

Online Workshop:



BIODIVERSITY IN POST-COVID CROSS- SECTORAL CHALLENGES

May 31st 2021

An Eklipse and EC Knowledge Centre for
Biodiversity (KCBD) co-organized event

REPORT





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INTRODUCTION

The COVID crisis has revealed how fragile we are, how vulnerable our societies are to unforeseen global pandemics and how hectic political and policy responses become when faced with such an emergency. We were not prepared! The pandemic did not come as a surprise to the scientific community¹ who has long identified the potential risk of zoonoses linked to unprecedented land degradation, unleashed consumption of natural resources and an acceleration of biodiversity loss. This pandemic revealed the interlinkages between all sectors and biodiversity (our societies, economies, climate change, environment, and health). There are science-policy challenges to address before a new crisis emerges. Scientists are right now pulling knowledge together (for example in the 2020 IPBES Pandemics report and by setting the One Health High Level Expert Panel, but to be effective, these initiatives need to ensure appropriate uptake of knowledge and implementation.

This workshop on “Biodiversity in post-covid cross-sectoral challenges” aimed to explore these needs and to answer the question: how could we better address drivers of such pandemics? How can we also better prepare in case this happens again? What knowledge and evidence do we need to support EU policies, rendering them coherent and effective across sectors to best tackle the interlinkages between biodiversity, human health and our economies²?

The workshop specific objectives were to: 1) clarify the interlinkages between different sectors, biodiversity and health, 2) explore how cross-sectoral approaches/actions can help prevent pandemics (root causes) and be better prepared when they occur, 3) identify knowledge needs to support these cross-sectoral approaches/actions

The workshop gathered 40 participants including representatives from selected European Commission services (available policy DGs representatives from relevant sectors to the workshop topic), together with a great range of high-level scientists and a journalist. (Annex 1-List of participants). Participants were invited to

¹ [“A world at risks”, WHO report, 2019](#)

² as promoted in EU Policy frameworks such as the EU Green Deal and the EU Biodiversity Strategy for 2030



reflect on the drivers of pandemics, how these drivers are linked to EU policies and what key actions could be started to address these drivers. Participants were then invited to think at what knowledge/evidence needs could provide a leverage for these actions and how these evidence needs could be formulated into policy driven requests. One or two requests will be then answered as part of Eclipse's H2020 Green Deal extension scoping study.

WORKSHOP ORGANISERS

After the welcome address, the two co-organisers - Marie Vandewalle for Eclipse and Christine Estreguil for the EC- Knowledge Centre for Biodiversity (KCBD)- introduced the background and context of this workshop. The workshop was facilitated and moderated by Estelle Balian, supported by Eclipse members for the break-out sessions.

EKLIPSE

BRIDGING THE GAP BETWEEN POLICY AND KNOWLEDGE ON BIODIVERSITY IN EUROPE

[Eclipse](#) was created in 2016 to help governments, institutions, businesses and NGOs make better-informed decisions when it comes to biodiversity in Europe. Eclipse's [robust process](#) for answering the need for evidence is what sets it apart. This innovative, ethical process enables to leverage collective intelligence from a diversity of experts in a broad set of countries. It ensures synthesized knowledge will be credible, relevant and legitimate – which allows it to be used effectively, even on contested issues.

Among the 55 requests submitted to Eclipse so far, [16 were selected](#); 13 addressed with outcomes (evidence) all publicly accessible and 2 requests are on-going. These requests cover a wide array of topics, ranging from developing an evaluation framework for nature-based solutions (see [Eclipse outputs](#) and main [EC follow-up report](#)) to better understanding impacts of green and blue spaces on mental health (see [Eclipse reports](#)). Requesters can submit their questions to Eclipse and receive targeted responses based on the best available knowledge within 8-18 months, depending on the [knowledge synthesis method\(s\)](#) used.



A European Union H2020 funded project, Eklipse was granted additional funding under the H2020 Green Deal Call, as part of the EU response to the COVID-19 pandemic, in order to organise this workshop and answer the need for evidence that will come out of it. In parallel, Eklipse is becoming financially self-standing under the [Alternet](#) umbrella.

THE KNOWLEDGE CENTRE FOR BIODIVERSITY (KCBD)

A EUROPEAN COMMISSION INITIATIVE TO SUPPORT THE BIODIVERSITY STRATEGY TO 2030

The [KCBD](#) is an European Commission initiative that was launched in October 2020, to improve knowledge management and support EU biodiversity related policies, prioritizing particularly the [EU Biodiversity Strategy for 2030](#).

The mandate of the KCBD is to:

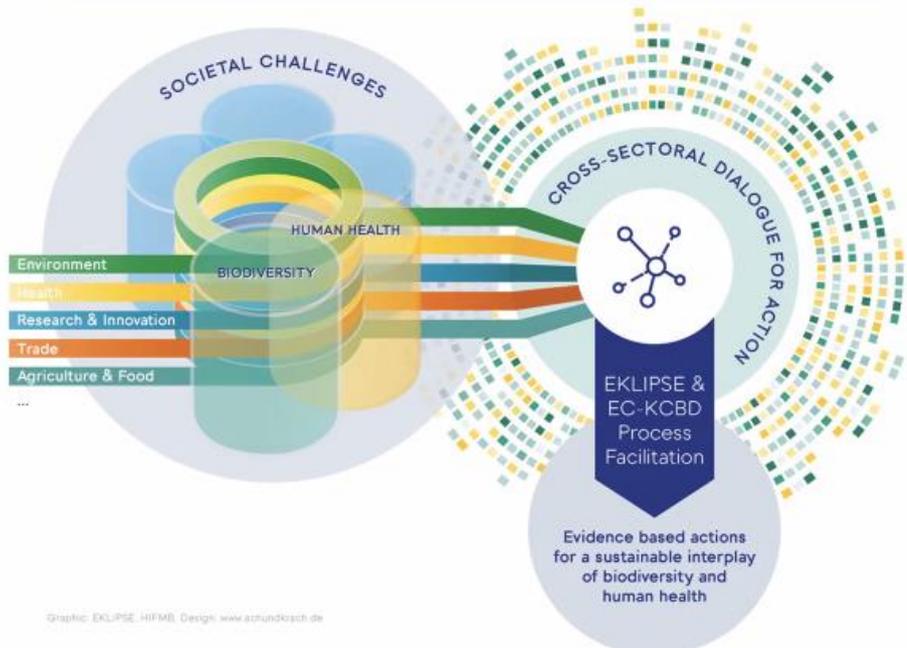
- i. Track and assess progress in implementing the EU Biodiversity Strategy for 2030, by the EU and its partners, and contributing to implementing biodiversity related international instruments;
- ii. Foster cooperation and partnership (including between climate and biodiversity scientists) by supporting dialogue and coordination of communication across EC services; and
- iii. Underpin policy development, by translating scientific information and enhancing policy coherence of sectors and biodiversity.

Hosted by the [Joint Research Centre of the European Commission](#), and steered by [DG ENV](#) and other policy DGs, the KCBD is not only a service which brings together knowledge for policy on biodiversity, but also a forum where specific questions can be identified and addressed in priority and where European research can strengthen collaboration and policy support. This new Stakeholder Forum of the KCBD will be launched mid-2021.

