

Regional capacity-building workshop on biodiversity and human health for the Europe Region - 23-25 October 2017, Helsinki, Finland

Some experiences from **Belgium** in integrating biodiversity and health issues in policy initiatives

by: Dr. Lucette Flandroy



2 **National Biodiversity Steering Group** (delegates from:
federal and regional environment depts + federal development
cooperation ministry + federal ministry for science policy programming)

National Biodiversity Strategy: links with health: attention given
to:

- Integration of biodiversity in other sectors
- Traditional medicines
- Soil productivity → food production → balanced diets
- Diversified agricultural surfaces → nutritional security
- Biodiversity disturbance → emergent diseases
- Encourage interdisciplinary research, educational programmes → raise awareness of links



FEDERAL Public Service Health, Food Chain Safety & Environment

3

NEHAP: National coordinating cell + federal coordinating cell of the NEHAP (National Environment-Health Action Plan) in the FPS since 2003 = civil servants from environment and health departments, respectively from federal and regional, or federal alone, governance levels. The national cell coordinates projects where federal and regional competences can join. (NB: for environment: federal comp. = ~ voluntary import/export/transit ; regional comp. = on the territory)

In practice:

Managing various plans/projects related to pollution. Monitoring plan for exotic mosquitoes and related vector borne diseases. Development of a master in Environmental Health.

Challenge: to find the necessary budget for this project (in particular for mosquitoes monitoring Plan, including monitoring of vectors in addition to pre-existing monitoring of vectoral borne diseases)

Way to do: juridic & technical analysis → long discussions → proposal of monitoring plan by scientists → proposal of realistic plan by NEHAP national cell → adoption by CIMES (= Environment and Health Interministerial Commission) → 3 years pilot plan for feasibility study (MEMO project)



4

FEDERAL Public Service Health, Food Ch.Safety & Environment

Nehap (2) : **MEMO** project (YN, MLL, FTh., in Coordinating Cells of the NEHAP)

The Belgian NEHAP (National Health and Action Plan) is currently funding a 3-year project called monitoring of exotic mosquitoes in Belgium (MEMO) to prevent the establishment of exotic mosquitoes such as tiger mosquitoes in Belgium and consequently, to prevent related human diseases. At several possible Points of Entry (second hand tires import centers, lucky bamboo cultivating centers, airports, ports, international motorways, etc) and 2 known Points of Entry mosquitoes will be monitored.

yseult.navez@health.belgium.be; micheline.lelong@health.belgium.be; fabrice.thielen@environment.belgium.be



5 **FEDERAL** Public Service Health, Food Chain Safety & Environment

MEMO project:

Start of the project : 01/07/2017

1^e press conference : 03/10/2017

“We are still learning ourselves and are hoping to learn from best practices from other member states.
For this purpose, we invited **partners from neighboring countries** to join MEMO’s **guidance committee.**”



6 **FEDERAL** Public Service Health, Food Chain Safety & Environment

Nehap (3): Project **Melese**: (YN, with MLL & FTh, in Coordinating Cells of the NEHAP)

Project in developing e-learning modules for health professionals in **environmental medicine**.

14 modules to be developed in **e-learning**:

different topics such as endocrine disrupters, pesticides, cosmetics, Radon, indoor en outdoor air quality, specific approach pregnant women, mould, noise, electromagnetic waves,...

Modules should be available last trimester 2018



Federal Public Service Health, Food Ch. Safety & Environment

One World – One Health concept adopted (end 2014: note - ~ 30 pages, > 100 references – , by LF, on *Biodiversity & Health, One Health* and related concepts → to Direction Committee of FPS → January 2016: One World – One Health concept in administrative contract between the FPS and the government).

In practice till now:

- Participation in organization (~ ½ financing; L. Flandroy = co-pilot) of *European One Health/EcoHealth workshop*, Brussels, October 2016

Challenge: to respect the specific objectives/constraints of different stakeholders in trans-disciplinary working

- Inter-departmental (human health, animal health, environment) tackling (since 2017), in a One Health perspective, of the **Antimicrobial Resistance** issue (link with Environmental & internal « good » microbiome)

?Future challenge?: listen to and respect different visions/approaches of a problem and their respective plus-value in inter-disciplinary working

- **Joint position for UNEA « Environment and Health Resolution »:** OK for joined position between human health, animal health, environment departments, on theoretical aspects

