Center for Health Security

Southeast Asia Strategic Multilateral Biosecurity Dialogue

with Participation from Indonesia, Malaysia, the Philippines, Singapore, Thailand, and the United States

Meeting Report from the 2023 Dialogue Session

April 26-28, 2023

Cebu, Philippines

Johns Hopkins Bloomberg School of Public Health

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The Southeast Asia Strategic Multilateral Biosecurity Dialogue was conducted at the Track 1.5 level, and participants did not represent the official position of their respective governments, agencies, or organizations. All comments and presentations were made in the participants' personal capacity.

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Executive Summary

The Johns Hopkins Center for Health Security and the University of the Philippines Manila College of Medicine Chemical, Biological, Radiological, and Nuclear (CBRN) Health Security Initiative co-hosted the 2023 Southeast Asia Strategic Multilateral Biosecurity Dialogue from April 26-28 in Cebu, Philippines. Dialogue participants included high-level experts from Indonesia, Malaysia, the Philippines, Singapore, Thailand, and the United States, as well as regional and international organizations, including the Association of Southeast Asian Nations (ASEAN) and the World Health Organization (WHO). The participants shared experiences and provided expertise across a broad scope of fields under the umbrella of health security, including public health and healthcare, national security and defense, homeland security and home affairs, public safety, plant and animal health, weapons of mass destruction (WMDs) nonproliferation, academia, and the media.

The dialogue is conducted at the Track 1.5 level, which consists of non-official engagement by current and former senior-level government officials, as well as nongovernmental subject matter experts. This was the eighth in-person dialogue session, but it was the first such meeting since the emergence of SARS-CoV-2 in 2019. This ongoing dialogue aims to strengthen cross-border and regional professional relationships and to identify priority biosecurity challenges and threats, particularly those that merit raising the level of formal national- and regional-level engagement among the participating countries.

Not surprisingly, many of the participants' comments were made through the lens of COVID-19. The pandemic has affected every aspect of society, and its legacy will shape the near-term and long-term future of public health, healthcare, and health security. While the participants shared their COVID-19 response experiences, the discussions went far beyond an assessment of COVID-19 pandemic response successes and failures. The participants focused heavily on translating those experiences and lessons into future action, looking ahead to identify the capabilities, capacities, programs, collaborations, and frameworks necessary to develop resilience to large-scale health emergencies.

Over the course of 7 discussion sessions and 4 guest presentations, several key themes emerged regarding the current and future state of health security in Southeast Asia and globally. The participants emphasized the importance of a "whole-of-government" approach and multisectoral collaboration in terms of establishing resilience to biological threats, particularly pandemics. Throughout the COVID-19 pandemic, governments and organizations at all levels relied heavily on multisectoral collaboration, integrating programs and capacities from far beyond traditional public health and healthcare

agencies. As with previous dialogues, the participants debated future opportunities and risks associated with advancements in biology and biotechnology, and the COVID-19 pandemic provided concrete illustrations of some potential benefits of these new capabilities, including the first successful human vaccine developed using an mRNA platform.

The participants received briefings from the WHO Emerging Technologies, Research Prioritisation, and Support Unit and the Johns Hopkins Center for Health Security on WHO's recently published *Global governance framework for the responsible use of the life sciences* and an associated proposal for a biorisk management tool that could be tailored and used for the Southeast Asia region. Participants noted concern about the unregulated risks associated with some advanced life science research, especially in light of an anticipated proliferation of high-level containment labs in the near future. They agreed that more education, training, guidance, and other formal oversight mechanisms may be needed to reduce the risk of accidental and deliberate biological threats.

The participants also debated the need for more high-level, international coordination on large-scale biological threats, particularly considering the inequities highlighted by the COVID-19 pandemic. They noted that the approaches used during the pandemic often exacerbated inequities and disparities by allowing larger, wealthier, and more developed countries to determine the allocation of scarce resources, including critical medical countermeasures (MCMs). The participants discussed distributed manufacturing capacity and other potential initiatives as ways to ameliorate this problem in the future.

The participants also received briefings from ASEAN's Health Division and its Mitigation of Biological Threats (MBT) Programme regarding ongoing and future regional health security activities, including efforts to establish the ASEAN Centre for Public Health Emergencies and Emerging Diseases (ACPHEED). Finally, the participants emphasized that progress made during the COVID-19 pandemic—including on disease surveillance systems and capacities; advancements in MCM research, development, regulatory systems, and manufacturing capacity; new cross-sectoral, interagency, and international collaborations; and evolving global health security governance frameworks—will make little impact in future health emergencies if they are not implemented in a sustainable fashion. Long-term funding, support, and prioritization at the highest levels of governments are necessary to ensure the long-term viability of new capacities, programs, and frameworks as we look ahead to the next regional or global emergency.

Background & Introduction

The Johns Hopkins Center for Health Security partnered with the University of the Philippines College of Medicine Chemical, Biological, Radiological, and Nuclear (CBRN) Health Security Initiative to host the 2023 Southeast Asia Strategic Multilateral Biosecurity Dialogue in Cebu, Philippines, from April 26-28. Now in its eighth in-person meeting, the Track 1.5 biosecurity dialogue includes leaders and experts from Indonesia, Malaysia, the Philippines, Singapore, and Thailand. This is the first in-person meeting since the emergence of SARS-CoV-2 in 2019, and notably, it took place the week before the World Health Organization (WHO) announced the end to the COVID-19 Public Health Emergency of International Concern (PHEIC). This dialogue aims to address a broad scope of biological risks facing Southeast Asia and the United States, whether natural, accidental, or deliberate in origin. The ultimate goal is to improve cross-border relationships, including regional, international, and with the United States; identify potential actionable steps to increase health security; and establish and maintain sufficient preparedness and response capacities to combat ongoing and emerging biosecurity threats (see Box 1: Defense Threat Reduction Agency).

Defense Threat Reduction Agency

Dr. Ada Bacetty, Department Chief for DTRA's Biological Threat Reduction Program (BTRP), delivered opening remarks to share insight on US Department of Defense (DOD) priorities and goals for the dialogue and set the stage for upcoming discussion sessions. BTRP's principal aims for the dialogue are to strengthen cross-border relationships, share best practices around regional biosecurity threats, and strengthen regional operational capacity. The ultimate goal for this dialogue is to seize concrete opportunities outside the meeting room to improve regional resilience against national, accidental, and deliberate biological threats, and Dr. Bacetty emphasized the importance of transitioning from discussion to action. She also discussed the critical nature of multisectoral and multilateral collaboration in combating biological threats, and she noted that the DOD's activities in the Indo-Pacific region are only one component of a broader global health security approach to improving national, regional, and global capabilities and capacities to prevent, detect, respond to, and recovery from health emergencies.

