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FIRST MEETING OF THE INTERAGENCY  
LIAISON GROUP ON BIODIVERSITY AND HEALTH  
World Health Organization  
Geneva, Switzerland 4-5 May 2017

**REPORT OF THE FIRST MEETING OF THE INTERAGENCY LIAISON GROUP ON  
BIODIVERSITY AND HEALTH**

**INTRODUCTION**

1. In paragraph 29 of decision XI/6 on Cooperation with international organizations, other conventions and initiatives, the Conference of the Parties requested the Executive Secretary to establish a joint work programme with the World Health Organization (WHO), and, as appropriate, with other relevant organizations and initiatives, to support the contribution that the Strategic Plan for Biodiversity 2011-2020 can make to achieving human health objectives. The joint work programme on biodiversity and health was accordingly established pursuant to decision XI/6 in 2012. In 2014, the Conference of the Parties adopted decision XII/21, the first full decision on biodiversity and health under the joint work programme. The decision requested the Executive Secretary, inter alia, to prepare a report on the implications of the findings of the State of Knowledge Review, *Connecting Global Priorities: Biodiversity and Human Health*, and to continue efforts under the joint work programme between the Secretariat and WHO on the interlinkages between biodiversity and human health, including by supporting regional capacity-building workshops in additional regions.

2. In 2015, the Secretariat of the Convention and WHO signed a memorandum of understanding to strengthen collaboration under the joint work programme, including the establishment of an interagency liaison group on biodiversity and human health. In 2016, the Conference of the Parties adopted decision XIII/6 welcoming the memorandum of understanding, and considered the implications of the findings of the State of Knowledge Review. In paragraph 10 of decision XIII/6, the Conference of the Parties requested the Executive Secretary, inter alia, to convene a meeting of the interagency liaison group, to prepare guidance to support the consideration of biodiversity and ecosystem management in the application of the “One Health” approach, and to submit a report to the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) at a meeting prior to the fourteenth meeting of the Conference of the Parties.

3. Pursuant to decision XIII/6, the first face-to-face meeting of the Interagency Liaison Group on Biodiversity and Health (ILG) took place at the headquarters of the World Health Organization in Geneva, on 4 and 5 May 2017. The Liaison Group comprises the following core members: CBD Secretariat, World Health Organization, CGIAR, FAO, Future Earth, IUCN, OIE, UN Environment, UNFCCC, UNISDR, UNU, UN Standing Committee on Nutrition. Experts observers were also invited to attend the first meeting. The agenda and list of participants are presented in annexes I and II to the present document, respectively. The terms of reference and modus operandi of the ILG are presented in annex III.

### **ITEM 1. OPENING OF THE MEETING**

4. The meeting was opened at 9:30 a.m. on Thursday, 4 May 2017 with welcoming remarks by Ms. Maria Neira, Director of WHO, Public Health, Environmental and Social Determinants of Health (PHE). Ms. Neira highlighted collaborative activities under the joint work programme, noting the significance of this collaborative work in informing decisions XII/21 and XIII/6, emphasizing that the decisions and the adoption of the Sustainable Development Goals (SDGs) and the 2030 development agenda provided further impetus and more integrated work across sectors and agencies, including under the joint work programme. She emphasized the need to work more effectively on prevention, particularly on supporting the environmental conditions that protect health. She noted that strengthened cross-sectoral collaboration under the joint work programme, including through its work with the ILG, could play a significant role in promoting healthy environments and healthy people, as a contribution to the goals of sustainable development.

5. Mr. Diarmid Campbell-Lendrum (WHO), co-chair of the ILG, provided an overview of the purpose of the Group, noting that it should seek to continue to strengthen the evidence of the links between biodiversity, ecosystem services and health, but should also importantly contribute to public awareness, policymaking and implementation. Mr. Campbell-Lendrum provided preliminary guidance on the procedures of the ILG, inviting participants to briefly introduce themselves and their roles within their respective organizations and institutions.

### **ITEM 2. ORGANIZATION OF THE WORK**

6. In keeping with the rules of procedure and established practice, the meeting was co-chaired by Mr. David Cooper (CBD Secretariat) and Mr. Diarmid Campbell-Lendrum (WHO).

7. The meeting considered and adopted the detailed provisional agenda (see annex I) jointly prepared by the co-chairs, in line with decision XIII/6.

8. Mr. Campbell-Lendrum provided further guidance on the work plan for the first meeting of the Group.

### **ITEM 3. BACKGROUND PRESENTATIONS AND DISCUSSION**

9. Ms. Cristina Romanelli (CBD/WHO joint work programme) delivered a presentation providing an overview of mandates on biodiversity and health since 2010, activities carried out under the joint work programme, and provided an overview of progress in its implementation. Drawing on an analysis of national biodiversity strategies and action plans (NBSAPs), she noted that very few countries had systematically integrated health considerations into their NBSAPs and implementation.

10. Ms. Romanelli also introduced core themes addressed in the State of Knowledge Review, *Connecting Global Priorities: Biodiversity and Human Health*, welcoming WHO leadership in further strengthening collaboration to support mainstreaming of biodiversity and health linkages and provided an overview of integrated approaches to health, with an emphasis on the common objectives shared by One Health, Ecohealth and Planetary Health and their relevance to the policies, plans and actions that they may serve to inform. She noted that, to maximize their reach, holistic approaches should enable a broad range of connections between biodiversity loss, ecosystem degradation and health, including in relation to themes presented in the annex to decision XIII/6. She also introduced the Secretariat's mandate to develop a guidance for Parties to integrate biodiversity and ecosystem management in One Health and related approaches, in line with decision XIII/6.

11. Mr. Andy Haines, Chair of The Rockefeller Foundation-Lancet Commission on Planetary Health, introduced core themes addressed in the Planetary Health report and its synergies with the State of Knowledge Review. He discussed how anthropogenic activity is exacerbating global environmental change, including biodiversity loss and climate change, with negative impacts on human health. In particular, he emphasized the sense of urgency for concerted cross-sectoral action and research. He also provided updates on relevant follow-up activities conducted by the Planetary Health Alliance (PHA), discussed opportunities to fund further research and to align the work of CBD, WHO and other international organizations. The new Lancet Planetary Health journal was also

identified as a potentially good medium to engage the biodiversity community and bring together the health research community.

12. Joining the meeting via teleconference, Mr. Golden (PHA) briefly discussed the outcomes of the first meeting on planetary health recently held in Boston and discussed relevant research led by PHA on links between biodiversity, nutrition and health.

13. Mr. Campbell-Lendrum then encouraged core members and expert observers to engage in a highly interactive session by opening the floor to comments and discussion on expectations and opportunities for leveraging the CBD-WHO joint work programme on biodiversity and health.

14. Participants raised several questions for the group to consider. Key elements included:

(a) Aligning narratives through the work of the ILG to communicate more effectively across sectors. Using the right language to bridge across sectors was identified as essential to advancing this work;

(b) Supporting the alignment of national reporting commitments for national biodiversity strategies and action plans, national health strategies and with other global reporting commitments such as national adaptation plans and disaster risk reduction plans;

(c) Promoting synergies between biodiversity-health linkages in the Strategic Plan for Biodiversity 2011-2020, and other international commitments including the Paris Climate Agreement and the Sendai Framework for Disaster Risk Reduction. Strengthening communication across these commitments was identified as a crucial step to transforming global mandates into tangible political actions;

(d) Aligning the work of the joint work programme with the SDGs in particular was also identified as a priority. It was noted that greater focus on community empowerment (at the district and community levels) was needed;

(e) Promoting community well-being was identified as a good predictor for more sustainable biodiversity management and could also be useful to the development of an integrated indicator to measure biodiversity and health. Integrated strategies used by other agencies and non-governmental organizations could be drawn upon and adapted to inform future activities of the ILG in this regard;

(f) Addressing the economic implications of biodiversity (gains and losses) and health outcomes could also be useful and could potentially contribute to mobilizing additional financial resources, which are lacking;

(g) More meaningfully engaging the public health community in discussions on the health benefits of curtailing biodiversity loss and maintaining healthy ecosystems should place greater focus on prevention, and primary prevention in particular, as this is a language Ministers of Health will understand.

15. Mr. Mathias Braubach, WHO regional office for Europe, presented the added value of raising awareness of the potential health benefits of exposure to nature and green spaces, drawing on cross-sectoral studies that had recently been finalized. Examples discussed include:

(a) Economic assessment of ecosystem service benefits in London;<sup>1</sup>

(b) Work on cultural contexts of health, with a section on natural environments ;<sup>2</sup>

(c) A report summarizing evidence of health benefits, discusses pathways to health and evaluates health-relevant indicators of urban green space. The report also provides an overview of the

<sup>1</sup> [https://www.forestry.gov.uk/pdf/LONDONI-TREEECOREPORT151202.pdf/\\$FILE/LONDONI-TREEECOREPORT151202.pdf](https://www.forestry.gov.uk/pdf/LONDONI-TREEECOREPORT151202.pdf/$FILE/LONDONI-TREEECOREPORT151202.pdf)

<sup>2</sup> [http://www.euro.who.int/\\_data/assets/pdf\\_file/0009/334269/culture-matters.pdf?ua=1](http://www.euro.who.int/_data/assets/pdf_file/0009/334269/culture-matters.pdf?ua=1)

impact of green space on air, noise and temperature and draws on biodiversity examples (such as nature playgrounds or green space in health care settings);<sup>3</sup>

(d) A recent report on urban green space interventions and health: A review of impacts and effectiveness. The report released this year is available from: <http://www.euro.who.int/en/health-topics/environment-and-health/urban-health/publications/2017/urban-green-space-interventions-and-health-a-review-of-impacts-and-effectiveness.-full-report-2017>

16. On the communication strategy, Ms. Neira (WHO) also emphasized the importance of developing joint communication tools, including a joint presentation on key findings of the State of Knowledge Review, which members of the group could share to strengthen the common narrative around biodiversity and ill health to help raise awareness and sensitize stakeholders across relevant forums and mobilize the general public. The development of a common narrative with succinct and impactful key messages was identified as a very useful starting point that could then be adapted and used by national Governments, practitioners and other constituencies across different sectors. The narrative would help to generate the political change needed for greater focus on primary prevention. Once the communication strategy in place, focus could then be placed on refining scientific findings and practical tools.

17. The need to highlight examples that were provoking significant policy changes was identified as important. For example, the recent decision by China to put a halt to coal fired power plants already garnered tangible results, even in a short time, both in terms of public health outcomes and to stabilizing emissions. The example was used to demonstrate that evidence-based decision-making provided valuable opportunities to raise awareness about the benefits of maximizing human health and environmental outcomes simultaneously. It was agreed that simple key messages were needed to jointly garner the attention of policymakers responsible for taking national decisions while also raising awareness among affected communities.

18. The co-chairs suggested that a short series of messages could be developed by the ILG both to mobilize political pressure and to raise and maintain the interest of the broader public. The need to engage with the general public to galvanize political change was noted.

19. Mr. Abrahams (WHO) noted that biodiversity was often understood as synonymous as species diversity in the public health sector and was both generally poorly understood and infrequently considered. It was also noted that it would be helpful to identify specific issue areas in which biodiversity could be especially relevant and to link it to other issues considered by the health sector such as climate change and disaster risk.

20. Mr. Costello (WHO) also noted that maternal and child health were particularly relevant and provided relatively simple ways of making these connections with SDGs.

21. It was agreed that finding ways in which to better tailor language to the public health sector and its priorities was important to the effectiveness of this collaborative work.

22. Several participants noted that links and terminology were often very complex it could be challenging. Participants agreed that it was essential to translate these as simple messages. Others noted the relevance of also developing joint messages that both engaged at the local level and showed the economic benefits of preventive measures.

23. Mr. Qiyong Liu (China CDC) noted that science communication should also emphasize the value of risk assessments and national level identification of priorities, risks and tools that made it possible to more effectively prepare for and minimize health risks resulting from biodiversity loss. Others noted that stakeholder analysis was a very important first step to identifying all the relevant stakeholders to engage in the development of tools that enable countries to assess risks.

24. It was agreed that risk assessments constitute a valuable tool to maximize health benefits associated with ecosystem conservation and restoration.

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<sup>3</sup> [http://www.euro.who.int/\\_data/assets/pdf\\_file/0005/321971/Urban-green-spaces-and-health-review-evidence.pdf?ua=1](http://www.euro.who.int/_data/assets/pdf_file/0005/321971/Urban-green-spaces-and-health-review-evidence.pdf?ua=1)

25. Several participants also highlighted the need to acknowledge the significant added value of multidisciplinary and cross-sectoral approaches such as One Health which provided opportunities to find common ground, focused on prevention and considered how and why human activity was causing and driving environmental changes, both directly and indirectly.

26. It was also noted that holistic approaches such as Planetary Health sought to identify the place where the problems were unfolding and engaging local communities and practitioners to understand what the scientific needs were for policy to more effectively integrate biological change and human health.

27. Participants also agreed on the importance of engaging with business practitioners and the private sector to identify needs, mobilize financial resources for biodiversity and health and to affect changes in business practice and research and development capacity.

28. The importance of both supporting research and developing tools, such as guidance to get impact on the ground to support the implementation of integrated approaches was emphasized. It has taken a long time for the international community to acknowledge the conceptual relevance of One Health and now that it was more widely accepted, further tools and know-how for their effective operationalization were needed.