- **Reflections** on links with **SDGs** (!! With adequate official competences repartition)



Federal Public Service Health, Food Ch.Safety & Environment

8 Main outcomes of EU. OH/EH workshop 2016, for OH/EH implementation:

Broad meaning of OH to be adopted: human & animal health + biodiversity & ecosystems health + soil health + food security & agri. systems + rural & urban dev. + climate change + benefits of biodiversity + social & cultural drivers. (NB: EH has ~ larger vision: environmental & socio-cultural dimensions more automatically included)

Advantages of OH approach: pro-activity, avoiding duplications → human + financial benefits

Challenges: to overcome vertical organization of public administrations; mutual respect; inter-and transdisciplinary education; criteria & indicators; public involvement.

Tools: iterative process (policy/science/field/NGOs/...), networking, avoid big OH new institutions, implicate private sector responsibility, start by easy case studies, listen to local knowledge

→ **network** suggested as follow-up at the end of specific sessions on:

- 1) Environment-Microbiome-Health axis
- 2) OH/EH education
- 3) Social science in OH/EH



Federal Public Service Health, Food Ch.Safety & Eenvt - DG Eenvt

BRAIN.be program of **Belspo** (federal public service for science policy programming) 2013/2014/2015:

Collaboration of depart. AMSZ (Multilateral and Strategic Affairs) in **defining calls on:**

*Study the **interlinkages** and improve the **interface between health** (domestic animals, wildlife, plant and human health) **and ecosystem integrity.***

Precise objectives were defined, useful for federal related competences.
Various related projects currently running.



Federal Public Service Health, Food Ch. Safety & Envt - **DG Envt**

PFDD3 (3rd *Federal Plan for Sustainable Development*):

Proposals of depart.AMSZ (Multilateral & Strategic Affairs), among other:

*Analyze potential impact on **public health** of legal and illegal national trade of **exotic animals and plants**, as well as of bushmeat.*



Federal public service Health, Food Ch. Safety & Eamt - DG Eamt

Bushmeat project (LF in AMSZ): genetic analysis of illegally imported meat → evaluate biodiversity risk (in situ: CITES endangered species; ex situ: pathogens & IAS towards endemics) and health risk (zoonoses)

Challenge:

- collab. with customs and food chain safety agency (responsability) → OK through patience & respect
- budget for analysis of health risk: no priority (no Ebola crisis presently; EU regulation n° 206/2009 is theoretically forbidding import of meat from outside the EU in passengers' luggage) →! in **absence of concrete data** (real figures of illegal trade) **and of perceived risk** (through analysis of potential linked pathogens) out of epidemics, legality umbrella can be synonymous of **lack of priority for controls** (facing lack of means, and more concrete risks perceived)

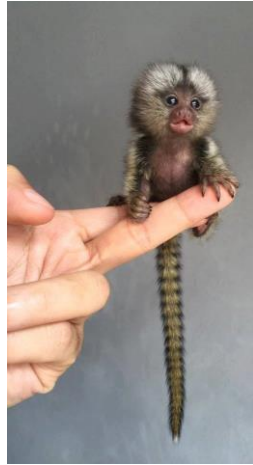
Way to do: wait for the quantitative and qualitative **results of** the genetic determination (*biodiversity risk*) **to raise interest into the potential health risk** (potential old & recently known linked pathogens)

→ importance of the **preventive OH/EH perspective** (link: environment disturbance

→ potential new pathogens and hosts → emergent diseases → potential

world-wide diffusion







Picture by:

Dr. Anne-Lise Chaber



Federal public service Health, Food Ch. Safety & Eenvt - DG Eenvt

Invasive alien species (MI in AMSZ dept., and SV scientist in Belgian Biodiversity Platform):

EU regul. 1143/2014 c/ invasive alien species (prevention, rapid eradication, management) .
BE federal competence for voluntary import. Regional competence for in situ establishment.
→ lead taken by our department for transposition to limit import.

Concrete fight against IAS implies **risk assessment for environment**, that previously existed.

In addition, new protocols Harmonia and Pandora (developed in Alien Alert project financed by BELSPO) now allow to **evaluate risks** in addition **for public health, animal health, plant health**.

Needed collaboration of environment + human health + animal health + plant health policy departments + related scientists.

Initially, health sector weakly collaborative (? Issue far from their usual interests?)

