EVALUATION AND CHALLENGES/LIMITATIONS OF ONE HEALTH

This is a report of the session on Evaluation and Challenges / Limitation of One Health that took place on 7th October 2016 in Brussels, in the framework of the European OneHealth/EcoHealth workshop organised by the Belgian Community of Practice Biodiversity & Health which is facilitated by the Belgian Biodiversity Platform

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INTRODUCTION

The session addressed the challenges and limitations of *One Health* as well as the growing enthusiasm for this concept. In the session, both practical examples and theoretical frameworks were presented in order to discuss how what works and what does not work in *One Health* can be measured; and how to capture the added value of it for human / society, for animals, and for the environment.

There is a worldwide recognition that *One Health* approaches provide effective solutions to the protection of animals and human populations from health threats (at a global level). *One Health* also allows for the recognition that environmental stewardship has not led to the systematic and sustained allocation of resources for integrated, systems-based health programmes. Currently, available evaluation results are usually not comparable and are often based on assumptions and experts' opinions rather than on empirical data. This constrains decision-making, and does not allow for innovation in the field of data collection protocols (e.g. the development of databases to capture and quantify the value of interdisciplinary approaches).

The session aimed to discuss the development and practical application of *One Health* over time and how its *(added)* value could be measured.

PRESENTATIONS

In this session, practical examples, theoretical frameworks and methods were used to discuss how to measure what works and what does not work in *One Health* and how to capture the added value to humans, animals, society, and the environment.

The session started with an introductory presentation from Dr Alain Vandersmissen *(European External Action Service)* on *Historical developments of the One Health Movement since 2005 - Drivers, Opportunities and Challenges*. Dr Vandersmissen gave an overview of the current *One Health* movement from its beginning in 2006 to today. Key points included:

- Current *One Health* movement started with *SARS (2006 Beijing Conference)*
- Ministries decided after the 2006 *Avian Influenza Crisis* to push the *One Health* movement with a political declaration in support of *One Health.*
- In 2009, the Canadian government convened the *One World, One Health Conference* in Winnipeg to promote the *One Health* movement.
- In 2010, the Hanoi Declaration was approved by representatives from 71 countries.
- In 2010, a Tripartite Concept Note was written by the *Food and Agriculture Organisation* (FAO), the *World Organisation for Animal Health* (OIE) and the *World Health Organisation* (WHO) on sharing responsibilities and coordinating global activities to address health risks at the animal-human-ecosystems interfaces.
- In 2011, the *Comcare National Conference* in Melbourne gathered the scientific community to reflect on health and security issues.
- In 2011, the Atlanta Expert meeting on *One Health* called for keeping a flexible and comprehensive approach; i.e. creating a global network without institutionalising it,

PHOTO ABBAS OMAAR

Dr Abbas Omaar from Chatham House, UK, giving a presentation on the IDRAM initiative

in order to keep it as an evolving concept.

- Today, the conclusions of the Winnipeg and Atlanta meetings remain the basis for the concept.

Afterwards, Dr Abbas Omaar *(Chatham House, UK)* presented a project involving extractive industries in Africa in risk assessment and risk management of zoonotic diseases: *Infectious Disease Risk Assessment and Management (IDRAM) Initiative*. The aim of the Chatham House is to build bridges between science and policy for evidence-based policy information by commissioning independent research. There is

increasing awareness about emerging diseases as a risk for mining companies. The study focused on supporting mining companies in preparation for outbreaks. Mining companies are of particular interest in the *One Health* context as they have a strong impact on land use change. As an example, the study assessed the economic impact of *Ebola* on a mining company in the Democratic Republic of Congo. It was found that Ebola is a serious threat to business continuity and that mining companies cannot prepare for it alone, but need wider engagement with communities, government, stakeholders, and others. However, multinationals are often concerned about their own interest and remain disengaged from the wider community surrounding their implantation. The *Chatham House* promotes *One Health* in *Development Finance Institutions* (DFI), as they are key players in the extractive industry and other industrial sectors. The *Chatham House* was able to demonstrate the benefits of *One Health* with simulation exercises focusing on tests for preparedness and response in given settings. The goal is also to generate and maintain momentum in the '*buy-in by businesses*' in ensuring priorities of business are met, i.e. 1) business continuity, 2) duty care to staff 3) social responsibility.

Dr Simon Rüegg *(University of Zürich),* gave a presentation entitled *"NEOH evaluation framework, evaluating One Healthness"*, and Dr Sara Savić *(Scientific Veterinary Institute Novi Sad)* made a presentation on *"Preliminary results from a set of case studies evaluating One Health"*. They also gave a joint presentation on an evaluation framework, protocol and index developed by the *Network for Evaluation of One Health* (*EU COST Action)* intending to asses *One Health*. Based on the idea that *One Health* relies on five aspects, namely 1) the comprehensiveness of the approach, 2) the planning, 3) the learning infrastructure, 4) the sharing infrastructure,

and 5) transdisciplinarity and leadership, a *One Health Index* (OHI) was developed. The expected outcomes of *One Health* initiatives are health and welfare of humans, animals, plants and ecosystems. Transdisciplinarity should result in better stewardship and compliance, and promote interspecies equity. *One Health* can also improve effectiveness across different sectors and at multiple scales. Confronting the OHI to these outcomes is a way to identify the required conditions and determine when such holistic approaches are appropriate. First experiences were gained by applying this framework among 12 case studies selected by the *Novi Sad Training School* on *One Health* evaluation. The case studies were selected based on their impact on humans, animals and the environment; their relevance at the European level; whether they operated in an interdisciplinary and inter-sectorial manner; whether they measured the benefits of *One Health*; and (for the case of diseases), whether they were an EU priority or not. So far, an overview was generated to evaluate the *One Health* component, as well as the ecological, social, and economic dimensions; and the resilience and sustainability aspects.