#### **ITEM 4. ROLE OF THE INTERAGENCY LIAISON GROUP AND TERMS OF REFERENCE**

29. David Cooper, CBD co-chair for the Group, expanded on the role of the Liaison Group presenting its draft terms of reference and modus operandi. He further elaborated on the mandates provided by the Conference of the Parties in decisions XII/21 and XIII/6 and encouraged a dynamic discussion on item 4 of the agenda.

30. Participants discussed the terms of reference and modus operandi. The group agreed on the core objectives and components of the document. The group also discussed potential expansion of core membership to a select number of additional international institutions (e.g. CITES, the Convention on Migratory Species (CMS), UN-Habitat, UNESCO, ICLEI or GEO-BON) but acknowledged the need not to cast the net too wide, to ensure discussions remain manageable. It was emphasized that core membership, particularly in the early stages, should strive to remain a manageable size.

31. It was agreed that additional expert observers could be invited, on an ad hoc basis, in line with the specific issues areas and mandates under discussion in future meetings. It was further agreed that efforts should be made for future meetings of the ILG to ensure greater regional representation.

32. A suggestion was made to exclude the word “human” from the title of the ILG to make it more inclusive. The group agreed to not to include the word “human” in the title of the ILG with the understanding that the scope of the ILG is the one outlined in the State of Knowledge Review, which is aligned with decision XIII/6 and the MOU with WHO. As such, it is more closely centered around human health.

#### **ITEM 5. PRESENTATIONS BY CORE MEMBERS AND POTENTIAL AREAS OF COLLABORATION**

33. Core members of the ILG were invited to introduce key relevant activities within their organizations and potential areas of collaboration with the ILG. Presentations by each of the core members were made.

34. Mr. Baccioni (Bioversity International) delivered a presentation on behalf of the CGIAR Consortium and the 15 research centers of which it was comprised (<http://www.cgiar.org/>). Several relevant programmes and projects developed by CGIAR members were presented and relevant work on food research was also discussed including: how biodiversity can be better integrated into food production, programmes, and policy; the assessment of consumption patterns to promote healthy diets through the use of local varieties and crops and traditional foods; assessment of more sustainable urban-rural interactions. Mr. Baccioni indicated that research in these areas was important to implementation work and could not be conducted in isolation.

35. Potential contributions of the CGIAR to the ILG included strengthening collaboration and promoting innovation, relevant research, identifying partners, identifying comparative advantages, co-creation and co-production and collaborative research. Participating in the ILG could also help to strengthen the breadth of the thematic focus on food systems around the world, on a systemic level. For example, the group could help to inform the development of innovation ‘packages’ (e.g. livestock production) and tailor this work in ways that could help to inform and support policy. The importance of harnessing the value of mechanisms and tools linking biodiversity, food systems, nutrition and health, was identified as valuable. Local food markets were suggested as one example of an interface between wild biodiversity and health that could be strengthened.

36. Ms. Khim of the Food and Agriculture Organization of the United Nations (FAO) (<http://www.fao.org/home/en/>) also welcomed the establishment of the ILG. She reiterated the FAO’s mandate to improve nutrition, increase agricultural productivity, and to contribute to global economic growth, noting that biodiversity is highly relevant to all five of the FAO’s strategic objectives. These include, for example, making agriculture, forestry and fisheries more productive and sustainable, supporting livelihoods and increasing resilience to disaster risk. She noted that greater synergies could be made by the ILG to strengthen synergies among different global commitments for sustainability.

37. Ms. Khim noted the strengthening of FAO’s collaboration with CBD and WHO, and presented instruments and tools developed by FAO relevant to the work of the ILG, noting that this work could be useful to data-sharing among participants. For example, the FAO work on promoting voluntary guidelines<sup>4</sup> on integrating biodiversity in policies, programmes in national and regional plans of action on nutrition provided an example of how mainstreaming could be implemented, in ways tailored to country needs and capacities. FAO reiterated its role as a core implementing partner of the Biodiversity for Food and Nutrition project and its collaborative work with WHO and OIE on One Health. He noted that its scientific reports and data could make a substantial contribution to the work of the ILG and that additional colleagues from other FAO divisions could also make a valuable contribution to the group’s future meetings and work.

38. Ms. Machalaba presented the work of Future Earth, a consortium bringing together an estimated 50,000 experts (<http://www.futureearth.org>). She explained the structure, functions of Future Earth, and introducing some of its global research projects, activities and discussed knowledge-Action Networks (“KANs”) (<http://futureearth.org/knowledge-action-networks>). She noted that Health KAN was established and held a meeting in Bellagio in 2016, bringing together experts in planetary health and One Health (including from the CBD-WHO joint work programme) to identify key issues and stakeholders (<http://www.futureearth.org/news/meeting-summary-advancing-planetary-health-linking-health-and-environment-data>). She noted that policy outreach and translation were a core function of the Health KAN and initial implementation items include dataset mapping; carrying out systematic reviews; identifying key research gaps, and other activities. She also presented the Future Earth Open Network as a primary mechanism of information exchange. It was noted that the ILG could suggest additional mandates for the Future Earth community to support ILG work (e.g. potential research mandates, webinars, platform to share relevant datasets, case studies, etc.).

39. Mr. Francois Dias of the World Organization for Animal Health (OIE) presented relevant activities and collaborative opportunities. He highlighted several standards for the control and surveillance of animal diseases and for international trade, developed by OIE. He also discussed tools, policy guidelines and events led by OIE relevant to the work of the group (E.g. a training manual and guidelines on wildlife disease and surveillance; Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (2017)) and noted that OIE provided scientific and technical information relevant to the ILG (e.g. Scientific and Technical Review on One Health (2014)). He also noted OIE collaboration with WHO and FAO on One Health.

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<sup>4</sup> Three main activities associated with the Guidelines include: (1) Research: need to improve knowledge and benefits of using different varieties of breeds of plants and animals (2) Implementation: aims to put this into action and integrate biodiversity for food and agriculture in nutritional and related policies, programmes and action plans (3) Raise awareness of General public: on the importance of food from different varieties.

40. Potential contributions of OIE to the ILG include potential support for the development of standards or guidelines (e.g. for wild bee health) including for diseases of importance to biodiversity (e.g. white nose syndrome in bats); the impact of invasive alien species on other species of importance to health (e.g. small hive beetles). Mr. Diaz noted that OIE could work with ILG members to develop relevant standards and guidelines (e.g. on wild bee health). The Secretariat noted the assessment on pollinators carried out by IPBES and related guidance from the thirteenth meeting of the Conference of the Parties, noting that this could be an interesting point for future follow up of the ILG.

41. Throughout the discussions, several participants noted the relevance of indicators in relation to the SDGs. The challenge of developing indicators which have a strong scientific basis, are based on quality data and are accepted by the national statistical offices. Participants agreed that it may be useful to consider the development of other relevant indicators to answer questions that have not been fully developed (e.g. to which extent can the health of wild populations can be used as an indicator of conservation status?). It was noted that health can be an indicator of conservation status insofar that it can be a way of assessing the quality of biodiversity, and can also closely be linked with the idea of One Health.

42. Mr. Cochrane, of the International Union for the Conservation of Nature (IUCN), presented (via teleconference) the structure, work programme, and various examples of IUCN conservation projects to protect and restore natural ecosystems and species, reverse habitat loss, reduce threats and pressures on the natural environment and improve people's well-being and capacity to conserve natural resources. He highlighted the IUCN's increasing focus on maintaining and restoring the ecosystem services and the multiple benefits that nature provides, to human well-being (e.g. wild species used as food to the maternal and child health of indigenous people; assessments and guidelines for medicinal plants, projects to support climate resilience, for protected areas management and sustainable livelihoods).

43. Mr. Cochrane noted that IUCN is committed to working with ILG members to highlight the benefits of nature conservation from the local to the planetary scale. He also highlighted IUCN World Conservation Congress 2016 Resolution 64 on nature and human health, discussed emerging efforts to support the policies, programmes and partnerships on the connection between healthy ecosystems and natural heritage and community health and cost-benefit assessments and global accounting standards for increased investment in nature conservation. He noted that interdisciplinary partnerships and alliances to develop programmes on nature-based solutions to prevent and treat noncommunicable diseases, strengthening the evidence base for quantifying the benefits of nature for health and to measure the effectiveness of nature-based health programmes and to support the implementation of projects on the ground was also being encouraged. He stated a strong interest by IUCN to actively contribute to the activities of the ILG through these and other activities.

44. Ms. Fanny Demassieux of UN Environment noted that there are multiple opportunities to jointly create key messages among ILG members to influence public audience and raise awareness. In addition to those raised so far, it would be worthwhile considering the ILG jointly develop key messages for World Environment Day (<http://www.worldenvironmentday.global/>) or to address other relevant issue areas at the intersection of biodiversity and health including, for example, pollution, which will be a key issue at the upcoming UN Environmental Assembly in December 2017. There are opportunities to further strengthen collaboration with the ILG through these and related mechanisms.

45. Ms. Wannous, of the UN office for Disaster Risk reduction (UNISDR) (<https://www.unisdr.org/>) presented increased efforts by UNISDR to integrate health into disaster risk reduction strategies and to include the health and conservation sectors as active contributing partners in reducing risk. She noted that after the adoption of the Sendai Framework, the Bangkok Principles, comprised of six priority actions, were adopted to strengthen collaboration between the health, environment and DRR communities. She emphasized that health inputs are needed for risk assessments, particularly at the local and national levels and the need for more data on biodiversity for the DRR database on risk monitoring which contains little information on biodiversity or man-made and biological disease. These were identified as important next steps.

46. She noted that other potential areas of future collaboration with ILG include strengthening the nexus between climate change, health, biodiversity and DRR, including to strengthen urban resilience, and its role in science and technology. UNISDR could further contribute to ILG activities by sharing information, case studies, best practices, but also, importantly, by cooperating with ILG members to produce joint information because it cannot be developed in isolation. Just as efforts have been made to integrate health in the DRR community, efforts to integrate ecosystems in disaster risk reduction were needed so these could all be addressed in a more integrated fashion. She also noted considerable potential in expanding work on how ecosystem-based approaches can support better health outcomes.

47. A question was raised about the role of ecosystem strategies to promote resilience to disasters because many more resources were being invested in disaster response and much less on disaster preparedness despite a growing body of evidence demonstrating that ecosystem-based strategies could play an important role in strengthening resilience to disasters. UNISDR noted that the work was just beginning and this will be a key area of future collaboration requiring strengthening. On the role of prevention, it was noted that biodiversity and health data were not only valuable for risk assessments but also for the development of disaster relief and technical guidelines. Another question addressed the mental health effect of disasters which is often neglected. Ms. Wannous noted that UNISDR is working to bring this to the attention of policymakers but they do not themselves do the tracking. WHO was identified as a key partner in documenting this type of information and of the international recovery platform coordinated by UNISDR.

48. Some participants inquired whether UNISDR dealt with a mechanism similar to ‘slow onset events’ under the UNFCCC loss and damage process, much of which addresses ecosystems. It was noted that the Sendai Framework deals with both sudden onset and slow onset events or disasters as well as intensive risks such as big earthquakes, tsunamis, etc. However, for emergencies in locations where human casualties were more limited, there was little if any international recognition. Often casualties are not registered where there were few. Therefore, currently available data generally greatly underestimates the actual number of casualties, and other impacts, of disasters. This makes a strong case for the need for more robust evidence from different sectors so impacts can be better quantified, including the relative contribution to loss and damage.

49. Ms. Hodgson, representing the UN Framework Convention on Climate Change (UNFCCC) (<http://newsroom.unfccc.int/>) subsequently provided an overview of the objectives and key developments under the UNFCCC (e.g. the long-term global goal (LTGG) of the Paris Agreement, the Nairobi work programme (NWP) on impacts, vulnerability and adaptation to climate change, of which WHO and CBD are important partners). She noted that primary health issues raised by UNFCCC Parties include the change in geographic distribution of disease, new and emerging health issues, malnutrition, and water- and vector-borne diseases.

50. Ms. Hodgson emphasized that issues at the intersection of biodiversity and human health are at the heart of climate change concerns and there was a strong scope for collaboration with the ILG. This notably includes enhanced research and information on health and other areas including biodiversity loss, for example through the technical examination process on adaptation (TEP-A). In 2017, there was a TEP on resilient ecosystems and one on resilient cities (focusing on health, water and food) and participation under the joint work programme could be considered in future including in 2018 when the technical examination process focused on adaptation planning for vulnerable groups, communities and ecosystems.

51. She noted that a strong desire for health to be integrated into adaptation planning but noted the lack of capacity and funding to meet adaptation and mitigation needs. It was noted that in 2017, a Technical Paper on Health and Adaptation and one on Ecosystems was released and it would be useful to add these to the CBD-WHO joint work programme site.

52. The CBD Secretariat noted that all relevant documents discussed by ILG members could be made available on the health and biodiversity website of the CBD-WHO joint work programme ([www.cbd.int/health](http://www.cbd.int/health)) to make them more accessible to Parties and other relevant stakeholders. ILG Members are invited to share links to relevant work on biodiversity and health.



53. Other potential areas of collaboration with the Secretariat and WHO include support for the development of National Adaptation Plans for climate change in developing countries. She noted that a series of upcoming regional training workshops for NAPs in which CBD and WHO could participate.