→ usefulness of **biodiversity sector** to **attract attention** on poorly tackled existing **health problems**



Federal public service Health, Food Ch. Safety & Env't - DG Env't

Bees federal plan (SK in AMSZ): objective: care for domestic Bees health, essential for pollination, thus food production, thus basic human health ([develop tools to better fight c/ bees diseases, better understand causes of mortality and establish monitoring, sensibelize, reinforce national coherence](#))

Challenge: better cooperation between bees keepers federations + animal health & pesticides departments of our ministry + animal drugs agency + national food chain safety agency

Way to do:

- [federation](#), by our department, or other ones (having each a different limited approach of bees), around the **ecosystem service** notion of **pollination** ([urgent and easily understood by the public](#)).
 - Federal task force created: [fair repartition of tasks](#). Joined project to study multifactorial causes of bees death (NB: [bees keepers, with useful local knowledge, more confident in Env. than Pesticides depart.](#))
- Corollary: protection of wild bees (without official representatives) is gaining interest at the regional governance level (responsible for protection of wild biodiversity inside the country)



Federal public service Health, Food Ch. Safety & Eamt - DG Eamt

Endocrine disruptors (MR in Ch.P.A.) : definition/criteria presently under discussion at the EU level.

Our DG Eamt (depart. Chemical Products Agency) is managing the **REACH** legislation implementation (chemical products **risk assesement** includes direct **environment risk**, in particular for biodiversity species representative of phyla, **direct health risk**, **indirect health risk** through environment exposure. Thus, **automatic integration of biodiversity and health** concerns).

Challenge: integrate various environment and health perspectives (facing lobbies in conflict of interest).

Way to do:

- involvement of our DG Eamt **since the beginning of debate** on endocrine disruptors at EU level →
 - **federation** of other Belgian concerned departments (**federal Medical Drugs Agency**, involved in RA of medicines wastes; **federal pesticides depart**; **regional depart.** involved in norms of **wastes in waters**) by our DG.
- **commun minority Belgian position** (on the basis of **biodiversity/ecosystem services concerns**) **opposing the Commission** proposal (!! To exclude all invertebrates – 80 % of living organisms - from RA of endocrine acting pesticides!?!?...) ... !!! C.A. Hallman et al., Plos One, Oct. 2017: ~ 80 % ∩∩ insects biomass

in Europe,
in ~ 30 years



Federal public service Health, Food Ch. Safety & Env't - DG Env't

17

Environmental & internal microbiome (LF, in AMSZ, co-pilot of EU OH/EH workshop 2016; organizer & coordinator of Environmental & internal microbiome session):

- **High biodiversity** of humans', animals' and plants' **microbes** ↔ **good health**
- **Dysbiosis** in humans and animals ↔ **NCDs** (non communicable diseases) with **inflammatory symptoms**. Experimental + effect of some microbial strains on concerned pathologies.
- → **Microbial diversity = ecosystem service**
- Constant **exchange** between humans', animals' and plants' microbes → microbiota = **interconnecting living network**. Need for **more research** to precise links, impacts, determinants.
- **microbiome** = potential leading element and **health indicator connecting compartments of the ecosystem and their health**, and thus **policy compartments** (health, environment, agriculture, nutrition, land planning,...) and several **SDGs** (SDGs 2, 3, 6, 11, 14, 15, ...)
- proposal for **European science-policy Environment-Microbiome-Health platform** (outcome of EU OH/EH wkshp session): scientific review with BE and other EU MS experts particip.



in the session
+ contacts with
EU Commission

Federal public service Health, Food Ch. Safety & Evt - DG Evt

Marine environment (HV in Marine Milieu dept.): marine biodiversity (still scarcer), source of food, cumulates terrestrial and marine pollution → threat for human food security, thus health.

Marine environment supposedly protected by international agreements.

Marine products are under contamination norms for food products.

Yet: **insufficient link made between destruction of ocean biodiversity and food security/health**

Mercury (DM, in Chem.Prod.Ag.) : *health impact*: serious development impairment of neurological system.

Sources: coal, gold extraction, dental amalgames, electric lamps, thermometers and tensiometers, local antiseptics, vaccines preservatives. Persistent and far-reaching → whole marine food chain contamination.