As with previous dialogue meetings, the 2023 participants included current and former senior government officials and globally recognized technical experts from the 6 participating countries. The participants provided expertise across a variety of relevant governmental bodies and sectors, such as public health and healthcare, national security and defense, homeland security and home affairs, public safety, plant and animal health, weapons of mass destruction (WMDs) nonproliferation, academia, and the media. In addition to the formal participants, the dialogue also included guest presenters from the Association of Southeast Asian Nations (ASEAN) Health Division

and WHO's Emerging Technologies, Research Prioritisation, and Support Unit. While the dialogue began as informal engagement at the Track 2 level, it has evolved to include semi-formal engagement at the Track 1.5 level, with an increased focus on identifying opportunities for collaboration outside of the dialogue to address priority regional biosecurity threats and risks. The dialogue is conducted on a not-for-attribution basis, which facilitates frank and open discussion and contributes to a more complete appreciation of existing capabilities, gaps, operations, and policies in each country.

The 2023 dialogue meeting consisted of 7 discussion sessions, 2 sets of guest presentations, and a final roundtable discussion on future priorities for the dialogue and opportunities for collaboration. The discussion sessions covered a broad scope of biological threats of importance to the Southeast Asia region, including key lessons from the COVID-19 response, multisectoral integration on biosecurity issues, governance and oversight for advanced life science research, medical countermeasures (MCMs) research and development, deliberate biological threats, disease surveillance and epidemic containment, and the future of global health security governance and coordination.

The participants also received briefings on ongoing and future efforts at ASEAN to build regional health security preparedness and response capacity and strengthen regional collaboration during health emergencies, including the new ASEAN Centre for Public Health Emergencies and Emerging Diseases (ACPHEED), and on WHO guidance regarding national-level efforts to provide effective governance and oversight for emerging and future biology and biotechnology capabilities.

The final session of the dialogue was dedicated to a roundtable discussion of future steps and priorities for the dialogue itself, with the goal of identifying future opportunities to establish more formal and concrete collaborations on priority biosecurity threats and capabilities outside of the dialogue. The participants framed much of the discussion during the meeting in the context of their COVID-19 experience, while also looking to future challenges. They addressed shortcomings in preparedness and response capacity for pandemics and other large-scale health threats as well as opportunities to leverage emerging capabilities in biology and biotechnology for positive health, economic, and social benefits.

Funding and support for the dialogue was provided by the Defense Threat Reduction Agency (DTRA; US Department of Defense), under its Biological Threat Reduction Program (BTRP).

Multisectoral Collaboration & Whole-of-Government Approach

Throughout the discussions, participants noted the importance of both formal and informal multisectoral collaboration and a "whole-of-government" or "whole-of-society" approach to health emergency preparedness and response. These types of approaches leverage the skills, expertise, and capacities of a broad scope of agencies and organizations, including government and civil society, as well as civilian and military. Similar to past dialogue meetings, participants emphasized the importance of multisectoral engagement on these issues, not only to more fully integrate the human health and security sectors, but also to reach beyond the traditional actors to other sectors, including outside of government. Reflecting on their experiences of responding to the COVID-19 pandemic, stakeholders shared examples of successful responses built on multisectoral task forces that included representatives from across relevant ministries. Further, many described difficulties stemming from siloed efforts or unilateral action within governments, including internal competition over limited resources or public recognition, rather than focus on collaboration. These examples highlighted that good governance and a cooperative, multi-stakeholder approach are keys to a successful national response.

As part of a broad multisectoral approach, participants specifically noted that civilian-military collaboration was a vital component of the success of many national responses to COVID-19, in both Southeast Asia and the United States. This included discussion of domestic military and international military support, with the important caveat that domestic and international support are distinct and have different considerations, issues, and implications. More broadly, the military provided significant capabilities and capacities to national response efforts, including leadership, logistical support, and specialized knowledge (eg, CBRN operations), as well as security, enforcement, and healthcare personnel and operations. In Thailand, for example, civilian-military collaborations included operational and logistical support at the most senior levels of government. The integration of new partners included new challenges, too. While not part of the military, the Philippines's Bureau of Fire Protection is another non-health organization tasked as the lead for emergency medical responses. Though they have a depth of experience and expertise in other non-fire related threats, including natural disasters and hazardous materials (HAZMAT) events, communicable disease was a new threat for the Bureau of Fire Protection. Through close collaboration with other government agencies, including health officials, fire officials were able to develop and implement new response plans amid the pandemic, and in fact, there were no instances of fire personnel being infected during COVID-19 patient transport.

The COVID-19 pandemic illustrated the complex and interwoven relationships between essentially every sector and the roles that civil society entities—including private sector business and industry, academic and research institutions, and community organizations—can play in pandemic preparedness and response. Several participants described the contribution of academic institutions to developing diagnostic tests that provided critical surveillance capacity at the local and national levels, particularly early in their respective national epidemics. There were certainly challenges in terms of integrating data from civilian government, military, and civil society or private sector laboratories—including technical and administrative barriers—but the multisectoral approach enabled countries to scale up testing capacity much more rapidly than a single agency or organization could ever hope to. Notably, one participant from Malaysia described how the response relied on the publicly funded universal healthcare system and did not properly utilize private healthcare facilities. To avoid this situation in future, and to prepare for a more efficient response, Malaysia identified a need to develop a framework to help the country optimize public-private partnerships in this area—potentially learning from other countries' approaches both within the region and beyond. In Thailand, local neighborhood associations aided in disease surveillance, supported quarantine efforts, and provided social support for affected individuals and families in the community, which bolstered local response capacity.

Several participants discussed the importance of non-traditional stakeholders, such as religious or cultural leaders. These individuals can be of significant benefit to public health responses, as they are viewed as trusted voices in the community that can help to bridge the gap between government officials and hard-to-reach or vulnerable individuals who may be untrusting of central government or have had difficult experiences with the medical community in the past. In a similar context, participants also noted the central role of the media in disseminating accurate information, helping to build public trust and countering mis- and disinformation.

Further discussion centered around the need for collaboration with the private sector and the importance of public-private partnerships. This included the role of health-related private sector organizations, such as private laboratories and hospitals in supporting public systems, the role of pharmaceutical companies in MCM development and production, and the broader private sector community in supporting, funding, and cooperating with health emergency preparedness and response.

