

The 5th Mekong Dialogue

Stakeholder Engagement and Governance: Lessons from the 2024 Flood and Beyond

E- Proceedings
May 2025

Organized and hosted by
School of Social Innovation, Mae Fah Luang University
Institute for Developing Economies, Japan External Trade Organization
(IDE-JETRO)

About These Proceedings: This E-Proceeding comprises discussions and presentations made at the 5th Mekong Dialogue held from February 26 to 27, 2025, in Chiang Rai, Thailand and online. It does not necessarily represent the views of the individual speakers or the organizations involved. It also should not be regarded as the official position of the organizing institutions.

**The 5th Mekong Dialogue: Stakeholder Engagement and Governance:
Lessons from the 2024 Flood and Beyond
26-27 February 2025**

**Venue: Mae Fah Luang University, Chiang Rai – Thailand and
via online platform**

Program

Day 0

Arrival of Participants
Welcome Dinner

Day 1

Morning Session [Thai/English]

Registration

Welcome and Opening Remarks

Dr. Thanikun Chantra, Dean of the School of Social Innovation, Mae Fah Luang University, Thailand

Assoc. Prof. Dr. Darunee Wattanasiriwech, Vice President, MFU

Ms. Mayumi Murayama, Executive Vice President, the Institute of Developing Economies - Japan External Trade Organization (IDE-JETRO)

Photo Session

Keynote Speech on “National-Local Synergy in Flood Management: Lessons from the 2024 Flood Response in Northern Thailand”

by Mr. Sitthisak Injaikham, Deputy Chief of Mae-Sai District

Short Break

The plenary session I: Review of recent flash floods in Thailand

- Mr. Niwat Roykaew: Chairperson of Chiang Khong Conservation Group

- Mr. Somkiat Khuanchiangsa: President of Living River Siam Association

- Mr. Kanchit Compoodaeng, Representative from Department of Disaster Prevention and Management (DDPM), Chiang Rai

- Ajarn Dr. Suebsakun Kidnukorn (MFU)

Lunch

Afternoon Session [English]

The plenary session II: Review of recent flash floods and disaster in riparian countries (Part I)

- "Changes in the flood patterns in urban Phnom Penh: A Risk Assessment and Coping Strategy," Dr. Chheng Kimlong, Asian Vision Institute, Cambodia

- “Lessons learnt from the flood in 2024 in the Mekong subregion,” Mr. Daovone Phonemanichane and Mr. Douk Daro, Oxfam, Laos /Cambodia
- “Mapping the impacts of citizen science in Lower Mekong Subregion,” Dr. Nguyen Minh Quang and Ms. Truong Thao Anh, Can Tho University / Mekong Environment Forum, Vietnam
- “Rebuilding Communities and Restoring Livelihoods: Haihui’s Approach Post-Wenchuan Earthquake and Pingjiang Flood,” Mr. Taiyong Chen, Haihui International, China

Moderator

- Prof. Dr. Lee Lai To (MFU) and Ms. Naomi Hatsukano (IDE-JETRO)

Short Break

The plenary session II: Review of recent flash floods and disaster in riparian countries (Part II continued)

Conclusion of Day 1 Activity

Dinner

Day 2

Morning Session [English]

Registration

The plenary session III: International Experiences on resources / disaster management (Part I)

- “LMC’s Policy and Activities in Disaster Management in the Lancang-Mekong River Basin,” Dr. Zhifei Li, Chinese Academy of Social Sciences (Online)
- “Development comes first; flood control comes later: Does It Work?” Dr. Kenji Nagata, JICA
- “Leveraging Earth Observation and Spatial Technology for Flood Risk Monitoring and Reduction” Mr. Khaled Mashfiq, Regional Liaison Officer for Asia and the Pacific Disaster Risk Management and Climate Resilience Section, United Nations Satellite Centre (UNOSAT)
- “Framing the flood health and food security risk and management”, Mr. Shreeahri Acharya, Project Manager, CSO Platform
- International Experiences on Disaster Management in Southeast Asia, Mr. James Borton, Johns Hopkins University / SAIS Foreign Policy Institute

Moderator

- Dr. Kenji Otsuka (IDE-JETRO) and Ms. Maki Aoki (IDE-JETRO)

Short Break

The plenary session III: International Experiences on resources / disaster management (Part II continued)

Wrap up two days of discussion

Closing Remark *Prof. Dr. Siriporn Wajjwalku (Thammasat University)*

Foreword

On February 26, 2025, The 5th Mekong Dialogue titled “**Stakeholder Engagement and Governance: Lessons from the 2024 Flood and Beyond**” was held with the collaboration between the School of Social Innovation, Mae Fah Luang University, and the Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO). The event took place in Pradudeang 2 Room, General Sampao Chusri (E4) Building, Mae Fah Luang University. The event was hosted by Dr. Sawang Meesang and Dr. Jaruwan Hatapasu of the School of Social Innovation, Mae Fah Luang University.

