

CDS Case Study: Climate - Health and Emerging Infectious Diseases in the Sub-Sahara

Led by CDS practitioner Keith Jones, the Innovation Expedition in 2008 facilitated a global dialogue on *Linking Climate and Health Research to Reduce Africa's Infectious Disease Burden*. The Dialogue was sponsored by the International Livestock Research Institute (Nairobi) and Google.org. Five discipline areas were involved in the conversation – animal health, human health, ecosystem health, disease vectors and climate. Other areas of expertise also contributed including economics, conservation, genetics, water resources, information and communication technologies.

It was recognized by the participants that links among climate and human and animal health are significant and a changing and more variable climate poses increasing risks to human health and well-being, particularly risks related to infectious diseases. It was agreed that Climate and health specialists across Africa can improve their effectiveness through better collaboration. Collaboration across these communities can improve Africa's capacity to predict, prevent and mitigate the impacts of climate-sensitive infectious diseases largely by dramatically improving early warning systems and response times. A number of actions and recommendations arose from the dialogue. Several of them were acted on immediately.

The challenges we are attempting to address, like enhancing the health of people, animals and environments all the at the same time - these challenges are so grand that no one community dares take responsibility for them

-John McDermott, Deputy-Director of International Livestock Research Institute

The following table summarizes the steps and products of this Challenge Dialogue.

Step	Description	Products
1	ldentify the need for a Dialogue	Agreement by ILRI, <i>icipe</i> and Google.org to proceed with a dialogue approach culminating in a workshop in Nairobi.
2	Plan the Dialogue	Process Planning Memo prepared by the <i>Organizing Committee</i> . Following the Innovation Expedition's Challenge Dialogue System TM process, 5 collaborating institutions were engaged in defining and championing the challenge, process, roles and responsibilities, participants and schedule. Prospectus, Invitation Letter and introductory Video prepared.
3	Engage the Participants	Prospectus, Invitation Letter and introductory Video sent. Innovation Works Website serves as a notice board and repository for the Dialogue documents www.ilri.org/InnovationWorks . [no longer active]



4	Seek Participant Input	Challenge Paper prepared and distributed to participants. It included a key challenge, expected outcomes, background, working proposition, assumptions, concept, critical questions, potential action options, and next steps with a separate feedback form.
5	Report on Progress	Consolidated Feedback document was prepared and made available on the Innovation Works website. There were over 55 respondents, most with considerable detail.
		Progress Report 1 synthesized the feedback resulting in revised statements for the key challenge, working proposition, expected outcomes; and a number of suggested action options.
		Dialogue Support Documents were prepared including:
		Climate Sensitive Infectious Diseases – a detailed table listing and defining a number of diseases and the way in which they are influenced by climate change.
		Impact of Climate Related Diseases – a detailed table listing the different diseases, the estimate of their impact and the source of information.
		Annotated Bibliography – A literature review was undertaken and 39 keγ papers abstracted in an annotated bibliographγ and made available to participants on a CD.
		Africa Based Stakeholders of Climate-Related Diseases – a list of institutions and where they are based, the type of institution or initiative and areas of work (see Appendix 1).
6	Come Together For Face-to-Face	A Workshop Workbook was prepared which reflected and supported the workshop design and informed and guided the workshop process. The Workbook provided the agenda and resource materials for 26 sessions over two and a half days.
	Dialogue	Workshop was held in Nairobi September 9-11, 2008 attended by over 60 people.
		Workshop Participant Profiles which provides contact information and background information for most participants in the dialogue.
		Strategic Communications were established in conjunction with the Workshop and involved coordinated activities with reporters, including the Economist, the Nation and Wall Street Journal, and the preparation of other Press Releases and development and updating of a Dialogue Blogsite http://climatehealthdialogue.blogspot.com/ . [no longer active]
7	Synthesize and Integrate Results	A Resource Kit of Products from the Dialogue describes 5 products that have been or will be produced: Overview Summary, Dialogue Synopsis including a single page Logic Model – The Case (Logic Model) for a One-Health Approach for Improving Response to Infectious Disease in Africa, The Nature of the Workshop, individual Knowledge Products, and Web-based Materials on www.ilri.org/InnovationWorks and https://climatehealthdialogue.blogspot.com/ [no longer active].
8	Reflect and Act on Results	Action-Recommendations as they evolved over the course of the dialogue, including noting of various allied initiatives, expressed as Action-Recommendations in the Synopsis and as 'activities' in the Logic Model.



The Case (Logic Model) for a One Health Approach for Improving Response to Infectious Disease in Africa

Working Proposition: Climate and health specialists across Africa can improve their effectiveness through better collaboration and that collaboration across these communities can improve Africa's capacity to predict, prevent and mitigate the impacts of climate-sensitive infectious diseases, largely by dramatically improving early warning and response times.