Minamata Convention and UE regulation n° 2017/852 (+ other legislations – REACH, pesticides, food - contaminants, mercury-containing products) **cover whole life cycle of the use and emission of the substance**: reduction or phase out of sources/ processes/products → need for collaboration between various sectors → tackled in NEHAP and in CCPIE coordinating committees (see last slide)

NB: **Initial risks for health assessed on basis of environmental consider.**(persistence,..)

Current biodiversity
protection thanks to human
health protection measures



Federal public service Health, Food Ch. Safety & Evt - DG Evt

Microplastics (DP in dept. for Products Policy):

Our DG Evt (department « Products Policy ») is in charge of products norms for placing on the market.

Product norms are based on direct risks for environment, direct risks for health, and risks for health through emissions of the products in the environment. Thus, **integration of biodiversity and health concerns.**

Microplastics are **found in various environments** (drinking waters, commercialized salts, ...) → bad for humans' and other animals' health, a.o. living in the oceans → new threat for oceans' organisms health and thus biodiversity; at medium term, for human food security and health.

(Microplastics can also accumulate/bundle up drainage, favoring floods and infectious diseases)

→ Collaboration, on the issue, from our **DG Environment with** our **DG** involved in **Nutrition and Food**, and with a **scientific** team to undertake a related **study.**

NB: Sectoral agreement in prep. (→ 2019) to suppress microplastics from cosmetics and bucco-dental products



Federal public service Health, Food Ch. Safety & Env't - DG Env't

Climate change (CC in Climate Change dept.): links and conferences are made on the interlinkage between:

- climate change and health
- climate change and biodiversity

Few direct links made, however, between climate change fight/adaptation/mitigation, and joined biodiversity & health (exception: conference in Bonn, Germany, June 2017: *Biodiversity and Health in the face of Climate Change*), including in our **National Plan for Adaptation to Climate Change** (biodiv. & health link made about invasive species at federal level, green and blue corridors at regional level)

Renewable energy good for environment, to replace fossil fuels' pollution and global warming, but: trade-offs

Agrofuels (IC in Climate Change dept., + LF in AMSZ): : trade-offs of soils between monocultures for agrofuels or fields for local food production and/or biodiversity rich environments



Federal public service Health, Food Ch. Safety & Eenvt - DG Eenvt

Renewable energy (2):

Natural wood and pellets heating: wood branches or pellets can generate high amounts of **fine particules** (? and gazes?) bad for the **respiratory tract**.

Circular Economy (NDS in Policy Products dept.):

Recycling of products is **beneficial to** limit the **use of** products issued from **biodiversity**.

Trade-offs actually discussed for environmental advantage of recycling as energetic or other products.

But: products to be recycled can contain **hazardous substances/additives** potentially **risky for** the **new use** of the recycled product → health risk of the new products issued from the recycling till now poorly taken into account (Our depart. « Policy Products » does care).



22 **Federal** public service Health, Food Ch. Safety & Eenvt - **DG Eenvt**

Private and other professional sectors sensitization (AMSZ dept.):

Encouragement for sustainable use and protection of biodiversity through:

Classes given to colleagues of **Federal public Service Economy**

Project with private small and medium **enterprises**

Development of **biodiversity footprint (? and health impact)** measurement methodology

Public sensitization: pluri-annual **campaign** in development around importance of **biodiversity** (dept AMSZ: Multilateral and Strategic Affairs, + Communication Dept).

Biodiversity & Health interlinkage will be part of it (? Among other through Bushmeat project results and Bees disappearance problematic)



Federal public service Foreign Affairs - DG Development Cooperation

(BV, + LJdB in Royal Institute of Natural Science, CEBIOS Unit)

Strategy 2014-2019:

- Environment agenda linked to Development agenda (poverty reduction, without more pressure on environment)
- **Integration of Environment in** 4 key sectors for development, among which **Health** (vector borne diseases, medicinal plants, ...) and **Agriculture**. Sectorial aid for sustainable **Forests**.
→ ? introduction of biodiversity & health, One Health, concepts.
- BE policies coherence and complementarity
→ encourage production and consumption changes (!!?? Energy policy of the EU for renewable energy)
→ fight against illegal trade (in particular of plants and animals)



24 Regional level: Brussels Region

« **Green and blue network** » (by employees of the Region and citizens projects).