It is a two-day event (Feb 26-27) that exchanges ideas among government agencies, academics, development practitioners, civil society organizations, and think tanks. To that end, two days of panel discussions/plenary sessions were held. The main theme focused on the flash floods of 2024 in Northern Thailand, which caused enormous loss of human life, property, and livelihoods. The objective was to develop better disaster risk management and international cooperation and further enable sustainable development in Northern Thailand and the larger Mekong River basin.



Opening Remarks by the Dean of the School of Social Innovation, Mae Fah Luang University

The first opening remarks were made by, Dr. Thanikun Chantra, the Dean of the School of Social Innovation at Mae Fah Luang University. The dean expressed gratitude to the organizing committee including Assistant Professor Pathompong Manoham, Tana Manasawadi, and others for the background and logistics work. She also thanked everyone for their time and attention before addressing the growing challenges of flooding in the Mekong region. She highlighted the significant impacts in Chiang Rai, including displacement, agricultural losses, and infrastructure damage. Emphasizing the need for collaboration, she discussed the importance of scientific research, policy coordination, and local engagement in tackling these issues. She concluded by stating her hope that the 5th Mekong Dialogue would become the venue and catalyst for changes in the future.



Opening Remarks by the Vice President of Mae Fah Luang University

Following Dr. Thanikun Chantra's remarks, the Vice President of Mae Fah Luang University, Associate Professor Dr. Darunee Wattanasiriwech, delivered her remarks on the event.



The Vice President of Mae Fah Luang University, Associate Professor Dr. Darunee Wattanasiriwech, welcomed the delegates, participants, and students and acknowledged the importance of the Track 2.5 dialogue, reflecting on the previous Mekong Dialogue Series (MKDs). She emphasized the MKDs' role in facilitating discussions on sustainable development goals (SDGs) in the region. Dr. Darunee Wattanasiriwech highlighted the long-standing collaboration between IDE-JETRO and the university. She noted the significance of the 2024 flood, as the last major flood occurred 30 years ago. The 2024 flood in Chiang Rai and Northern Thailand came as an unexpected and devastating event, underscoring the urgent need for action. She addressed the effects of climate change and stressed that effective solutions require cooperation among countries, as these are regional and global challenges. She concluded by thanking participants for their engagement and expressed the expectation of organizing the event again next year, with fruitful outcomes, including publications.

Opening Remarks by the Vice President of the Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO)

The final opening remarks were given by Ms. Mayumi Murayama, Vice President of the Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO).



Ms. Mayumi Murayama, Vice President of the Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO), joined the event via Zoom and began by expressing her gratitude to the participants. She discussed the correlation between environmental change and economic development, highlighting vulnerabilities and sharing insights from Japan's experiences. Reflecting on the previous 4th Mekong Dialogue in Bangkok, she emphasized the importance of ongoing discussions in addressing regional challenges. Stressing the need for resilience in the face of uncertainties, she also noted the recent 15th Mekong-Japan Cooperation Meeting, which focused on water resource management and disaster response.

She provided an overview of IDE-JETRO as a semi-governmental organization that has been engaged in economic and social development policy in East and Southeast Asia since the 1960s, as well as its role in advocacy and outreach—of which today's event was a prime example.

Plenary Session I: Review of Recent Flash Floods in Northern Thailand

Keynote Speech by Deputy Chief of Mae-Sai District Mr. Sitthisak Injaikham

After a series of opening remarks from the respective personnel, the first plenary session of the 5th Mekong Dialogue, with the title “National-Local Synergy in Flood Management: Lessons from the 2024 Flood Response in Northern Thailand” plenary session on reviewing recent flash floods in Thailand was officially commenced with a keynote lecture from the Deputy Chief of Mae-Sai District Mr. Sitthisak Injaikham. As the Mae Sai district is one of the most heavily affected areas by the flood, **his keynote reflected on the event and his roles in mitigation, search, response, rescue, and other disaster management works.**



Mr. Sitthisak Injaikham opened his remarks by addressing the upstream floods originating from Myanmar, **highlighting the lack of early warning from the Myanmar side, which contributed to the severity of the impact.** He noted that Chiang Mai had also suffered from the flooding, emphasizing the need for better cross-border communication and coordination. Discussing the situation in Wa State-South, he pointed out the lack of synergy between the region and the Myanmar government, which complicates efforts to manage environmental risks. He suggested that mining activities in Wa State-South (i.e., Ethnic Armed Group-controlled area on the Myanmar side) may have played a role in the disaster, with

deforestation being a major contributing factor to the floods. He also highlighted that flood debris was the primary cause of property damage, underscoring the importance of proper water release optimization to mitigate future risks.

