



2nd Symposium and Forum on “*Biodiversity and Health in Southeast Asia: translating research to action*”

Mahidol University, Bangkok
11-13th July 2016

Background information

South East Asia (SEA) is a region characterized by high biological and cultural diversity both of which are rapidly declining. Moreover, new health threats including emerging infectious diseases, antimicrobial resistant strains and metabolic disorders among others, are believed to be related to changing biodiversity.

Understanding and acknowledging the importance of biodiversity for health was the aim of a first Symposium on “*Biodiversity and Health in Southeast Asia*”, which was held at the *University of Health Sciences (UHS) Phnom Penh* in Cambodia, supported by the CIRAD, IRD, CNRS, AFD and Fondation Merieux.

This 2nd Symposium “*Biodiversity and Health in Southeast Asia*”, hosted by the faculty of Tropical Medicine at Mahidol University, Bangkok on the 12th and 13th July, is intended to further our understanding of the interdependencies of biodiversity and human health across levels of biological organization and to translate this integrated knowledge into practical actions. This 2nd Symposium is being paired with the Forum on Health and Biodiversity hosted by the Faculty of Public Health, Mahidol University and the Royal Zoological Society of Thailand, including a pre-Symposium “*Biodiversity and Health*” on the afternoon of the 11th July.

It has become increasingly apparent to many in the tropical disease research community that causes of disease emergence cannot be understood through conventional disciplinary approaches and biomedical thinking alone. Instead, broader approaches are needed, drawing on a wider scientific base, including ecological sciences and identifying the synergies between environmental factors and the mechanisms involved in pathogen transmission dynamics, key to elucidating the process of disease emergence.

The concept of biodiversity in relation to disease emergence has proven to be one of several promising new areas, associated with such fields as disease ecology and evolution, and the One Health and EcoHealth movements which have been yielding new insights into disease emergence.

These insights already have begun to generate and guide more efficacious interventions related to study of biodiversity, the implication of its conservation to disease risk, and, more broadly to human health and well-being. This includes disease prevention and control strategies where the interactions between pathogens, hosts and the environment are explicitly accounted for.

The 2nd Symposium ‘Biodiversity & Health in Southeast Asia is supported by the French ANR BiodivHealthSEA, CNRS, IRD, GREASE/ComAcross CIRAD and LACANET One Health.

Objectives and tentative programme

In practice, two objectives articulate the organization of the symposium:

- 1) Refining our understanding of the interdependencies of Biodiversity and Health based on a broader disciplinary range of knowledge and perspectives across levels of biological organization and scales.
- 2) Operationalizing the translation of this integrated knowledge into appropriate policies and interventions.

Accordingly, several key themes and research topics will be discussed during eight complementary sessions.

Session organization and knowledge integration process

Each thematic session (see below) will start with an introductory talk followed by scientific presentations that will be kept relatively short



(15min) and synthetic to deliver sharp and up to date accounts of the relationships between health and biodiversity but leaving enough time to the non-scientific stakeholder audience to react, assimilate and merge their own knowledge to the discussions. The idea is to facilitate successful integration of scientific knowledge into the pragmatism of policy making processes. As much as possibly feasible, the thematic sessions will be orchestrated by a carefully thought upon combination of scientific experts and government, NGO as well as communities representatives, while the rest of the audience will have the possibility to contribute perspectives and opinions during round tables. Possible tangible outcomes from a legal and policy standpoint will be compiled by a rapporteur, synthesized and drafted.

SYMPOSIUM DAY 1 (12TH)

Plenary session

Keynotes speakers will provide an historical account and overview of the main achievements and remaining challenges and gaps in understanding the relationships between biodiversity and health as well as past and on-going practical actions.

Thematic Session 1: Wildlife conservation

Preserving wildlife, including emblematic mammals such as elephants, tigers and gibbons, besides the ethical dimensions of valuing their very existence, is one relatively straightforward strategy to preserve large expanses of natural habitats as well as their functional characteristics and the services we derive from these healthy natural systems. In SEA the on-going dramatic deforestation and habitat alteration make wildlife conservation a challenge and result in potentially irreversible damage to unique natural systems.