Eklipse and the KCBD have joined forces to co-organise this workshop and enable a dialogue around biodiversity and health. This is relevant to the transformative change pillar of the EU Biodiversity Strategy for 2030. This workshop paves the way to define the modus operandi for other thematic workshops to be organised in the KCBD forum context.

WORKSHOP METHODOLOGY

Framing cross-sectoral evidence needs to help improve pandemic prevention



The workshop was organised in two sessions (Annex 2- Workshop agenda).

The morning session focused on understanding the drivers of current pandemics through a panel conversation involving **Marie-Monique Robin** (journalist, film director, author of the book “Making Pandemics: Preserving Biodiversity, an Imperative for Planetary Health”), **Serge Morand** (Eklipse KCB, Health Ecology expert, CNRS - CIRAD - Faculty of Veterinary Technology, Kasetsart University, Bangkok), **Thomas Mettenleiter** (Expert on Molecular biology of animal viruses, One Health High Level Expert Panel (OHHLEP), Friedrich-Loeffler-Institut) and **Doreen Robinson** (United Nations Environment Programme, Department on Biodiversity and land).

The panel was followed by break-out group discussions on two questions:

1. What actions in your sector policies or across several sectors could be key and would contribute to prevent pandemics through limiting impacts on biodiversity?
2. What leverage do you need in terms of knowledge/evidence to support these coordinated actions across sectors?



Participants were split into 4 groups of 6-8 people and worked on MURAL, a virtual whiteboard, to capture ideas. A short reporting of highlights from each group ended the morning session.

The afternoon session began with the presentations of two existing initiatives: a presentation of the results of the PREZODE recent workshop on existing initiatives for preventing pandemics by **Pierre Dussort** (INRAE, PREZODE), and a presentation by **Hans Keune** (INBO, European OneHealth/Ecohealth Community of Practice) on current examples of One Health implementation and actions at international and Member State level (example of Belgium).

The break-out group discussion then reconvened to take a step into the future: building on lessons learned (i.e., change actions that were identified in the morning) and taking into consideration the current initiatives. The objective was to take a moment and imagine the best possible situation in 5 years from now, notably that sector policies are more aligned to prevent pandemics, they have implemented actions to limit impacts on biodiversity, relevant knowledge synthesis and evidence have been made available, and transformative changes in society are effective. How did we get there reflecting on the key actions identified in the morning session and going more in detail on knowledge needs and formulating one or more policy driven requests to Eclipse?

1. Based on evidence needs to support the identified cross-sector actions: what would be possible "Requests to Eclipse"?

Participants were invited to interact during the workshop through mentimeter, answering polls and questions and also submitting questions and comments to the panellists and speakers.



MARIE-MONIQUE ROBIN (INDEPENDENT JOURNALIST AND AUTHOR OF « MAKING PANDEMICS »):

After interviewing 64 scientists from all continents, the main highlights are that Emerging Infectious Diseases (EID) are increasing and accelerating and the drivers are deforestation, land use change, and globalisation with road construction, mining, life stock intensive production, monocultural culture such as palm trees or soy beans. We did not realise before how important biodiversity is and, if we destroy biodiversity, we trigger new diseases. If we do not make radical changes in our socio-economic systems, scientists say we may enter or even have already entered a time of pandemics and chronic lockdown. Discussing with scientists, it is clear that we can't protect biodiversity without considering local people, poverty and inequalities.

SERGE MORAND (CNRS-CIRAD)

There are several processes involved and we observed more and more outbreaks affecting animals, plants and humans. The emergence of zoonosis was something that pushed towards a needed improvement in diagnosis. The coronavirus pandemic was very much a failure in prediction, a failure in prevention and a failure of preparation. In emerging infectious diseases since 1998, 9 out of 8 viruses that originated from bats seem to be linked to climate variability and connected with livestock as the path to humans. We have drastically increased livestock animals farming and industrial production and they represent potential reservoirs for pathogens especially pigs that are genetically close to humans. Also, security of laboratories manipulating pathogens could be an additional concern.

Regarding the discussion on the origin of SARS-COV2 from a lab, we don't know but this is somehow not the real question. If we have P4 labs it is because of increasing emerging Infectious diseases and these viruses all come from animals (both wild and domesticated). Emerging infectious diseases are emerging more. In parallel, they are also better diagnosed and tackled. We need more integrated science (public health, animal health, environment) to address the root causes.

THOMAS METTENLEITER (FLI)

Humans and animals are part of the same environment and infections are part of daily life. There are two million deaths annually from zoonotic diseases, primarily from what we call (neglected) tropical diseases. One Health is not a novel concept, it



brings together human, animal and environmental health to catalyse coordination, interaction, cooperation. It has not yet made the difference it could make because it has not reached the policy and implementation level sufficiently. We could ask ourselves why there is not enough attention. The COVID19 pandemic, being of a global scale, put the spotlight on the need for such an integrated approach

Taking an historical perspective of pandemics, the most important thing is to act early. One of the first tests was the Swine Flu of 2009 and now SARS-CoV-2. However, there are viruses that are much more contagious or damaging than the coronavirus, therefore readiness is key. In terms of risk analysis, there are some standard risk assessment tools used for example for food safety and we shall explore how they can be used in our sector. In terms of surveillance and early detection, we need to have adaptable procedures as each situation is different, so the emphasis needs to be on efficient and quick detection and fast information sharing. Knowledge has improved but it should be translated according to the target audience. It requires involving also social sciences and the issue of inequalities in this pandemic context.

QUESTIONS AND COMMENTS FROM PARTICIPANTS:

- And what is the role of the climate crisis? Do you see an acceleration of processes due to, e.g., the warming?
- What is the role of the sea in all this? It is as exploited as land; we just don't see it. And there are many species of viruses...
- Are zoonoses such as viral haemorrhagic fevers actually emerging or are they better diagnosed and spread more easily due to higher mobility of people?
- Comment from representative of WHO: "we need to catalyse political will for prevention involving biodiversity, Climate Change and Health"
- Comment from IAEA (JPC): "we should stop looking for the guilty in every crisis, and we also need to know what exactly are those coordinative actions often mentioned without further details"

DOREEN ROBINSON (UNEP)

The planet never had to support 10 billion people and their consumption (70 % of terrestrial areas are impacted by humans). While pandemics have always existed, they never occurred in this context (human dominated) and at this scale (extent). We need more knowledge on the ecological factors but also understand the evolution of our impact to better assess the risk of pandemics. We need a framework to



understand risk and not only in terms of health but also the economy, behaviour and psychology, etc.

What can we do to address habitat destruction which is one root cause of zoonoses, to change intensive agriculture and develop a more regenerative and sustainable production? Since 1940 a quarter of emerging infectious diseases have some links with agriculture intensification; we can have more biosafety, more biosecurity etc...but this is not enough, there are global challenges and the necessity to have a system approach. Connections such as deforestation and diet style are not obvious enough to people. A bit like a puzzle, if you try to put pieces together here and there, it does not work. You need to understand the system, the life cycle behind the demand of products from the natural resources, and articulate these together to make the big picture. We need to address the causes for better preparedness.