The Deputy Chief of Mae-Sai District continued his remarks by outlining the key factors that contributed to the flooding. He identified three primary causes: the upstream overflow of the Mae Sai River, the shallowing of waterways due to sand and mineral mining, and the narrowing of the waterway at the Mae Sai Friendship Bridge, further exacerbated by agricultural water use. The flood affected five villages and districts, with initial recovery and rescue efforts being the top priority. At first, many villagers believed the situation was manageable and refused evacuation orders, but as the current intensified, emergency response teams, including the military, were deployed to carry out rescue operations. The district chief remained at the command center throughout the rescue operations, receiving constant updates on trapped civilians. Electricity was cut off to conserve power, while a lack of food and supplies posed challenges for those stranded. **He emphasized that the magnitude of the 2024 flood was an unprecedented event for the region.**

Moving into the second phase of the response, he detailed the extensive recovery efforts. Debris and flood materials had penetrated homes and properties, requiring large-scale operations led by the Royal Thai Army and the Ministry of Interior. Efforts focused on recovering personal belongings and systematically sectioning off affected areas for cleanup. However, the presence of thick, hardened sediment continued to pose significant challenges. The government provided ongoing assistance to the communities, and during the chief's visit to the Myanmar side, he observed a severe lack of support, with reports confirming six fatalities. He underscored the critical role of the military in both rescue and recovery, particularly in zoning and sectioning off mud-affected areas to facilitate the work ahead.

The Deputy Chief of Mae-Sai District continued by discussing his visit to the Myanmar side, where he observed that many people had built homes right next to the waterway, contributing to blockages caused by accumulated trash. He highlighted historical environmental changes, noting that human activities had played a role in obstructing the natural flow of water. Myanmar had also suffered significant damage, including to infrastructure such as the bridge, while waste and debris inundated homes and properties.

Visual materials were presented, including color-coded maps distinguishing privately owned and public lands, with yellow indicating areas prone to water blockages. A photograph of the humanitarian response team was shown, emphasizing the district office's cooperation with them. A video clip depicted the temporary bridge constructed between communities to facilitate relief efforts, followed by images illustrating the extent of property damage. The chief acknowledged the committees and cooperative efforts involved in addressing the crisis.

Moving forward, he outlined plans to restore waterways and address shallowing issues. Border-related concerns between Thailand and Myanmar were also discussed, with both sides agreeing to use the deepest part of the river as a permanent division line.

Recognizing the ongoing challenges posed by the river's condition, Thailand committed to recovering mud and sediment, while also taking responsibility for riverbank stabilization in collaboration with Myanmar. The Thai military was designated as the spearhead of these operations, with riverbank construction planned along the identified yellow line. These measures aim to provide a long-term solution to mitigate future flood impacts. The district office provided these updates as part of their commitment to ensuring continued cooperation and effective disaster response.

In summary, Deputy Chief of Mae-Sai District highlighted the key causes of the flooding, including river overflow, waterway shallowing from mining, and blockages from infrastructure and agriculture. He detailed the rescue efforts, noting initial reluctance to evacuate, military intervention, and power cuts to conserve electricity. Recovery efforts focused on clearing debris and hardened mud, with Thai authorities leading operations. His visit to the Myanmar side revealed similar damages, worsened by waste blocking waterways. Thai-Myanmar cooperation was emphasized, with plans for river management, sediment recovery, and riverbank stabilization. He noted the military efforts in spearheading these disaster prevention works to prevent future floods. After his remarks, the event proceeded with a coffee break before the second plenary session.