To have efficient and effective multisectoral collaboration, participants agreed on the importance of collaborative efforts and building relevant relationships in advance of an emergency. Having legislation, formal and informal communications pathways, and trusted relationships in place during the preparedness phase should lead to significant benefits in a response situation. Out of necessity, many participants hurried to build

new relationships and working partnerships during the COVID-19 response but noted that there is a need to strengthen these collaborations ahead of the next emergency. This includes formalizing newly established processes and relationships via new or amended legislation, memoranda of understanding (MOUs), or clearly defined mandates and standard operating procedures (SOPs) for joint action. Several participants also suggested that joint activities and simulation exercises would be particularly beneficial in sustaining these relationships and capacities.

Throughout the dialogue sessions, participants discussed the importance and dynamic nature of the human-animal interface. Zoonotic spillover is a likely source of future epidemics, and the presence of wildlife trade, deforestation and urban expansion, human and animal migration, and cultural culinary traditions with a variety of animals provide ample opportunity for the emergence of novel pathogens. In addition to zoonotic risk, several participants highlighted concerns in the region related to the potential impacts of animal or plant epidemics—naturally occurring or deliberately released—on livestock and agriculture, including endangering food security and economic effects on humans. This led to discussions related to the importance of coordinating with national ministries or agencies responsible for animal and environmental health; addressing disparities in funding for human, animal, and environmental health agencies and programs; and understanding the interaction between conservation, biodiversity, wildlife, and human health. Discussions also touched on the benefits of utilizing animal laboratory networks to provide additional testing capacity during human outbreaks and the importance of integrating these human and animal surveillance and reporting systems.

Though many conversations focused on national-level collaboration, participants also emphasized the benefits of international cooperation, whether through sharing experiences and lessons from epidemic responses or collaborating on formal bilateral or regional preparedness efforts. One participant highlighted how international collaboration in the form of North-South partnerships, particularly in terms of financial support, can then be used to fuel South-South collaborations in the region. This participant made it clear that Southeast Asia has highly qualified experts, but the absence of sufficient funding is often the limiting factor for moving forward with new nationally or regionally developed initiatives. Participants also discussed the ASEAN Mitigation of Biological Threats (MBT) Programme, which includes initiatives on human-animal health, emergency operations center (EOC) networking, laboratory biosafety and biosecurity, and data analytics and visualization to establish and integrate regional capacities across a broad scope of relevant sectors.

Governing Advanced Life Sciences

As scientific and technological advancements continue at a rapid pace, there is a need to balance the associated risks and benefits and to address public concerns about this type of research with a strong basis in values and ethics. Participants noted the need for further regulation, but they emphasized the importance of ensuring that any guiding frameworks or new governance measures do not unnecessarily hinder innovation.

Participants flagged an issue with terminology in this area, which can lead to confusion or misrepresentation of the underlying issues. For example, dual-use research of concern (DURC) and gain-of-function (GOF) are commonly used terms that have different meanings for different stakeholders, who may possess different degrees of scientific knowledge and expertise. For example, one participant highlighted how the 2014 US government moratorium on GOF research applied only to a specific subset of higher-risk experiments,[1] but it is often mischaracterized as applying broadly to all GOF research, which contributed to confusion that persists even today. Notably, however, not all GOF research is of particular concern, and recent frameworks and policy efforts in the United States are now more deliberate in the use of the term, emphasizing that oversight for specific subsets of GOF research, especially research with enhanced potential pandemic pathogens (ePPP),[2] is the most concerning and in need of oversight. Other participants agreed that there is a need for expanded thinking in this area, with clearer terminology to focus on research that carries the most risk, while mitigating stigma for other areas of work and misinterpretation or confusion, particularly among the public or non-expert communities.

Participants discussed the role of the WHO *Global guidance framework for the responsible use of the life sciences* in helping member states establish oversight and governance measures applicable to advanced life science research.[3] Participants agreed that this guidance was an important and useful starting point and a positive step forward in mitigating the risks stemming from advanced life sciences research, but further work is required to implement biorisk management and governance strategies at the regional, national, or institutional levels. WHO has plans to tackle this in the next stage of its efforts in this space, and it is enthusiastic about working with member states on this issue. Several participants noted that the proposed interactive Biorisk Implementation Tool described by Anita Cicero would be useful for countries or institutions to operationalize biorisk management strategies, and they suggested that piloting the proposed tool in several countries, perhaps across several geographic regions, would help this work evolve in the future (see Box 2: Governance for the Responsible Conduct of Science).

Governance for the Responsible Conduct of Science

Dr. Anna Laura Ross and Dr. Emmanuelle Tuerlings from the WHO Office of Emerging Technologies, Research Prioritisation, and Support delivered a guest presentation on WHO's recently published *Global guidance framework for the responsible use of the life sciences*. The guidance arose out of the WHO Science Office's forward-looking and proactive efforts to harness the benefits of emerging scientific capabilities and mitigate associated risks.

The guidance framework:

- Outlines a 6-step, cyclical approach to biorisk management:
  - Identify and assess risks and benefits
  - Describe values, principles, and goals
  - Undertake an analysis from the perspective of each stakeholder
  - Identify governance tools and mechanisms
  - Implement the tools and mechanisms
  - Review and modify the oversight mechanisms as needed
- Provides checklists tailored to different stakeholder groups, such as:
  - National governments
  - Research institutions and scientists
  - Civil society organizations, including private sector business and industry
  - Funders
  - Publishers and editors
- Includes 7 scenarios and 3 cases studies to illustrate the biorisk assessment process and support implementation

Anita Cicero, Deputy Director of the Johns Hopkins Center for Health Security, provided an overview of the joint JHCHS/WHO proposal to develop a Biorisk Implementation Tool to support efforts to implement the framework. The proposed tool outlines an approach to risk assessment that accounts for the relative likelihood and severity of identified hazards. The Risk Score ranges from "very unlikely" to "almost certain" for likelihood and "negligible" to "critical" for severity, with each combination resulting in risk assessment from "very low" to "very high." JHCHS is continuing to engage with WHO, national governments, and other stakeholders to refine the proposal and raise awareness about its benefits in the context of understanding the potential risks associated with emerging biological capabilities, research, and products and identifying priorities for implementing risk mitigation measures.

The dialogue included discussions on how regulation in this space could be further developed, and many participants highlighted the multisectoral and multidisciplinary nature of these issues. One participant reflected on WHO's convening role in setting up the International Clinical Trials Registry Platform (ICTRP)[4] and suggested that WHO could play a similar role as a neutral convener of competing views in this context. WHO is well placed to bring together perspectives from member states and to ensure differing views are heard and reflected on fairly. This type of process is crucial to balance questions of safety and risk against the potential for innovation and advancement.

Another participant went further, suggesting that WHO could also bring these issues to the political level, such as elevating them for debate at the World Health Assembly, which could help secure high-level political commitment to tackling these challenges.

