





Pandemic literacy and viral zoonotic spillover risk at the frontline of disease emergence in Southeast Asia to improve pandemic preparedness

PANDASIA

Ethical Review Board (ERB) established

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Table of Contents

Project Partners	4
Executive Summary	5
Background	6
Ethics issues	7
Members of the ERB	7
Functions of the ERB	8
Added value of the ERB	8
Communication with the FRR	q





Project Partners

No.	Short name	Full name	Country	Main role
1	NMBU	Norwegian University of Life Sciences	Norway	Coordinator – WP7 & WP8 lead
2	NVI	Norwegian Veterinary Institute	Norway	WP4 partner
3	UKHD	Universitätsklinikum Heidelberg University	Germany	WP5 lead
4	IZW	Leibniz Institute for Zoo and Wildlife Research	Germany	WP3 & WP6 partner
5	QMUL	Queen Mary University of London	UK	WP1 partner
6	CHULA	Chulalongkorn University	Thailand	WP1 lead
7	UMU	Umeå University	Sweden	WP4 lead
8	KKU	Khon Kaen University	Thailand	WP3 lead
9	MU	Mahidol University	Thailand	WP2 lead
10	SUPA71	SUPA71 Co., Ltd.	Thailand	WP6 lead





















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Executive Summary

Health emergencies usually emerge from inconspicuous local contexts where emerging infectious pathogens may cross spillover boundaries from the indogenous wild animal reservoir to intermediate or focal host (potentially human). Understanding these host-pathogen-environmental dynamics (One Health) within complex social-ecological systems (systems thinking) are crucial for global health security.

The EU-funded PANDASIA project aims to address these issues and develop models to predict socio-ecological drivers of viral spillover and disease emergence. Using cutting edge technologies and real-world data, it will pioneer a community owned Pandemic Preparedness and Prevention Literacy (3PLs) intervention.

The goal is to improve community engagement and to reduce the risk of future health threats by reducing the burden of zoonotic spillover on human health. Understanding the complexity of spillover mechanisms at local levels in biodiverse hot spots, such as Southeast Asia, is important to improve European and global pandemic preparedness.

The project raises multiple ethics issues related to human participation, personal data processing, animal use (including wild and domestic animals) and handling of potentially infectious samples from humans and animals, all in a non-EU country (Thailand). Therefore, an external, independent ethics committee was appointed to advise the consortium on all the ethics issues raised by the project. Our Ethics Review Board (ERB) has extensive knowledge in all fields related to the project. We aim to rely on the exceptional expertise of the ERB members to anticipate the seriousness of potential risks, guide our ethical approach, critically assess our work, and enhance its quality to unlock the complexcity of zoonotic spillover.





Background

PANDASIA is a transdisciplinary research project aiming to understand the complexity of zoonotic spillover, thereby enhancing the global pandemic preparedness overall. This will be done through a comprehensive collection of social, biological and molecular data and develop predictive modelling of zoonotic spillover rates and disease emergence in high-risk settings in Thailand. This interdisciplinary approach will enable intensive understanding of potential pandemic drivers along nature-rural-urban gradients. PANDASIA consists of seven work packages (WPs), as shown in Figure 1.

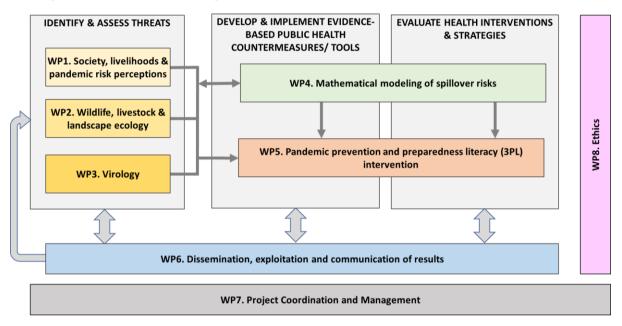


Figure 1. PANDASIA Work Packages

PANDASIA project has the following Specific Objectives (SO):

- **S01.** Determine and monitor human and societal factors impacting zoonotic spillover risk by identifying populations, human behaviours, human-animal-environmental interactions, structural drivers and barriers, and relevant policies in study locations (WP1).
- **\$02**. Determine the most important wild and domestic vertebrate animal hosts of importance for spillover in each study location, assessing their presence, abundance, diversity (WP2).
- **S03.** Assess and model the potential effect of changes in land use, land cover, climate, and human demographic factors since the year 2000 on spillover risk (WP2).
- **S04.** Identify previously unrecognised pathogens with spillover potential, specifically targeting viral groups in vertebrate animal hosts for which there is strong precedence for viral occurrence and emergence in the region (WP3).





S05. Develop ecological, epidemiological and evolutionary conceptual models to enhance understanding of the significance of the general principles and pathways of spillover processes, and to guide the development and analyses of a structurally equivalent, yet more specific, data-driven model. (WP4).

S06. Develop a point-of-care (POC) virus test kit prototype for use by healthcare providers and professionals to identify spillover at the earliest stages to prevent epidemic or pandemic spread (WP3).

S07. Create and test a critical public health measure — a pandemic prevention and preparedness literacy (3PL) intervention to reduce zoonotic transmission and pandemic risk (WP5).