Plenary Session I: Review of the Recent Flash Floods in Thailand

After the coffee break, the Plenary Session I of the 5th Mekong Dialogue (MKD) was commenced by the hosts, Dr. Sawang Meesang and Dr. Jaruwan Hatapasu. The plenary session I was in a panel format with four speakers; three panel discussants, and one moderator from the School of Social Innovation, Mae Fah Luang University. The session was discussed in Thai language, however, English translation is provided via Zoom. The personnel details on the plenary sessions are as follows:

Moderator: Dr. Suebsakun Kidnukorn, the School of Social Innovation, Mae Fah Luang University

Panelist 1: Mr. Somkiat Khuanchiangsa, President of the Living River Association

Panelist 2: Mr. Niwat Roykaew, Chair-Person of Chiang Khong Conservation Group

Panelist 3: Mr. Kanchit Chumpoodaeng, Director of the Chiang Rai Provincial Department of Disaster Prevention and Mitigation Office (DDPM)



Dr. Suebsakun Kidnukorn welcomes the panelists and audience first and lays out the format of the plenary session. The speakers were then introduced, and he went to explain that the session would proceed in two rounds—each speaker had 10-15 minutes in the first round

to present their insights, followed by a second round focused on solutions mainly discussing the cross-border water-management. Dr. Suebsakun then reiterated how the Mae Sai District Chief provided an overview of the situation, detailing the immediate impacts and ongoing recovery efforts. After that, he opened the floor to the speakers. The following is a brief description of the panelists' contributions.

Panelist Contributions:

Panelist 1: Mr. Somkiat Khuanchiangsa, President of the Living River Association

Mr. Somkiat Khuanchiangsa, President of the Living River Association opened the panel discussion by providing an overview of the history of floods in the Mekong River, noting that seasonal flooding has long been a normal occurrence, with communities traditionally believing that prosperity would follow. However, the severity has increased over time. While past major floods in **2509 (1966), 2538 (1995), and 2551 (2008)** were significant, the **2567 (2024)** flood was particularly unexpected. The region experienced unusually hot weather before heavy rainfall exceeded forecasts, contributing to the disaster. Beyond weather conditions, resource management issues—including upstream land use, cash crop plantations, and the construction of the AH3 road over the Kok River—slowed water flow and worsened the impact. Mae Sai suffered severe economic losses, particularly in agriculture, with an estimated **50,000 rai of rice fields destroyed, amounting to approximately 30 million THB**. Given the chaotic aftermath and total damage affecting over **100,000 rai**, Somkiat emphasized the need for better natural resource management, improved preparedness, and the adoption of early warning systems.

Then in the second round of the discussion, when Dr. Suebsakorn raised the question of how cross-border water management could be improved, particularly in the government sector, given the challenges posed by limited measuring techniques, governance issues, and cooperation between public agencies.

Mr. Somkiat Khuanchiangsa responded by pointing the need to learn from past experiences and improve future readiness in managing natural resources. He highlighted the uncertainty surrounding maximum rainfall levels and stressed the importance of gathering more comprehensive data from different perspectives. Effective cross-border governance and inter-agency collaboration were identified as critical for better management in Northern Mekong-Thailand. He pointed out that upstream management, particularly in the Kok River, which is shared equally between Myanmar and Thailand, plays a crucial role in flood prevention. Citing the destruction of Pong Pha village due to overspills, he underscored the necessity of preparedness, especially for riverbank communities. Stockpiling emergency equipment, ensuring flood-proof food supplies, and adapting farming techniques—such as developing flood-resistant rice strains—were suggested as key measures. While future floods remain unpredictable, he stressed the urgency of proactive preparation.

Panelist 2: Mr. Niwat Roykaew, Chair-Person of Chiang Khong Conservation Group

Mr. Niwat Roykaew gave an opening discussion on how the recent Northern Thailand flood as one of the most severe disasters in terms of damage and impact on local communities. Comparing it to past floods, he emphasized that the increasing severity is closely linked to global warming, with higher rainfall levels contributing to prolonged and intense flooding. He urged stakeholders to examine tributary rivers, where strong currents have extended the flood duration. Deforestation on the Thai side and the reduction of wetlands to just 8,000 rai were identified as key environmental factors exacerbating the situation, alongside road construction disrupting water flow.

Reflecting on the 2551 (2008) flood, he explained that water release from upstream dams, particularly in Chiang Khong, was a major cause, resulting in 86 million THB in damages. He noted that while last year's rainfall was not as intense, the Chiang Khong Dam's water releases likely played a significant role in worsening flood conditions. He warned of the increasing risks posed by water management issues, particularly in cross-border areas such as Laos, where lowland communities remain highly vulnerable. Comparing the 2551 flood to the recent 2567 (2024) disaster, he asserted that the current situation is far worse, particularly in Chiang Saen and Pak Nam Dam areas, raising concerns about the growing threats posed by inadequate water management and international cooperation.