Citizens projects sponsored by the Region:

- > Community gardens, some with bees hives (including in Ψ depart. of hospitals)
- > GASAPs (groups of citizens buying directly organic food from local Belgian farmers)
- > Good Food projects (various initiatives for local sustainable agriculture and food)
- > Sustainable neighborhoods (local improvement of nature, social, economic aspects)
- > Peri-urban agriculture (valorizing old local vegetable species and varieties)

Water management by « nature-based solutions » (EGEB NGO + Universities + Royal Institute of Natural Science + citizens; with various sources of budget)

NB: projects **mainly** initiated by **environmental departments**. But **easily understood by the public as being good for nature and health**. Citizens mainly participates for **social contacts** (→ mental health)

! **Very demanding** in citizen's personal time investment (written and concrete projects, reports, meetings, ...)



25 Regional Level: Walloon Region

Natura 2000 sites to stop loss of biodiversity: ? Link with impacts on health could be reinforced ?

Department Environment-Health exists in the regional administration

Official **support for organic agriculture** since 2013: *Plan stratégique pour le développement de l'agriculture biologique en Wallonie à l'horizon 2020*. Biodiversity (a.o., attraction for pollinators) and health positive impacts are underlined. Diversity and local varieties are encouraged.

Regional level - Flemish Region → by Hans Keune

NB: Health is a competence of Belgian Communities rather than of Regions



Conclusions (1)

- **Policy** makers are making **biodiversity and health** interlinkage in various files, **spontaneously** (ex: bushmeat project, bees plan, ...) or through existing **legislations** (**REACH**, food and other **product norms**)

NB: The REACH regulation includes a Socio-Economic Assessment process (REACH SEA Committee) to evaluate *Costs* (anticipated economic impacts) and *Benefits* to the *Health* or the *Environment* of a planned regulatory measure. Nevertheless, the valuation (and monetarization) of the ENV/Health benefits might be underestimated, because are long-term in essence, and identification of (all) benefits are (till now) not (or poorly) demonstrable.

- Usefulness of the wide « **ecosystem service** » notion **to federate around** (examples: bees federal plan, endocrine disruptors, microbiome, ...). Usefulness of biodiversity/ecosystem disturbance studies to bring data encouraging preventive health (example: bushmeat project, invasive alien sp.)
- Useful to **reinforce** some biodiversity & health **links** for mutual benefices (pollution and overexploitation of **water** environments, **climate** change and b&h, environmental and internal **microbiome**,)
- **OK** to **collaborate** without problem as long as **theory**. **Problems** when concrete issues of **budgets**, of **repartition** of tasks, responsibilities and recognition, of respective main **concrete objectives**



Conclusions (2)

- Potential **trade-offs** to be made between environment/biodiversity and health benefits (+ influence of lobbies being in conflict of interests....) → importance of **awareness** of these trade-offs to be made, and thus of **good contacts** between policy representatives of diverse interests (examples in: renewable energy, circular economy)
- Useful to **initiate commun work** around **concrete cases** to be solved, **before « crisis »** period, and so to start collaboration and mutual understanding to be ready when facing « crisis » (examples: endocrine disruptors, bees federal plan, bushmeat, invasive alien species, ...)
- Importance of personality, **diplomacy**, of the federating person. Importance of **fair repartition** of tasks, responsibilities, recognition (examples: bees federal plan, endocrine disruptors debate)
- Usefulness of **multidisciplinary/multisectoral policy platforms** where ministers/cabinets, have to approve decisions that have been prepared by multidisciplinary civil servants and experts platforms. (example in Belgium: **NEHAP** coordinating cell – see slide 3-, **CIMES** – see slide 3-, **CCPIE**: *Comité de coordination de la politique internationale de l' environnement*: members of ministerial Cabinets (federal and regional) concerned by environment, taking commun decisions on basis of arguments prepared by administrative experts. Sub-groups of CCPIE on various environmental sectors)

lucette.flandroy@environment.belgium.be

lucette.flandroy@outlook.com

28



Thanks for your attention

.....Thanks to my colleagues with whom I could exchange on the concerned files/issues they deal with:

Claire Collin, Ivo Cluyts, Nancy Da Silva, Maud Istasse, Luc Janssens de Bisthoven, Salima Kempnaer, Micheline Le Long, Donatienne Monfort, Yseult Navez, Denis Pohl, Martine Röhl, Fabrice Thielen, Sonia Vanderhoeven, Herlinde Vanhoutte, Barbara Vincke, ...

(initials along the slides)