MARIE-MONIQUE ROBIN

There are studies on predicting emerging infectious diseases, like the one of Rodolphe Gozlan. He began in Guyana, trying to put all the drivers in a simulation. Poverty, climate change, land use, etc. The goal was to predict territories of emergence and what came out at the time was Uganda and Wuhan as the places most at risk!

In Gabon, Mr. Maganga, is a bat specialist; we spoke about bush meat. Prohibiting bush meat is not the solution as local populations are hunters and this is the only source of proteins. Education is important to prevent hunting in protected species and to teach how to manipulate animals safely.

We have to protect biodiversity because it's a win-win measure. But we cannot do it if we do not take into account poverty and inequality. In Africa and Asia, there are many national parks. However, the protection is not effective enough because of the lack of management plans and also because local people are not accounted for, while they need natural resources to survive. Biodiversity is both a health and a social issue. It would be a big mistake to address them separately. Biodiversity, climate, health, all have to be tackled together from local to global dimensions and integrating social issues; everything is interlinked. For example, we should not keep on importing industrial meat because it underpins deforestation, and indirectly poverty. It's not possible to keep on promoting monoculture in Indonesia to export palm oil to France, we are just promoting and encouraging deforestation and increasing the risk of emerging infectious diseases. We need to connect all activities and to effectively



account in our economies for the environmental costs and the potential emerging infectious diseases risks.

If we continue business as usual it would be very sad for our children and the next generations, we have to listen to scientists now.

SERGE MORAND

Business as usual is pushing us back. We need to change the way we work and for research to be more effective, we need to break down the bureaucracy. We have to change the system and trust scientists more, to give them more space and time to work. Large EU projects take half of the time just to manage the administrative tasks, we need more efficient projects which are focused on specific questions in an interdisciplinary way. Interdisciplinary research is underfunded. Currently, most funding is more and more narrow in scope. We need to build interdisciplinary expertise from the start and fund it properly. Notably, unpacking the emerging infectious disease issue into an interdisciplinary process

DOREEN ROBINSON

We have been documenting the problems, now we need to look at potential solutions. We have to support risk mitigation measures, and improve risk assessments. Better risk assessment is firstly about how to better prevent emerging infectious diseases. There are many barriers (mindset, financial, aggravating factor of the climate crisis) and we have to frame risk more holistically to make sure we don't restart from scratch each time there is an outbreak of emerging infectious diseases.

Climate change may fundamentally change our agroecological zones, we have to look much more at the climate change risks associated with our agriculture and the risk of emerging infectious diseases.

BREAK-OUT GROUP SESSION 1

GROUP 1

Present: European Commission - DG TRADE, International Atomic Energy Agency (IAEA), Institut National de Recherche pour l'Agriculture, l'Alimentation et



l'Environnement (INRAE) /PREZODE, European Environment Agency (EEA), World Health Organization (WHO)

Eclipse and EC-KCBD Team: Allan Watt (facilitator, Eclipse), Christine Estreguil (note taker, EC-KCBD), Karla Locher (mural, Eclipse)

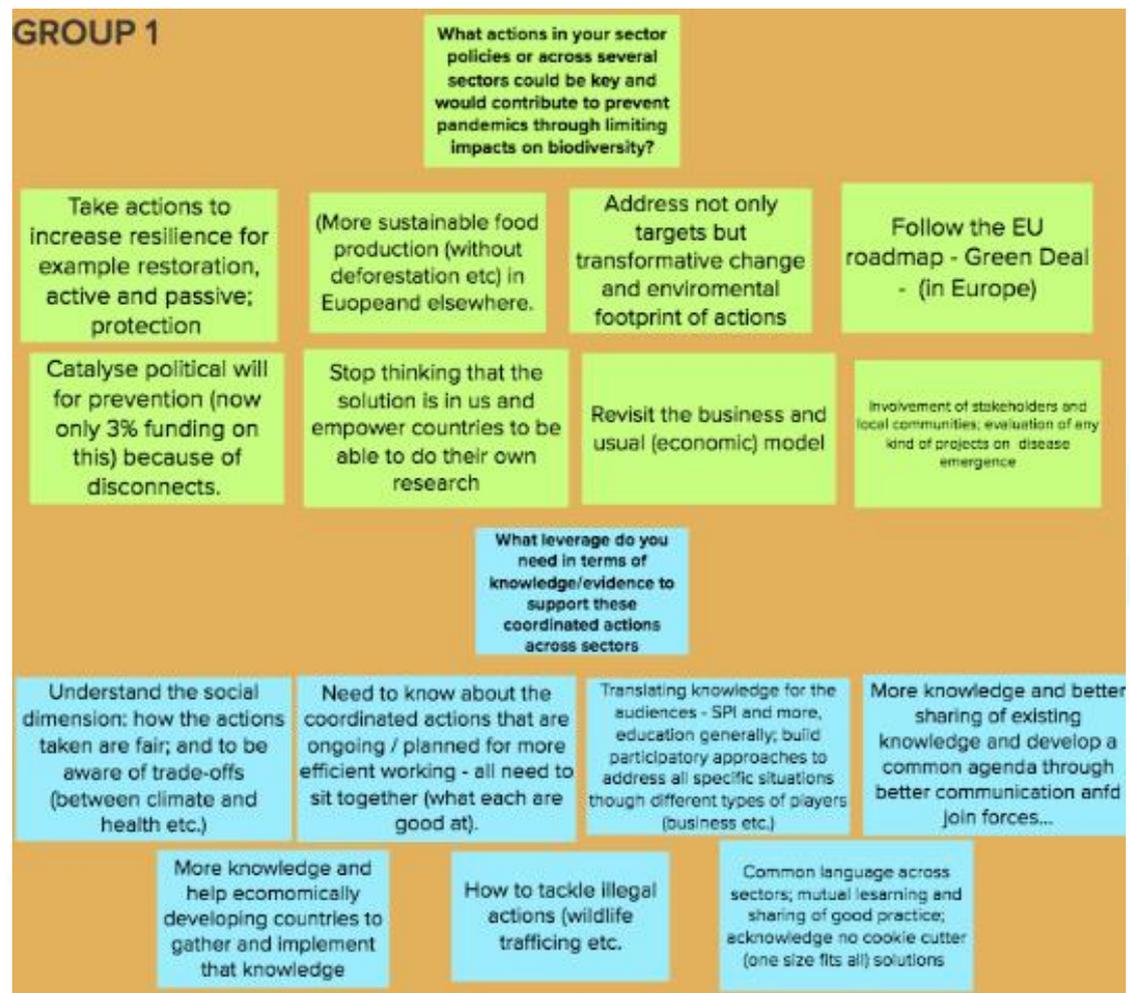
WHAT ACTIONS IN YOUR SECTOR POLICIES OR ACROSS SEVERAL SECTORS COULD BE KEY AND WOULD CONTRIBUTE TO PREVENTING PANDEMICS THROUGH LIMITING IMPACTS ON BIODIVERSITY?

