Rivera Cea and N. Smith.

Compiled by Manuela Carneiro da Cunha

On the value of diversity *per se*

Indigenous and local societies overwhelmingly value diversity *per se*. This includes varieties of living species and of landscapes. Accordingly, they tend to have extensive classification systems.

Thus, the Baniwa of the Upper rio Negro in Brazil have names for 53 types of habitats according to their flora (G. Andrello 1998). The Matses in Peru distinguish 47 habitats according to geomorphological and ecological criteria (Fleck 1997). The Matsiguenga, also in the Peruvian Amazon, distinguish 69 habitats along topographic, hydrologic, geologic and type of perturbation criteria (G. Shepard et al. 2001).

Similarly, diversity of cultivated plants is a value in itself. An example: the traditional agricultural system of the upper and middle rio Negro in Brazil produces more than a hundred yucca varieties, that are essential for germplasm conservation (Empeiraire L. & Peroni 2007) .

Turning to bees, Enawene-Nawe Indians living in the southern Brazilian Amazon, name 48 stingless bee species, and describe their ecological characteristics (G. Mendes dos Santos & Yasmine Antonini 2008). Studies among the indigenous *Guarani-mbyá* show the existence of a diversified knowledge of the people about bees and wasps, distinguishing 25 ethno-species divided amongst these two groups of insects. Such knowledge goes well beyond the enumeration of ethno-species to also include aspects such as: morphological and ethological description, distribution, nest building, seasonality, dispersion, practical aspects of handling and manipulation for the extraction of products, preservation and semi-domestication of species, and use of their products.

On the value of the co-presence of pollination + traditional peoples for agro-biodiversity and thus for food security.

Decline in pollinators has been worrying people and governments mostly in terms of its effects on the sheer volume of food production. But this is not all that pollination deficit may unleash.

Some very widespread crops, that constitute the basic diet of a large part of humanity, such as potatoes and manioc, cassava or yucca, could be at risk. The Green Revolution, after World War II, favored the most productive cultivars and narrowed their diversity. Diversity, however, is essential to food security. The Irish famine from 1845-1849, that starved to death a million people, and sent another million overseas, stemmed from the cultivation of a small number of potato varieties that were all affected by mildew.

Germplasm banks were established for every basic crop for such reasons of food security. However, they do not allow for factoring in the co-evolution of cultivars and plant diseases or climate change. These are only produced *in situ*. To this day, it is traditional people who provide such services by favoring and actually producing agro biodiversity itself.

Potatoes and cassava are usually cultivated through clones, which allow for no variation. However both potatoes and cassava have retained sexual reproduction. They flower and, if pollinized, they will produce new varieties. Traditional people favor cultivar diversity and experiment with such new varieties. Thus potato security relies on the CGIAR germplasm bank in Lima as well as the ongoing practices of Andean and Chiloe peasants, who are the source of potato diversity. Current diversity of manioc, in turn, stems from indigenous peoples' practices in the Amazon basin.

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I.7. An overview of ontological and epistemological aspects of indigenous and academic knowledge systems.

López Julio and Athayde Simone – Contributions to the Proceedings.

Conceptual background on different epistemologies and knowledge systems – indigenous and academic knowledge. Based on Julio's paper (draft).

We need to be aware of the historical and political underpinnings of the current organization of knowledge and how it relates to the social-economic and political crisis humanity is confronting now. This is a philosophical reflection that can guide how indigenous knowledge will be integrated and brought up in each chapter of the report.

Philosophy as a disciplinary field has been an enormous contribution to humanity to explain the man, his understanding and action on nature. However, historically, western knowledge has gone into a process of fragmentation and objectification of nature along with the development of capitalist system which has led to the current crisis Delgado y Escobar (2006).

Decolonizing knowledge means an openness and respect to other forms of knowledge. The idea is to advance towards de-colonization of thought and knowledge to truly build bridges between knowledge systems and apply knowledge (including practices) towards solving current problems, including the crises of pollinators and food production. Ecology of knowledge's (Sousa Santos 2005).

Arturo Escobar (2005): emphasizes “*the need to dismantle the modern dichotomy of nature and culture of western sciences, and consciously reflect about the way through which indigenous societies establish specific ties between nature and the cognitive symbolic and productive experiences.*”

This works for both knowledge systems, from the indigenous point of view and categories such as the *Kaholahal* Maya (the intention to have knowledge) as well. For instance, indigenous peoples might also learn from academic knowledge. Since some practices and techniques used by indigenous people, certainly are part of a process where the accumulation and constant observations are objectively experienced and empirically validated in their daily lives, Even though those knowledge's and sabidurias are adapted biospherically to specific and local conditions and helped by agrobiodiversity sources available for them, adapted to ecological and climatic specificities. So we have to analyze them from the hiper dimensional context. Consequently for those knowledge's that work in Africa or Asia might not work somewhere else. This is also a principle for the relationship among governments and biogeographical regions in a global dialogue. Indigenous knowledge has some general philosophical underpinnings, but it is also very context specific.