Ethics issues

The project raises multiple ethics issues related to human participation, personal data processing, animal use (including wild and domestic animals) and handling of potentially infectious samples from humans and animals, all in a non-EU country (Thailand). Therefore, an external, independent ethics committee was appointed to advise the consortium on all the ethics issues raised by the project, particularly including: 1) precaution and safety measures regarding the protection of research participants involved in collection and bio-banking of biological samples for spillover viral risk screening through trapping of wildlife animals; 2) obtaining relevant ethics approval for research on wild, domestic, and peri-domestic animals and that 3) ethical and legislative standards regarding: the processing of genetic, biometric, and health data; the environment and treatment of animals; incidental and unexpected findings; exploitation of local resources on a benefit-sharing basis. Reports of the ethics committee, detailing how the ethics issues raised by the project are addressed, must be submitted to the

Members of the ERB

The ERB of PANDASIA consists of **two** eminent experts listed below:

- 1. **Pratap Singhasivanon**, Secretary General of SEAMEO TROPMED Network, and Prof. of Tropical hygiene, Mahidol University, Thailand.
- Wantanee Kalpravidh, Regional Manager, Emergency Center for Transboundary Animal Disease for Asia and the Pacific for the Food and Agriculture Organization (FAO), Bangkok,





Functions of the ERB

- 1. Guide the consortium to obtain all required ethics approvals to implement the research.
- 2. Provide fair, clear and adequate ethical guidance related to obtaining, handling and storing human and animal data.
- 3. Ensure an effective implementation of the international standards for biosafety and biosecurity in handling biological samples.
- 4. Provide advice and expertise on cross cutting topics like transdisciplinary science, implementation science, and interaction with local communities.
- 5. Review the expected work and provide fair, and balanced scrutiny of its quality before submission.

Added value of the ERB

PANDASIA has selected Thailand as the main hub for its scientific activities. Southeast Asia is a globally recognised biodiverse-rich region, adding to that the transdisciplinary consortium of researchers with diverse cultural, social, and ethnic backgrounds. Our external ERB serves as a diligent *compass* to counter any potential ethical challenges. Below are some expected added values of an ERB in the project:

- Tackling inter-cultural differences and ensuring the harmony between the consortium's members.
- 2. Prof. **Singhasivanon**, as the secretary general of The Southeast Asian Ministers of Education Organization (SEAMEO). He will provide the consortium with all international standards of ethics required to collect, store, and share biological samples.
- 3. With his comprehensive understanding of the regional and local specific vulnerabilities Prof **Singhasivanon** will assist the researchers to evade that any ethical dilemmas might arise from interacting with local communities.
- 4. Dr. **Singhasivanon** has contributed to several initiatives to improve performance of healthcare workforce, which in return will ensure the quality and standards of any educational curriculum PANDASIA will develop.
- 5. Dr. **Kalpravidh** has a substantial experience in animal welfare. Her expertise in the human-animal-environment ecosystem is invaluable to tutor PANDASIA in the ethical dilemma of spillover events.
- 6. With her regional and global expertise, Dr.Watanee will assist PANDASIA to ethically investigate the impact of climate change on host mobility, human animal sphere of interaction.
- 7. Dr. **Kalpravidh** made her mission at the Food and Agricultural Organization (FAO) to enhance national capacity building in the Southeast Asia Region, which makes her the perfect ethics advisor for PANDASIA.





- 8. PANDASIA will exercise transdisciplinary science in unlocking the local complexity of zoonotic spillover in Chiang Rai and Chanthaburi provinces in Thailand, which has international borders to Laos, Myanmar, and Cambodia. This requires a high level of delicacy to handle such a sensitive topic of zoonotic spillover.
- 9. Our ERB will serve as *an internal* peer review committee to all our outputs and deliverables.
- 10. PANDASIA will pioneer a locally owned intervention named Pandemic Preparedness and Prevention Literacy. It will enhance community engagement and enable local Thai communities to prevent the next pandemic. This innovative approach requires comprehensive understanding of the local communities, cultural norms, social structure, and therefore **Dr. Kalpravidh** and Prof. **Singhasivanon** with their expertise are invaluable assets to PANDASIA

Communication with the ERB

The kick-off meeting of PANDASIA was held in February 2023 in Khon Kaen, Thailand. Both ERB members were invited, and Prof. **Singhasivanon** was able to participate in person. NMBU as the project coordinator works as a gatekeeper between the consortium and ERB members to avoid any overwhelming communication. The communication will take place as follows:

PANDASIA was officially launched in February 2023, in Khon Kaen, Thailand. Whereas both members of the ERB participated. NMBU as the project coordinator works as well as a gatekeeper between the consortium and ERB members, to avoid any overwhelming communication. The communication takes place in two forms:

- 1- Periodic meetings: Once every six months, with specific agenda and expected outcomes.
- 2- Flexible communication: Upon urgency and whenever needed, the PI and the coordinator can contact ERB members directly.
- 3- Other forms of interaction: All ERB members are invited to join any activity of PANDASIA. This includes; biweekly meetings, kick-off, and annual meetings. Nonetheless the participation is voluntary and subject to the availability and feasibility of the ERB members.





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