Chairman: Mohd Tajuddin Bin Abdullah
Scientists: Neil Furey (FFI, Phnom Penh)
Prateep Duengkae (Kasetsart U)
Pei-Jen Lee Haner (NTNU, Taiwan)
Nicolas Lainé (EFEO)

Thematic session 2: Emerging Infectious Diseases

Despite increasing control measures, numerous parasitic and infectious diseases are emerging, re-emerging or causing recurrent outbreaks in SEA.

While Biodiversity (from genes to landscapes) is a source of pathogens, its erosion and the disruption of the ecological regulatory processes associated with healthy ecosystems seems to be associated with an increase in zoonotic and VBD outbreaks.

Chairman: Boon Tan Hua (NUS Singapore)
Scientists: Michael Kosoy (CDC USA)
Alexis Ribas (UdonThani U)
Silas Davidson (AFRIMS)
Toni Whistler (MOPH-US)

1st Round table Wildlife, conservation and infections diseases

with Dr. Songtam Suksawang, Inspector General and Advisor of Wildlife and Plant Conservation (DNP)
With representatives IUCN, WWF

Thematic session 3: Land uses

Land use changes including agricultural intensification can disrupt soils water retention capacity, fertility including microbial diversity and patterns of exposure/susceptibility to infectious diseases among other consequences. Major issues related to the on going livelihood shifts in rapidly changing SEA rural landscapes will be discussed.

Chairman: John Ward (MERFI, Laos)
Scientists: Alain Pierret (IRD)
Catherine Walton (UM, UK)
Apichai Tuanyok (Univ Florida)
Serge Morand /Christian Valentin

Thematic session 4: Antimicrobial resistance and pollutants

The evolution of antimicrobial resistance (AMR) is becoming a global health issue. In SEA, the combination of excessive and often unregulated use of antimicrobials in animal production and the specific environmental conditions within and around production systems may lead to increased AMR in significant human pathogens. It becomes critical that research findings are translated into effective legislation to minimize major human health impediments in the future.

Chairman: Juan Carrique Mas
Scientists: Trung Nguyen Vinh
Noppadon Kittana
Krittinee Nuttavuthisit

2nd Round table: Global changes and health with Dr. Moe Ko Oo (Mekong Basin Disease

Surveillance), Dr. Ubolratana Suntornratana (Dpt Fisheries Thailand), and representative FAO, UNDP

SYMPOSIUM DAY 2 (13TH)

Thematic session 5: Ecosystems services

Ecosystems are widely considered to provide four categories of services: supporting (e.g. soil formation and primary production); provisioning (e.g. food, fresh water, etc.); regulating (e.g. climate regulation, disease regulation); and cultural (aesthetic, spiritual, educational and recreational). Following recent initiatives by the Asean Center for Biodiversity and others to gather evidence on the value of ecosystem services in SEA, discussions will address the gaps and needs in this area of investigation and focus on policy implementation in the region.

Chairman: Dr Alex Smajgl (MERFI, Bangkok)
Scientists: Yongyut Trisurat (KU)
Damien Jourdain (CIRAD)
Penporn Jankarmkit (KU)

Thematic session 6: Society, Policy and Law

The existence of healthy and diverse ecosystems is considered a prerequisite for a healthy life, and has been presented as a fundamental human right. Currently, few constitutions, legal frameworks, or development plans in SEA address the potential ethic-based trade-offs underlying development projects. Discussions will intend to delineate ethical guidelines to be used as blueprints for advancing the protection of biodiversity for human health and well-being.