Looking ahead to developing regulatory and governance frameworks for advanced life science research, the participants debated the key perspectives and stakeholders that should be part of those conversations. While private sector business and industry representatives are certainly key stakeholders, several participants suggested that academic institutions may actually be more likely than industry to conduct cutting-edge research in need of regulation. As with other health security issues, a great deal of work is focused on the human-animal interface. Several participants emphasized that departments of agriculture, environment, or wildlife would also be likely to have valuable perspectives to add to traditional human healthcare and public health. However, participants also noted the difficulty of aligning these varying departments and implementing a One Health approach due to the different focus areas and specific interests of each. Another participant highlighted the importance of including civil society and ensuring that the public can express their opinions and be heard by government on these issues, as they are ultimately the key stakeholders. One participant also reflected on the role of national ethics committees, noting the results of a previous study they conducted, which showed that very few countries explicitly task their national ethics committee to address dual-use research issues.

Many participants agreed there is a need for improved communication regarding issues related to dual-use research at all levels—including institutional, national, and international—and with a variety of stakeholders—including elected and appointed government officials, researchers, private sector business and industry, and the general public. One priority is awareness-raising regarding risks associated with dual-use research, including among researchers planning or conducting the work. A participant from the Philippines detailed an orientation program for university science, technology, engineering, and mathematics (STEM) instructors that focused on the dual-use risks associated with plant biotoxins, considering increased study of their therapeutic potential for cancers and other diseases. They suggested that developing and expanding these types of efforts would be a concrete actionable item for dialogue participants. Closely linked to awareness-raising is the need for improved "science literacy," particularly as many issues related to advanced life science research are complex and highly technical. Efforts to educate and inform audiences—ranging from the public to senior government officials—can help them better understand the relative benefits and risks of new technologies, research, and associated protective measures. Beyond increasing technical understanding, effective communication can mitigate the effects of mis- and disinformation. The very nature of dual-use research (ie, its legitimate purposes and risk of nefarious misuse) makes it vulnerable to mis- and disinformation,

so it is critical to clearly and effectively convey the nuances and subtleties around these issues, particularly when communicating with non-expert audiences. Further, ensuring that non-scientific stakeholders have at least a baseline understanding of the benefits and risks makes them better equipped to counter mis- and disinformation when they encounter it. One participant described an example from a recent Biological and Toxin Weapons Convention (BWC) meeting in which a technical expert was able to effectively counter Russian disinformation regarding research at US military-supported biological laboratories in Ukraine, but they noted that most diplomats and policymakers do not possess the technical expertise to effectively combat those types of claims. Dialogue participants agreed that, of course, not all diplomats or policymakers need to be scientists, but equipping these officials with a baseline of technical knowledge can help them improve their engagement with technical communities and technical issues.

Global Health Security Governance

Looking beyond the immediate aftermath of the COVID-19 pandemic, the participants considered the broader scope of global health security governance frameworks and relevant actors. While COVID-19 brought limitations of legacy approaches into stark relief, discussions on the future of bodies like WHO and instruments like the International Health Regulations (IHR) have been ongoing since long before the emergence of SARS-CoV-2. International reliance on centralized expertise and coordination mechanisms for biological threats with global reach and the concentration of resources, technical expertise, and operational capacities in many higher-resourced countries contribute to inequities in the health, economic, and social effects of health emergencies. These factors also underlie widespread inequitable access to critical response resources, including vaccines and other MCMs. Many of these disparities, including vaccine nationalism, played out exactly as many participants expected during the COVID-19 pandemic. With issues such as the future of WHO, a possible global pandemic accord, and revisions to the IHR on the table in the coming months, now is the time to consider new approaches to coordinating global preparedness and response activities for large-scale health threats. Many dialogue participants emphasized the importance of re-evaluating the role of centralized frameworks and bodies, such as WHO and the IHR, and to consider decentralizing some of this work in order to establish actual resilience to pandemics and similar threats.

Participants were quick to highlight WHO's historical role as a centralized hub of technical expertise and guidance and as a convening authority on a broad range of health-related issues, but the COVID-19 pandemic preyed on and exacerbated limitations of the existing global health security order. Major gaps included WHO's inability to compel cooperation by national governments, including to support investigations (eg, into early outbreaks or the origin of the SARS-CoV-2 virus) or to

better align protective measures at the global level (eg, travel restrictions, equitable vaccine allocation). Additionally, the pandemic made the absence of an international operational response capacity, under WHO or elsewhere, readily apparent. The pandemic also illustrated gaps in international agreements or programs, including the IHR—which outline national obligations to establish surveillance and reporting systems for novel pathogens or outbreaks of concern and WHO's authority to declare a Public Health Emergency of International Concern (PHEIC)—and the Joint External Evaluation (JEE)—which aims to assess associated health security capacities and programs at the national level.

The struggle over limited resources and assistance exacerbated long-standing inequities, pitting large countries against small, higher-income against lower-income countries, and the global North against the global South. This competition forced many small and low- or middle-income countries to rely on wealthier allies or benefactors for critical response supplies, including vaccines and other MCMs. WHO and the COVID-19 Vaccine Global Access (COVAX) facility were ultimately unable to disrupt this phenomenon. Larger, wealthier countries prioritized vaccines and other limited resources for their own populations before reaching out to support other countries. Delays or insufficient supply of critical materiel left many countries to fend for themselves.

Participants noted there is a growing push toward "decolonizing" historical global health governance frameworks and shifting power away from central bodies like WHO or the traditional hegemony of higher-income nations, with the goal of returning more agency to *all* countries, not only the wealthiest and most powerful. Specifically, participants discussed the possibility of shifting WHO operations and capacities from the headquarters in Geneva to regional offices; however, one participant warned that this is not a solution in and of itself. They emphasized that not all regional offices are alike or equally effective, and each faces its own burdens. The solution cannot be to make changes simply for the sake of disrupting existing systems but rather to deliberately identify the limitations and barriers of the existing centralized system and determine how these systems *should* be set up in order to have positive and equitable impact. It is important to ensure that a regional approach would not suffer from the same limitations as the current centralized system.