Even though the changes in native pollinator densities in various regions of the world is the main topic of our discussions, they are strongly correlated with anthropogenic habitat fragmentation through agriculture, logging, urban development, excessive use of agro biocides among others Aizen & Feinsinger (1994). The history of introduction and colonization of the Americas by foreign bee species might be viewed as a metaphor for humanity (López and Athayde – in progress). *Apis mellifera* for instance as foreign species that was introduced in the Americas from Spanish and Portuguese until the 1800s. followed by the second

new species (*A. mellifera scutellata*) AHB, was introduced in Brazil in 1956, both spread out through the Americas, both started to competing with the natural resources honey and pollen logs for haves available, then displacing and change interactions in their way with native bees Kairns et al (2005). The feral colonies of this generalist bee species AHB also compete with the natural resources of other pollinators, Roubick (1978); creating population and environmental shifts, while also bringing economic benefits, but at the same time the unfortunate tragic encounters that still occurs with some humans and animals victims of these occasional clashes. This is a metaphor to make us reflect on the colonization of America by Europeans – who also brought epidemics and values which also disrupted social –ecological organization of indigenous peoples.

Until the last two decades it has been awareness from farmers and growers complaining of poor fruit sets despite of good blooming and decreasing of agriculture production and assessing the risks of depending on Honey bees for pollination, in many parts of the world this generalist pollinator have contracted diseases such as noseemiasis (nosema cerana), and varroaosis (varroa mites) and high levels of sensitivity to biocides and pesticides causing the decrease even to the one third of the world populations over the past two decades, also the lost of species biodiversity of some native insects and plants it is also a trend observed by scientists . Ironically, *Apis mellifera* became dependent species for pollination on the extensive monoculture agricultural and economic model of production for capitalist societies, is reaching a natural collapse. Again In the last decade the dramatic losses of bee colonies with the syndrome “Colony Collapse Disorder” in honey bees, it is a phenomenon that has revealed the need for new alternatives, and not relying absolutely in this single species for pollination. Research has been demonstrating that there are many factors contributing to honey bee health, including nutrition, parasitic mites, pest insects, viral, fungal, and bacterial diseases, and environmental chemicals. Studies are finding insecticides, miticides, fungicides, and herbicides in the bee hives. Combinations of chemicals and breakdown products of chemicals are often highly toxic to bee’s en general. There also negative effects in the abuse of biocides may be observed not just for nature and their effects in human health as well, but also for the economy on farmers and destruction of habitats in the development countries.

Now, there is the need for more appreciation and protection of the native bees and other pollinators such as bats, birds, butterflies etc.. Also a developed interest to learn from the agro biodiversity associated with indigenous people, since diversity and traditional knowledge is the answer for the economic and environmental problems.

Indigenous communities in Mesoamerica central and South America, are known for being possessors of knowledge and take careers of the biodiversity of many species along with cultural values, languages etc. because their traditional knowledge is holistic and focused on processes rather on parts or species. Local and Indigenous knowledge position has been demonstrated that there is no separation between the material, social and spiritual lives. (Example from Xingu Park, Athayde et al, in progress). Life is organized from the perspective of organization of knowledge (López, 2014 in progress). Mater and energy are manifestations of a single reality (Rist 2005). In many societies, a relationship with nature and beings is often horizontal and situational, and based on interaction rather than on dominance per see.

Indigenous peoples around the world are very diverse and have developed their own adaptations and relationships with nature and pollinators. In spite of the differences and context specificities, a common overarching aspect related to pollination and pollinators is that the concept of pollination as it is understood by science does not applied directly in the languages and concepts of some indigenous people. For example, in a study carried out among the Kawaiwete, Yudja, Kisedje and Ikpeng indigenous peoples from Xingu Park, communities did not relate bee activity with plant fertilization. Bees feed on flowers, but pollination was not mentioned as a process, nor was sexual reproduction of tropical trees.