When Dr. Suebsakorn questioned **how cross-border water management could be enhanced for the second round**, Mr. Niwat Roykaew strongly emphasized that the issue of water management is international, not just a domestic concern. He stressed the urgent need for water management and utilization reforms, citing the direct correlation between dam constructions and the increasing severity of floods. He passionately argued that governance must align with global climate change realities and criticized road construction projects for proceeding without local consultation, leading to unintended consequences. Mr. Niwat highlighted the inadequacy of the Mekong River Commission (MRC) in managing water flow and providing timely information on dam releases. He pointed out that upstream countries, particularly China, continue to control water flow without regional consultation, worsening the situation for downstream communities. With more dam projects planned in China, he warned that future disasters along the Mekong River will only intensify. He called for stronger cooperation between national governments and local communities, emphasizing the need for **direct engagement with China to improve cross-border water governance**.

Panelist 3: Mr. Kanchit Chumpoodaeng, Director of the Chiang Rai Provincial Department of Disaster Prevention and Mitigation Office (DDPM)

Mr. Kanchit Chumpoodaeng initially outlined the severity of the recent flooding, which he described as the most destructive in recent years. He broke down the situation into phases, starting with the first phase from August 14-26, when overspilling from riverbanks and heavy rains during the monsoon season caused significant flooding. The second phase, from September 9-20, affected Mae Sai and Chiang Rai, with rainfall forecasts three times higher

than neighboring countries. The third phase, from September 21-26, was marked by flow blockages, and the final phase, from September 30 to October 3, involved 100mm of rainfall, impacting the city center and university areas, where infrastructural development may have contributed to the flooding.



Figure 1-1. Phases of the 2024 Flood in Chiang Rai
(Source: Chiang Rai Provincial Department of Disaster Prevention and Mitigation Office)

He highlighted that rainfall in Chiang Rai had nearly doubled compared to average levels in 2022, reaching almost 2000mm in 2024. Mr. Kanchit also mentioned the potential impact of water releases from China, noting that the usual release was 1,000 cubic meters, but in September, it increased to 2,000 cubic meters, contributing to the floods. He linked environmental exploitation and resource extraction to the worsening of the situation.

After Dr. Suebsakorn's discussion/question on solving the cross-border water management enhancement, Mr. Kanchit Chumpoodaeng emphasized the need for mitigation and preparation in response to flooding, stressing that while the current situation is understood, future readiness is crucial. He pointed out that **Myanmar's cooperation is vital, particularly in sharing rainfall statistics, as Thailand lacks this crucial information.** This lack of data is something that cannot be ignored. He highlighted the importance of developing an Early Warning System (EWS) and reshaping public attitudes, as people have been resistant to evacuating in the past, a mindset that needs to change. Furthermore, **he called for negotiations with border states and international organizations like the Mekong River Commission (MRC), urging MRC to improve their efforts.** Locals in Chiang Khong, particularly, are concerned about the dams, and water level and release information must be shared with them to help prepare for future flooding.

Regarding the Association of Southeast Asian Nations (ASEAN) role, Mr. Kanchit Chumpoodaeng agreed with Dr. Suesakun's take on the need for the operation of the already existing cooperation mechanisms within ASEAN and the disaster diplomacy.

Mr. Kanchit Chumpoodaeng emphasized the need for mobilization and readiness. While some countries have made efforts, Thailand plays a central role and has been recognized for its efforts. However, he stressed that coordination among countries, such as those in Indonesia-Malaysia-Singapore, should be improved, and CLM countries (Cambodia, Laos, and Myanmar) need to collaborate more closely. The panelist called for stronger policies and more negotiations regarding river basin management, with Thai, Myanmar, and Laos interconnecting plans for issues like the PM2.5 air quality problem.

While acknowledging the problems, Mr. Kanchit Chumpoodaeng pointed out that ASEAN provides a platform for greater collaboration. The example of Singapore and Malaysia was used to demonstrate how public policies and laws can guide cooperation. The role of civil agencies was also discussed by Mr. Kanchit on how Thailand is overly reliant on the military. **The local agencies need more capacity and independence to reduce damages.** Drawing from Japan and Singapore's experiences, he noted that Thai universities are now focusing more on addressing these issues, which could help improve the situation moving forward.

Q&A

After the discussions with the panelists, the moderator Dr. Suesakun Kidnukorn opened the floor for questions from the audience.



“What are the major lessons? Are there room for improvement?”

Dr. Lee Lai To asked about how the local and central governments, along with NGOs, cooperate in the relief efforts and the challenges they face. He also wanted to know the major lessons learned from the floods and if there are areas that can be improved.