54. On the longer term, potential areas for collaboration with the ILG may include the Ad Hoc Working Group on the Paris Agreement (APA), focused on the implementation of the Agreement. There is potentially a timely opportunity for the ILG to provide advice or produce relevant research. Moreover, under the IPCC, the special reports on 1.5 degrees of global warming will be released September 2018 and Chapter 3 will examine impacts of 1.5 degrees on natural and human systems. While the scoping has already been carried out, the ILG could help to motivate the scientific and research community to produce information on interlinkages between health and biodiversity.

55. It was agreed that health and ecosystem communities could do more to work in a more integrated fashion to support the work of UNFCCC and linkages with mitigation (e.g. role of ecosystems, mangroves, peatlands, etc. as carbon sinks) were also identified as highly relevant. It was suggested that food systems are an excellent example of this given the impact of agriculture on greenhouse gas (GHG) emissions and related implications for health and biodiversity. UNSCN colleagues will note the need to push for healthy sustainable diets which is a contribution to human health but also to ecosystem protection and GHG emission. Air pollution, energy, ocean acidification and impacts on marine ecosystems and food systems were also identified as potential areas of future collaboration with the ILG.

56. The CBD Secretariat noted that both carbon sinks and heat sinks have negative implications on ecosystems, notably including coral reefs which are critically important to fisheries, to coastal protection against disasters and to ecosystem resilience. It was agreed that much more could be done at the local and national scales to reduce drivers of ecosystem degradation (overfishing, destructive fishing, land-based pollution, sedimentation from agriculture which can lead to eutrophication, etc.) and health. There are significant opportunities to link these drivers and to promote more sustainable practices in the context of food systems and healthy diets.

57. Mr. Payyappallimana presented relevant activities of United Nations University (UNU) (<https://unu.edu/>), a policy think tank for the UN comprised of 14 institutes and cooperating centers and training institutes referred to as research and capacity building centres. Two Institutes in particular work on issues of biodiversity and health at UNU: UNU-IAS, based in Tokyo which has been collaborating with the CBD Secretariat for several years and UNU International Institute for Global Health (UNU IIGH), based in Malaysia, which is primarily focused on global health issues with strong biodiversity, health and climate components. UNU collaboration in the preparation of the traditional medicine chapter of the State of Knowledge Review and a report on Traditional Knowledge, Biodiversity and Community Health were noted. Several relevant activities were highlighted including community-to-community learning exchanges that support South-South cooperation. Some data is also generated in terms of community perceptions of changes in ecosystems and how it is impacting on human health. Other relevant efforts include one on Health Food Traditions, examining noncommunicable diseases in Southeast Asia; a medicinal plant conservation programme in India through the IUCN specialist group on medicinal plants, and country programs.

58. Potential areas of collaboration with the ILG include contributing to activities in relation to community health, capacity-building, core UNU activities on the science-policy interface, research, upscaling pilot models, and strengthening and expanding partnerships and networks. While much of the focus of UNU is on biodiversity and traditional knowledge, the scope may be expanded through collaboration with the ILG. Other potential areas of collaboration include the Biodiversity and Community Health (BaCH) Initiative (<http://bachinitiative.org/>), a multi-partner initiative launched at the 11th Conference of the Parties to the CBD seeking to create synergies among institutions and organizations to address health and well-being at the community level. It was noted that BACH could potentially be a very useful platform for exchange and collaboration with the ILG particularly to support implementation at the local level where implementation generally occurs. Other potential networks of interest for the ILG include, regional centres of expertise (RCE) network which support

the Education Decade for Sustainable Development; a higher education project in the Asia-Pacific region known as ProSPERnet (<http://prospernet.ias.unu.edu>); the International partnership for the Satoyama Initiative (<http://satoyama-initiative.org>) on eco-cultural production landscapes at the community level and also addresses indicators and community resilience; the Natural Livestock Farming Network (<http://www.naturallivestockfarming.com/initiatives/>) which includes an innovative project (aligned with One Health) to reduce antibiotic resistance in livestock farming with a strong focus on eco-socially sensitive farming with attention to local breeds, use of ethno-veterinary practices, biodiversity and ecosystem management, and sustainable value-chains.

59. It was suggested by participants that it could be worth examining opportunities for the ILG to combine forces with other networks, such as BaCH, to better identify specific science needs, and potential methodologies necessary for integration of data, to help meet concrete policy goals at the intersection of biodiversity and health. It was also noted by some participants that food cultures provided an important link with sustainable and resilient diets in the context of global environmental change. Appealing to food cultures and sustaining a sense of pride in them can be an effective measure to support health and biodiversity outcomes. Strengthening awareness, education and communication in this area could constitute one potential area of future focus and collaboration in the context of the ILG.

#### **ITEM 6: BRAINSTORMING: DRAFT GUIDANCE FOR THE INTEGRATION OF BIODIVERSITY AND ECOSYSTEM MANAGEMENT IN “ONE HEALTH”**

60. The co-chairs invited participants to share their initial views on how to better integrate biodiversity and ecosystem management in One Health and related integrated approaches to health and environment such as EcoHealth and Planetary Health with a view to preparing a guidance for Parties in compliance with CBD COP decision XIII/6. Mr. Cooper (CBD) reiterated the specific mandate received by the CBD Secretariat set out in sub-paragraph 10c of decision XIII/6, noting that the One Health guidance must also be examined in the context of sub-paragraph 10a and seek to support the implementation of the decision links as a whole including as outlined in the annex to the decision. He noted that ongoing discussion should focus on more systematic considerations of the links biodiversity and ecosystem management is applied in One Health and other integrated approaches.

61. It was noted that, among the three approaches, EcoHealth has traditionally been more reflective of ecosystem interactions in practice as it constitutes the ecosystem approach to health. It was agreed that it could be most useful however to focus explicitly on how biodiversity and ecosystem management could be better integrated across holistic approaches rather than centering on definitional debates which would ultimately be divisive for different communities. A central question is how to ensure that that biodiversity and ecosystem management are adequately reflected in a more balanced manner across these approaches rather than in each. Participants were invited to think about what criteria may be considered in that context as they have been inconsistently integrated in practice.

62. It was noted that no single, stand-alone definition of any of these approaches exists and it would be preferable to ensure this flexibility is reflected in the eventual guidance to avoid potential definitions that are not adequately tailored to the context in which these approaches are applied. While it can be driven by a series of core principles (such as inter and transdisciplinarity, inclusiveness and intergenerational equity) avoiding a rigid definition ensures One Health approaches can be applied to a variety of contexts in ways that facilitate interactions with all necessary stakeholders for a given project, plan, policy or programme. Core elements, such as multi-sectorality and multidisciplinary, however, are fundamental components uniting these approaches and should remain strongly reflected in the Guidance.

63. A key question is to ensure biodiversity and ecosystem management are reflected to maximize the co-benefits across holistic approaches. Some participants noted that the idea of added value could constitute a key consideration. Following the initial brainstorming, participants were invited to further reflect on tangible ways in which progress could be achieved for further discussion the following day including across each of the 4 themes to be addressed under Item 9. One important consideration was

how the ILG could eventually contribute to the implementation of the Guidance on One Health to be presented by CBD at the SBSTTA 21.

64. Mr. Campbell-Lendrum (WHO) provided concluding statements, noting that participants felt discussions across the vast range of thematic issue areas relevant to the ILG and concrete functions of the group as outlined in the Terms of Reference had been very productive. It was clear that the work of the ILG could address a vast number of inter-related issue areas and on the second day of the meeting, following expert presentation, the discussion would focus on initial themes and concrete steps the ILG may wish address in its future work. Ms. Maiero (WHO) informed participants of the logistical arrangements for the next day, further inviting participants to reflect on ways forward on capacity building, education, research and policy, so as to propose concrete ideas under each of the revised headings under item 9. The first day of the meeting closed at 5:30 p.m.

#### **ITEM 7: ORGANIZATIONAL MATTERS**

65. The co-chairs reported on the outcomes of the previous day noting the need to find tangible ways to support implementation and to make it linkages “actionable, and to raise awareness among the general public and opened the floor to comments or questions regarding items discussed the previous day.

66. Several participants indicated that presentations and discussion the previous day had been very useful. Means to strengthen collaboration between the biodiversity and health sector were also proposed. In particular it was agreed that:

(a) Health benefits of biodiversity conservation are generally poorly understood and/or undervalued by the public health sector and the general population. Rather than focusing on biodiversity alone, simultaneous focus on ecosystems and ecosystem services, or tangible outcomes such as food and nutrition or sustainable diets, or disease burdens may have greater appeal to the public health sector and other constituencies;

(b) Strengthening representation in other fields could be useful including social sciences (e.g. anthropology), human microbiome and microbial interactions;

(c) The biodiversity community should play a more active role in the World Health Assembly. While it is too late for the ILG to consider an event for the WHA in 2017, steps should be taken to hold a joint event in 2018;

(d) It is important to link biodiversity with issues people can connect to. Biodiversity is often perceived as abstract by the medical community. Air pollution is tangible and people understand it because it puts a human face to the issue. The same must be done to engage the health community in discussions on biodiversity. Maternal and child health, urban health and mental health could be important themes to advance this work.

67. Mr. Braubach (WHO/EURO) noted that benefits of green spaces and exposure to natural environments to mental health while difficult to measure in terms of health burden, do have co-benefits. It was noted that a new study would be made available today and officially launched at the European Conference on Biodiversity and Health in the Context of Climate Change in June 2017. He noted that the study also references studies examining the links between green spaces and the removal of air pollution removal.

#### **ITEM 8: TOUR DE TABLE: BRIEFING ON RELEVANT ACTIVITIES AND POTENTIAL AREAS OF SYNERGY BY WHO AND EXPERT OBSERVERS**

68. Mr. Francesco Branca director of nutrition division at WHO HQ and member of the Standing Committee on Nutrition, delivered a presentation on the UN Decade on Nutrition to ILG members. Thereafter, experts were invited to deliver short presentations on relevant activities and potential areas of synergy with ILG objectives. The expert presentations are available on the Liaison Group website at <https://www.cbd.int/health/ilg-health/default.shtml#tab=0>

69. Mr. Branca discussed work being under preparation by the nutrition community in line with the recommendations of the Second International Conference on Nutrition (ICN2) Framework for Action, noting that strengthening cross-sectoral work on food systems provides significant opportunities to maximize co-benefits. It was noted the UN Decade of Action on Nutrition provides opportunities to better link the environmental, health, and nutrition movements, building on country-owned and country-led action to implement the 2030 agenda for sustainable development. Translating the ICN2 commitments and the SDGs, particularly SDG-2, into concrete policies, programmes, and investments will require working across the food system, social system, social protection, education, trade and investment and work on safe environments with stronger accountability for achieving global, regional and national nutrition targets.

70. Mr. Branca highlighted the urgent need for specific, measurable, achievable, and time-bound commitments, commonly addressed in the context of planetary boundaries. He noted that the synergies between the UN Decade of Action on Nutrition, the UN Decade on Biodiversity and SDGs can be better harnessed by strengthening collaboration under the joint work programme. For example by supporting national commitments made for the Nutrition Decade, contributing to an Action Network on food systems, and systematically calling for national policies and programs that mainstream biodiversity for food and nutrition. The work of the ILG could also contribute to the establishment of other action networks (e.g. on sustainable intensification fruits and vegetable production or on animal sourced foods). Supporting work on sustainable livestock and poultry production and sustainable fisheries also provide opportunities for collaboration with the ILG.

71. It was also noted that the CBD Conference of the Parties could contribute to the Nutrition Decade by strengthening the implementation and mandate of decision XIII/6, notably by: building evidence and sharing knowledge; promoting sustainable use of crops and diversity of wild foods particularly in areas most vulnerable to climate change; promoting economic incentives throughout the supply chain, and; building capacity and promoting good governance on nutrition and biodiversity.

72. Mr. Branca presented WHO's priorities to achieve healthy and sustainable diets namely focusing on leadership, monitoring and guidance, particularly leadership priority 2 which seeks to leverage changes in relevant non-health sectors to improve and mainstream nutrition. WHO hopes to contribute to the development of the global policy framework to address climate change and biodiversity loss in tandem and jointly develop an alignment of evidence-based measures used to reduce environmental impacts of food production in the promotion of healthy diets.

73. Clear objectives could be established to promote biodiversity in food systems in a more integrated way with these partners, through the ILG. CBD can provide input to a related Commitment Guide.

74. The Secretariat highlighted further areas in which collaboration with WHO could be strengthened including in terms of addressing, wild foods and overconsumption. In that regards, Mr. Branca noted WHO collaboration with the Lancet Commission on the EAT partnership. Plant-based diets and the reduction of consumption of animal sourced foods, as well as legumes and pulses were also discussed as potential avenues for further collaboration. On the issue of wild foods, the issue of food safety and AMR were also raised

75. Links between climate change and livestock farming and the need to decrease meat consumption were also discussed. It was noted that discussion on food systems in the Paris Agreement appeared somewhat unidirectional: the Agreement acknowledges how climate change affects food security but not necessarily the other way around. The importance of sharing data and developing common messages under the ILG was emphasized but it was also necessary to identify the right context in which to share the information so that it may translate as a formal statement.

76. Following the WHO presentation, expert observers were also invited to deliver their presentations. Mr. Di Benedetto of the Italian MoH delivered a presentation on biodiversity loss and climate change in the context of planetary health, noting that there is a strong need for the adoption of One Health/Planetary Health principles in the implementation of the 2030 agenda. He introduced a national strategy on climate and health aligned with the principles of One Health and health for all.