Chairman: Saipin Supputamongkol (TU)
Scientists: Dae na Funahashi (Danmark)
Claire Lajaunie (INSERM)
Witchuda Srang-iam (NIDA)

3rd Round table: Socio-ecosystems with Jeff McNeely (consultant, former IUCN), representative UNDP

Thematic session 7: Transdisciplinary approaches to health: Ecohealth and One Health

Holistic integrated approaches to health (based on Systems thinking, Resilience theory and Transdisciplinarity), such as Ecohealth and One

health, are needed to better understand risks trends for populations and foster our capacity to forecast and adapt to challenges sustainably, particularly in the current context of SEA rapid environmental degradation. Successes and remaining challenges in the regional context will be discussed.

Chairman: Bruce A. Wilcox
Scientists: LACANET: Mathieu Pruvost / Paul Harwood
ComAcross: Fred Unger / Panomsak
EcoHealth: Alice Latinne/Kevin Olival
Duke University/NSU: Gavin Smith
GREASE: Alan Dargantes
(Philippines)

Thematic session 8 and Final round table on science and policy dialogue

Processes and methods facilitating the operational translation of science-based knowledge into pragmatic policies will be presented.

Chairman: Bruno Walther (NTNU Taiwan)
Asanee Kawtrakul (NECTEC, KU)
Pierre Mazzega (CNRS)/Claire Lajaunie
Alex Smajgl (MERFI, Bangkok)

Symposium Attendance

The symposium is relevant to participants from Thailand authorities, Regional and International institutions, non-governmental organisations, scientists, students from SEA Universities.

Registration and more information

Registration can be done via email to: serge.morand@cirad.fr, serge.morand@univ-montp2.fr. Please include your name and contact details in the email.

More information can be found here:
www.biodivhealthsea.org

Organizing Committee

Ass Prof. Paron Dekumyoy (Mahidol University, Thailand)
Dr. Serge Morand (CNRS-CIRAD, CIC Mérieux Laos, Mahidol University, Thailand)
Dr. Christian Valentin (IRD, France)

Scientific Committee

Dr. Pierre Echaubard (Global Health Asia, Mahidol University)
Dr. Paul Harwood (IP Cambodia)/Dr. Mathieu Pruvot (WCS) LACANET
Dr. Michael Kosoy (CDC Fort Collins)
Prof. Bruce A. Wilcox (Global Health Asia, Mahidol University)

Speakers

Prof. Taj Mohd Abdullah (Academy of Sciences of Malaysia)
Dr. Juan Carrique Mas (Oxford Univ-WT, Vietnam)
Ass. Prof. Pei-Jen Lee Haner (National Taiwan Normal University)
Dr. Paul Harwood (Pasteur Institute Cambodia)
Ass. Prof. Hsuan-Wien Chen (National Chiayi University, Taiwan)
Ass. Prof. Alan Dargantes (Central Mindanao University, Philippines)
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Dr. Tan Boon Hua (National University Singapore)
Dr. Claire Lajaunie (Inserm, France)
Dr. Alice Latinne (EcoHealth Alliance)
Ass. Prof. Asanee Kawtrakul (Kasetsart Univ., TH)
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Ass. Prof. Krittinee Nuttavuthisit (Sasin School of Business, Thailand)
Dr. Alain Pierret (IRD, Thailand)
Dr. Mathieu Pruvot (WCS, Lacanet, Cambodia)
Dr. Gavin Smith (Duke University USA and National University Singapore)
Prof. Yongyut Trisurat (Kasetsart University, Thailand)
Ass. Prof. Apichai Tuanyok (Univ Florida)
Dr. Fred Unger (International Livestock Research Institute/CGIAR)
Dr. Bruno Walther (Taipei Medical Univ., Taiwan)
Dr. Catherine Walton (University of Manchester, UK)
Dr Toni Whistler (MOPH-US CDC, Thailand)

Representatives

Dr. Gordon Congdon WWF (Thailand)
Dr. Wantanee Kalpravidh (FAO, Emergency Center for Transboundary Animal Disease, Thailand)
Dr. Moe Ko Oo (Mekong Basin Disease Surveillance Foundation)

... and others to be announced