Mr. Kanchit Chumpoodaeng answered the question by explaining that the financial impact of the flood was estimated at 30 million THB. Regarding recovery efforts, the local administration plays a key role but faces several limitations. Local governments have recovery responsibilities but need funding from the central and provincial governments. They must work within their budgets, and their authority is often limited. The local offices' assets were destroyed in the flood as well, which added to the difficulty in recovery. Additionally, while provincial governments may manage river recovery efforts, they cannot address issues in forest areas without permission from the central government, highlighting the overlapping challenges that need to be addressed.

The moderator, Dr. Suebsakun Kidnukorn, interjected on the issue of centralization and pointed out the potential of decentralization in the disaster response.

Mr. Somkiat Khuanchiangsa discussed the question by elevating the importance of mitigation efforts, highlighting that their independent status allows them to coordinate with external entities for assistance. He stressed the need for better information awareness among locals and reforms in natural resource management. Additionally, he advocated for improved monitoring of water levels and dam releases. He also **advocated for the localization of monitoring and relief efforts, echoing the potential of decentralization.**

Mr. Niwat Roykaew reflected on the key lessons learned by stating the problems and solutions are already known, yet they remain unresolved. Water release and management issues have persisted for 5-6 years, and while discussions continue, action is lacking. He stressed the need for stronger cooperation, though current efforts are insufficient. According to him, **local governments require more authority, as the system remains overly centralized. A holistic approach is necessary, with disaster relief funding focused on long-term rectifications.** Additionally, future studies, sustainability initiatives, and education for the next generation are crucial to addressing these challenges.

After this Q&A session, Dr. Suebsakun Kidnukorn gave his final remarks and concluded the session. The hosts announced a lunch break. Key takeaways are described in the following section.

Key Takeaways

The followings are **Key Takeaways from the Plenary Session I: Review of the Recent Flash Floods in Thailand.**

1. **Cross-Border Water Management Challenges** – Effective cooperation between Thailand, Myanmar, and Laos is crucial, but governance issues, lack of data-sharing (e.g., rainfall statistics), and weak inter-agency coordination hinder progress.
2. **Severe Flooding and Contributing Factors** – The 2024 floods were among the worst in recent history, exacerbated by deforestation, road construction, wetland reduction, and uncoordinated upstream dam releases.
3. **Inadequate Early Warning Systems (EWS)** – Local communities lack timely information on water levels and dam releases. Strengthening monitoring and communication channels is essential.
4. **Decentralization and Local Empowerment** – Local governments struggle with limited budgets and authority. Greater autonomy and financial support are needed for more effective disaster response and prevention.
5. **Need for a Holistic and Sustainable Approach** – Disaster relief should shift from short-term recovery to long-term investments in infrastructure, environmental conservation, and policy reforms.
6. **Regional Organizations' Role in Regional Water Governance** – Existing frameworks like ASEAN and the Mekong River Commission (MRC) must be strengthened to facilitate regional cooperation and better policy alignment.
7. **Education and Public Awareness** – Future generations must be educated on sustainable water management, climate resilience, and the socio-environmental impacts of large-scale development projects.

Plenary Session II: Review of the Recent Flash Floods and Disaster in Riparian Countries

After the lunch break, part II of the plenary session II was commenced by the hosts, Dr. Sawang Meesang and Dr. Jaruwan Hatapasu. The session was conducted in English language. The part II session is taken in two parts due to the number of contributing panelists. Professor Dr. Lee Lai To, Mae Fah Luang University and Ms. Naomi Hatsukano (IDE-JETRO) facilitate and moderate the panel. The personnel details on the plenary sessions are as follows:

Panelist 1: Dr. Chheng Kimlong, President of Asia Vision Institute

Panelist 2: Mr. Daovone Phonemanichane , Oxfam Laos

Panelist 3: Dr. Nguyen Minh Quang, Can Tho University

Panelist 4: Taiyong Chen, Haihui Poverty Alleviation Center

Moderator 1: Professor Dr. Lee Lai To, Mae Fah Luang University

Moderator 2: Ms. Naomi Hatsukano (IDE-JETRO)



Professor Dr. Lee Lai To welcomes the panelists and audiences first. Then, he gave his thank you remarks by reminiscing about his MFU days since he used to work for the School of Social Innovation. Dr. Lee discusses the importance of multi-lateral dialogue by mentioning and discussing the role and nature of the Shangri-La Dialogue. He then went on to such challenging roles of Mekong Dialogues and hoped for more participants in future events. Dr. Lee opened up the panel with by mentioning the improvement/lack of a common framework for disaster response and resource management in the region. He expressed his wishes to learn from the panelists and opened the floor to them.