1. More actions are needed to *increase systems resilience and protection*, such as restoration passive and active. This could also be done by following the EU road map for Europe, in this case, the Green new deal.
2. It is relevant to not only think that the solution comes from us (Europe, Western countries) but *we need to empower other countries so they find their own solutions*, this should include support in areas such as research.
3. There is a lot of room for *catalysing political will, because currently there is a clear disconnection between short and long-term in prevention actions*.
4. More *sustainable food production is needed, integrating the trade-offs of overseas productions*, that means for example deforestation-free food production (in Europe and abroad)
5. It's crucial to *revisit the business and current economic model*, addressing not only targets but going beyond into a transformative change.
6. Need to integrate local communities and stakeholders within the process and also that any kind of project needs to go through an impact evaluation in terms of disease emergence.

WHAT LEVERAGE DO YOU NEED IN TERMS OF KNOWLEDGE/EVIDENCE TO SUPPORT THESE COORDINATED ACTIONS ACROSS SECTORS?

1. Let's sit together; instead of only talking about coordinated actions *we need to know more about which coordinated actions are ongoing/ planned for more efficient working*.
2. More and *better sharing of existing knowledge is crucial, as well as developing a common agenda*.
3. *A common language across sectors is needed*, learning from past experiences and good practice because no cookie-cutter fits all so that no solution will fit all problems.

4. Need to translate knowledge to different audiences (SPIs, education in the broad sense); considering *more participatory approaches that include different types of stakeholders*.
5. Better understand the social dimension, and *be aware of different agendas and their synergies and trade-offs* (climate, health, biodiversity, etc.)
6. More knowledge in different regions, topics is needed. Financial support to developing countries is crucial for them to gather and implement knowledge.
7. Topic for the afternoon: how to tackle illegal actions such as wildlife traffic.



KEY HIGHLIGHTS

- We need a generic action for resilience of the whole system, with pro-active and passive approaches)
- Knowledge from the developing countries and national to local livelihoods (accounting for the needs of people living there, and impacts of EU and others policy actions?)



- How to better generate effective knowledge with focus on cooperation, bring all the leading efforts together in a participatory way
- fit-for-purpose approach, meaning that knowledge needs to be translated to achieve better implementation, education, etc.

GROUP 2

Present: European Commission - DG SANTE, International Atomic Energy Agency (IAEA), European Commission, DG RTD, Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement (INRAE) / PEER, OneHealth/Ecohealth Community of Practice

Eclipse Team: Juliette Young (facilitator), Serge Morand (Note Taker), Candice Pouget (Mural)

WHAT ACTIONS IN YOUR SECTOR POLICIES OR ACROSS SEVERAL SECTORS COULD BE KEY AND WOULD CONTRIBUTE TO PREVENTING PANDEMICS THROUGH LIMITING IMPACTS ON BIODIVERSITY?

1. More socio-economic evaluation of technical prevention measures
2. Integrative risk assessment: more resilient and sustainable surveillance system, prioritization of surveillance areas (ecosystems/methodologies/actions)
3. Partnerships on pandemic preparedness:
 - . Creation of HERA: The European Health Emergency Preparedness and Response Authority
 - . Creation of One Health AMR (Antimicrobial Resistance) partnership
4. Improving the communication between networks with platforms (e.g., VetLab)

WHAT LEVERAGE DO YOU NEED IN TERMS OF KNOWLEDGE/EVIDENCE TO SUPPORT THESE COORDINATED ACTIONS ACROSS SECTORS?

1. Knowledge sharing with other institutions in an open platform
2. Tools to better understand what systemic approach means and the consequences in terms of policies



KEY HIGHLIGHTS:

- We need more socio-economic evaluations of prevention measures
- Better communication between sectors, networks, complement the networks (linking up the communication) etc... (there is a a lot of emerging partnerships and these need to be coordinated and ensure proper communication)
- For a better risk assessment, we need prioritization of risk areas and common methodologies.
- Surveillance system, need to be more sustainable with a dynamic process in order to design resilient surveillance systems.
- Timeliness and coordination of actions (quick responses needed while ecological responses are slow over decades)



GROUP 3

Present: European Commission-DG R&I, FAO, WHO, European Commission-DG ENV

Eclipse and EC-KCBD Team: Nils Bunnefeld (facilitator, Eclipse), Jorge Ventocilla (Note-taker/Mural, EC-JRC/KCBD)

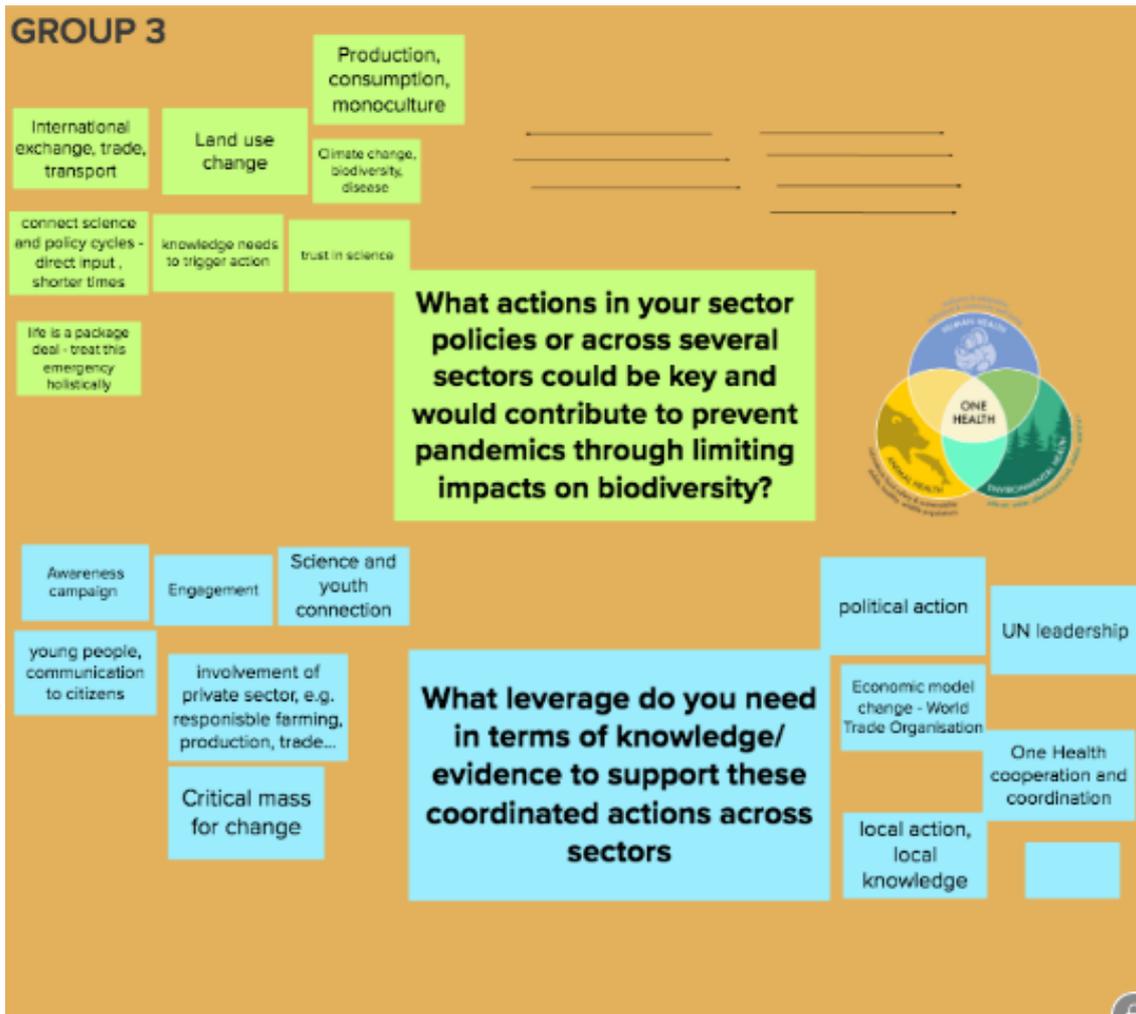
WHAT ACTIONS IN YOUR SECTOR POLICIES COULD BE KEY AND WOULD CONTRIBUTE TO A BETTER RISK ASSESSMENT AND/OR TO PREVENT PANDEMICS THROUGH LIMITING IMPACTS ON BIODIVERSITY?