G7 health ministers will meet in November 2017 addressing as a central theme climate and health in the context of Planetary Health. He also discussed a Matrix and Delphi Questionnaire submitted in a recent consultation by the Italian Presidency to G-7 countries. In the matrix, a series of drivers of climate change and their relationship with health outcomes had been considered notably including: health impacts of air pollution and climate change, vector-borne diseases, noncommunicable diseases, nutritional outcomes, and AMR. Mr. Di Benedetto also provided an overview of biodiversity in Italy, highlighting successes (e.g. protected areas) and challenges (e.g. high rates of aquatic invasives). He emphasized the need for the ILG to modify understandings of complexity, requiring development of capacity for decision support that are systems-based and participatory to ensure more effective implementation.

77. Several participants noted the strong consensus that ILG members can contribute to a great deal of collaborative work; it was suggested that work could begin with a focus on some of the important thematic areas including nutrition, infectious disease emergence, and health in urban environments. It was noted that the Group had discussed the scope and functions within the TOR document and it was worth noting particular areas to which the ILG can add value, including awareness raising, capacity development, training and feeding into policy mechanisms.

78. Dr. Liu, of the Chinese Centre for Disease Control and prevention, delivered a presentation examining both potential health benefits and risks of biodiversity to health, noting that joint measures should seek to ensure that the benefits outweigh the risks as maximizing biodiversity benefits does not systematically translate as eliminating risk altogether. He identified potential elements for a roadmap on strengthening the integration of biodiversity and health including: strengthening surveillance and data integration; assessing the negative and positive impacts of biodiversity on health including in different landscapes such as cities, rural areas or communities; strengthening public health action for risk communication and risk management; public health leadership to maximize co-benefits, and; minimizing the risk of health interventions on biodiversity insofar as possible. As an example, he noted that controlling the Zika outbreak may lead to interventions focused on massive pesticide spraying but such interventions can have other unintended health consequences, most notably for ecosystem health.

79. Several examples of ongoing work in China were presented such as the development of the Chinese Pathogen Identification Net (China PIN), a national laboratory-based surveillance system for all bacterial infectious disease. The National Basic Research Program of China examining how Climate Change affects public health outcomes and research on plague ecology in China's Yunnan province were also discussed. It was noted that studies had found that climate conditions, through the effects of rainfall and temperature on mosquito abundance and dengue transmission rates, can play a key role in explaining the temporal dynamics of incidence of dengue fever in human populations. Other studies and initiatives on climate and health in China were also highlighted including the China Prosperity Strategic Programme Fund and the Australian Government's AusAID Development Research Awards Scheme. He further noted that strengthening knowledge of community ecology, combined with monitoring pathogen diversity and disease trends in natural ecosystems can potentially contribute to the identification of opportunities to mitigate the impacts of climate-sensitive diseases.

80. Mr. Carlos Zambrana of EcoHealth Alliance (EHA) showed a comprehensive map of hotspots of unknown emerging infectious diseases, noting that EHA was able to build on earlier projections by collecting data on outbreaks to identify specific drivers that make a region more or less predisposed to disease emergence. He also showed a recent map projecting locations in which new diseases are likely to emerge based on where they had emerged in the past, and on changing social and ecological patterns. Mr. Zambrana noted that locations in which people are rapidly altering the environment appear to coincide with areas that are of highest risk. The USAID funded Emerging Pandemic Threats PREDICT project which is operating in some 30 countries and is now in its second phase (<http://www.vetmed.ucdavis.edu/ohi/predict/>) was also presented. On the basis of the work carried out under the PREDICT project and using advanced modelling techniques, it was possible to estimate that there are approximate 1.33 million unknown viral species in mammals and bird populations of which an estimated 500,000 are likely to infect humans and cause future disease outbreaks. PREDICT has significantly expanded knowledge of viral diversity, viral ecology and risk and is a successful

example, and can provide proof-of-concept, of the value of adopting One Health approaches to disease emergence and prevention. It also demonstrates the need to work together across sectors, as a global community, and with governments, scientists as well as communities located in high-risk interfaces.

81. Mr. Zambrana also presented related innovative work carried out for the Global Virome Project (<http://www.globalviromeproject.org/>), and a related project, known as Project Deep Forest, which samples species for pathogens in different countries along a deforestation gradient, comparing different degrees of deforestation as a result of agricultural and farm expansion (such as palm oil plantations in Malaysia), urban planning and extractive industries. He noted that Project Deep Forest can help to identify the avoided costs of intact forests, understand how biodiversity and viral diversity are affected by land-use change and create outreach via local communities and corporate stakeholders to promote the preservation of natural lands among other benefits. Keeping intact forests provides a service to human society through protection against infectious diseases outbreaks. However, as not everything can remain intact, efforts are being made to estimate the economic value of damages that are avoided by keeping intact forests.

82. Mr. Zambrana also noted the transboundary effects of haze episodes that can result from tropical forest fires and from land clearing, which can exacerbate air pollution and resulting health impacts not only at a local but regional scale. For example, in Indonesia forest fires from land clearing and dry weather conditions caused one of the worst haze episodes in Malaysia and Singapore in recent history, leading to school closures and numerous hospitalizations as a result of degraded air quality.

83. Delivering a presentation on behalf of the Oswaldo Cruz Foundation (FIOCRUZ) (<https://portal.fiocruz.br/en>), Ms. Manuela Da Silva, presented several of FIOCRUZ's research activities and other tools to jointly support biodiversity and human health outcomes in Latin America. Among others, Ms. Da Silva presented the Center for Information on Wildlife Health (CISS) (<https://www.globalinnovationexchange.org/innovations/center-information-wildlife-health-ciss>), a virtual space for continuous, dedicated development of wildlife and human health issues, aimed at consolidating knowledge, action, and policies that can jointly strengthen the conservation of Brazilian biodiversity and improve human health. Also discussed were the Ecological Station of the Fiocruz Campus of the Atlantic Forest (CFMA) and the Agroecological Platform of Phytomedicines (PAF), a technology platform which provides services such as georeferencing, botanical identification and characterization of the chemical and qualitative profile of medicinal plants from Brazilian biodiversity.

84. On ex situ conservation, Ms. Da Silva pointed to 31 biological collections from Fiocruz to maintain and preserve specimens representing the genetic biodiversity of archaea, bacteria, fungi, protozoa, helminths, arthropods, mollusks and plants of medical and environmental importance as well as human and animal histopathological samples. She noted that most collections, although not all, relate to tropical diseases and support epidemiological research at FIOCRUZ and elsewhere. She also noted that collections are also available through GBIF, GRSciColl and World Federation of Culture Collections.

85. Participants emphasized the relevance of identifying tools and messages such as those discussed noting that each is aimed at different dimensions of prevention. The need to work more closely within the ILG on bringing together nutrition, sustainable food systems and air pollution are important in the climate discussions but, from a public health perspective, Ministries will also be responsive to the risk of infectious disease outbreak, prevention and control. When the ILG targets its messages to Ministries of Health it could be interesting to highlight how tools such as these and wildlife surveillance can make a significant contribution to prevention.

86. Mr. Rafael Ruiz de Castañeda, of the University of Geneva discussed One Health research and practice providing examples of interdisciplinary global health programs that also bring together other fields, including ecology. He noted that a new interdisciplinary course on Global Health<sup>5</sup> provides a timely opportunity in which all ILG members can collaborate both for content and

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<sup>5</sup> <https://www.youtube.com/watch?v=WT7-cC21uLU>

dissemination. He noted that some updates would be launched for One Health Day on November 3, 2017. At that time, the nexus on biodiversity and health can be more prominently put forward. At present, it already includes over 30 experts from 20 institutions including WHO but they are interested in opening this up to better integrate biodiversity and health linkages. Opportunities to better integrate a module on biodiversity and to explore better integration of the online and offline dimensions were emphasized. It was noted that the MOOC could also be shared widely through the vast ILG network and could be further updated with content from the State of Knowledge Review. Opportunities for collaboration with ILG members on research and data gathering and for linking to capacity development in upcoming regional workshops on biodiversity and health were also emphasized.

87. From a research perspective, opportunities for gathering information through citizen science on other areas of relevance to the ILG such as food markets, food, nutrition and biodiversity were also highlighted. Other projects, such as Project Citizen Cyberlab, which seeks to develop and study new forms of public participation in research were presented together with issues that are generally not widely known or disseminated. For example, snakes and snakebites affect many rural communities and constitutes a significant neglected tropical disease (NTD) in some parts of the world. Work carried out by inaturalist.org to map geographical locations of medically important venomous snakes around the globe was also presented.

88. Ms. Montira Pongsiri, of the Planetary Health Alliance (PHA), presented the work, aims and objectives of the PHA, two case studies from planetary health science policy engagement, and discussed opportunities for further collaboration with the ILG. She highlighted PHA commitment to inform decision-making and policy-making processes by determining the science needs to address policy gaps, with an emphasis on using existing decision-support tools, such as system dynamics models, health impact assessments (HIA), and environmental impact assessments (EIAs) which can be enhanced with environmental change-human health data. The first case study, addressed air pollution in cities and the urban health agenda. She noted that landscape fires cause some 300,000 preventable deaths every year and are major drivers of biodiversity loss, drawing on some of the trends in Southeast Asia where setting fires to clear land for agriculture is common practice. She discussed effects in terms of forest and habitat loss in biodiversity hotspots, also noting significant threats posed to certain species and other major flora and fauna. She noted that PHA is working with partners to develop a science modelling tool that has linked land cover observations, fire emissions and weather data that drive emissions over space and documented data on human health impacts of exposure to particulate matter resulting from forest fires, noting that this provides a way to quantify the human health impacts of landscape fires on landscape populations. The team is now working with the government of Indonesia's Peatlands restoration agency, now charged with protecting some 2 million ha of peatland over the next 5 years. She emphasized the value of having a strong science base so governments are able to prioritize which peatlands to protect and the science modelling tool is being adapted to their needs, to identify which peatlands to protect and associated public health costs.

89. The second case study discussed the multiple benefits of healthy city design (e.g. density, infrastructure, green spaces which can promote healthy lifestyles, well-being, social interaction and reducing the urban heat island effect). She noted that tools such as HIA can help to identify human health benefits and mitigation measures. For example, the US Environmental Protection Agency (EPA), applied HIA to inform a green street design planned to target and reduce storm water runoff and flooding. As a result, green street design was increased threefold to incorporate the health benefits of livability, public safety and reduce urban heat island effect. She indicated that this provides a good example of how existing tools and health data can be used to maximize co-benefits in rapidly urbanizing areas, particularly in high and middle income countries.

90. She noted that considerations the ILG may wish to consider moving forward include: harnessing available data to effect positive change; assessing the science and capacity needs of policy partners and stakeholder partnerships within the community, civil society and with academic institutions and what types of decisions (e.g. scale of research design) could be optimized by integrating health and biodiversity considerations and discussed opportunities and barriers to strengthening science policy engagement. She also noted that the objectives of what PHA is trying to

achieve as a research community which is very much aligned with the objectives of the ILG to leverage human health for biodiversity and ecosystem conservation.

91. Opportunities for PHA collaboration with the ILG include: 1) Sharing case studies to achieve long term sustainability 2) Leveraging, developing, and building on existing tools such as HIA and EIA which already capture important environment and health relationships 3) Identifying research partners and policy-relevant science needs which can help to determine research design and priorities 4) Creating new partnerships and sharing best practices from the application of interdisciplinary projects 5) developing tools for the integration of data and analyses across disciplines: not just ecology and health but also spatial mapping, behavioral science, economics, etc.

92. One participant noted that from a public health perspective these are especially relevant because it really emphasizes the notion of co-benefits rather than just presenting a review of health to protect the environment. Another noted that, within IPBES, multiple benefits were considered, not only monetary benefits (e.g. value of indigenous and local knowledge, citizen science, etc. noting that it could be useful to integrate these in evidence based approaches). It was noted that this also resonated with another point indicating that we should adopt a broader view of metrics.

93. Another participant noted that the IUCN's Red List for Ecosystems (<https://iucnrle.org/>) which is a recent a reference system for promoting good ecosystem management and ensuring ecosystem health may also be considered a useful tool. It was further suggested that it would be useful to exchange tools developed developed for national governments but also to discuss methodologies and tools that could contribute to WHO's own assessments.

94. Mr. Timothy Bouley, climate and health specialist of the World Bank, presented some of the World Bank's recent activities that are of particular relevance to the ILG (joining via teleconference). In particular, he noted three focus areas: (1) The pollution and health initiatives being led by the World Bank's Environment and Natural Resources Global Practice (2) "Operational Framework for Strengthening Public Health Systems at the Human-Animal-Environment Interface", intended for Bank operational teams and country use (3) National environmental health capacity assessment tool under development to assist countries in managing environmental health threats.

95. Mr. Bouley noted that the last two are being developed in partnership with colleagues from EcoHealth Alliance and other partners to address underlying drivers of disease and pressures on ecosystems. Mr. Bouley noted that the One Health Operational Framework provides an overview of planning, implementation, and monitoring tools, standards, and best practices that can assist countries and development institutions in operationalizing One Health approaches; the tool identifies the need for enhanced inclusion of the environment sector in assessing and managing threats and reflects input from several members of the ILG .