The discussion around shifting away from highly centralized frameworks emphasized the value of regional harmonization and collaboration, including on challenges such as disease surveillance and reporting; MCM development, regulatory oversight, and manufacturing; and supply chains. Following a presentation on the activities of the ASEAN Health Division and ACPHEED (see Box 3: ASEAN Regional Health Security Activities & Programs), participants discussed the value of collaboration among

ASEAN countries, including sharing resources and aligning priorities. As ACPHEED continues to develop, it will provide an expanding platform for regional engagement on a broad scope of biological threats. Challenges accessing critical MCMs during the COVID-19 pandemic continue to weigh heavily on the minds of regional experts, and regional cooperation has the potential to speed access to novel products and increase purchasing power, compared to national approaches. Rather than independent, costly, and time-consuming efforts to conduct and evaluate clinical trials for MCMs, including novel vaccines or therapeutics, participants emphasized that a collaborative approach among countries (eg, under the umbrella of ASEAN) could streamline the process and potentially accelerate availability of novel products in the region. They noted that there is already some harmonization and collaboration in the region on these issues, but there are still many differences between countries, including in terms of the resources and timing necessary to complete regulatory review of novel products, that prevent these systems from operating seamlessly.

ASEAN Regional Health Security Activities & Programs

Dr. Ferdinal Fernando, Assistant Director and Head of ASEAN's Health Division, delivered a guest presentation on ASEAN's Mitigation of Biothreats (MBT) Programme and ongoing efforts to establish the ASEAN Centre for Public Health Emergencies and Emerging Diseases (ACPHEED). MBT aims to build preparedness and response capacity for a broad scope of biological threats, including natural, accidental, and deliberate. Priorities include:

- Strengthening ASEAN's Emergency Operations Center (EOC) Network to improve regional all-hazards response coordination and communications
- Establishing the ASEAN BioDiaspora Virtual Centre to leverage advanced analytics and visualization capabilities for disease surveillance
- Improving integration of animal health into existing public health preparedness systems
- Enhancing laboratory biosafety and biosecurity systems across the region

ACPHEED was announced in 2020 in response to the COVID-19 pandemic and officially established in 2022. ASEAN countries are taking early steps to establish programs and capacities necessary to stand up this regional body. ACPHEED is founded on the principles of information sharing and analytics, capacity building, and innovation coordination and support. It will serve as a regional center of excellence and hub for coordination, to complement national and other regional systems and capacities. Three countries have been identified to host ACPHEED's main operational pillars:

- Viet Nam: Prevention and preparedness
- Indonesia: Detection and risk assessment
- Thailand: Response, along with the ACPHEED Secretariat

Dr. Chong Chee Kheong, Senior Health Advisor for ASEAN's Mitigation of Biological Threats Programme, provided additional details on the MBT's development and history. He emphasized that all the decisions related to the MBT and other ASEAN health priorities must obtain approval from the senior officials in the ASEAN Health Division as well as all

regional Ministers of Health. The explicit support of the Ministers facilitates close regional coordination toward common goals. When priorities are identified for action, ASEAN selects a lead country responsible for coordinating the regional action toward the goals, which provides a focal point for both operational direction and information sharing. Much of MBT's development has been funded by Global Affairs Canada, through the G7-led Global Partnership Against the Spread of Weapons and Materials of Mass Destruction. MBT Phases 1 (2014-18) focused on developing ASEAN's disease analytics database, and Phase 2 (2019-23) expanded to include:

- Strengthening regional response capacity for health security threats
- Improving laboratory capacity and improving biosafety and biosecurity programs
- Further developing ASEAN's EOC network
- Enhancing regional big data analytics and visualization for disease surveillance
- Strengthening the ASEAN Secretariat's health security interface capacity

MBT is now shifting to Phase 3, which is slated to commence in 2024. Ultimately, ASEAN and ACHPEED aim to establish expertise and operational capacity similar to that of the European and US centers for disease control (CDCs).

Sustainability for Global Health Security & Pandemic Preparedness

As with the other themes from the 2023 Southeast Asia Biosecurity Dialogue, the COVID-19 pandemic illustrated the importance of sustainable capacities, programs, and collaboration for global health security. The historical "cycle of panic and neglect" has left local, national, and international pandemic preparedness programs under-resourced, with insufficient routine and surge capacity to combat large-scale health emergencies. Whether through a shortage of hospital beds, healthcare or public health personnel, or personal protective equipment; insufficient production capacity for vaccines and other MCMs; the absence of social support structures; or interruptions to regional and global supply chains, COVID-19 seemed to find every chink in the global health security armor, with deadly accuracy. Participants noted that the capacities, programs, and policies in place at the onset of the pandemic were largely established in response to past emergencies, which presented much different challenges than COVID-19. For example, Singapore established its National Center for Infectious Diseases, a 330-bed hospital dedicated to communicable disease threats, following its experience with the original SARS epidemic in 2003. That facility has high-level isolation units for patient care, with capacity determined from planning scenarios such as SARS (2003), Ebola virus disease, and pandemic influenza. But those types of scenarios generally called for relatively few beds for severely ill, highly contagious patients for a short-term response, which did not align with the volume, severity, or duration of the COVID-19 pandemic. Responses on that magnitude necessitate flexibility and sustainability, whether in terms of hospital beds and personnel or global supply chains.

Countries around the world, including in Southeast Asia, established new capabilities and scaled up various public health and healthcare capacities during the pandemic, but these will wither and fade if not actively maintained. Even the new capacities established during the COVID-19 pandemic are not necessarily sufficient to protect against future threats. Capabilities and capacities implemented for the pandemic response, such as disease surveillance systems or laboratory capacity, may need to evolve and adapt to be suitable for other pathogens. The participants discussed how many of the newly developed pandemic capacities provided a temporary solution, without effectively addressing the underlying causes of resource shortages. It will be critical to expand public health and healthcare preparedness capacities to ensure the ability to combat unknown future threats. In one example, Singapore is evaluating the need for a "reserve" force of trained public health and healthcare personnel who can be called into action in the event of a large-scale emergency, much like reserve units for the military. Large-scale infrastructure, such as for personnel education and training or upstream manufacturing capacity, can take time to build and even more time to start making an impact. And beyond physical capacities and resources, the COVID-19 pandemic also stressed legal and regulatory systems. Several participants described emergency declarations or decrees issued by national leaders during the pandemic response that established new mechanisms for funding, interagency coordination, and information sharing; however, those mechanisms cease to exist once the emergency ends.

Cross-sectoral and interagency coordination was a critical component of national COVID-19 responses, but many of these collaborations were outside the scope and authority of routine operations. New efforts are needed to formally establish these mechanisms in a permanent fashion, so they are available for future responses. The solutions to these challenges are not universal, however, as every country must address these challenges in its own environment. Participants commented that what works for Singapore, a single island, may not be appropriate for countries like Indonesia, which consists of thousands of islands spread across more than 700,000 square miles.[5] Or what is applicable for higher-income countries may not apply to lower-income countries. Additionally, some countries, like Indonesia and the United States, must account for differences in leadership at the provincial or state levels, while other countries have more centralized government authority.