1. Land-use planning: we need to consider potential future effects that land use change could bring about.
2. The volume and speed of the international exchange (goods and people), has exacerbated the problem for biodiversity and disease transmission.
3. The narrow economic paradigm is still the driving force. GDP does not capture wealth, yet we continue to use it. Need to address hyper-production. Knowledge and evidence are available, but there is still inaction.
4. Connect science and policy cycles to allow for direct input into decision making and economics. To change the economic model, political action needs to be mobilized, a leader in the economic and policy world is needed.
5. Large scale monoculture impacts on biodiversity, leading to incidence of zoonotic diseases.

WHAT LEVERAGE DO YOU NEED IN TERMS OF KNOWLEDGE/EVIDENCE TO SUPPORT THESE COORDINATED ACTIONS ACROSS SECTORS?

1. Evidence on its own is not helping to change things
2. Engage stakeholders, and sectors so that change is better accepted. Need to create a broad awareness
3. Need for UN Leadership: From Global Scale, to national scale. Local action, local knowledge.
4. To change the economic model, a key missing actor is the WTO.
5. The cooperation between scientists and youth. Youth as an entry point to citizens and future change.
6. Change will not be fast enough. There is a need from a critical mass, and the involvement of the private sector.

7. The pandemic has increased trust in science, now is a good time to build on that trust.



KEY HIGHLIGHTS

- Really allowing our leaders to see the links between Climate change and biodiversity and health.
- And taking into account youth movements: connecting the young people, involving them and engaging them more.
- The leadership from the top is important, as the One Health idea, bringing people together
- How can we engage and make aware a critical mass, including the young people and connect them to science to create real and lasting change for the next generation?



GROUP 4

Present: European Commission - FPI, European Food Safety Authority (EFSA), European Commission, Health and Digital Executive Agency (HADEA), Norwegian Veterinary Institute

Eclipse team: Ute Jacobs (Facilitator, Eclipse), Ana Lillebo (Note taker/Mural, Eclipse)

WHAT ACTIONS IN YOUR SECTOR POLICIES COULD BE KEY AND WOULD CONTRIBUTE TO A BETTER RISK ASSESSMENT AND/OR TO PREVENT PANDEMICS THROUGH LIMITING IMPACTS ON BIODIVERSITY?

Data and information related actions:

- Improve sharing of data, sharing points (wonder where to go to find shared data) and common formats

One health approach related actions

- Improve surveillance and monitoring/ warning system: not easy to do but we need to do it in a coordinated way through the “One health” approach [EB1]. We need to make it work better and avoid overlaps. System approach is to be operational as early as possible.
- Better coordination and timing for solutions: we need to put things in a broader context. It is not only DGs but now it is global and we need an international will behind One Health.
- knowledge gaps, private sector, politicians; how do we get all on-board for the solutions (the scientists are on-board).

Prioritisation and trade-off related actions

- There is a need to avoid finger pointing (namely to the private sector) and to join forces.
- There is a need for prioritisation to put things into context as there are a number of choices and all these choices come with cost.
- Do we try restoration and reforestation as a first step?

Momentum related actions

- Improve communication between DGs, Fragmentation is one of the challenges, we need to address some of these challenges.



- Economic drivers make the transition to a different system difficult. We all agree with big ideas, but at an individual level we do not change lifestyle (e.g., eating meat) how to change behaviours?
- Trade policy needs to be brought together with other policies for coherency (e.g., climate change). This is also the view of the EC through the EU Green deal.
- There is a window of opportunity for transformative change: It is currently shifting with all the meetings on biodiversity and the momentum created by the environmental movements.
- Perception of preparedness has change; opening the yes in policy; we need to move quickly, there is urgency because people are motivated during pandemics but demotivate quickly
- We need to be proactive rather than reactive

WHAT LEVERAGE DO YOU NEED IN TERMS OF KNOWLEDGE/EVIDENCE TO SUPPORT THESE COORDINATED ACTIONS ACROSS SECTORS?

Societal engagement

- We need nature-based risk assessment into private sector
- Societal drivers; involve more people; surveillance is important; give more funds (one part of the solution) involve local people

Strategic approach

- There is a need to break down the problem, identify the pieces that can be tackled together to contribute to the big picture. This is a way to break the silos and bridge, making things inter-operational and starting with small contributions. Breaking down in small actions to identify a pathway across silos.
- What scale is best? It is a global problem. How to address these actions at regional, EU, national, global scale?
- We need a set of categories of Science-Societal- drivers to support policy decisions
- Focus on the circles (referred to the one health image at the mural) will benefit the overlaps: science, policy and society. Looking at the van diagram we need to do better also outside the overlaps, in each circle

Scientific knowledge & communication

- Biodiversity and pandemics we lack a lot of knowledge
- We need better science translation to bring society to science: translate science to people and policy makers; animal and plants related diseases; reporting system to better communicate; communication platform (get the knowledge outside the science silo; science needs to do better there)



KEY HIGHLIGHTS

- The timing is key to move from a reactive to proactive approach. Reactive approach is underpinned by funding, what about pro-active approach? Societal engagement would be critical.
- It is important as there is a short time window now for implementing new actions.
- Some decisions will be difficult but there is a clear understanding of the current costs of pandemics so this is an opportunity to get things done and

the private sector may be more willing to engage and act using the current pandemic momentum. Communication from Science will be key.