For some Mesoamerican indigenous societies such as the Mayan classic people, who left a series of manuscripts, *Nahalteob* (codices), polychrome pottery, murals etc.. Where it is clearly described the processes of reproduction of life of pollination of plants (maize) (Julio in Revision) and animals including human beings. The mayan *Miatschahales* (philosophers) described the important role of the stingless bee maya (*Melipona beecheii*), in modulating their social and political conventions, since their societies reflect the socio biological conventions and the organization of the bees. They use the bees also as an ecological model to predict agricultural trends and conditions, which allowed them to be prepared in anticipation for droughts, lack of rain and integrated alternatives for food security (López, in progress). They also use this

model to teach an integrated perspective of respect towards nature and learn from nature, adapting elements of bees' behavior in the social development of morals and ecological and political ethics among human societies. For instance: a) the respect for women during time of menstruation and biological moments; b) the cooperation and solidarity; c) the adaptation to changes that occur outside the colony; d) optimize the use of natural resources for the well-being of the group in detriment of individual well-being; e) avoid the over-exploitation of natural resources and controlling population size to adapt to variable conditions (López 2006). Example from the Kayapó as well: how they mirrored social **insects**, in this case wasps, to organize war expeditions (Posey).

Just like the Mayan look at nature and bees to inform their social-political organization and relationship with nature, western societies might study and learn from indigenous societies to situate their position and role in the world. Hyperdimensional space and the importance to feel changes in nature to predict and manage them.

Ideas on how to teach or pass on the knowledge about pollinators and pollination combining and integrating academic and scientific knowledge. For instance, including cultural principles of resource use and management into biology classes in formal education in non-indigenous schools.

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Part II

Report on the Global Dialogue Workshop on ILK about Pollination and Pollinators associated with Food Production

II.1. Background

1. The first meeting of the IPBES task force on indigenous and local knowledge systems (ILK) took place in UNESCO Headquarters in Paris from 16-20 June 2014. At this meeting, the task force members reviewed their responsibilities and deliverables, one of which is the development of approaches and procedures for building ILK into IPBES assessments. In order to tailor approaches and procedures to the specific needs of IPBES, the members underlined the importance of piloting and testing proposals that they would make. For this reason, it was decided that a working group of seven task force members [M. Carneiro da Cunha, R. Hill, P. Lyver (coordinator), A. Oteng-Yeboah, E. Pérez, M. Roué and R. Thaman] would pilot ILK approaches and procedures within the first IPBES assessment: the assessment of pollination and pollinators associated with food production.

2. To this end a proposal was formulated and submitted to the fourth MEP and Bureau meeting that took place in Bonn (6-10 July 2014) highlighting the following expected outcomes from the engagement of the ILK task force with the pollination assessment:

- Facilitate an initial contribution of ILK to the IPBES fast track thematic pollination assessment from select sites in multiple IPBES regions;
- Build capacities of ILK holders and scientists to mutually understand and respect diverse knowledge systems, and foster dialogue and knowledge exchange;
- Pilot the operationalization of the initial procedures and approaches for building ILK into IPBES assessments in general, and thematic assessments from select sites;
- Better understand barriers and possible solutions to synergising ILK with science in a real-life IPBES assessment;

3. The proposal outlined a step-wise process including:

- a. A global call for submissions on ILK related to pollination and pollinators associated with food production;
- b. A selection of the most relevant submissions from ILK holders and experts;
- c. Organization of a Global Dialogue Workshop that brings together the selected ILK holders/experts with authors of the IPBES assessment report;
- d. Development of proceedings from the workshop that provides inputs, along with those gleaned from the scientific and grey literature, that reinforces ILK materials available to authors for development of the first-order draft (FOD) of the pollination assessment report;
- e. Upon returning to their communities and networks, targeted work sessions by ILK holders/experts to address gaps ILK identified with authors at the workshop;
- f. Contribution of these additional ILK inputs during the review phase of the FOD;
- g. Further engagement at the Second Authors meeting for the pollination assessment between co-chairs and authors, ILK holders/experts, and ILK task force members, to enhance the quality of ILK inputs in the assessment report.

4. The present document reports on the outcome of the Global Call for Submissions, the selection of ILK holders and experts, and the Global Dialogue Workshop (Part II: points a to c above) and also includes the Proceedings produced by this global dialogue (cf. Part I).

II.2. Global Call for Submissions on ILK about pollination and pollinators associated with food production

5. A global call seeking submissions on ILK relevant to the assessment was formulated in three languages (English, French and Spanish). The wording of the call was carefully formulated in order to communicate in a succinct, informative and accessible manner the nature of the ILK being sought. This was quite challenging for the pollination assessment due to the relatively specific and technical nature of the information being sought. An online form, again in three languages, was created in order to guide and structure inputs.

6. The global call was launched on 12 September 2014 with a closing date of 10 October 2014. It was circulated through multiple networks identified by ILK task force members and the TSU. The four week window for submissions was judged too short. However, the rapidly approaching dates for the global dialogue workshop did not allow for a more lengthy submissions period.