One of the priority capacities discussed by participants was MCM development and manufacturing. The COVID-19 pandemic highlighted the importance of access to domestic or regional MCM manufacturing, as countries without their own capacity were largely at the mercy or charity of others. One of the earliest challenges in the pandemic was access to diagnostics, and one participant noted that many countries did not have domestic production capacity for the reagents required to perform PCR-

based tests at the scale necessary to combat the early COVID-19 waves. Similar barriers to accessing COVID-19 vaccines later in the pandemic are well documented. One participant commented that *some* limited vaccine manufacturing capacity existed in the Southeast Asia region—including in Viet Nam, Indonesia, and Thailand—but it was not sufficient to meet the pandemic demand, and it was not necessarily practicable to convert existing production lines to manufacture novel products. The limiting factor to vaccine availability, however, is not always just the final products or fill/finish production capacity. One participant emphasized that, during the COVID-19 pandemic, upstream components of the supply chain—such as sterile bags, vials, and tubing—ultimately drove shortages in the overall vaccine supply, because there was not enough investment to scale up those capacities as well. There were also reports of limited national storage and operational capacity impeding some countries' ability to accept vaccine donations.

All countries in the region largely faced the same challenges in accessing the vaccines, but rather than coordinating their actions—such as under the ASEAN umbrella—governments largely operated independently, which limited their purchasing power. For both diagnostic reagents and vaccines, manufacturing capacity did not exist at a volume that could allow individual countries to leverage the economy of scale necessary to provide their own supply. Countries across the region relied on a combination of COVAX[6] and bilateral commitments from countries with excess production capacity to obtain COVID-19 vaccines, but the lengthy timeline to receive deliveries delayed and limited their effect. Several participants argued that new approaches to supporting MCM research and development, including the Coalition for Epidemic Preparedness Innovations (CEPI) and Operation Warp Speed models,[7,8] could yield a broader portfolio of products in the development pipeline. For instance, CEPI (and some national governments with sufficient funding) could support programs that are targeted to develop MCMs against viral families with pandemic potential and that leverage the use of platform technologies. Such products could be developed through Phase 2 clinical trials and then later accelerated through Phase 3 trials if needed in an emergency. This diversified and viral family-based approach could help optimize the use of limited investment funding while still shortening the time to MCM availability. One participant noted that there are legislative proposals now before the US Congress to create such a program in the United States.

Participants noted that the pandemic accord currently under negotiation by WHO member states may contain provisions that attempt to address the problem of inequitable global access to vaccines and other MCMs. One participant underscored the need for WHO and negotiating countries to become well-informed of the potential contributions and limitations of the pharmaceutical industry in terms of playing a key role in improving MCM access internationally. Attention to detail on this issue and

solicitation of industry input would be helpful in terms of working toward a more equitable and realistic set of pandemic accord measures.

Several participants discussed the need to reframe discussions of sustainability in the context of public health. Concerns regarding returns on investment can often derail efforts to fund public health preparedness programs and capacities. For example, one of the major limitations to establishing regional vaccine manufacturing capacity is the considerable resources required to maintain operational capacity during routine operations between outbreaks. In response, several participants noted that similar concerns do not tend to be raised regarding investments related to the military or other traditional national security concerns. They argued that funding for assets like submarines, missiles, and helicopters do not receive the same degree of scrutiny as investments in vaccine manufacturing capacity or stockpiles. And while discussions about sustainability for military acquisitions certainly do occur, it does seem like a different calculus when it comes to public health. Finding a more effective way to frame discussions around preparedness funding (eg, as an investment or insurance) or public health threats (eg, as a national security threat) could help better illustrate the value of these programs and capacities and promote more long-term support and sustainability. Interruptions to national and global systems during the pandemic necessitated substantial government investment or resulted in astronomical costs. For example, Singapore's "circuit breaker" response—similar to large-scale "lockdown" measures—cost an estimated S$11 billion (US$8.3 billion), which corresponds to 2.2% of the country's annual gross domestic product (GDP), over a period of just 1 month.[9] Looking ahead to future threats, it is clear that long-term, sustainable investments—in financial, material, and personnel resources—and strong political will are needed in advance of an emergency to establish the infrastructure, policies, and relationships necessary to effectively build resilience against pandemics and other large-scale health threats. It is critical to leverage the existing emphasis on and priority of pandemic threats stemming from the COVID-19 experience before attention wanes any further than it already has. In the absence of an ongoing emergency response, it can be extremely difficult to maintain focus and support for these capabilities, and these kinds of efforts require substantial investment, which can be difficult for many countries; however, investment in preparedness is ultimately more cost-effective than response.

Conclusion

The 2023 Southeast Asia Biosecurity Dialogue closed with a discussion on the future of the dialogue itself, including future priority topics and opportunities for collaboration outside the meeting. The participants emphasized the continued value of the dialogue, including the addition of new participants who can provide fresh perspectives on these challenges, and they applauded the effort to strengthen the health security professional networks and collaboration in the Southeast Asia region. Participants discussed the value of further expanding the scope of regional experts in future dialogue meetings, including increased attention on plant, animal, and environmental health.

As they discussed potential future dialogue topics and future collaborations, some of the discussion focused on opportunities to improve regional disease surveillance and early warning capacity. Regional data sharing for disease surveillance has long been a priority discussion topic in this dialogue, and the participants have shared examples of past success. Many of these collaborations have been on a bilateral or informal basis, and there seems to be less formal progress at the regional level. The establishment of ACPHEED and the expanding activities of the ASEAN Health Division could potentially provide the necessary forum, political will, legal mechanisms, and resources to begin taking concrete steps on this issue. Additionally, one participant noted other emerging fields, particularly in computing (eg, machine learning, artificial intelligence [AI]), could offer new capabilities to support disease surveillance. Identifying emerging events among noisy or incomplete surveillance data could align well with existing machine learning and AI strengths. These tools could also potentially provide relatively low-cost capacity that could enable expanded disease surveillance functionality in a region with elevated risk for emerging infectious diseases. It could be beneficial to include an AI or machine learning expert in future dialogue meetings to discuss potential applications to health security priorities. Disease surveillance could be both a target for collaboration outside the dialogue and a priority for increased attention at future meetings.

