Financing for mainstreaming biodiversity through a holistic, inclusive One Health approach

Catherine Machalaba, PhD MPH
Global Workshop on Biodiversity, traditional knowledge, health and well-being
27 July 2023
Box 1. OHHLEP One Health Definition Foundational Principles

1. Equity between sectors and disciplines.

2. Sociopolitical and multicultural parity (the doctrine that all people are equal and deserve equal rights and opportunities) and inclusion and engagement of communities and marginalized voices.

3. Socio-ecological equilibrium that seeks a harmonious balance between human—animal-environment interaction and acknowledging the importance of biodiversity, access to sufficient natural space and resources, and the intrinsic value of all living things within the ecosystem.

4. Stewardship and the responsibility of humans to change behaviour and adopt sustainable solutions that recognize the importance of animal welfare and the integrity of the whole ecosystem, thus securing the well-being of current and future generations.

5. Transdisciplinarity and multisectoral collaboration which includes all relevant disciplines, both modern and traditional forms of knowledge and a broad representative array of perspectives.
Balancing Trade-Offs and Co-Benefits...Beyond GDP

Impact assessment

Safeguards

Image credits: Arcelor Mittal; The Washington Post; EcoHealth Alliance
Benefits of One Health

- Reduced duplication of costs
- Reduced disease burden and associated costs
- Broaden concepts of health to include ecosystem health and the assessment of ecological impacts
- Reduced environmental damages
- Increased co-benefits across sectors

World Bank 2012 and 2022
• Not everyone working together all the time.

• But strong human, animal and environmental health systems are needed to determine relevant sectors for a given objective, disease, or situation

• Identify entry points, including for risk reduction, early detection, and response
## System Components to Reduce Disease Risk from Wildlife

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Countries showing evidence of indicator*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policies (such as for livestock or land use development) account for disease risk from wildlife</td>
<td>China, Malaysia (for Nipah virus)</td>
</tr>
<tr>
<td>Institutional mandate for managing wildlife disease/pathogen risk</td>
<td>China, Indonesia, Malaysia, Thailand, Viet Nam</td>
</tr>
<tr>
<td>Wildlife authority included in national One Health body</td>
<td>Indonesia, Malaysia, Thailand, Viet Nam</td>
</tr>
<tr>
<td>Mechanism for inter-agency coordination if authority for risk management is shared</td>
<td>China, Malaysia, Thailand</td>
</tr>
<tr>
<td>Risk analysis process in place for assessing and managing risk at wildlife-domestic animal and wildlife-human interfaces</td>
<td>Viet Nam</td>
</tr>
<tr>
<td>Plan/strategy in place for systematic surveillance and risk reduction</td>
<td>Thailand, Viet Nam</td>
</tr>
<tr>
<td>Dedicated budget for wildlife disease system</td>
<td>China, India, Malaysia</td>
</tr>
<tr>
<td>Wildlife monitoring network</td>
<td>China, Indonesia, the Lao People’s Democratic Republic, Malaysia, Thailand</td>
</tr>
<tr>
<td>Access to laboratory for testing wildlife specimens</td>
<td>China, India, Indonesia, the Lao People’s Democratic Republic, Malaysia, Thailand, Viet Nam</td>
</tr>
<tr>
<td>Wildlife disease database</td>
<td>Indonesia</td>
</tr>
<tr>
<td>Alert system in place for early warning and response</td>
<td>Indonesia</td>
</tr>
<tr>
<td>Pipeline for wildlife veterinary/para-veterinary workforce in non-zoo settings</td>
<td>India, Malaysia, Thailand</td>
</tr>
<tr>
<td>Applied field epidemiology training program for wildlife surveillance and investigation</td>
<td>China, Thailand</td>
</tr>
</tbody>
</table>
South Africa, 2003-2018

The project depicted is sponsored by the U.S. Department of Defense, Defense Threat Reduction Agency. The content of the information does not necessarily reflect the position or the policy of the federal government, and no official endorsement should be inferred.

Example: Rift Valley Fever

Estimated cost
R 1.76 billion – R 3.27b +
(USD $120.6m– $224.4m+)

Ratio of costs incurred for prevention : response

≤R 1.6
R 10.4
PROMOTING BIODIVERSITY CONSERVATION AND ENHANCING ECONOMIC PROSPERITY IN LIBERIA THROUGH A ONE HEALTH APPROACH

- Increase prosperity for communities around PAs
- Increase # PPAs legally recognized as PAs
- Improve management PPA and PA locally and nationally
- Increase economic growth supporting conservation-compatible investment
- Increase One Health integration in research, policy, planning and practice

Conservation Works
**Expected Benefits:**
- Tourism revenues
- Ecosystem services: carbon sequestration and disease regulation
- Beekeeping and Sustainable Agriculture

**Expected Costs:**
- Loss in artisanal mining and logging income
- Salaries to all conservation area staff, i.e. park rangers
- Costs of establishing the area, e.g. demarcation, buildings, road building
- Risk mitigation measures (not costed)

Assumptions: 0.3% current annual deforestation rate

<table>
<thead>
<tr>
<th></th>
<th>10 Year Model</th>
<th>30, 50, 100 Years …</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Costs</strong></td>
<td>$87,675,366.70</td>
<td>…</td>
</tr>
<tr>
<td><strong>Benefits</strong></td>
<td>$21,734,876,915.88</td>
<td>…</td>
</tr>
<tr>
<td><strong>Net Present Value</strong></td>
<td>$ 21,647,201,549.17</td>
<td>…</td>
</tr>
</tbody>
</table>
Examples:
• Awareness about beekeeping opportunities and benefits
• Sustainable tourism training
• Species protection (various awareness materials available from Liberia conservation partners)
• Capacity building for communities to support species monitoring (community biomonitoring program)

Conservation-compatible economic opportunities, training, and awareness

A VSLA group in Kialay, Nimba County.
Invest in Communities!

- Empower communities and industries to reduce risk and protect biodiversity and ecosystems
- Utilize social sciences, communication, and art
## Interfaces - Protected Areas

<table>
<thead>
<tr>
<th>Interface</th>
<th>Examples</th>
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</table>
| **Tourism**                                  | • Encroachment into caves  
• Wildlife selfies                          |
| **Communities living in/around conserved areas** | • Agriculture (e.g., livestock rearing, crops)  
• Housing  
• Food acquisition and food preparation  |
| **Natural resource extraction**              | • Commercial/concession-based logging, mining, and oil and gas extraction  
• Guano harvest                            |
| **Access and resource use**                  | • Informal (e.g., artisanal) mining  
• Local clearing (e.g., for charcoal)  
• Subsistence and non-subsistence wildlife hunting and fishing  |
| **Research**                                 | • Biological sampling and disease investigation                           |
| **Biodiversity management**                  | • Reintroduction/translocation  
• Introduction and establishment of invasive alien species (and biological measures to control them) |

*Different contexts, including regional and community practices*
Useful Tools (Examples)

Build on and improve them!!
Biodiversity for Pandemic Prevention

Phase I partners:
Ecuador, Ghana, Mongolia, Rwanda, Vietnam, Zambia

A systems approach to identifying needs and co-developing pathways
Thank you!

Machalaba@ecohealthalliance.org