7. Nevertheless, a total of 45 submissions were received of which 8 had to be eliminated as off topic. The remaining 37 submissions were distributed among regions as follows: 13 from Africa; 13 from Latin America and the Caribbean; 8 from Asia-Pacific; 4 from WEOG; and none from Eastern Europe^{††}

8. The ILK task force reviewed the 37 submissions and selected ILK holders from India (unfortunately unable to attend due to problems obtaining a visa), Indonesia, Kenya and New Zealand, and ILK experts from Brazil, France (working in Indonesia) and Guatemala (an indigenous scientist). FAO supplemented this selection of ILK holders by bringing from Nicaragua and Peru, two members of their Indigenous Network on Food Sovereignty. An important delegation of Kuna men and women from the host country further reinforced the representation of ILK holders at the workshop.

II.3. The Global Dialogue Workshop

9. *A Global Dialogue Workshop on ILK of pollination and pollinators associated with food production* was convened in Panama City, Panama, from 1 to 5 December 2014. It was organized by the ILK task force in close collaboration with the expert group for the *Assessment on pollination and pollinators associated with food production*.

10. The dialogue workshop brought together one of the co-chairs of the pollination assessment report (V. Imperatriz Fonseca) and five CLAs and LAs responsible for four of its chapters (S. Breslow, D. Buchori, M. del Coro Arizmendi, M. Gikungu and D. Martins), with 10 ILK holders from Indonesia, Kenya, New Zealand, Nicaragua, Panama and Peru., and three ILK experts from Brazil, France and Guatemala. The co-chairs of the ILK Task Force (P. Lyver, E. Pérez) and two of its members (M. Carneiro da Cunha, M. Roué) guided the process with support from the TSUs for the ILK task force and the pollination assessment, as well as a representative (N. Azzu) of the Food and Agriculture Organization of the United Nations (FAO).

11. The meeting was organized with generous support from the United States Department of Agriculture, hosted by the Smithsonian Tropical Research Institute that also provided the venue and equipment. FAO provided for the travel costs of two ILK holders from the Indigenous Network on Food Sovereignty. New Zealand's National Commission for UNESCO also provided travel and accommodation costs for two Māori ILK holders. The US Geological Survey has generously pledged funding to support the follow-up phases to the global dialogue workshop.

II.4. Organization of the Workshop to facilitate ILK-Science dialogues

12. The first challenge for the workshop was to move away from a conventional 'science-structured format' that past experience has shown hinders the engagement of ILK holders. A particular effort had to be made to create an environment in which ILK holders would contribute freely and in confidence. At the

^{††} One submission included case studies in both Africa and Asia-Pacific regions and therefore is listed under both region.

same time, the meeting was bound by timeframes and deadlines which meant the process had to have a degree of structure and focus. English-Spanish interpretation was provided.

13. To aid this process, a considerable amount of time was invested at the beginning of the meeting with introductions and discussions led by the ILK holders and experts (cf. agenda in Annex 1). This was followed by presentations from each of our ILK holders and experts/scientists on aspects they determined were relevant to the assessment theme. Assessment authors were purposefully placed in a listening role so as to avoid that ILK inputs would be constrained by the format, content and organization of the current assessment report draft.

14. Following the plenary presentations by ILK holders and experts, themes to be focused upon were identified in the following manner:

- a. First each ILK holder and expert was asked to identify 2 to 4 themes related to the assessment topic that they would like to say more about.
- b. Second, each assessment authors and co-chair was asked to identify 2 to 4 themes related to the assessment about which they would like to learn more from the ILK holders/experts.
- c. The most prominent issues raised during these two round-the-table sessions were selected as the core themes for further discussion.

15. The following 4 major themes were determined for in-depth exchange over the coming days:

- a. Social, cultural, biological and ecological change associated with pollinators and pollination (including how change is observed/recorded; adaptation to change)
- b. Identification of pollinator diversity (including different biocultural and ecological roles of pollinators; diversity of environments);
- c. Cultural, social, economic values of pollination (to aid discussions around this theme we did ask the Chapter 5 authors to present a brief outline on the scope of their task)
- d. ILK protection, transmission, and challenges.

16. Thematic discussions on the identified four themes were conducted first in plenary and then in extended break-out sessions (cf. agenda). Detailed note-taking by at least two persons per break-out group provided a baseline recording of discussions and the information provided by ILK holders and experts. ILK holders and experts then worked individually, with support from task force members or the TSU, to correct, revise and expand upon these initial texts. The revised versions of these texts became the Proceedings from the workshop.

17. Through these processes, the workshop was successful in establishing a productive dialogue between ILK holders and experts and assessment authors and the co-chair, providing relevant ILK input to the first-order draft of the assessment report. The detailed accounts of the ILK on pollination and pollinators associated with food production are included in the Proceedings in Part 1 of this document. The Proceedings were circulated to all pollination assessment authors.