The participants also discussed potential additional opportunities to expand and enhance multisectoral engagement on health security issues, particularly with respect to integrating military and civilian agencies and expanding the role of academic institutions and private sector business and industry in preparedness and response activities. One potential area of interest is increasing the ability to leverage cutting-edge expertise in academic institutions to support pharmaceutical research and development, as was so critical during the COVID-19 pandemic. There was also interest in revisiting the challenges of mis- and disinformation, particularly in the context of novel MCMs. Government officials struggled in the past to address these challenges, and new approaches are needed to meet the growing and evolving threats in a rapidly expanding

and diversifying media landscape. In addition to including experts in traditional news media, it could be beneficial to expand to social media or communications experts to provide additional perspectives. Finally, several participants expressed interest in expanding the dialogue to include other Southeast Asian countries, although they acknowledged that the value of new perspectives would need to be weighed against the potential limitations involved with increasing the overall number of participants or inviting fewer representatives from each country.

The Southeast Asia Strategic Multilateral Biosecurity Dialogue continues to provide a forum for facilitating engagement on critical ongoing, emerging, and future biological threats and capabilities in the region. The participant network further strengthened their relationships and the network, including the addition of several new participants and guest speakers. As regional and global health security threats evolve, the dialogue has adapted to a diverse set of new and changing priorities in order to provide benefits to the participating countries and global health security as a whole.

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Appendix A. Meeting Agenda

Day 1: April 26, 2023

9:00 – 9:30 **Welcome & Meeting Goals**

Co-Hosts from the Johns Hopkins Center for Health Security

Tom INGLESBY, Director

Anita CICERO, Deputy Director

Co-Hosts from the Philippines

Irma MAKALINAO, Professor & Special Assistant to the Dean, Department of Pharmacology & Toxicology, College of Medicine, University of the Philippines Manila

Camilo Pancratius CASCOLAN, Undersecretary of Health for Field Implementation and Coordination Teams

9:30 – 9:45 **Framing Remarks**

Ada BACETTY

Department Chief, Biological Threat Reduction Program, Defense Threat Reduction Agency, US Department of Defense

9:45 – 10:45 **Participant Introductions**

Each participant will introduce herself/himself, including their current position and organization, the principal focus of their work, and the biosecurity challenge they are most concerned about.

Please limit introductions to 90 seconds each.

For this dialogue, we define "biosecurity" as the policies, programs, and actions taken to prevent, prepare for, and respond to biological threats, whether they are natural, accidental, or deliberate.

10:45 – 11:15 **Coffee & Tea Break**

11:15 – 12:30 **Dialogue Session One: Building on COVID-19 Lessons**

The COVID-19 pandemic is a seminal event in global health security, and it will serve as the foundation for decades of future research, capacity-building efforts, and other preparedness activities, reaching far beyond health care and public health. Over the course of the pandemic, countries implemented policies, expanded capacities, and developed new collaborations to improve their emergency responses. As the world moves toward the endemic stage of COVID-19 and returns attention to future threats, it is critical to identify key lessons from this pandemic experience and apply them to the broad and expanding scope of health security.

- Looking back, more than 3 years into the COVID-19 pandemic, what was the biggest challenge your country faced?
- What are the most important lessons you have taken away from your country's COVID-19 experience?
- What disease surveillance, preparedness, response, or recovery systems or programs that your country established to combat COVID-19 will be sustained after the pandemic?
- What new steps is your country taking now to improve pandemic resilience?
- Has the COVID-19 experience made it more likely or less likely that your country will invest additional resources, personnel, and planning efforts for health emergency preparedness in the future?

Opening Remarks (3-5 minutes each): Janette GARIN, Soawapak HINJOY & Marc HO

12:30 – 1:45 **Lunch**

1:45 – 3:00 **Dialogue Session Two: Critical Multisectoral Partnerships to Address Biological Threats**

During the COVID-19 pandemic, the military, law enforcement, and emergency management sectors coordinated with and assisted civilian public health agencies in some countries. For example, uniformed personnel in the Philippines played a vital role in the partnership between the health and security sectors. And the US Department of Defense was central to the "Operation Warp Speed" effort to accelerate vaccine development, manufacturing, and distribution. Essential workers assumed non-traditional roles in outbreak response, when necessary.

- Did these types of collaborative responses occur in your country, and what are the lessons from these experiences?
- What were the most important contributions of the military? Law enforcement? Emergency management?
- How does your country plan to maintain these types of coordination for health emergency preparedness in the future?
- To what extent was the security sector involved in vaccine rollout or other elements of the response, including in conflict areas?
- What roles did the media, academia, or other private actors play in terms of sharing vital information or epidemiological data during the COVID-19 pandemic?

- How would these sectors respond to deliberate biological events?

Short Brief by Benjamin WAKEFIELD (JHCHS): Early findings from study on national civilian-military collaboration for health emergency preparedness

Opening Remarks (3-5 minutes): Endy BAYUNI, José EMBANG, Jr. & Mohd Arshil bin MOIDEEN

3:00 – 3:30 **Coffee & Tea Break**

3:30 – 4:45 **<u>Presentations</u>: New Initiatives in the ASEAN Region**

Improving Coordination on Pandemic Preparedness & Response

Ferdinal FERNANDO, Assistant Director & Head, Health Division, ASEAN

Mitigating Biothreats in ASEAN Region

CHONG Chee Kheong, Senior Health Advisor, Mitigation of Biological Threats Programme, ASEAN

Presentations will be followed by a group discussion.

4:45 **Day 1 Adjourns**

Day 2: April 27, 2023

9:00 – 10:30 **Dialogue Session Three: Managing Biosecurity & Biosafety Risks Related to Advanced Life Sciences Research**

Following the emergence of SARS-CoV-2, some countries have increased investments in developing new high-containment laboratory capacity. The biosafety and biosecurity risks associated with increases in advanced biological research have garnered elevated attention and scrutiny since the COVID-19 pandemic began. This focus has been amplified by questions related to the origins of SARS-CoV-2.

- What is your country's strategy for investing in new laboratory capacity, including virology laboratories? What threats is this new capacity intended to address?
- To what extent are you concerned about research intended to increase the lethality or transmissibility of pathogens—commonly referred to as "gain-of-function"—in your country or other countries?
- To what extent are you concerned about the field of viral discovery from wild animals and its associated practices and management (eg, proactively gathering specimens from bat caves in order to sequence them or experiment with them)?
- How is your country addressing oversight and governance of dual-use research of concern (DURC), generally defined as research that could be misused? Are there national-level laws or regulations related to DURC? If not, is the governance of DURC issues viewed as a priority in your country, and will your country's governance approach be sufficient to address current or future emerging risks?
- Is your country addressing cybersecurity threats, particularly those related to laboratories, genomic databases, or the production of life science-related materials?