Guiding Principles:

- · A One Health approach is essential to forming the important linkages and an integrated response to reduce the burden of infectious disease, particularly on the poor in Africa
- The One Health approach serves as a unifying model endorsed and committed to by government organizations, donors and all other key stakeholders
- with broad-based ownership by all players
- The well-being of humans and animals relies on having healthy ecosystems
- Employing an ecosystem approach, which includes climate is crucial for how we undertake our research, and understand and manage infectious
- A One Health approach for Africa must be Africa-led . Communities must play a critical role in defining and communicating health needs and solutions across the full infectious disease response spectrum
 - · Research efforts are aimed ultimately at meeting the needs of the communities affected
 - · Evidence-based decision making approaches are encouraged and supported

Challenge & Opportunities

Resources

Activities

Outputs & Initial Outcomes

Medium & Long-Term Outcomes

Impacts

- · Infectious diseases: major killers of humanity throughout history smallpox flu TB AIDS malaria, plague, measles and cholera are infectious diseases that evolved from diseases of animals
- · Climate: A changing and more variable climate and rising temperatures is expected to lead to an incidence and impact of infectious diseases
- · New diseases: the emergence of new infectious diseases is expected
- · Integrated approaches: need for much more integrated approaches to "connect the dots" - e.g. vector control, animal and human vaccines, drugs, risk management, etc.
- engagement of communities on the frontlines of the infectious disease challenge
- · Complexity and uncertainty: climate change and the number of complex interactions that affect emerging diseases add a high level of uncertainty to the response decisions that need to be made and the the processes aim to predict

- People, Know How and Partnerships:

- Policy makers, their policy and interdisciplinary knowledge, mandates, experience and skills
- Other specialists and important actors, their knowledge, experience and skills Infrastructure:
- · Research institutions, their facilities and networks Government agencies, their facilities and networks
- · NGOs, their facilities and networks
- Industry and private firms, their facilities and networks
- · Donors and funders, their facilities and networks Communities, their facilities and in-reach and outreach networks
- Financial and Other Support
- Leveraging of existing programs, projects and initiatives from those listed above
- In-kind support from those listed above including
- Support systems, tools, strategies
- Information and communication technologies (ICTs), websites, blogsites, wikis, etc.
- · Models and analytical protocols and standards Data capture, management, display, integration, visualization and reporting
- Databases, knowledge bases, knowledge management systems, translation and knowledge exchange methods and systems
- Best practices, guidelines and tools for professional and technical practice. communication collaboration research etc. · Venues and tools for sharing and collaborating
- Strategies and action planning tools and methods
- · Strategic communication tools and facilities

- Develop a shared vision and principles to address the climate-health-infectious disease challenge building on the One Health concept
- Develop and refine common conceptual frameworks to help organize our thinking
- · Develop national (pilots) strategies for collaborative actionable change across all stakeholders including a strong shift toward the prevention of infectious diseases
- Develop community sensitive, collaborative, one health research and knowledge translation programs and flagship projects involving national research and academic institutions and in concert with the work of ternational science centres
- Develop programs to support students doing interdisciplinary one health research
- Capture, assemble, manage and assess the state and quality of data, knowledge (mo prediction, forecasting) and capacity in relation to the needs of communities, practitioners,
- Make the data accessible with appropriate meta-data, enable cross-discipline use and use by practitioners and policy makers
- Link / associate, map and compare data from multiple domains and areas, employ data visualization tools to gain new insights
- Develop, test, integrate and document models · Analyse the data (e.g, hot spots, vulnerability mapping), cross-discipline use, linking and visualization of disease-related data
- Improve and integrate surveillance and early warming systems and associated capacity
- Support community-level developments such as Digital Villages and related ICT initiatives Analyze decision making contexts to identify legitimacy, salience and credibility
- Make tools for facilitating collaboration readily accessible and provide training on their use

- Shared vision and guiding principles
- Common conceptual frameworks Collaborative multi-stakeholder strategies for change
- One health research and knowledge translation programs, projects, and associated partnerships
- Student support programs for inter-disciplinary one health Assessment of data, knowledge
- and capacity needs, gaps and reliability of existing information. More relevant data coverage, resolu-
- tion and more accessible information More data sharing and appropriate use
- Improved data management & analysis capability (tools and processes) Improved, more integrated models. surveillance and early warning
- systems and capacity to use them Evidence and advice that meets welldefined institutional and policy needs
- Improved tools and support to help decision makers make more informed decisions in spite of uncertainty, and build capacity
- within existing institutions More Digital Village installations with appropriate use of ICTs
- Accessible collaboration tools and training
- Working papers and articles for journals, newspapers and the web, films, video clips, DVDs, podcasts, etc.

- Recognition, adoption and increased capacity and operational use of the One Health approach at national, regional and local levels to improve response to infectious diseases in Africa
- Barriers removed enabling a large scale Africa-wide collaborativ program adopted by all stakeholders
- Improved prevention, early detection, rapid response, faster recovery capability and
- Timely evidence-based decisions to prevent and control infectious diseases
- Enhanced preparedness and integrated responses to climate-related infectious diseases
- Salient, timely, legit-imate and credible climate and disease evidence
- More accurate climate and disease predictions with specified uncertainties
- Uptake of scientific advice by decision makers

agencies and other key stakeholders are empowered to predict, prevent and mitigate

emerging threats before they become regional, national or global crises

Vulnerability is reduced, particularly of poor people, to thhealth, community and economic impacts of infectious diseases of humans and animals



The case (logic model) for a One Health approach for improving response to infectious disease in Africa

A detailed portfolio of documents for this Challenge Dialogue is on Hightail here: https://spaces.hightail.com/space/B0M1ephgHy