18. At the start of the workshop, an in-depth discussion was held on prior and informed consent and intellectual property rights, and how that would be handled with respect to ILK in this workshop and for the pollination assessment. It was agreed that ILK holders and experts should only share the knowledge that they felt to be appropriate to be shared in this specific forum. At any point in the workshop, an ILK holder or expert could specify that certain elements of knowledge were not to be shared or distributed. These elements would not be included in the Proceedings and reports. Several ILK holders specified that they had been mandated by their communities to participate in the workshop and share knowledge on the workshop theme (including the Kuna, Tūhoe Tuawhenua (Maori), Quechua). ILK experts specified that they would be sharing indigenous knowledge that was already published and therefore already cleared with the communities for wider distribution.

19. The workshop outputs were supplemented by a regional case study review and analysis of the scientific and grey literature on ILK related to pollination and pollinators associated with food production. This

review screened more than 450 sources in three languages (English, French and Spanish) and identified 251 references that made some mention of indigenous and local knowledge (including 146 journal articles, 66 book chapters, reports and theses, and 39 sources from the grey literature). Of these 251 references, 70 proved to be of major interest for the assessment theme, 59 had some useful content and almost half (122) were judged to be of little value. The relevant content from these regional case study reviews was made available to the CLAs of the IPBES assessment for their consideration in the preparation of the first order draft of the pollination assessment, including for easy access a Dropbox with copies of all relevant articles, reports, chapters and grey literature.

II.5. Lessons Learned for building ILK into IPBES assessments

20. The workshop also allowed for the successful piloting of several approaches and procedures of relevance to reinforcing ILK in IPBES assessments, including the use of a global call for ILK contributions coupled with regional reviews of relevant ILK in the scientific and grey literature, as well as appropriate procedures for selecting ILK holders and experts for dialogue workshops with authors, and for establishing an equitable relationship and context for productive knowledge sharing.

21. The following initial listing of lessons learned from the global dialogue workshop on ILK about pollination and pollinators associated with food production can be expanded further:

- a. Workshop and its follow-up would have greater impact if conducted earlier in the assessment process;
- b. The global call for submissions needs to be open for at least six weeks.
- c. Greater emphasis on bringing ILK holders to the workshop with more time prior to the workshop to engage them in the process;
- d. Invite a greater range of ILK holders and scientists – this funding dependent however;
- e. Greater dissemination and communication of objectives to participants prior to the workshop;
- f. Hold the workshop in an indigenous community to assist with embedding the process in a culturally relevant and holistic environment. It allows participants to not only speak with their minds, but also their heart;
- g. Hold the workshop in an indigenous community as this will expose authors to greater number of ILK holders, rather than those that attended the workshop. Allow the process to take full advantage of experiential knowledge;
- h. Engage different knowledge transmission procedures (i.e. take authors onto the land with ILK holders to discuss the relevant themes);
- i. The lack of assessment authors with direct ILK expertise is a major limiting factor that can only be partially compensated for via the global dialogue workshop and related procedures. Ultimately, IPBES needs to ensure the nomination and selection of a core set of CLAs and LAs with in-depth expertise on ILK in each assessment.
- j. Greater clarification around the process of knowledge collection and FPIC with regard to the workshop and the relevant assessment;
- k. Nurture an iterative process – the workshop is only part of the process of engaging ILK in assessments;
- l. Break into small case study groups (3-5 people) earlier in the process as this facilitated a greater depth of enquiry into particular themes;
- m. Use national/regional case studies ahead of the workshop to prepare knowledge and contributions;
- n. Use this process to engage communities afterwards.

Annex 4: Summary of ILK Task Force discussions on the Participatory Mechanism

1. Context for the establishment of a PM: Although biodiversity and ecosystem services are a global concern, understanding and actions are almost all best delivered at the local level. ILK, due to its place-based and culturally and context-specific nature, is vital for IPBES and the attainment of its objectives. However, dialogue between science and ILK does not occur spontaneously and there is a need to establish specific arrangements, or mechanisms, to ensure the inclusion of ILK holders and diverse knowledge systems within IPBES. Furthermore, the marginalization of indigenous peoples and local communities continues to contribute to the erosion and undermining of their knowledge systems and forms of learning. Examples of inclusive mechanisms can be found within other intergovernmental processes. These mechanisms can be overseen by an advisory board or executive committee and may implement their objectives through a unit of coordination that links networks of national entities and partner institutions.