Finally, two short presentations were given by Dr Barry McMahon *(University College Dublin)* on *The role of biodiversity in the ecology of zoonotic disease transmission* and Dr Tracey Dutcher *(USDA APHIS DA)* on *Strengthening Cross-Sector Emergency Preparedness and Response Using the One Health Systems Mapping and Analysis Resource Toolkit* (OH-SMART). Lyme disease was presented as an example for the interaction of different species regarding the transmission: abundance of the various host species, vector stages, and habitats influence the risk of disease transmission. Consequently, there is no simple linear causality, and the context of the disease system which determines these abundances

must be studied to understand the interplay of biodiversity and the risk of disease. The ecological processes can inform how the force of infection of species diseases may be increased or decreased, depending on context. Changes in the structure of the ecosystems more than the change in the number of ticks and/or of the variety of their hosts seem important to explain changes in the Lyme disease incidence. With the OH-SMART, participatory leadership methods are used to visualise, evaluate and strengthen the existing *One Health* system. The toolkit allows to visualise the communication between agencies and actors, and makes the complexity of these interactions tangible; therefore raising awareness and providing key information to policy.

Participants being engaged in active discussion on the evaluation of One Health

DISCUSSIONS

Following the presentations, participants split into smaller groups to discuss the following questions:

- 1) What are the key limitations to evaluation of integrated approaches to health?
- 2) Who would benefit most from evaluations of *One Health / Ecohealth* or similar concepts and why?
- 3) Which form of expertise would be useful for *One Health* collaboration?
- 4) What activities/steps are needed to create *One Health / Ecohealth* evaluation capacity?

The results of the dicussions include:

- One of the major challenge people face when conceptualising the evaluation of *One Health* is the usually complex, interconnected and large scale of the *One Health* problems and associated programmes or projects. An important first step of evaluation therefore is to think carefully about the evaluation goals and context *(e.g. resource availability including time and capacity for the evaluation)* and reflect on the definition of the system boundaries to achieve this goal. This should help to find the right balance between scientific rigour, practical implementation, flexibility of evaluation and time scale trade-offs.
- Specific evaluations provide information for the contracting institution related to their *One Health* initiatives, and support *One Health* implementers in assessing whether they use the right tools to reach their goals.
- Moreover, systematic and transparent evaluation with subsequent effective communication can help to improve *One Health*, advance best practices and inform resource allocation, with positive effects on the health of animals, humans, and the environment. In this sense, evaluation results will benefit everyone in the longer term.

- In order to enhance collaboration for *One Health* and its evaluation, it was agreed that narrow and abstract concepts needed to be translated into more accessible and easily digestible messages that would allow reaching a wider, non-technical audience, including policy makers.
- Furthermore, there was a call to introduce *One Health* concepts in primary, secondary and tertiary education with the aim to raise awareness and create a natural understanding of systems and their interlinked nature.
- Joining the efforts of the tripartite action of the WHO, OIE and FAO, the scientific community should further harness tools such as the *European Cooperation in Science and Technology* (COST) and *Horizon 2020* to strengthen the understanding and implementation of *One Health*.
- In collaboration with local and international organisations such as the *United Nations*, the general public should be made aware of the concept and invited for co-production of knowledge about health of people, animals and the environment.
- Complementary to these efforts, it would be important to disseminate the results of the present workshop, including polls, reports and conclusions as a small booklet to the general public. A greater awareness of the general public about the scientific efforts, results, and conclusions, would create a stronger understanding of the problems and complicity in facing it.
- To enhance the evaluation of One Health, it was perceived to be important to create further evaluation capacity by providing training on evaluation of *One Health/ Ecohealth* (in particular in countries where there is not yet an established evaluation culture) and to build stronger links with the evaluation community to be able to benefit from their knowledge, approaches and experience.

Members of the "Network for Evaluation of One Health" (NEOH) presenting outcomes of the discussion on who benefits from the evaluation of One Health.

CONCLUSIONS AND RECOMMENDATIONS

1. Key limitations to evaluation of integrated approaches to health include: Defining the evaluation for the approach or the specific goals, finding the balance between rigidity and flexibility of evaluation and time scale trade-offs.

2. On who would benefit most from evaluations of *One Health/Ecohealth*, it was agreed that the ultimate beneficiary will be everyone. Intermediate beneficiaries are *One Health* implementers (assessing whether they use the right tools

to reach their goals would be key).

3. On which form of expertise would be useful for *One Health* collaboration, the *"translation" (i.e. adequate communication and dissemination mechanisms with language and delivery methods fit for purpose)* of *One Health* concepts for a range of stakeholders is essential. This process of effective communication and initiation of systems thinking could be started early by introducing *One Health* in primary and academic education.

4. On what activities/steps are needed to create *One Health/Ecohealth* evaluation capacity, there is little capacity of *One Health* and *Ecohealth* evaluation. There is a need to raise awareness about *One Health* and the necessity of evaluating it as well as the provision of training on evaluation of *One Health/Ecohealth* and evaluation in general. To achieve this, it is recommendable to bring more professionals evaluators into the community.

Videos and presentations accessible at:
http://www.biodiversity.be/health/58