96. Mr. Bouley also noted that limited capacity and scope for assessment of environmental health services leaves countries vulnerable to risks at the human-animal-ecosystem interfaces, contributing to reactive responses to ecosystem degradation and resulting health consequences. Refining, assessing, and strengthening capacities for national environmental health services can support governments in optimizing risk management strategies, including informing preventative approaches that target drivers of disease emergence and biodiversity loss. It was noted that some of these tools could help to support the work of the ILG and the implementation of decision XIII/6 and could also be considered in the development of guidance for the integration of biodiversity and ecosystem management in One Health that was being prepared by the Secretariat.

#### **ITEM 9: WAYS FORWARD: AREAS OF COOPERATION AMONG THE MEMBERS OF THE ILG TO SUPPORT THE IMPLEMENTATION OF DECISION XIII/6**

97. Following presentations by expert observers some experts were invited to initiate discussion on activities and ways to strengthen collaboration among ILG members in each of the following areas and all participants of the ILG were encouraged to contribute to this work:

- (a) Capacity-building
- (b) Datasets, metrics and indicators



- (c) Research gaps, case studies and best practices
- (d) Communication, awareness-raising and advocacy

98. Building on experience in the regional capacity building workshops on biodiversity and health in the Americas and Africa regions, co-convened by CBD-WHO in collaboration with other partners, Mr. Carlos Corvalan (University of Canberra) was invited to introduce the item on capacity-building to engage participants in broader discussion on possible collaboration for capacity development, and promoting collaboration at the local, national and international levels. He noted that capacity-building is very closely related to the other themes, including indicators, best practices and better understanding research gaps and core messages under this theme could center around the ability to strengthen the ability to develop new values, build new partnerships and to work together.

#### **Theme A) Capacity-Building**

99. Dr. Corvalan indicated that the CBD already has clear boundaries for capacity-building, including in the context of development of national biodiversity strategies and action plans, that date back to the eighth and ninth Conferences of the Parties (COP) notably including COP decisions VIII/8, IX/8 which refer to the ecosystem approach, highlight the contribution of biodiversity and ecosystem services to poverty eradication, national development and human health and well-being and making use of the methodologies and conceptual framework arising from the Millennium Ecosystem Assessment. Such decisions also emphasize that increased knowledge on biodiversity and ecosystem services and its application constitute an important tool for communicating and mainstreaming biodiversity including across sectors. The COP13 decision on health and biodiversity (XIII/6) provides a timely opportunity to refocus these decisions in the context of framing capacity development and multidisciplinary and also framing in line with these earlier decisions on the ecosystem approach and in terms of the development of education, training and research programs to build capacity on the linkages between biodiversity and health, potentially making a very clear and effective mandate to support implementation. Opportunities to strengthen implementation through participatory planning, knowledge management and capacity building, including to support mainstreaming and the implementation of the Strategic Plan for Biodiversity 2011-2020 were also emphasized. Mr. Corvalan noted that WHO and CBD, in collaboration with other partners, had co-convened regional capacity building workshops on the interlinkages between biodiversity and health in both the Americas and Africa regions and another one is expected for the WHO European region in 2017. The workshops covered similar issues to those addressed in decision XIII/6 which form the basis of the ILG's mandate, notably addressing food security and nutrition, water quality and quantity, infectious diseases, traditional medicine, physical and mental well-being. Drawing on these capacity-building workshops, eleven priority interventions were identified including one targeted on capacity-building but others also examined information exchange, experience sharing, raising awareness, building partnerships, promoting research, and integrated surveillance. Mr. Corvalan sought to focus discussions on what the ILG can do as a Group to support this work at the global, national and local levels. Opportunities identified include:

##### *At the global level*

100. At the global level, the ILG may be well placed to contribute to knowledge and information exchange and raising awareness on the values of biodiversity for human health and the information generated could contribute to supporting and promoting further regional capacity building workshops in other regions. There is a lot of additional material to work with since the initial regional workshops, including the State of Knowledge Review, which was not available until mid-2015 and it was noted that it may be useful to hold workshops in these regions with updated information. There is also potential to convert the information into an online course, to hold webinars on these interlinkages that draw and build on those findings. These could be also framed in the context of the SDGs, other global commitments, and may address cross-cutting such as climate, biodiversity and health. There is considerable scope to strengthen the capacity-building mandate and support provided at the global level.

##### *Opportunities at the national level*

101. It was noted that biodiversity and health remains a poorly understood topic, particularly in Ministries of Health, although it is increasingly accepted in the biodiversity community. Much more work is needed to raise awareness and build capacity at the national level both in terms of concrete actions by decision makers working respectively in health and biodiversity sectors on the health impacts of ecosystem disruption but also on the health benefits of ecosystem protection. The ILG could jointly contribute to sub-regional and national workshops, and to strengthening the education system in universities.

*Opportunities at the local level*

102. The ILG can help to bring together local societies, NGOs, participation from indigenous and local communities specifically in the development of tailored materials on education and communication aimed at increasing knowledge on the links between biodiversity and health, to promote ecosystem protection to maximize health outcomes, and to promote and further community health. The dissemination of knowledge is critical to the shaping of values, and to maximizing the protection of biodiversity and health. The ILG may also potentially contribute to community-to-community exchanges as well as by developing education and awareness raising materials that could be adapted to local contexts.

103. The links between capacity-building, other thematic areas and development of materials that could be used to support training across scales was also noted. Moreover, despite its mandate to continue the series of capacity-building workshops on biodiversity and health, securing further funding to carry out the workshops was identified as a key barrier. He further noted that a key consideration centres around whose capacity we are aiming to build and where the greatest impact can be achieved. This has primarily been carried out within the Secretariat's institutional frameworks bringing together CBD and WHO constituencies and facilitating interactions across these two sectors from within the same country which has been particularly beneficial and made it possible to exchange lessons at both national and regional levels. Other areas in which the ILG could focus capacity building efforts in tandem were also welcome.

104. Additional interventions identified by ILG members to complement these activities include:

(a) A possible MOOC to be jointly developed by the Biodiversity Convention, WHO and others, focused on the findings of the State of Knowledge Review and targeted toward decision makers;

(b) CBD & WHO could consider co-convening a side event, together with some members of the ILG at future UNFCCC as health negotiators in the climate processes are not especially aware of the interlinkages on biodiversity and health in the context of climate change. It was noted that on health WHO is very much involved but the linkages with biodiversity, and across biodiversity and health are generally lacking;

(c) Broad capacity training on One Health/EcoHealth/Planetary Health can be useful and may also help to formulate what messages the ILG may wish to focus on. Training could be structured along the lines of thematic areas outlined in the Chapters of the State of Knowledge Review, specific issue areas and broader training on biodiversity and health linkages. The importance of linking this training to the SDG agenda, making links with SDGs clear through an outcome document focusing on a series of the most relevant entry points could potentially also be useful;

(d) Identifying some initial thematic areas on which to focus and specific and tangible action points to initiate this work was identified as a useful entry point.

(e) Linking the biodiversity agenda to sectoral issues such as pollution to identify challenges and potential solutions was also proposed. For example, within UN Environment they are looking at developing capacity-building or awareness raising material on air quality and impacts on biodiversity are often not considered, making this a potential entry point. Marine and freshwater pollution was also identified as a potential entry point to further build capacity on biodiversity and health impacts;

It was noted that it would be valuable for the group to identify and align its work with specific issues or specific components associated with global mandates; these provide a sound basis for reporting, joint proposals and financial support. **Theme B) Datasets, metrics and indicators**

105. Mr. Peter Daszak, of EcoHealth Alliance, was invited to initiate the discussion on available data such as links between ecosystem degradation, biodiversity loss and infectious disease emergence, and the development of more integrated metrics and indicators to measure health and biodiversity outcomes. He noted that the ILG provides valuable opportunities to deliver something tangible out of very important issues.

106. On data and metrics, Mr. Daszak noted that there are a vast number of indicators and measurements for health and others which have been developed for biodiversity. The challenge is how to develop indicators to monitor the relationship between the two, particularly given the complexity of relationships and the generally poor understanding of them. He suggested several ways forward in this regard including bringing together partners with expertise in indicator development (E.g. GEO-BON).

107. Three broad issues the ILG may wish to address were initially identified:

(a) *Identifying broad health impacts resulting from anthropogenic changes which also cause biodiversity loss.* For example, forest fires in Indonesia leads to a series of respiratory disease that across Southeast Asia but also pose a considerable threat to biodiversity. The ILG could try to identify indicators of the health impacts from anthropogenic changes that also cause biodiversity loss;

(b) *Indicators of ecosystem disruption:* Several infectious diseases are linked to biodiversity changes and, more broadly, ecosystem disruption. For example, in some parts of the world, malaria rises as a result of forest fragmentation. Accordingly, perhaps malaria could be a possible indicator of this process or rabies, etc. Perhaps the ILG could identify a small series of indicators of ecosystem disruption, this could bring us closer to measuring human health indicators linked to biodiversity loss and ecosystem disruption. IUCN, for example, is working on a Red List for Ecosystems that will include some health indicators. This may be one way to find a natural partner to design more integrated indicators on ecosystem degradation and human health;

(c) *Emergence of new diseases:* There are measurements of where human activities contribute to outbreaks of new diseases from wildlife. If we look at the data, the more biodiverse a region the higher the risk, but this relationship should be examined more closely. The real issue is that if biodiversity is in its natural state and if it is well managed we should not be at risk of new emerging diseases. There it is important to gather data on existing activities that are well known drivers of emerging diseases (e.g. landuse change, wildlife hunting, wildlife trade). Such indicators would be useful to both the biodiversity and health communities.

141. Two questions were raised for the Group's consideration: first, in relation to biodiversity and health/disease indicators whether it better if each of these is spatially explicit (i.e. point data rather than aggregate data at the country level, or prospects for using big data to examine datasets jointly). Second, in addition to links with infectious diseases what other dimensions would the group wish to bring (e.g. nutrition, noncommunicable diseases). Additional interventions and considerations identified by ILG members to complement these activities include:

(a) In addition to landuse changes, industry activities such as mining which compound disease risks were also proposed as an area of further study. It was also noted that when some areas are opened up for forestry or mining, it may also improve access including to bushmeat. Such activities may be of interest to the ILG.

(b) The environmental and human health crisis resulting from the collapse of a Brazilian mining company's dam in late 2015 was proposed as a potential case study for the ILG's consideration. The mineral waste from a neighbouring iron-ore mine in the Minas Gerais region caused considerable freshwater pollution, affected drinking water supply and may have led to the largest outbreak of yellow fever in over a decade, affecting hundreds of people, leading to over 50 human deaths and killing hundreds of monkeys in Brazil's Atlantic rainforest region, threatening the survival of rare South American primates such as Brown Howlers and Masked Titis.

(c) The contribution of defaunation to negative health outcomes was also proposed as an area of further study by the ILG (I.e. the empty forest syndrome which is problematic in central Africa where you may not see deforestation as such but you still have ecosystem degradation)

(d) It was noted that biodiversity indicators are not widely available to the health community in some countries (e.g. China) and there is scope to encourage biodiversity data sharing with the health sector in these areas. The information could be used as a basis upon which to generate useful indicators.

(e) The information could also promote more integrated research and assessment of the health impacts of biodiversity loss and ecosystem degradation in such regions.

(f) Participants noted that WHO had been tasked with situating the burden of disease from climate change over a decade ago generating a lot of interest in collecting information on the burden of disease resulting from climate change. Developing a similar account on the disease burden attributable to biodiversity loss, on the basis of clear guidelines, was proposed as a potentially valuable area of work for the ILG.

(g) Participants agreed on the relevance of further exploring the development an estimate of the global burden of disease attributable to biodiversity loss. If a global measure is not considered possible upon further evaluation, other ways to encapsulate the overall health risks could be explored, either through quantified projections or using qualitative or quantitative measures of the potential damage that could arise from biodiversity loss and ecosystem collapse. It was agreed that this possibility would be examined more closely and discussed further in a future meeting of the ILG.

(h) It was also proposed that an initiative similar to The Lancet Countdown on Climate Change (i.e. measuring health impacts, health resilience and adaptation, health co-benefits of active political engagement and developing financial and economic indicators measuring political engagement at the country level) could be developed using biodiversity and health indicators. It was suggested that there may be scope for the ILG both to contribute to the work of the Lancet Countdown but also to encourage the Planetary Health commission to develop a similar initiative to measure progress using integrated indicators on biodiversity and health at the country level.

(i) In terms of trying to identify indicators for Planetary Health at the country level, it was noted that this is an open process by which PHA is already soliciting country data. However, because Planetary Health is broad they may not put any limits or boundaries on the kinds of indicators they are looking for or to make them specific to biodiversity and health.

(j) A participant indicated that certainly metrics and indicators are one way to integrate environmental and health considerations but this feeds into the agenda setting process, once the causal mechanisms behind these relationships are better understood it may be easier to generalize in policy and find relevant metrics.

(k) Some participants noted that Planetary Health had so far appeared to be less focused on biodiversity and health linkages and it would be valuable for a message to come from the ILG that there is interest in developing something similar to the Climate Countdown and that the ILG strongly encourages the planetary health community to focus more on biodiversity in the context of global environmental change. While it is true that data on mechanisms between biodiversity loss and health outcomes is incomplete the same holds true of mechanisms underlying climate and health impacts. Beginning with an examination of the health impacts of biodiversity loss could be a significant way forward for the ILG not only for infectious diseases but also in terms of nutritional loss, disruption to livelihoods, patterns of demography, etc.