2. Proposed goals and objectives of an effective PM: To contribute to an effective PM proposal, the following needs are considered to ensure the effective inclusion of ILK into the four IPBES functions and strengthen the participation of indigenous peoples and local communities in the institutional arrangements of the IPBES:
 - i. Facilitate transdisciplinarity and mutual understanding between different knowledge systems by promoting interactions among indigenous peoples, local communities and scientists. Enhance the communication of information from the local to other scales, acknowledging the different ways that knowledge is transmitted within ILK systems.
 - ii. Strengthen understanding of other knowledge systems, including the diverse contexts and worldviews in which these knowledge systems may be anchored, and develop appropriate means of knowledge collection and sharing.
 - iii. Ensure the inclusion of indigenous and local knowledge systems by enhancing the participation of indigenous peoples and local communities within IPBES institutional arrangements and processes including through capacity building, benefit-sharing and in accordance with international guidelines including free, prior and informed consent and respect of intellectual property rights.
 - iv. Facilitate indigenous peoples' participation in the IPBES Platform and its institutional arrangements as a whole, including within different IPBES bodies and entities/ organizations or hubs currently contributing to the implementation of the work programme, and consider how to ensure the legitimacy of representatives of ILK systems.
 - v. Consider benefits to indigenous peoples and local communities including the strengthening of their own knowledge systems through pilot projects and approaches and procedures that encourage compilation, consolidation and knowledge transmission, the development of ILK networks in regions that currently do not have these networks, a platform for shared learning and exchange among ILK systems, and enhanced understanding of the science-policy interface
 - vi. Promote and respect contributions from a range of independent networks and hubs that act at different scales. The establishment of this polycentric and decentralized network would support a network of actors, including indigenous

- peoples and local communities at different scales and could encourage the development of national level hubs supported by governments or other entities promoting ILK systems at the national level.
- vii. Provide a coordinating platform for the different hubs to enable them to participate in a global network platform and enabling them to communicate and share their knowledge related to endogenous and local issues among each other and at multiple scales including the national, regional, and global.
 - viii. Ensure a balanced contribution from diverse knowledge systems into IPBES deliverables, including respect for multiple worldviews such as living-well in balance and harmony with Mother Earth
3. Principal functions of the PM: The PM is established in order to fulfil an integrated set of comprehensive functions designed to ensure effective underpinning of the four IPBES functions through incorporation of ILK, such as the following:
- i. Establishment of a network of actors, including ILK holders and the ILK community at different scales: local, national, regional and global.
 - ii. Technical support to local, national, regional and global ILK networks.
 - iii. Information sharing for creating conditions for building on different ILK systems.
 - iv. Exposing and informing the scientific community and relevant policy actors about ILK systems.
 - v. Promoting participation of ILK holders into IPBES institutional arrangements
4. Enabling structures for an effective PM: The PM proposal would provide the enabling environment through a set of structures, that could include:
- i. A virtual node (web-based platform), using all available information and communication technologies (ICTs) to connect the different hubs and networks as described in para 23 (vi).
 - ii. A technical advisory group that could consist of experts from indigenous peoples and local communities who have roles within different IPBES institutional structures and assessments.
 - iii. A multi-stakeholder technical support unit that would support the virtual node and promote coordination among the different elements of the PM, develop a protocol for participation in PM, promote participation of indigenous peoples and local communities with observer status within IPBES events, and collaborate with different expert groups in the assessment of scoping documents so as to include relevant inputs from diverse knowledge systems into IPBES deliverables.
 - iv. Support to activities that could include community documentation, dialogue workshops, pilot projects, policy briefs and capacity building.
5. Financing: Operationalization of the PM will necessitate support to the establishment and maintenance of the virtual node, the technical support unit, pilot sites, support for ILK approaches and procedures, and capacity building.

Proposed Outline of the Participatory Mechanism document

Section I: Background This section will provide a brief review of the status of indigenous and local knowledge (ILK) within the Platform, including in the IPBES Operating Principles and conceptual framework. It will provide the context for the work on the participatory mechanism, referencing Objective 1(c) of the IPBES Work Programme and the role of the Task Force on ILK towards providing support to the Bureau and MEP in presenting the Participatory Mechanism. Also a brief review of different intergovernmental processes for establishing mechanisms will also be included.

Section II: Context This section will establish the rationale and context for the development of a Participatory Mechanism.

Section III: Objectives of the PM

Section IV: Scope and institutional arrangements of PM

Section V: Principal functions of the PM

Section VI: Framework for Action. The framework for action will encompass all the four IPBES functions, as well as propose action at national and international scales.