SUMMARY OF PRESENTATIONS ON EXISTING INITIATIVES

PREZODE (PIERRE DUSSORT, INRAE)

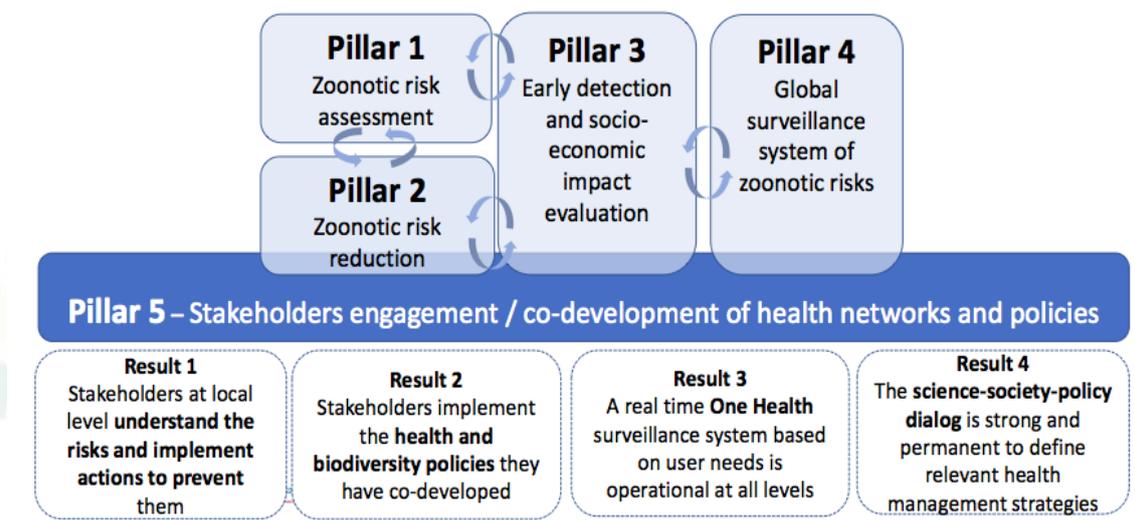
Some key highlights from the presentation:

- The increased frequency of the emergence of infectious diseases of animal origin demonstrates the need for a real paradigm shift: preventing the causes and improving early detection, in addition to seeking to curb Emerging Infectious Diseases' spread and impact.
- The international initiative PREZODE aims to constitute:
 - A framework for implementing and coordinating research projects, surveillance networks and operational projects to maximize their impact.
 - A platform for sharing knowledge acquired through past, current and future projects and capitalizing on activities in different regions of the world
 - A resource centre available to decision-makers to enable public policies to be put in place to reduce the risk of the emergence of zoonotic infectious diseases.

Structure and Next Steps

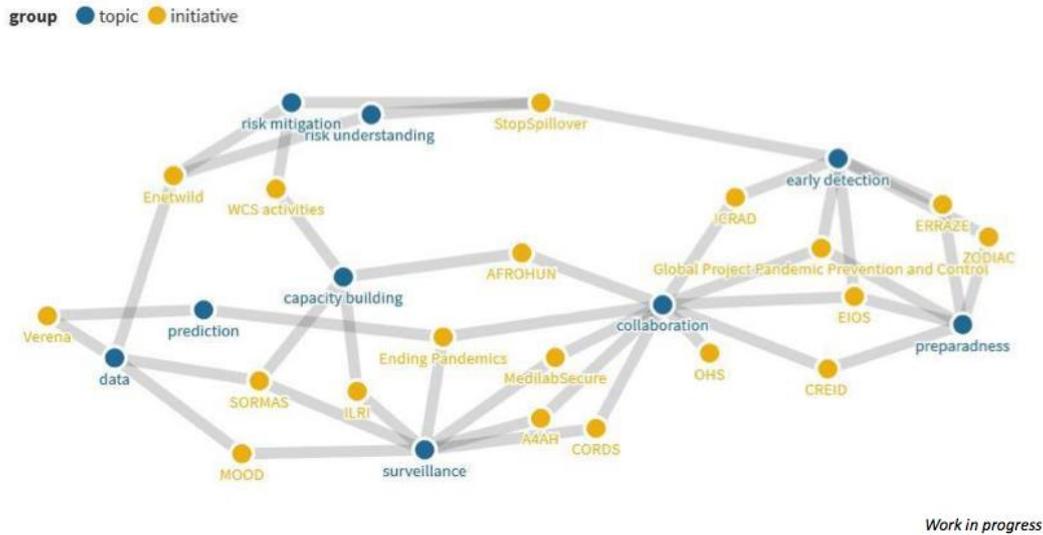


PREZODE: a science driven initiative to ensure sustainable impact



- Many initiatives are currently launched and there is a need to avoid duplication of efforts and have a coordinated strategic agenda to mutualise forces.

Way Forward



There is not enough funds on understanding the risks and on their mitigation

ONE HEALTH NETWORKS (HANS KEUNE, BBPF)

These networks allow for an integrated approach to engage experts of nature and health to explore nature related health benefits and nature related health risks.

There is a need for investing in interdisciplinary networks to have time to get to know each other and build a common language.

The paper on “European Nature and Health Network Initiatives”³ highlights the challenges to be overcome in order to put in place interdisciplinary and transdisciplinary networks. The Network for Eco Health and One Health: NEOH published a declaration on One Health and EcoHealth to provide some “etiquette” on how to work together. It is important to build capacity across all disciplines. The Belgian One health (BEOH) Network is also supporting the Belgian Ministry to adopt One health as a leading concept for their policy. BEOH has developed a survey and policy brief to build on an integrated view of the risks and benefits when cross-linking Nature and Health. A conference will be organised in November by BEOH on the One

³ Keune H. et al. (2019) European Nature and Health Network Initiatives. In: Marselle M., Stadler J., Korn H., Irvine K., Bonn A. (eds) Biodiversity and Health in the Face of Climate Change. Springer, Cham. https://doi.org/10.1007/978-3-030-02318-8_15



Health perspective on the EU green deal (circular economy in addition to climate change will be addressed during the conference) Furthermore the Flemish green deal on sustainable health care is also being launched.

BREAK-OUT GROUP SESSION 2

In this second group session, participants were invited to further explore what actions, particularly cross-sectoral ones, could allow for better prevention in the future. On the basis of the identified evidence needs to support these cross-sector actions, they were also asked to formulate possible policy driven Requests for Eklipse to further elaborate.

GROUP 1

Present: Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement (INRAE) /PREZODE, European Environment Agency (EEA), Norwegian Veterinary Institute, European Commission (REA), European External Action Service, EEAS

Eklipse and EC-KCBD Team: Allan Watt (facilitator, Eklipse), Christine Estreguil (note taker, EC-KCBD), Karla Locher (mural, Eklipse)

The conversation focused on various actions and requests; some were not directly in the scope of Eklipse:

Action 1: Developing a common global agenda for research and action, focused on prevention (acknowledging there is no cookie-cutter solution) aiming to increase the understanding of possible solutions to address the interlinkages between biodiversity-health-socio-economics. This should involve: Building participatory approaches in research and designing implementation actions that would be supported by mutual learning and sharing good practices. This would identify a set of specific and concrete situations and contexts (to identify solutions). A special focus should be on Increasing support (including funding) to developing countries to gather and implement knowledge (incl. for the uptake locally of results and implementation of environmentally friendly actions).



Possible request: How to develop a strategic research agenda co-developed by different agencies, aligned with different policy agendas. (And move much faster to decide on who does what. And follow up the initiatives.)

Action 2: Translating and sharing knowledge for different audiences; also developing common languages across sectors. This should emphasize raising awareness and reaching out to different audiences, particularly young people (and private sector?). So also tackle disinformation and critical mass for action, as well as behavioural factors in consumption and labels of products

Possible requests: What are the most effective tools for delivering knowledge effectively on pandemics and biodiversity?