(l) There was broad consensus that there is already sufficient data to make the same broad links that were made in the climate change report. Others noted that acquiring new data remains very valuable, but data gaps but should not be used as a pretext for inaction or to carry out further work on the basis of available data. Projections are particularly helpful at the policy level.

(m) The Secretariat discussed a study presented by Ms. Golden (PHA) at COP 13 which examined fishery declines and human micronutrient deficiencies, including under scenarios of climate

change in the context of the Sea Around Us project was highlighted as an excellent example. On the basis of this work, it was possible to conclude that fish catch has been declining by an estimated 1.2 million metric tons per year since 1996 when wild fish catch peaked and the impacts of sea level rise could lead to a reduction in fish catch ranging between 20-50% with between 800 million and 1.2 billion people becoming micronutrient deficient failing the development of sustainable fisheries management practices, promotion of marine conservation areas, and pro-poor aquaculture initiatives.

(n) It was agreed that there is an increasing amount of data available and also significant opportunities to provide technical support at the national level and to share and disseminate the data widely. There is also a push for open data platforms which can be supported by the efforts of the ILG as well as opportunities for the ILG to link to this work being carried out under SDG processes.

(o) On the issue of datasets and indicators, the development of the Agrobiodiversity Index, which is aligned with the One Health approach, was also suggested as a relevant tool for the work of the ILG, the the open data approach of the CG system all results are freely available and can be used.

(p) It was noted that a Global Health Security Index is also under development and has been shared with Lancet Countdown. It was suggested that these sets of indicators be considered jointly to avoid duplication and further strengthen collaboration.

(q) It was further agreed that developing an estimated disease burden associated with biodiversity loss could also serve to encourage better estimates and could provide significant impetus for supporting mainstreaming and implementation of biodiversity and health.

(r) It was suggested that examining the burden of disease associated with biodiversity loss is one area of future work, but it may also be possible to consider examining the burden of disease associated with specific practices narrowing down the genetic food base and nutrition, deforestation, etc. It can also be broken down into smaller pieces to initiate the process.

(s) It was further suggested that the ILG could examine the risks of continued biodiversity loss on disease burdens and these could be align to positive effects of biodiversity protection, providing an assessment that draws on available data. Perhaps there could be some leads in the global assessment that IPBES is currently carrying out. On this point, the ILG could further examine the development of a concept that could then be carried forward through the ILG to stimulate others such as the Lancet Commission on Planetary Health to move it forward.

108. Some participants noted that there is insufficient attention in the IPBES on health linkages. It was agreed gathering baseline data for monitoring and evaluating impacts on health and biodiversity is an important area of work and IPBES and other partners should be encouraged by the ILG to consider these linkages. At the same time, it was agreed that while the research agenda is important potential data gaps should not hinder the development of an initial baseline assessment now based on existing data. Some existing morbidity and mortality data could greatly contribute to initial baseline studies in this area. It was noted that there is also considerable point data on landuse change, noncommunicable and infectious diseases at a country and provincial level that can be used. In some cases the information is publicly available in others it can be dug out. The data can also contribute to the development of useful indicators including on nutritional issues.

109. It was also suggested that it would be useful to examine specific activities (e.g. extractive industry) occurring in biodiversity hotspots, and associated health impacts.

110. There was general consensus that there are a series of available datasets that the ILG could bring together that would help to map out linkages between biodiversity and health, as a broad issue, and if underlying mechanisms could also be measured, it would generate something very tangible and useful to policy-makers. The ILG agreed that it would further examine how it can be formalized to move beyond a research agenda toward actual policy impact. It was also agreed that this would be an action item of the research agenda addressed under Theme c).

### **Theme C) Research, case studies and exchange of best practices**

111. Building on the discussion of the previous theme, Ms. Pongsiri (PHA) was invited to present the theme of research gaps, case studies and best practices. She noted that the introduction to the discussion was informed by both the findings of the report of the Lancet Commission on Planetary health and the Future Earth, Health Knowledge Action Network. She began by outlining some initial areas of further research ILG members and other partners may wish to consider for further work in this area. Potential areas and questions for further research may include:

(a) Impacts of multiple concurrent environmental changes acting together to affect both biodiversity and human health outcomes. She noted that most of the data is around single environmental changes around one single health outcome it would be useful to better understand, the negative synergistic interactions between them (i.e. cumulative effects of environmental changes on health outcomes; to better understand the impacts of environmental drivers -both singly and in the interaction with other drivers – on health and well-being, including causal pathways and mechanisms of change);

(b) Likely health risks of projected environmental changes with development choices;

(c) Identifying the populations most vulnerable to these changes today and in future based on other environmental changes projected;

(d) Preparedness, anticipation and planning: how might health impacts be prevented and health and well-being promoted through adaptation and mitigation strategies?

(e) Which options jointly optimize factors such as health and well-being, equity, environmental sustainability and sound economics. It was acknowledged that these may be an overwhelming number of criteria to consider simultaneously but it may encourage the development of new innovative methodologies;

(f) How do we address trade-offs and unintended consequences?

(g) Quantifying costs of different policies taking into account health impacts which are normally externalized?

(h) Implementation science: how to inform and evaluate strategies that are implemented on the ground, how they work and why they sometimes fail. Does the design of the strategy need to be revised or is governance potentially hindering progress?

112. On the sharing of best practices, Ms. Pongsiri noted that there are implementation agencies that are asking to share best practices but there is no formal network that freely shares this information and can be widely distributed to the practitioner community beyond the research community. It would be useful for the ILG to contribute to a formalized process that also engages implementation agencies on the ground and the research community to share communication strategies and best practices.

113. To share best practices, potential research projects that could also be supported by the ILG may include: 1) systematic reviews 2) primary research on drivers and causal mechanisms.

114. The Co-chairs suggested that it may be useful to break this agenda item down into research and assessment to ensure that research is supported while also ensuring ILG members are maximizing opportunities based on what is already there (rather than conducting primary research). It was also suggested that a discussion on available channels to carry out primary research would be helpful. For example, Future Earth and PHA are there to address global data needs and to conduct primary research and the ILG can potentially help to define those. In addition to these, participants were encouraged to consider what other organizations the ILG may seek to mobilize, how to effectively influence more research in this area and which research areas could be focused emphasized.

115. It was noted that the CGIAR system also has considerable capacity to undertake research with over 10,000 scientists under the CG system. If framed in line with CG flagship priorities, it may be possible to involve both CG centres and other members in related research work. Linkages with health should also be reinforced through partnerships with organizations that have health expertise.

116. In terms of research gaps, Mr. Baccioni noted that Bioversity is currently supporting IFAD in mainstreaming nutrition-sensitive approaches within their development programmes as a first step. As a second step, it seeks to systematize all the research carried out in the first phase to answer to the research needs and gaps identified by IFAD. Under this three-year programme they will identify what the data needs are, what research is currently available and what needs to be done and IFAD is able to finance at least some of this research over three years. While this is primarily on the agricultural side, close links with other areas could also be maximized. For example, developing varieties of crops or methods that make them more resilient and resistant to parasites, which would also decrease the need for pesticides which have environmental and health impacts.

117. The co-chairs noted that this leads to the question of what the specific role of this ILG should play. For example, we can take the definition of research questions and research findings and mainstream these into individual constituencies but we may also wish to discuss to take on the role of identifying research priorities and setting the research agenda that could then be fulfilled by ILG members and other partners.

118. It was noted that many of the core organizations in the ILG are intergovernmental bodies that have concrete mandates and insofar as we can align some of the mandates from respective governing bodies, the ILG can help deliver on those. Following that, through the expert capacity of the ILG we may identify other research gaps or emerging needs, then it will be up to the various bodies that have research programs to maximize this potential. Moreover, the ILG can develop a joint message to raise awareness among some of the larger national research bodies (e.g. NIH) that examining biodiversity-health linkages also contributes to addressing specific issues that they have a mission to address, to facilitate a move away from widespread reductionist medical interventions toward more holistic interventions.

119. It was also noted that it is important in the work of this ILG to acknowledge and build on what has been done so far. For example, at WHO interesting work has been carried out in terms of relational research and eco-bio-social interventions for the control of vector borne diseases. It is very important that future research directions put forward by the ILG acknowledge and be inclusive of these elements while promoting tangible action.

120. Mr. Liu (CDC, China) noted that there is an urgent need for users in the public health sector to have access to biodiversity data. For example, China developed disease surveillance and decision-making platform and although they attempted to select indicators for biodiversity they were unable to identify useful indicators. Correspondingly, not very specific indicators are used. It would be of great benefit to their work if they had biodiversity indicators that could be adapted to the health sector.

121. Mr. Cooper (CBD) noted that the biodiversity community is improving in terms of biodiversity data and indicator development and we are moving towards more spatially explicit information showing change over time. There are many biodiversity indicators but they are often not spatially explicit and we only have a few points in time rather than continuous monitoring data. There is a lot of work recently which integrates point data with modelling to get an estimate of biodiversity surface geographically and how that changes. Work being done by Predicts Group which examines point source measurements changes at a local level in biodiversity in terms of species richness and abundance to determine a Biodiversity Intactness Index (BII). BII is based on a global database of local biodiversity surveys combined with high resolution global land-use data to examine local changes in species richness and abundance over time. There are other models which have estimates of total diversity, known as gamma diversity, which integrates species richness with change in biodiversity from one point to the next point. That approach coupled with better satellite derived data is allowing for a better examination of real time change.

122. In terms of future research, initial priority areas outlined in decision XIII/6 in which the ILG may wish to focus its work were noted. In particular, drawing on some of the elements included in decision XIII/6 potential priority areas for research, the ILG may wish to consider as initial priority areas the following four areas with climate change as a cross-cutting issues:

(a) The relationships between biodiversity, ecosystem degradation and infectious disease emergence, and the implications for land use and ecosystem management;

(b) The links between dietary diversity, health, nutrition and diversity of crops, livestock and other components of biodiversity in agricultural ecosystems, as well as marine and inland water ecosystems;

(c) Links between consumption and the human microbiome;

(d) The contribution of biodiversity and the natural environment, including protected areas, in promoting mental and physical health, particularly in urban areas. Taking into account case studies in the recent WHO Euro office studies may provide insight on future directions and research gaps.

123. The group identified a series of potential actionable items for the exchange of case studies and best practices. In particular, the following points were made:

(a) Considering the focus on implementation it is very important that case studies reflect all target audiences and do not only address infectious diseases or nutrition.

(b) Conducting a stakeholder mapping of the audience we wish to advocate to and raise awareness with (e.g. public, policy makers in MOH, MOE, scientific community, finance and trade, etc). It is important to identify how to most meaningfully support this work among stakeholders and to develop a message about biodiversity that relates to a key area of their work. Case studies should cover a broad spectrum so there is a variety of them with messages tailored to a diverse audience.

(c) Others noted that the group could consider targeting case studies around specific threats, or drivers, such as deforestation, and how that modulates disease outcomes.

(d) The importance of focusing examples around the notion of prevention, preparedness and disaster risk reduction was further reiterated.

124. Several platforms, mechanisms and institutions were considered for the dissemination of case studies. These include:

(a) Consortia: the Consortium of Universities for Global Health, and other University Consortia that have programmes focused on One Health all have several case studies that could be useful for dissemination.

(b) The NBSAP Forum was suggested as one potential platform on which to further disseminate case studies, although outreach was acknowledged as a possible limitation as participants had to sign up to specific discussion groups. Moreover, The CBD had already submitted a request to initiate a discussion group on biodiversity and health and will follow up with UNDP to seek to move it forward.

(c) The UNISDR Science and Technology Partnership also has some 700 members which could be a useful platform for dissemination.

(d) The University of Geneva, which is part of a broader network on Global Health, will also further explore which other networks that may be used for the dissemination of case studies.

(e) The Brazilian Node of the GBIF platform may potentially include case studies on biodiversity and health as it is still under construction (sibbr.gov.br) It is an information system on Brazilian biodiversity. Further information can be sought.

(f) Other platforms such as UNU's Our World platform and Future Earth's scientific and engagement committee can also provide good platforms for dissemination.

125. The co-chairs inquired about the scope and breadth for the *compilation* of case studies and a series of **actionable items** were identified by the group. These notably include:

(a) In the shorter term, the ILG would provide an important platform for the dissemination of case studies and exchange best practices including through the CBD-WHO websites of the joint work programme. It will begin to compile and add case studies to its website as other



platforms are identified for further dissemination. A formal call for best practices could be issued to Parties to the Convention (with a notification) so they may play an active role in reporting actual progress and initiatives developed on the ground.

(b) Subject to the availability of resources, a second volume of the State of Knowledge Review, *Connecting Global Priorities: From Science to Implementation*, was identified as a useful means to further disseminate best practices among Parties. Case studies would be invited both informally, through regional capacity-building workshops, and more formally through a request to CBD Parties to report on progress and case studies would be considered for inclusion in the volume based on defined selection criteria;

(c) In the medium to longer term, once financial resources are secured, with sufficient resources, a database by type could also be developed. It could seek to be an open platform for exchange and dissemination so items remain current;

126. As a partnership, the ILG may also consider the Global Network of the National Academies of Sciences which includes regional hubs comprising national academies of sciences that go beyond health to also include engineering and other areas. The ILG could consider preparing a joint solicitation for case studies on biodiversity and health linkages. PHA has also begun to solicit a call for applied case studies on planetary health. They are already beginning that process and seeking ways to fund it. The ILG could help to shape a call for proposals or use the platform to disseminate case studies.