Section VII: Financial considerations

Annex 5: Roster of Experts: parameters, process and criteria

Section I. Introduction and Background

1. At the IPBES Second Plenary meeting in Antalya, Turkey, the MEP and Bureau, with support from the task force on indigenous and local knowledge systems (ILK task force), were requested to: “establish in 2014 a roster and network of experts and a participatory mechanism for working with various knowledge systems...” (IPBES/2/17 Pg. 49). At the third meeting of the MEP and Bureau in Bonn (March 2014), this instruction was further elaborated. The ILK task force was tasked with submitting for consideration by the Third IPBES plenary a “list of members of the roster of experts and criteria of selection” (IPBES/MEP-3/7, pg. 7).
2. While reference was made in the Plenary decision to a network, the expectation of the MEP/Bureau, as stated in its decision from the third MEP/Bureau meeting, was that the task force would deliver a roster. This interpretation is further supported by needs subsequently expressed by other expert groups and task forces. There is interest among ILK task force members in developing a network^{‡‡} and the potential to develop a network will be assessed and further discussed. It is important to point out, however, that an earmarked budget would be necessary to develop and maintain a network, which is more work intensive than a roster. Meanwhile, the idea of network can be elaborated within the framework of the participatory mechanism, another deliverable of the ILK task force.
3. The roster of experts was subsequently discussed at the first meeting of the IPBES task force on indigenous and local knowledge systems, held in Paris in June 2014. Based on the issues discussed at that meeting, a working group of ILK task force members was designated to determine the objectives, parameters and criteria for selection of the roster. This document describes the outcomes of that work.
4. The principles of the Platform and those being developed by the ILK task force will be maintained in the establishment and maintenance of the roster, including geographical balance, representation of expertise at different scales (local, national, global), balance between natural and social scientists and ILK-holders; transparency; ensuring engagement of indigenous peoples and local communities, equitable access and sharing of the benefits (for instance from networking and partnerships); establishing mutual trust and ensuring free, prior and informed consent. For more information please see *Approaches and Procedures for working with ILK systems* (Annex 2).^{§§}
5. The current roster is in early stages of development and will serve as a pilot to ensure that it meets the needs of the Platform.

^{‡‡} A “network” generally involves on-going, bi-directional communication and periodic activities and collaborations. A coordinator is required to ensure on-going communication, as well as to maintain the medium of communication (i.e. websites, email lists or other forms of communication), and, if necessary, to provide translation, ensure the quality of the discussion and oversee the membership list. This work is often extremely time-consuming and most active networks require dedicated and paid staff to maintain the quality of their interactions.

^{§§} For more information please see the *Functions, operating principles and institutional arrangements of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services* (http://ipbes.net/images/Functions%20operating%20principles%20and%20institutional%20arrangements%20of%20IPBES_2012.pdf) and Annex 2 of this document, *Approaches and Procedures for working with ILK systems*.

Section II. Objectives of the ILK Roster of Experts

6. It is envisioned that the roster of experts will assist in fulfilling some of the over-arching goals of the Platform as well as the ILK task force, including: providing links to build awareness of the importance of biodiversity and ecosystem services to human well-being and livelihoods; building an understanding of how ILK can complement other knowledge systems in enabling the Platform to complete its work in a fully effective and inclusive way; building an awareness of the importance of IPBES' work amongst the global ILK community and; enhancing recognition and building awareness of the critical role and contribution that ILK can make to all of the Platform's deliverables.
7. The proposed objectives of the ILK roster of experts are the following:
 - i. To link ILK experts to specific ongoing and future assessments and other IPBES deliverables;
 - ii. To enhance IPBES' ability to identify and mobilize relevant and qualified expertise in ILK for delivery of IPBES work programme - current and future;
 - iii. To provide expertise to the ILK Task Force to support and advise it in its work.
8. It is proposed that the roster will be used to identify expert reviewers for assessments and other IPBES documents, to identify chapter authors, or participants in other IPBES events and activities at the international, regional or sub-regional levels as the need arises. Further potential uses may emerge during the pilot phase.
9. The roster may also be useful to other stakeholders, for instance governments, the ILK research community or ILK-holders, who seek experts to provide reliable information, analysis of issues, research of relevance to their communities, and advice on policy and technical issues.