Action 3: Better understanding of how European policies impact local people and other stakeholders taking in consideration ethics and fairness, particularly in developing countries.

Possible request: What are the external actions of policies, in third countries i.e., the impacts of various EU policies (Trade, INTPA/EEAS, ENV, AGRI, CLIMA etc..) and what are the measures addressing on biodiversity AND pandemics? what is the uptake of EU values (Green Deal) in third countries?)

Action 4: Specific focus on knowledge integration

Possible requests: How to integrate all knowledge collected into the biodiversity area to identify linkages and significant knowledge gaps. For example, some aspects of biodiversity, e.g., wildlife [presumably mammals], are well understood but there is less understanding of the breadth of biodiversity in, for example, forests: The rationale for this is "Connect before it goes wrong: be proactive rather than reactive".

What mechanisms would make sure there is effective upscaling of project results as there are many initiatives and funders. There is a need to make people aware of these activities and work together, where possible building on each other's results. Most project results come at the end of a project and are not repackaged for effective communication to the right people.



GROUP 2

Present: European Commission - DG SANTE, International Atomic Energy Agency (IAEA), European Commission, DG RTD, Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement (INRAE) / PEER), UNEP

Eclipse Team: Juliette Young (facilitator), Serge Morand (Expert and Note Taker), Candice Pouget (Mural)

Possible requests:

- Developing a policy support framework on socioeconomic considerations of prevention measures including identifying measurable indicators and incentives.
- Identification and prioritization of monitored ecosystems/areas or methodologies to improve the surveillance systems for the prevention of zoonotic emerging diseases in order to render them more resilient and sustainable inspired by **past/best** initiatives (EFSA, PREZODE, HERA, **OHHLEP...**)
- Identify the best mechanism (with due consideration of ethics and data sharing) and existing barriers to share the most relevant data regarding zoonosis, in different contexts

GROUP 3

Present: European Commission - DG ENV, KCBD, One Health High Level Expert Panel (OHHLEP), FAO, WHO

Eclipse and EC-KCBD Team: Nils Bunnefield (facilitator, Eclipse), Jorge Ventocilla (Note-taker/Mural, EC-KCBD)

There is a challenge related to education and communication to reach a win-win situation in the context of the One Health approach. We are not convincing enough: The One Health approach might be obvious to some people, but not for all and notably not for many stakeholders and policy makers.

This concept needs to be transferred into school education, higher education and capacity building approaches, along with the education in different sectors: shaping minds is crucial, and easier than changing minds).

There is now a unique window of opportunity that we need to make use of, and so, before people get used to the new normal. There is a need to develop specific blueprints for specific regions/problems, which also bring an economical dimension. We need to be specific, provide tailored solutions for specific situations. This needs to be packed as a set of benefits, which would be different for different regions.

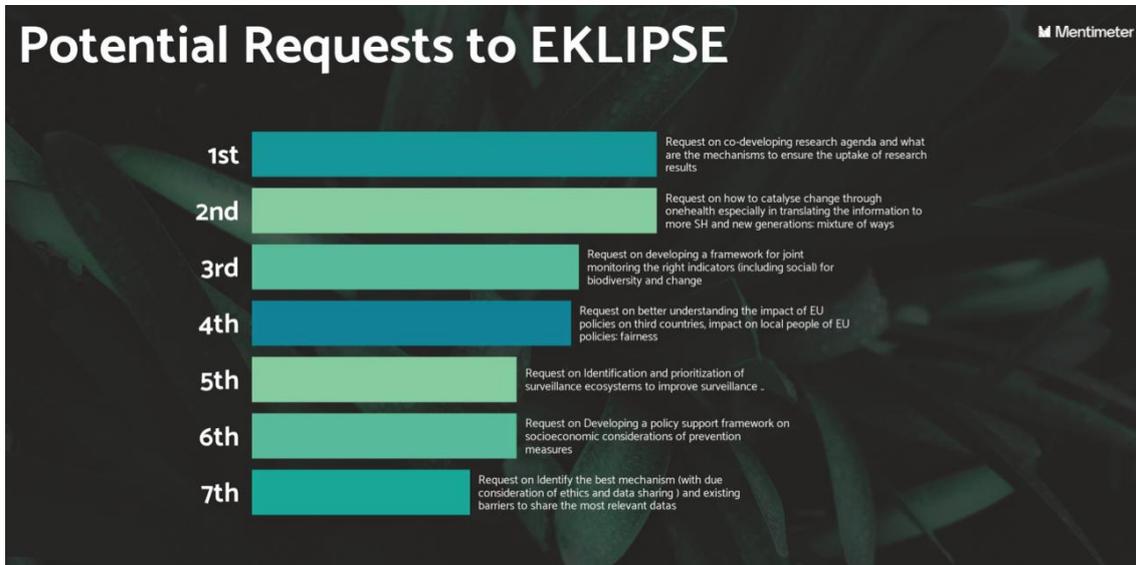
POTENTIAL REQUESTS AND CONCLUSIONS

POTENTIAL REQUESTS IDENTIFIED BY THE BREAK-OUT GROUPS

Request on:

1. developing a strategic research agenda on biodiversity and pandemics, jointly with all relevant agencies, and aligned with relevant sectoral policy agendas; this would involve further workshops, building on the initial workshop, identifying a more comprehensive set of research needs and supporting the integration of existing and proposed initiatives to promote effective and efficient uptake of research recommendations
2. how to catalyse change through One Health, especially in translating the information to more stakeholders and new generations: mixture of ways of messaging, nudging, education, capacity building.
3. developing a framework for joint monitoring the right indicators (including social) for biodiversity and change.
4. better understanding of the impact of EU policies generally on the emergence and spread Emerging Infectious Diseases in third countries; this could be expanded to consider the fair implementation on local people of policies intended to mitigate the emergence of Emerging Infectious Diseases; (i.e., do European policies that relate to biodiversity and emerging infectious disease impact fairly on local people and other stakeholders).
5. identification and prioritization of monitored ecosystems/areas or methodologies to improve the surveillance systems for the prevention of zoonotic emerging diseases in order to render them more resilient and sustainable inspired by past/best initiatives (EFSA, PREZODE, HERA, OHHLEP...)

6. developing a policy support framework on socioeconomic considerations of prevention measures.
7. identifying the best mechanism (with due consideration of ethics and data sharing and existing barriers to share the most relevant data).



CONCLUSIONS

The workshop discussions have emphasized the double priority of: 1) addressing the root causes of pandemics through more coordination and coherence across policy sectors and with science, 2) improving our risk assessment, surveillance and monitoring to ensure a faster and more coordinated reaction (proactive and reactive approaches)

Some of the proposed actions and identified requests are not in the scope of Eklipse but should definitely be considered by the EC-KCBD and relevant policy DGs as pathways to further explore in order to ensure future appropriate research, more coordinated actions across silos and increase in outreach and awareness- in society at large.

For the next steps, Eklipse will capture the requests adapted to the Eklipse process, by considering means and time constraints. Eklipse will reformulate proposals for the workshop participants from EC-DGs to validate and together with the EC KCBD engage with EC services and eventually form a requester consortium. These



reformulated requests will then be further processed by Eklipse to generate concrete outputs by October 2022.