Opening Remarks (3-5 minutes): Poh Lian LIM, Gerald PARKER & Amin SOEBANDRIO

10:30 – 11:15 **Group Photo, followed by Coffee & Tea Break**

11:15 – 12:30 **Presentations: WHO Global Governance Framework for the Responsible Use of the Life Sciences / Developing a Biorisk Management Tool to Implement the Framework Nationally**

Anna Laura ROSS

Head of Emerging Technologies, Research Prioritisation & Support, WHO

Emmanuelle TUERLINGS

Technical Officer, Emerging Technologies, Research Prioritisation & Support, WHO

Anita CICERO

Deputy Director, Johns Hopkins Center for Health Security

Presentations will be followed by Q&A and group discussion.

- How might the WHO framework be useful in your country?
- Who would be the critical stakeholders for framework implementation in your country?
- How could framework implementation be tailored to the Southeast Asia region? To the US context?
- What would it take to operationalize the framework in your country?

12:30 – 1:45 Lunch

1:45 – 3:00 <u>Dialogue Session Four</u>: The Future of Medical Countermeasures Research, Development & Manufacturing

The COVID-19 pandemic illustrated the role of new research, development, and manufacturing capabilities for novel medical countermeasures (MCMs), building on decades of advancements in biotechnology. Yet, even with a historically short timeline from the emergence of SARS-CoV-2 to the authorization of vaccines, there were tremendous inequities in the access to these products around the world. As we look ahead to future biological threats, we need to define the capabilities, capacities, and frameworks necessary to ensure the rapid and equitable availability of novel MCMs—including vaccines, therapeutics, and diagnostics—during public health emergencies.

- What research and development approaches are needed to improve capabilities to make MCMs rapidly available in future emergencies?
- What is the potential for COVAX to meet MCM needs during a future epidemic or pandemic?
- Does your country have a national strategy for stockpiling MCMs? If so, has that strategy changed based on your country's COVID-19 experience?
- Is it possible—and practical—to establish distributed manufacturing capacity in the Southeast Asia region, including from a technical, financial, regulatory, and legal standpoint? What would it take to ensure this capacity is sustainable?

- How can public-private partnerships, including with the pharmaceutical industry and research institutions, promote MCM development for novel threats?

Opening Remarks (3-5 minutes): Sazaly ABU BAKAR, Phyllis ARTHUR & Wisit TANGKEANGSIRISIN

3:00 – 3:30 **Coffee & Tea Break**

3:30 – 4:45 **<u>Dialogue Session Five</u>: Mitigating Deliberate Biological Threats**

The COVID-19 pandemic has demonstrated the significant economic, social, and political impacts that infectious disease outbreaks can have around the world. While this has led to increased political attention, providing a short window to improve preparedness for future health emergencies, it may also inspire malicious state or non-state actors to pursue the development and use of biological weapons. Renewed focus and attention are needed to mitigate deliberate biological threats, alongside improving public health preparedness for natural or accidental biological events.

- What concerns are there in your country with regard to deliberate biological threats? What programs are in place to detect or deter the development or use of biological weapons?
- What programs does your country have in place to promote the responsible use of biology and mitigate deliberate biological threats, such as a select agent program, personnel reliability program, insider threat program, and research codes of conduct?
- What challenges exist for implementing the Biological & Toxin Weapons Convention (BWC), UNSCR 1540, and other international instruments in your country?
- What partnerships or initiatives exist for countries to collaborate on tackling these issues? Globally? Regionally?

Opening Remarks: Irma MAKALINAO, May ONG & Kathleen STEVENS

4:45 **Day 2 Adjourns**

Day 3: April 27, 2023

9:00 – 10:15 **Dialogue Session Six: Epidemic Containment, Data Systems & Disease Surveillance**

Early detection and quality data are critical to the ability to rapidly identify and contain emerging outbreaks and epidemics. The COVID-19 pandemic illustrated that countries around the world—independent of geography, government, and resources—continue to struggle in establishing and maintaining disease surveillance systems and integrating them at the regional and global levels. Highly effective emergency operations for epidemic containment are also critical. The pandemic stressed those systems, and personnel managing them may not have had the training or experience to do this work for the prolonged period of time required for COVID-19 containment efforts.

- What are the strengths and weaknesses of your country's disease surveillance systems, including to detect the emergence of novel pathogens?
- What information and data systems does your country use for disease surveillance? Is there local, national, or regional integration of disease surveillance data?
- What is the public health and emergency operations capacity in your country to prepare for and respond to emerging outbreaks and epidemics, including for novel pathogens?
- Do personnel responsible for leading and conducting epidemic containment operations in your country have the training, experience, and support they need for this challenging work?
- How have national and regional disease surveillance systems and capacities changed since the emergence of COVID-19?

Opening Remarks: Fatima Claire NAVARRO, Tanarak PLIPAT & Daniel TJEN

10:15 – 10:45 **Coffee & Tea Break**

10:45 – 12:00 **Dialogue Session Seven: Global Health Security**

The COVID-19 pandemic highlighted long-standing gaps in global collaboration and leadership on health security threats, including pandemic preparedness and response. Numerous efforts are underway to close these gaps at the global level, including through the launch of the WHO Pandemic Hub in Berlin as well as discussions on opportunities

to increase WHO capacities (eg, establish a pandemic response corps), update the IHR, or develop a pandemic treaty. Regional efforts are also underway around the world, including within ASEAN, to establish preparedness and response capacity for future large-scale health security threats.

- How do you view these ongoing efforts? What needs to be done in order to improve international coordination on pandemics and other large-scale health emergencies?
- What do you view as WHO's current role? Should WHO evolve beyond that role to expand its responsibilities, capacities, and authorities?
- Do you think there are useful ways for international organizations to facilitate collaboration between national-level governments—before and during future large-scale health emergencies—including to improve communications, data sharing, and equitable access to MCMs?
- In addition to naturally occurring epidemics, what should national-level governments, UN agencies, and other partners be doing now to ensure effective coordination in a response to an accidental or deliberate biological event?

Opening Remarks: Julie FISCHER, Tikki PANGESTU & Suwit WIBULPOLPRASERT

12:00 – 12:30 **Roundtable Discussion & Final Thoughts**

This closing discussion invites participants to convey valuable take-aways or insights from this meeting. It also encourages participants to consider and propose future work this dialogue group can do together. What should be the foci of future dialogue meetings? What topics, threats, or capabilities would you like to see included in future dialogue discussions? What opportunities do you see for this group in terms of collaborating outside of dialogue meetings? How could JHCHS or DTRA provide assistance to meet these goals?

12:30 **Dialogue Adjourns**

Appendix B. Meeting Attendees

Badrul Hisham ABDUL SAMAD, MBBS
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Former Vice-Minister of Health, Thailand
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Guest Speakers

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