Panelist Contributions:

Panelist 1: Dr. Chheng Kimlong, President of Asia Vision Institute

The panel was then opened with a presentation from Dr. Cheng Kimlong, President of Asia Vision Institute, regarding flood risk and urban spaces like Phnom Penh in a presentation titled “*Changes in the Flood Patterns in Urban Phnom Penh: A Risk Assessment and Coping Strategy*”.

Dr. Cheng Kimlong opened his presentation by expressing gratitude before highlighting the broader significance of the Mekong basin, where 70 million people reside, but over 210 million could be affected by its environmental and hydrological changes. His discussion centered on Cambodia’s policy response, particularly regarding the Tonle Sap Lake, a critical resource for livelihoods among majority of Cambodian people. **Cambodia remains heavily reliant on rainfed agriculture and inland fisheries, particularly in major water bodies like the Mekong River and Tonle Sap Lake.** These sectors contribute approximately 25% of the country’s GDP and employ roughly 49% of the labor force. However, the increasing frequency and severity of floods threaten these key economic pillars.

He emphasized the necessity of cross-border cooperation in managing transboundary flooding, citing the recent floods in Chiang Rai as a case in point. The CLMV (Cambodia, Laos, Myanmar, Vietnam) countries are particularly vulnerable to flash floods, making it imperative to understand flood patterns for prevention and control. However, he pointed out that knowledge on this matter remains limited, with urban areas like Phnom Penh experiencing even worse conditions. **Cambodia ranks among the most risk-prone countries globally, with a high Climate Risk Index (CRI), and 10% of its population is affected by flooding annually.**

The Cambodian government acknowledges the challenges—technical and structural limitations, inadequate funding, and budget constraints—but addressing them requires multilateral financial support. He illustrated the severity of seasonal flooding in Krouh Chhmar province with satellite imagery, describing it as a generational challenge. From 2020 to 2024, thousands of families, properties, and agricultural lands have been impacted, leading to food insecurity and the loss of wetlands, which serve as natural buffers against flood damage.

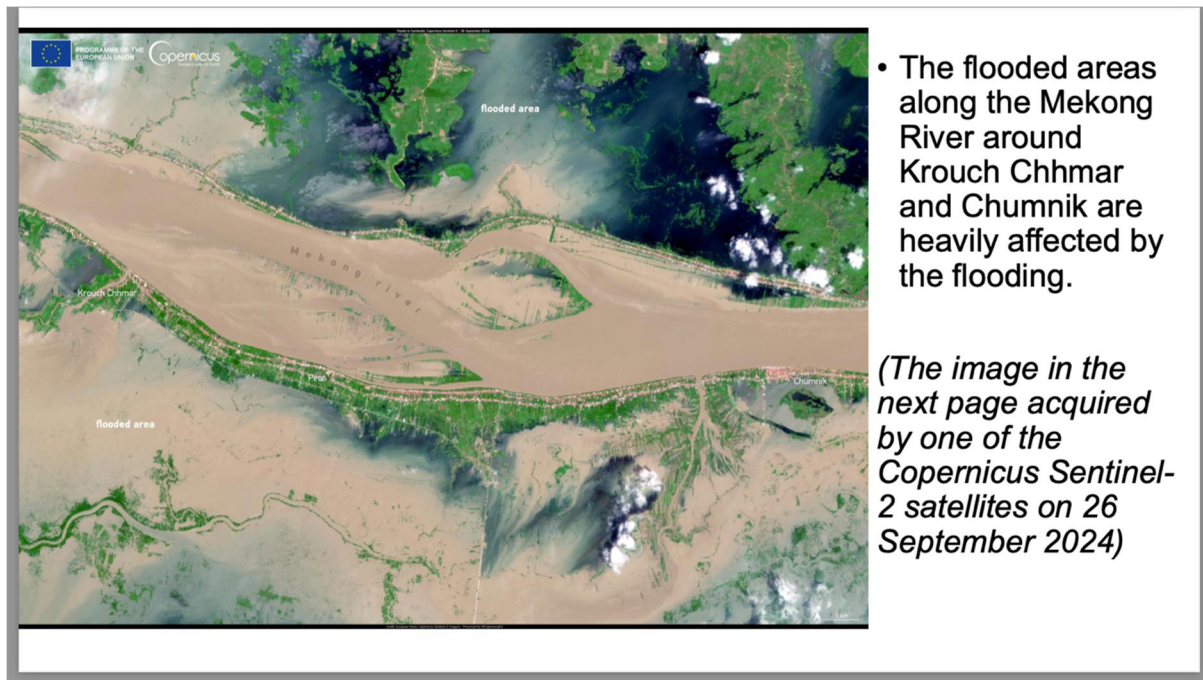


Figure 1-2. Satellite imagery on the flooded areas of Krouch Chamar province.
(Source: Presentation by Dr. Chheng Kimlong)

Phnom Penh, as Cambodia's most flood-prone area, faces particularly high damage. The city's inadequate drainage system, compounded by its geographical position at the confluence of major waterways, exacerbates the impact of heavy rainfall. Despite historical data showing an increasing frequency of floods, he emphasized that this is primarily a climate change-induced phenomenon rather than a result of river overspill.

