Workshop 5 – Kuala Lumpur, Malaysia

1-3 June 2023

The International Network for Government Science Advice – Asia Regional Chapter (INGSA-Asia) and the U.S. National Academies of Sciences, Engineering, and Medicine (NASEM) continue to collaborate on a project on the prevention and mitigation of zoonotic spillover of high consequence pathogens (HCPs) originating in the live animal supply chain. The project aims to explore ways to reduce the risks from HCPs, develop best practices to prevent and contain outbreaks, to engage experts and regional stakeholders involved in the animal supply chain, and to publish a guidebook on the topic. As part of this project, a series of workshops were conducted, culminating in Workshop 5 held in Kuala Lumpur, Malaysia, Jun 1-3, 2023.

Workshop 5 was hosted by INGSA and NASEM at Sunway University and brought together project experts from Southeast Asia and other countries to finalize the draft of the guidebook. The workshop focused on reviewing and refining key sections of the guidebook, addressing remaining critical issues in advance of publication and charting a path for the next phase of the project. In addition to the guidebook discussions, Sunway University organized a forum on Southeast Asia's Zoonotic Threats: Bridging the Gap Between Research and Action to allow the project experts to present zoonotic spillover issues and engage with key stakeholders in Malaysia.

The workshop was attended by regional and international zoonotic spillover policy, research and academic experts. The agenda was organized around a series of sessions to discuss the contents of the guidebook and how the guidance, once finalized would be implemented. These sessions were organized as discussions, group activities, and consensus-building exercises among the participants. The first session introduced the workshop agenda and goals and included an review to allow participants to give their initial impressions and comments on the guidebook draft that was distributed before the workshop. Later sessions we organized around specific guidebook issues and how to use the guidebook. Participants discussed and finalized the main parts of sections on key diseases in the region, how to present and undertake risk assessment in the animal supply chain, and the most important aspects to disease surveillance in Southeast Asia. Participants discussed implementation strategies for the guidebook's recommendations and messages, how to design training, illustrate key figures, and suggested additional derivative products. Participants discussed SEA and country-specific cultural perspectives, provided ideas to include in the draft executive summary and introduction. Finally, participants engaged in a role playing participatory exercise to better understand how to design strategies to implement the guidance for specific sectors (academic and research communities, civil society groups and NGOs, local governments and regulators in the region, national and regional government groups and the private sector and industry), barriers, and facilitators to achieving uptake of guidebook recommendations. Overall, the workshop sessions were a success, project team members from Malaysia, Thailand, the Philippines, Laos, Cambodia, Vietnam, Indonesia, the United States and

other countries were able to gather to discuss and finalize the guidebook draft, design a plan to complete and release the guidebook and agree on the types and format of material derived from the guidebook that will be used to disseminate the guidance and inform the next phase of the project.

In addition to the workshop sessions, INGSA and Sunway University organized a forum to present ideas and discuss bridging the gap between research and action in addressing zoonotic spillover in Southeast Asia region. Distinguished speakers, some associated with the INGSA NASEM project shared their expertise and insights on various topics related to zoonotic spillover and pandemic resilience. A video transcript of the forum sessions is available on the INGSA YouTube channel . The panel of and a summary of their presentation is below.

- Prof. Dr. Raina Plowright, Professor and Cornell Atkinson Scholar at the Atkinson Center for Sustainability, Cornell University, USA. discussed "Virus Ecology, from Host Reservoir to Disease" and her research in understanding the ecological dynamics of viral diseases, including the factors that contribute to their emergence, persistence, and spillover into human populations and how to uncover the complex interactions between viruses, animal hosts, and the environment, providing crucial insights into zoonotic disease transmission.
- Prof. Tan Sr Jemilah Mahmood, the Executive Director of the Sunway Centre for Planetary Health and a former Special Advisor to the Prime Minister on Public Health discussed the "Planetary Health Approach to Pandemic Resilience." Prof. Mahmood highlighted an emerging concept, the 'uncertainty complex' which considers the interplay between the Anthropocene, polarization, and societal transformations while emphasizing the importance of considering planetary health, effective governance, communicating science, and revolutionizing education as key aspects for improving pandemic preparedness and response.
- Prof. Dr. Latiffah Hassan, a Professor in Veterinary Public Health and Epidemiology at Universiti Putra Malaysia and the Coordinator of the Malaysia One Health University Network discussed "Understanding the Drivers of Zoonotic Spillover in Malaysia and the SE Asia Region." She addressed the specific challenges and factors that contribute to zoonotic spillover in Malaysia and Southeast Asia and highlighted the importance of interdisciplinary collaboration, surveillance systems, and risk management in managing zoonotic diseases.
- Prof. Dr. Linda Saif, Distinguished University Professor at the College of Food, Agriculture and Environmental Sciences, The Ohio State University, USA addressed "Research Gaps and Priority Areas for Future Studies." Prof. Saif shared her expertise in virology and emphasized the need for continued research to fill knowledge gaps in zoonotic diseases.

These speakers, with their diverse backgrounds and areas of expertise, provided valuable insights into different aspects of zoonotic spillover and pandemic resilience. During the open discussion after the presentations, panelists received questions from the audience, with a focus on exploring the question of how different stakeholders can collaborate to bridge the gap between research and action in addressing zoonotic spillover. The discussion was moderated by Dr. Eri Togami, an Epidemiologist and Veterinarian from Johns Hopkins University. The discussion highlighted the importance of

collaborative efforts among stakeholders to address the challenges of zoonotic spillover. The participants recognized the need for sustained engagement, ongoing dialogue, and coordinated action to effectively translate research into practical solutions to mitigate the risks associated with zoonotic diseases.

Following the open forum discussion, Dr. Meghan Davis, the co-chair of the INGSA-NASEM Project Committee, and Ben Rusek, the INGSA-NASEM Project Coordinator, introduced the INGSA-NASEM Zoonotic Spillover Guidebook to the audience. The presentation explained that the guidebook aims to provide a comprehensive framework to help stakeholders in their efforts to bridge the gap between research and action, offering practical recommendations and best practices for zoonotic disease prevention and response. There was immediate interest in the guidebook and its dissemination from participants representing multiple disciplines and sectors.

In Conclusion, Workshop 5 marked a significant milestone in the INGSA NASEM Countering Zoonotic Spillover of High Consequence Pathogens Project. The workshop provided a platform for experts to finalize the guidebook draft and address key issues. Issues settled at and the discussions and outcomes from the workshop will contribute to the publication of the guidebook and help support products and materials derived from the guidebook, which the project leaders hope will serve as a valuable resource for preventing and mitigating zoonotic spillover in the Southeast Asia region. The collaborative efforts of INGSA-Asia, NASEM, and all participants involved in the project will contribute to strengthening the safety, management and operation from the perspective of preventing zoonotic spillover in the animal supply chain in the region and serve as an example for efforts in other regions and internationally.