#### **Theme D) Communication, awareness-raising and advocacy**

The final sub-theme under Item 9 was introduced by Mr. Cooper, building on the discussion on the previous day led by Ms. Maria Neira (WHO). He reiterated that while cross-cutting, communication is a particularly crucial aspect. The CBD is examining opportunities to intensify efforts to increase visibility and outreach and it will be important to tailor messages each with policy-makers, targeted stakeholders identified by the ILG and the general public. At the next meeting of the ILG, it will be important to identify preliminary key messages for the ILG to focus its work. While the State of Knowledge contains several key messages, there are too many for a broader communication and awareness-raising campaign, though these can serve as the basis.

127. It was also noted that awareness raising should be linked to real life communication, and creative work to translate key messages aimed at reconnecting people to nature, including by developing infographics that could be used across various platforms and through social media.

128. The following **actionable items** were identified by the group:

(a) One common theme is the need to craft key messages in a form that can be adapted for different purposes. Core key messages can be developed within some of the categories in line with the Annex for the CBD decision XIII/6 which covers different dimensions of this issue and does provide some general guidance under each heading. It was agreed that an initial small number of simple key messages targeted to different stakeholder groups could be developed at the next meeting.

(b) Building on the IUCN World Congress on Public Health Global Leadership Dialogue, (with contributions from WHO and CBD), the document containing KM can be reformulated and reused by the ILG and disseminated in other forums including upcoming workshops and conferences.

(c) Develop a presentation jointly which could be adapted to specific target audiences.

(d) The group agreed that an important means to disseminating key messages this work is through focal points of the various inter-governmental agencies (CBD, WHO, FAO, OIE, etc). For example, at the OIE there are a number of focal points for select topics (e.g. wildlife) with training for these focal points in all regions every two years. Some of that time could be dedicated to training on the importance of biodiversity.

(e) There are a number of upcoming events (e.g. International Day for Biodiversity, World Health Day, World Environment Day, UN Environmental Assembly, etc) which can be harnessed as an opportunity to further disseminate key messages including through social media.

(f) At the 14th CBD Conference of the Parties, it would be valuable to identify high level speakers such as a champion Minister of Environment or Health to present some key messages in this regard. This is particularly relevant given that health is one of the mainstreaming priorities in the upcoming COP.

(g) It was also noted that the OIE holds regular general sessions and at the beginning of each session, they have slots for international organizations with whom they have agreement and this may constitute an additional opportunity to make a statement in the OIE General Session. For example, the Executive Secretary can be encouraged to make a statement on behalf of delegates of the ILG.

**CBD AND WHO COULD PREPARE AN OP-ED ARTICLE CO-SIGNED BY ALL MEMBERS OF THE ILG THAT COULD BE PROMOTED THROUGH MAINSTREAM MEDIA.ITEM 10: NEXT MEETING AND OTHER MATTERS**

129. Mr. Cooper (CBD) reiterated that the the twenty first meeting of the SBSTTA, policy guidance on how to better integrate biodiversity and ecosystem management in One Health and how to take everything forward the work of the ILG would also be considered and while we would not have time to return to them in this meeting, it would be important for ILG members to consider how to support the implementation of an eventual decision on the guidance on One Health at the next meeting of the ILG.

130. Participants have noted several areas in which different organizations are already carrying out relevant work as a subset of each agenda item and these would be acknowledged in the report but participants were also encouraged to think about other areas in which ILG members can work together to support implementation of mandates from the COP.

131. The OIE reiterated the importance of developing standards or guidelines adapted to protecting biodiversity in the context of human health and health more broadly (e.g. guidelines for the protection of wild bees), suggesting that this be included for discussion in the next meeting.

132. In regard to the guidance on One Health it was noted that often One health does not pay sufficient attention to biodiversity and ecosystem dynamics which are frequently under-represented. It was noted that One Health is an approach that can be applied to specific projects, plans and policies rather than a specific organizational mechanism. In some ways, planetary health may be perceived as a response to the frequent under-representation of environmental and ecosystem considerations in the One Health (although this is not always the case). It was also noted that One Health conversations are often very different depending on who you are speaking to and can be more or less focused on environment and ecology.

133. OIE, WHO, FAO conversations started by identifying a need, the problems they were trying to solve led to the need for the three organizations to work more closely through a formalized mechanism. It was noted that in 2011, an international conference on One Health was organized and three priority areas identified (rabies, influenza, and AMR) out of which the WHO-FAO-OIE collaboration emerged. In that conversation they tried to include environmental partners but there was little interest at the time, though it is clear that there is a strong needed for greater integration now. Because that happened at the same time as One Health was emerging, the terms got confounded but the OIE-FAO-WHO collaboration is perhaps more explicitly focused on the animal-human interface than many other applications of One Health. At the country level, a similar situation occurred and environment was not systematically included which may explain, at least in part, why there has often been less direct involvement of the environment sector in the formal collaboration. Now that the notion of One Health has matured, there may be greater opportunity to expand the WHO-OIE-FAO partnership.

134. WHO noted that the IHR monitoring and evaluation framework is very focused on the global health security agenda principles at the moment (closely aligned with the One Health approach). The monitoring and evaluation framework has tried to promote a more inclusive approach so when country IHR monitoring is carried out all stakeholders are around the table.

135. A participant suggested the ILG be kept informed of developments on the World Bank Operational Framework for One Health so the broader group may also feed into follow up in this area. It was agreed the link would be shared in 2018 when made available on the World Bank website.

136. It was suggested that a possible one to achieve greater inclusiveness of the environment sector in One Health in the work of the ILG could be to examine mosquito-borne diseases such as malaria, Zika, in which ecological components may be prominent. It was suggested that focusing on the landscape, reservoir, vector and pathogen in tandem was an important entry point, noting that yellow fever would be an excellent case study for the ILG to consider in its work. Some questioned the value of focusing the ILGs work on One Health on a case-by-case basis suggesting there may be a more systematic way to ensure greater integration of the environment/biodiversity components in the ILG's work on One Health. Two ways forward were put forth: On the one hand, issues that encapsulate those links may be selected for future work. On the other, the ILG could serve as a resource for any relevant issues that arises. It was agreed that the second option was preferable but it will be important for co-chairs to develop a common narrative in the first instance.

137. Moreover, with regard to the ILG's mandate to engaging on environment/biodiversity in international One Health conversations and activities (of the OIE-WHO-FAO) more fully it was suggested that to fulfill this mandate the ILG could also propose themselves as a partner of the environment sector for international health issues. It was suggested that one way to meaningfully begin to engage with this group would be for the ILG to identify areas in which biodiversity and ecosystem health inputs are particularly important to addressing a given health issue in which collaboration is required. The idea was raised that the group could enter into an existing 'One Health' conversation, i.e. how can the environment sector contribute to control of health issues in which WHO, OIE, and FAO were already working that had a biodiversity/environment component. The ILG will further develop ideas and proposals on how this can be achieved at the international level in future meetings of the ILG. Some initial discussions will be proposed among a subset of members of the ILG on how to engage at this level as well and will be further discussed at a future meeting.

138. Prior to summarizing key actions, the co-chairs invited the group to make final comments on the Terms of Reference and Modus Operandi for the ILG. Further ideas in preparation for the next meeting were also invited.

139. To conclude, the following summary and follow-up actions were identified. It was agreed:

(a) The ILG could support further work on indicators on biodiversity and health, leveraging existing biodiversity indicators to meaningfully inform public health work. It will also submit further information requested by the Chinese CDC in this regard. ILG Members will give further thought to other partners who may assist with this task.

(b) The ILG will continue its work to further define initial priority areas with a view to preparing a work plan/roadmap for further work in each of them.

(c) The ILG will also work to develop key messages for each of the areas identified as initial priority areas for the development of key messages on: 1) ecosystem degradation 2) diversity of diets/nutrition 3) urban green spaces 4) prevention. Simple key messages will be formulated for each of these, with climate change as a cross-cutting issue. Simple key messages that can be disseminated on social media platforms should be prioritized.

(d) Once the work plan/roadmap is defined a more specific research agenda, aligned with policy priorities, will also be identified. This item will be discussed further at future meeting of the ILG.

(e) The ILG will further explore ways in which the ILG can support Parties in the implementation of the guidance on integrating biodiversity and ecosystem management in One Health, in line with the outcomes of SBSTTA 21.

(f) The ILG recognizes the need to raise awareness of biodiversity and health co-benefits within the health sector as a key priority. Raising these issues within the World Health Assembly was also identified as important.

(g) The ILG will seek to support a future World Health Day and related events with a focus on biodiversity for health as a core theme. It will explore ways to build momentum towards these.

(h) The ILG should also consider ways to strengthen synergies with the other Rio Conventions. This objective will be discussed further in the next meeting of the ILG.

(i) A medium-term cross-sectoral strategy/roadmap should be developed and joint activities identified based on a one to four-year time frame. This will contribute to building momentum toward key international events (e.g. COP 14 in Egypt, possible Heads of State Summit on the margins of the General Assembly, COP 15 in China, etc.).

(j) The ILG will explore ways to raise awareness within the WHO constituency including in future meetings of WHA. It was noted that a CBD COP with a strong focus on health could be a significant catalyst for further discussions at WHA particularly if key messages are jointly developed and disseminated prior to the meeting.

(k) The current CBD COP presidency (Mexico), and upcoming COP presidencies (i.e. Egypt and China respectively) and other countries should also be encouraged to support leadership in this area particularly given the immediate relevance to SDGs.

(l) The CBD Secretariat will also endeavor to communicate with the IPBES Secretariat in regards to the global assessment to raise attention to these issues.

(m) The ILG identified a need to communicate on the importance of biodiversity and health among intergovernmental organizations, including via different focal points and through respective capacity-building activities.

(n) Relevant ILG members will be invited to contribute to the development of an initial 10-part 'pilot' module for the Massive Open Online Course (MOOC) for Global Health led by the University of Geneva. The module will focus on links between biodiversity loss and other global environmental changes in the context of food systems.

(o) The ILG will discuss a concrete timeline for the development of a MOOC aimed at policy-makers, aligned with the findings/themes covered in the State of Knowledge Review.

(p) The ILG will examine ways to further support capacity-building and awareness raising including through CBD-WHO workshops and the development of tools and guidance.

(q) ILG members are invited to submit their case studies for inclusion on the CBD-WHO health and biodiversity website as a first step and further consider a more formal platform/database for the dissemination of case studies and best practices in the longer-term.

(r) ILG members will take steps to develop initial criteria for the inclusion of case studies for a prospective follow up volume to the State of Knowledge Review, *Connecting Global Priorities: from Implementation to Practice*.

(s) ILG members will identify further ways in which it can contribute to the three action networks developed under the UN Decade for Nutrition.

(t) The concept, scope and feasibility of preparing or contributing to a joint study to estimate the global burden of disease associated with biodiversity loss and ecosystem degradation would be explored and further discussed at the next meeting of the ILG.

(u) A limited number of additional members may be invited to join the group as core members and/or expert observers, including to ensure regional balance.

(v) Co-chairs would jointly prepare an overall narrative on One Health to guide future work of the ILG in this area and to support implementation of the One Health approach more broadly. The proposed narrative would be presented to ILG members at a future meeting of the ILG.

(w) At the international level, co-chairs will also discuss potential opportunities to engage with One Health at the international level through the WHO-OIE-FAO collaboration.

140. The CBD reminded participants that the Secretariat would report on activities carried out under the joint work programme, including the first meeting of the ILG, at the twenty first meeting of the SBSTTA.

141. It was agreed among all members that the group is committed to continuing the work of the ILG. Members emphasized the unique collaboration and added value of the ILG.

142. Possible locations for the next meeting of the group were also discussed. It was agreed that because the majority of ILG participants are from Europe, it would be preferable to meet in Europe in 2018. This could have the added benefit of ensuring greater WHO representation.

143. Views were also exchanged on intervals of time to prepare for the next meeting prior to the next face-to-face meeting. It was agreed that a short virtual meeting would be planned in the first quarter of 2018. The second face-to-face meeting will be held before the fourteenth Conference of the Parties.

#### **ITEM 12. CLOSURE OF THE MEETING**

144. Mr. Cooper (CBD) thanked WHO colleagues as hosts and co-chairs for hosting the first meeting of the ILG on biodiversity and health and for valuable logistical and technical support. He also thanked participants of the ILG for exceptionally active, and collaborative, participation.

145. Mr. Campbell-Lendrum also thanked all participants, and the CBD for its valuable collaboration in helping to drive the process forward. He concluded by emphasizing the importance and value of also engaging the next generation in this work.