Section III. Parameters of the Roster of Experts

10. ILK experts are defined as inter alia ILK-holders, local practitioners, community-based ILK projects, scientists, and other ILK experts. Also, given that much ILK is communally held, the term "expert", while including individuals, also includes organizations, groups and local communities that have a history of working with, applying, inquiring into and collecting information on ILK as it relates to biodiversity and ecosystem services.
11. Based on the above objectives, and noting that roster procedures and parameters are currently being piloted and will be revised and further elaborated based on on-going feedback from across the Platform's work and from the experts selected for the roster, the following parameters are proposed:
 - The roster and procedures currently presented will be revised and further elaborated based on on-going feedback from across the Platform's work and from selected experts;
 - The roster will include expert individuals or organizations from different backgrounds and different perspectives on ILK and biodiversity and ecosystem services, including inter alia ILK-holders, community-based ILK projects, indigenous peoples organizations that work on relevant issues, scientists, ILK experts and other individuals or organizations that work on issues of relevance to ILK and IPBES. If the procedures do not adequately ensure a balance of these different types of experts, they will be revised;
 - The roster will be small, and focused on needs identified by the ILK task force and other IPBES bodies, task forces and expert groups;
 - The size of the roster will be limited to no more than 100 experts, subject to on-going review;
 - Geographical balance will be ensured in selection of experts based on IPBES regions;
 - The roster will be maintained by the technical support unit for the ILK task force, based in UNESCO, including periodic verification of experts' contact details and interest in remaining on the roster; responding to concerns and queries by users of the roster; and supporting the task force in the periodic updates;

- The roster will be periodically updated with special reference to upcoming assessments or other deliverables, as approved by the Plenary;
- The types of tasks that experts can most effectively contribute to will be one of the searchable criteria in the database;***
- Due to human and financial resource limitations and for the pilot phase, nominations will come from members of the ILK task force and the TSU Secretariat, with input from parallel ILK task force activities, including the global call for contributions to the pollination fast track assessment and the participatory mechanism, and in consultation with relevant ILK and IPBES stakeholders. Details of the nomination process will be further developed based on the results of the pilot phase;
- The working group will review nominations, then recommend the selection to the ILK task force based on the criteria elaborated in Section V;
- The roster will be made publically available, but the ILK task force may make recommendations to expert groups, task forces, assessment authors or other users of those experts most appropriate for the particular task at hand.

Section IV. Nomination Procedure (pilot phase)

12. Scaled down procedures are being piloted to test the usefulness of the roster for current IPBES activities. For the pilot phase, experts will be nominated by the task force in coordination with other task force activities. For instance, the global call for ILK contributions to the pollination fast-track assessment asks submitters to indicate if they are willing to be included on a roster of experts. Multiple links with other ILK task force activities, including the procedures and approaches for working with ILK and the participatory mechanism, and with other IPBES deliverables are currently emerging and will be identified and integrated over the course of the pilot phase.
13. It is the responsibility of the nominator to ensure the submission of:
 - The individual or organization's name;
 - a short biography and curriculum vitae (individual) / activity report, statutes or other statement of relevance for consideration by the selection group (organizations);
 - Supplementary information may be requested if it is deemed necessary to establish the appropriateness of the expert (individual or organization) for inclusion;
 - Special effort will be made to ensure that experts (individuals or organization) that do not have easy access to the internet are considered and included.†††

Section V. Criteria for Selection of Experts (pilot phase)

14. The selection process began on October 15. Nominated experts (individuals or organizations) are being considered for inclusion on the roster by the working group. In keeping with the principle of free prior and informed consent, the nominated experts (individual or organization) are being asked to confirm their willingness to be included on the roster. In the case of experts who may not be in the position to electronically submit forms, alternative means of collecting the required information and obtaining FPIC are being used.†††
15. The following criteria are used to evaluate their suitability for inclusion:

*** For instance, some experts may be most qualified to contribute information on community-level activities or empirical observations about particular species, ecosystem dynamics or biodiversity management practices, while others may be qualified to provide written text in a scientific format.

††† This may include communication via telephone by the technical support unit or nominator or written communication by post. Networks representing ILK-holders and their communities will be requested to ensure that appropriate groups, projects and communities are aware of the possibility of inclusion. Translation will be the responsibility of the nominator.

††† See previous note.

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- Specific expertise in thematic areas of relevance to planned assessments or other IPBES activities;
 - Balance of scientific experts, applied experts and ILK-holders or their representatives (whether individuals or organizations);
 - Relevant academic qualifications and/or experience to a high level; relevance of publications or grey literature; and/or recognized expertise at a community or organizational level;
 - Gender balance;
 - Professional or community-based reputation at the local, national and international level;
 - Geographic representation of each of the IPBES recognized regions.

Section VI. Searchable fields to be included

16. Searchable fields in the roster include:

- Name (person or organization)
- Institutional affiliation (if applicable)
- Country/region
- Working languages
- Category of expertise (including assessment themes and other foreseen specific applications)
- Type of expertise (i.e. research, policy-maker, applied, ILK-holder, community-based conservation and development)
- Other (i.e. unavailable by email, translator required, consultative process required, etc.)

Section VII: Follow up and evaluation

17. The roster will be evaluated in mid-2015 based upon feedback from other expert groups, task forces and deliverables, the MEP/Bureau, the IPBES Plenary and the experts on the roster.