ANNEXES

ANNEX 1: WORKSHOP AGENDA

<p style="text-align: center;">Online Workshop: “Biodiversity in post-covid cross-sectoral challenges”</p> <p style="text-align: center;">May 31st 2021 - 09:30 – 16:30 CEST - by invitation only</p> <p style="text-align: center;">Agenda</p> <p style="text-align: center;">Workshop facilitated by Estelle Balian (FEAL)</p>	
09:30 – 09:55	<p>Introduction to the workshop, background and objectives.</p> <ul style="list-style-type: none"> ★ Estelle Balian (FEAL) - Facilitator ★ Ute Jacob (HIFMB) - Eclipse KCB Co-chair ★ Ivan Kulis (EC-JRC-Head of Unit Knowledge for Sustainable Development & Food Security) ★ Christine Estreguil (EC-JRC) - EC-KCBD ★ Marie Vandewalle (UFZ) - Head of Eclipse Management Body
09:55 – 10:15	Tour de table and icebreaker
10:15 – 10:20	Introduction to morning session
10:20 - 11:15	<p>A conversation on biodiversity and pandemics</p> <p style="text-align: center;">Panel discussion with</p> <ul style="list-style-type: none"> ★ Marie-Monique Robin (journalist, film director, author of “Making Pandemics: Preserving Biodiversity, an Imperative for Planetary Health”) ★ Serge Morand (Eclipse KCB Health Ecology expert, CNRS - CIRAD - Faculty of Veterinary Technology, Kasetsart University, Bangkok) ★ Thomas Mettenleiter (One Health High Level Expert Panel (OHHLEP), Friedrich-Loeffler-Institut) ★ Doreen Robinson (United Nations Environment Programme, dep. Biodiversity and land)
11: 15– 11:30	Virtual Coffee break with delicious cookies
11:30 - 12:10	Break-out Group session I : Exploring the past to understand linkages between EU Policy sectors, the biodiversity crisis and pandemics and to reflect on lessons learned in terms of science-policy challenges. for preventing pandemics



12:10 - 12:25	Reporting from the Break-out Groups
12:25 - 12:30	Wrap-up of morning session
12:30 - 13:30	Lunch break
13:30 - 13:50	Introduction to the afternoon session and reporting on morning results
13:50 - 14:20	Introduction to existing initiatives on infectious disease emergence prevention: <ul style="list-style-type: none">★ Pierre Dussort (INRAE, PREZODE)★ Hans Keune (INBO, European OneHealth/Ecohealth Community of Practice)
14:20 - 14:35	Introduction to Eklipse Request Formulation and knowledge synthesis methods
14:35 - 14:45	Introduction Break-out Groups
14:45 - 15:00	Virtual Coffee break with delicious cookies
15:00 - 15:45	Break-out Group session II: Exploring scenarios for the future and how evidence based key policy actions could contribute to prevent future pandemics
15:45 - 16:15	Reporting from the breakout groups and discussion
16:15 - 16:30	Workshop conclusions and next steps Christine Estreguil - EC KCBD Marie Vandewalle - Eklipse



ANNEX 2: LIST OF WORKSHOP PARTICIPANTS

LAST NAME	First name	Affiliation
BERLINGIERI	Francesco	European Commission, DG SANTE
BERTHERAT	Eric	World Health Organization (WHO)
BUNNEFELD	Nils	Eclipse MEG / University of Stirling, UK
CAYOL	Jean-Pierre	International Atomic Energy Agency (IAEA)
DARGENT	Guy	European Commission, Health and Digital Executive Agency (HADEA)
DEVOS	Yann	European Food Safety Authority, EFSA, senior scientific officer
DUBOIS	Grégoire	European Commission, JRC, dir. D / KCBD
DUSSORT	Pierre	PREZODE, operational manager
EL-HAJ	Noura	International Atomic Energy Agency (IAEA)
ENFEDAQUE	Josefina	European Commission, DG RTD
ESTREGUIL	Christine	European Commission, JRC - Directorate D - Knowledge for Sustainable Development & Food Security / KCBD
ROYO GELABERT	Eva	European Environment Agency (EEA)
GONCALO DAS NEVES	Carlos	Norwegian Veterinary Institute, Assistant Director General and Director for Research and Internationalisation
JACOB	Ute	Eclipse KCB co-chair / Helmholtz Institute for Functional Marine Biodiversity, University of Oldenburg (HIFMB), Liaison Science & Conservation



BIODIVERSITY IN POST-COVID CROSS-SECTORAL CHALLENGES

KEUNE	Hans	Belgian Biodiversity platform - University Antwerp
KULFAN	Tyler	Alternet
KULIS	Ivan	European Commission Joint Research Centre (JRC)- Directorate D - Sustainable Resources D.6 Head of Unit - Knowledge for Sustainable Development & Food Security
LEQUARRE	Anne Sophie	European Commission, Service for Foreign Policy Instruments (FPI)
LILLEBO	Ana	Eclipse KCB / University of Aveiro (CESAM), PT
LOCHER	Karla	Eclipse EMB / Helmholtz-Zentrum Umweltforschung (UFZ)
LOEFFLER	Peter	European Commission, DG CLIMA
MARTINI	Alessandra	European Commission, DG RTD / R&I
MEENAKSHI SUNDARAM	Hari	Eclipse Communication Team
METTENLEITER	Thomas	Friedrich-Loeffler-Institut / OHHLEP Chair
MILLE	Raoul	PEER / Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement (INRAE)
MORAND	Serge	Eclipse KCB / CNRS – CIRAD / OHHLEP
MUELLNER	Juliane	European External Action Service, EEAS
PAPAGEORGIU	Alia	European Commission, JRC / KCBD
POP	Suarina Maria	European Commission, DG TRADE
POUGET	Candice	Eclipse EMB / Helmholtz-Zentrum Umweltforschung (UFZ)
ROBIN	Marie Monique	Journalist, "La fabrique des pandémies"



BIODIVERSITY IN POST-COVID CROSS-SECTORAL CHALLENGES

ROBINSON	Doreen	UN Environment (UNEP), Head of Biodiversity & Land Management
ROMANELLI	Cristina	World Health Organization (WHO)
VANDEWALLE	Marie	Eclipse Co-Coordination team, Head of the Eclipse EMB / Helmholtz-Zentrum Umweltforschung (UFZ) / Alternet
VANDEWOESTIJNE	Sofie	European Commission, European Research Executive Agency (REA)
VENTOCILLA	Jorge	European Commission, JRC/ KCBD
VON DOBSCHUETZ	Sophie	Food and Agriculture Organization of the United Nations (FAO)
WATT	Allan	Eclipse Co-Coordination team / UKCEH, Research fellow
WITTMER	Heidi	Eclipse Co-Coordination team / Helmholtz-Zentrum Umweltforschung (UFZ), acting Head Department of Environmental Politics
YOUNG	Juliette	Eclipse Co-Coordination team / Alternet / Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement (INRAE), Directrice de recherche
ZAUNBERGER	Karin	European Commission, DG ENV