146. The first meeting of the interagency liaison group on biodiversity and health was closed at 6p.m. on 5 May 2017.

**ANNEX I – PROVISIONAL AGENDA**



**First Meeting of the Interagency Liaison Group on Biodiversity and Human Health  
At the World Health Organization  
Geneva, Switzerland 4-5 May 2017  
(Room M105)**

**DAY 1**

**9:05 - 9:15 a.m.:** Pick-up at the WHO main entrance

**9:15 - 9:30 a.m.:** Registration and welcome coffee

**Item 1: Opening of the Meeting**

- I. Welcome by WHO Director, Department of Public Health, Environmental and Social Determinants of Health (PHE), Dr. Maria Neira

**Item 2: Organization of the Work**

- I. Overview of purpose of the Interagency Liaison Group on Biodiversity and Health (Diarmid Campbell-Lendrum and David Cooper, co-chairs)
- II. Self-introductions: core members and expert observers
- III. Organizational matters:
  - i. Adoption of agenda

**Item 3: Background presentations on Biodiversity and Health: Overview**

- I. Strategic Plan for Biodiversity 2011-2020 & CBD-WHO joint work programme on health and biodiversity (Cristina Romanelli, CBD Secretariat)
- II. The Rockefeller Foundation Lancet Commission on Planetary Health report and synergies with the State of Knowledge Review on Biodiversity and Health (Prof. Andy Haines, LSHTM)
- III. Questions & Answers
- IV. Discussion with participants of the ILG on leveraging the CBD-WHO joint work programme on biodiversity and health

**Item 4: Role of the Liaison Group and Terms of Reference**

- I. Role of the Interagency Liaison Group on Biodiversity and Health (Mr. David Cooper)
- II. Presentation of Terms of Reference and Modus Operandi
- III. Mandates under Decisions XII/21 and XIII/6

**12:30-1:30 p.m.:** Lunch

**Item 5: Presentations by Core Members: Introduction of key activities within their organizations and potential areas of collaboration with the ILG**

**Item 6: Brainstorming: Draft guidance for the integration of biodiversity and ecosystem management in “One Health”**

**5:30 p.m.:** Closure of the meeting for the first day

**DAY 2**

**9:15 - 9:30 a.m.:** Pick up and welcome coffee (Meeting to be held in Room L14)

**Item 7: Organizational Matters**

- I. Recap from the co-chairs on the outcomes of the first day of the meeting
- II. Questions comments by participants on outcomes of the first day of the meeting

**Item 8: Relevant activities and potential areas of synergy: presentations from WHO followed by invited experts**

- I. Francesco Branca, WHO: Integrating Biodiversity and Human Health in the Decade for Nutrition
- II. Aldo Di Benedetto, Italian MoH: Biodiversity and Health in the context of the G7
- III. Qiyong Liu, China CDC: Capacity building and the Chinese Center for Disease Control and Prevention
- IV. Manuela Da Silva, FIOCRUZ: biodiversity and human health in megadiverse Latin America
- V. Carlos Zambrana Torrelio, Ecohealth Alliance: Ways forward for biodiversity monitoring, indicators and human health outcomes
- VI. Rafael Ruiz de Castañeda & Isabelle Bolon, University of Geneva: One Health research and practice
- VII. Montira Pongsiri, Planetary Health Alliance: Science-policy bridge building: case studies from planetary health science policy engagement

**12:30-1:30 p.m.** Lunch

**Item 8 (continued): Briefing on relevant activities and potential areas of synergy**

- VIII. Timothy Bouley: World Bank activities on climate and health and One Health  
(by teleconference)
- IX. Questions and answers to invited expert observers

**Item 9: Ways forward: Areas of cooperation among the members of the ILG to support the implementation of decision XIII/6**

*Select experts will be invited to initiate discussion on activities and ways to strengthen collaboration among ILG members in each of the following areas. All participants are encouraged to contribute to this dialogue.*

**i. Capacity-building**

*Discussion on possible collaboration for capacity development, and promoting collaboration at the national level building on previous regional capacity-building workshops on biodiversity and human health*

**ii. Datasets , metrics and indicators**

*Discussion on available data sets e.g. links between ecosystem degradation, biodiversity loss and infectious disease emergence*

**iii. Research gaps and best practices**

*Building on the findings of the State of Knowledge Review, discussion on key research gaps and best practices*

**iv. Awareness-raising**

*Collaborative opportunities for the development of tools and awareness raising materials*

**Item 10: Next meeting and other matters**

- I. In addition to areas of collaboration identified during the brainstorming session, core members will be invited to identify and summarize key areas for follow up action and collaboration to better integrate and disseminate biodiversity and health linkages drawing on discussions held during the meeting.
- II. Next steps: CBD SBSTTA 21 to be held in Montreal, Canada in December 2017
- III. Next meeting of the Interagency Liaison Group on biodiversity and health

**Item 11: Closure of meeting**



**ANNEX II - LIST OF PARTICIPANTS**

Name	Organization
Maria Neira	World Health Organization/PHE
Diarmid Campbell-Lendrum	World Health Organization/PHE
Marina Maiero	World Health Organization/PHE
Elena Villalobos	World Health Organization/PHE
David Cooper	Convention on Biological Diversity
Cristina Romanelli	Convention on Biological Diversity/ CBD-WHO joint work programme on biodiversity and health
Enrico Baccioni	CGIAR / Bioversity International (CGIAR)
Wirya Khim	UN Food and Agriculture Organization (FAO)
Catherine Machalaba	Future Earth
Peter Cochrane	International Union for the Conservation of Nature (IUCN)
Francois Dias	World Organization for Animal Health (OIE)
Fanny Demassieux	UN Environment (UNEP)
Tiffany Hodgson	Nations Framework Convention on Climate Change (UNFCCC)
Chadia Wannous	United Nations Office for Disaster Risk Reduction (UNISDR)
Unnikrishnan Payyappallimana	United Nations University (UNU) represented by UNU International Institute for Global Health (UNU IIGH)
Aneke Oenema	UN Standing Committee on Nutrition (UNSCN)
<b>Expert observers</b>	
Qiyong Liu	Chinese Centre for Disease Control and Prevention (China CDC)
Peter Daszak	EcoHealth Alliance (EHA) / Future Earth
Carlos Zambrana Torrelío	EcoHealth Alliance (EHA)
Andy Haines	London School of hygiene and Tropical Medicine (LSHTM)
Manuela Da Silva	Oswaldo Cruz Foundation (FIOCRUZ)
Aldo Di Benedetto	Ministry of Health, Italy
Montira Pongsiri	Planetary Health Alliance (PHA)
Christopher Golden	Planetary Health Alliance (PHA)
Carlos Corvalan	University of Canberra, Faculty of Health
Rafael Ruiz de Castaneda	University of Geneva, Institute of Global Health
Isabelle Bolon	University of Geneva, Institute of Global Health
Timothy Bouley	World Bank Group

**World Health Organization & WHO regional offices**

Benedetta Rossi	HQ/PHE
Jonathan Abrahams	HQ/WHE/CPI
Francesco Branca	HQ/NHD Nutrition for Health and Development
Anthony Mark Costello	HQ/FWC/MCA
Stephane de la Rocque	HQ/WHE/CPI/CME/One Health and Human-Animal interface Team
Daniel Hougendobler	HQ/PED Pandemic and Epidemic Diseases
Elizabeth Mumford	HQ Department of Country Health Emergency Preparedness and IHR/ One Health and Human-Animal Interface Team
Amelie Rioux	HQ/PED Pandemic and Epidemic Diseases
Magaran Monzon Bagayoko	Regional Focal Point, WHO AFRO
Matthias Braubach	Regional Focal Point, WHO Europe

**ANNEX 3 - TERMS OF REFERENCE AND MODUS OPERANDI**  
**INTERAGENCY LIAISON GROUP ON BIODIVERSITY AND HEALTH**

- (1) The Conference of the Parties, at its ninth, tenth and eleventh meetings, called for and welcomed the strengthening of cooperation with the World Health Organization (WHO) and other relevant organizations, on issues at the nexus of biodiversity and human health. At its twelfth meeting, the Conference of the Parties, in decision XII/21, welcomed progress in the preparation of the *State of Knowledge Review: Connecting Global Priorities: Biodiversity and Human Health*. The Conference of the Parties also emphasized the relevance of the linkages between biodiversity and human health for the 2030 agenda for Sustainable Development and the sustainable development goals of the United Nations.
- (2) At its Thirteenth Meeting, the Conference of the Parties, invites Parties and other Governments, inter alia, to consider using the State of Knowledge Review and its key messages, to promote the understanding of health biodiversity linkages with a view to maximizing health benefits, addressing trade-offs, and where possible, addressing common drivers for health risks and biodiversity loss. In the same decision, the Conference of the Parties also invited the Executive Secretary to collaborate with the World Health Organization and other relevant organizations, to promote and facilitate implementation of decision XIII/6, including by convening a meeting by the interagency liaison group on biodiversity and human health.
- (3) Biodiversity sustains health and well-being and biodiversity loss can be a major driver of ill health, also causing severe impacts on many aspects of human wellbeing as well as affecting multiple other sectors such as agriculture, aquaculture, fisheries, forestry, transport and trade.
- (4) Further to paragraph 9(d) of decision XII/21, the Secretariat of the Convention and the World Health Organization (WHO) have signed a memorandum of understanding (MoU). The MoU envisages the joint establishment of an interagency liaison group co-convened by the CBD Secretariat and WHO. The liaison group will further strengthen collaboration on the interlinkages between biodiversity and human health with other relevant organizations as requested in paragraph 9(e) of the same decision and will further the objectives set out in decision XIII/6.
- (5) The Executive Secretary of the CBD, in collaboration with WHO, invited several international organizations to form an Interagency Liaison Group on Biodiversity and Health.<sup>1</sup>
- (6) The Terms of Reference and Modus Operandi were presented to the liaison group Core Members at its first meeting, held in Geneva on 4-5 May 2017. The general purpose of the Liaison Group is to facilitate cooperation among relevant organizations to jointly maximize co-benefits to biodiversity and health.<sup>6</sup> In the period up to 2020 the Strategic Plan for Biodiversity 2011-2020, and in particular Aichi Target 14, the decision of the Conference of the Parties XIII/6 and the Sustainable Development Goals will provide the main focus of the work of this group.
- (7) The Liaison Group will work by exchanging information on relevant policies and activities to ensure that they are complementary so as to optimize efficiency, build

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<sup>6</sup> In line with the State of Knowledge Review and its findings, biodiversity refers to biological diversity is understood as understood as “variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems”, and refers at all levels from microbial to planetary scale interactions. Human health is understood as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”, in line with the WHO definition of health.

synergies and avoid any unnecessary duplications;

- (8) Among its priority activities, the Liaison Group will specifically address the following:
- a) Follow up to support decisions COP XII/21 and COP XIII/6 on biodiversity and human health and relevant decisions arising from the Conference of the Parties to the CBD and relevant decisions of the WHO;
  - b) Promoting inter-sectoral cooperation, education and capacity-development activities at the nexus between biodiversity and human health;
  - c) Supporting advocacy and/or awareness raising actions for policy makers, practitioners, and the general public at all levels to support the objectives and implementation of the Strategic Plan for Biodiversity 2011-2020, the Sustainable Development Goals (SDG), Climate Change Agenda (CCA), Sendai Framework for DRR, and the New Urban Agenda , including to support global health security.
  - d) Promoting cooperation in the gathering, access and use of relevant and reliable information and metrics on biodiversity and health.
  - e) identifying and articulating a multidisciplinary research agenda on biodiversity and health and promoting co-design, implementation and dissemination among members of the group in ways that support relevant policy processes, contribute to bridge science-policy gaps, and that ensure complementarity and coherence
- (9) As co-chairs, the Convention on Biological Diversity (CBD) and World Health Organization (WHO) invite the secretariats of the following international organizations participate in the interagency liaison group as core members:
- CGIAR Consortium
  - Food and Agriculture Organization (FAO)
  - Future Earth
  - International Union for the Conservation of Nature (IUCN)
  - World Organisation for Animal Health (OIE)
  - United Nations Environment Programme (UNEP)
  - United Nations Office for Disaster Risk Reduction (UNISDR)
  - UN System Standing Committee on Nutrition (UNSCN)
  - United Nations University International Institute for Global Health (UNU-IIGH)
  - United Nations Framework Convention on Climate Change (UNFCCC)
  - Regional offices of the World Health Organizations (WHO African Region, WHO Region of the Americas, WHO South-East Asia Region, WHO European Region, WHO Eastern Mediterranean Region, and WHO Western Pacific Region).
- (10) Further membership may be decided by the co-chairs of the Liaison Group and additional organizations may be invited to participate in the meetings and work of the Group.<sup>7</sup>
- (11) Each organization shall identify one or more representatives to participate in the meetings of

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<sup>7</sup> Other organizations that have played an important support role in the development of the State of Knowledge Review *Connecting Global Priorities: Biodiversity and Human Health* and contributed to the regional capacity-building workshops on the interlinkages between biodiversity and human co-convened by the CBD and WHO may be invited to participate, as expert observers, in meetings of the interagency liaison group. Other relevant organizations or experts may also be invited on an *ad hoc* basis as agreed by the co-chairs.

the Liaison Group and each organization shall determine a focal point to ensure communication between meetings.

- (12) Meetings of the Liaison Group may be held using modern technologies or face-to face meetings, as needed and will be co-convened by the CBD and WHO. The convening organizations will act as the secretariat of the Liaison Group, supported by other members as needed. The convening organizations can arrange teleconferences or e-mail exchanges, will prepare a draft agenda at least one month in advance of the meeting, chair the meeting and prepare and finalize the report, with support from other members, within one month after the end of the meeting.
- (13) The CBD Secretariat will provide a public web site<sup>8</sup> where updated terms of reference, final reports and other official documentation as finalized by the Interagency Liaison Group will be posted.

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<sup>8</sup> <https://www.cbd.int/health/ilg-health/default.shtml>