To support his argument, Dr. Kimlong presented a series of data points, though he acknowledged some uncertainty regarding location-specific precipitation patterns. **He stressed the urgent need for better-managed urbanization and improved study of rainfall trends. Evidence-based policymaking remains lacking due to insufficient data collection, making it crucial to adopt a climate change-oriented, multi-dimensional framework for flood mitigation.**

Year	Description	Type
1991	Heavy rain upstream resulted in the overflowing of the Mekong, and at least 28000 people were impacted (ReliefWeb, 1991).	Fluvial
1994	Central Cambodia flooded, impacting 29000 people (EM-DAT, 2023) and rendering 12000 homeless in total (ReliefWeb, 1994).	possibly Fluvial
1996	Heavy rainfall from storms upstream induced swelling of the Mekong, affecting a few districts in Phnom Penh (ReliefWeb, 1996; EM-DAT, 2023)	Fluvial
1999	Intense precipitation over Cambodia led to flash floods in 5 provinces including Phnom Penh (ReliefWeb, 1999).	Pluvial
2000	Annual monsoon floods arrived early in August, amplified by local and upstream heavy rain (ReliefWeb, 2000; EM-DAT, 2023). Water levels began to recede by October, but flash floods persisted in Phnom Penh (ReliefWeb, 2000). In total, 5 districts of Phnom Penh were impacted, with about 124000 residents affected and 5000 killed (ReliefWeb, 2000).	Fluvial, Pluvial
2001	Heavy rain in the Mekong Delta caused rising water levels and consequent flooding (ReliefWeb, 2001). 4 districts and about 19000 people were affected (ReliefWeb, 2001).	Fluvial
2004	River floods affected 12 provinces including Phnom Penh (EM-DAT, 2023).	Fluvial
2006	Intense rain led to the flooding of the Mekong (ReliefWeb, 2006). Comparatively less severe damages across Cambodia due to low peak discharge (MRC, 2007).	Fluvial
2007	Tropical storm Pabuk caused local flash floods in Phnom Penh (MRC, 2008).	Pluvial
2009	Typhoon led to torrential rain, resulting in flash floods (Cambodian National Committee for Disaster Management, 2010)	Pluvial
2010	Heavy rain and storms caused local urban flash floods within the municipality, impacting about 5000 premises (MRC, 2011).	Pluvial
2011	Flooding of the Mekong River and flash floods from heavy rain impacted about 15000 homes in Phnom Penh (MRC, 2014).	Fluvial, Pluvial
2013	Typhoons and heavy rain induced river and flash floods in Phnom Penh, impacting at least 13000 people (EM-DAT, 2023, MRC, 2014; ReliefWeb, 2013).	Fluvial, Pluvial
2014	Intensive rain caused local urban flooding (EM-DAT, 2023, MRC, 2017).	Pluvial
2015	Flash flood affected a few hundred houses (MRC, 2018)	Pluvial
2016	Upstream dam failure due to heavy rain caused urban floods, affecting about 1600 households (MRC, 2018).	Fluvial
2017	Intense rain and tropical storms caused municipal flooding, and 42 residents were impacted (MRC, 2019; ReliefWeb, 2017).	Fluvial
2018	Torrential rain during the wet season and tropical storm caused Mekong River flooding and flash floods, and about 600 households were impacted (MRC, 2020, Humanitarian Response Forum, 2018).	Fluvial, Pluvial
2020	Intense precipitation led to flash floods, and about 6000 families were affected (ReliefWeb, 2020).	Pluvial
2021	Heavy rain across many parts of Cambodia; the rain also caused the Prek Thnot River to flood, impacting about 12500 residents (ReliefWeb, 2021, ReliefWeb, 2021)	Fluvial
2022	Torrential rain led to local flash floods (ReliefWeb, 2022, 2024).	Pluvial

Figure 1-3. Dr. Kimlong's examples of Phnom Penh being flood-prone through the years (Source: Presentation by Dr. Chheng Kimlong)

In conclusion, Dr. Chheng Kimlong highlighted Cambodia's vulnerability to climate change-induced flooding, emphasizing the need for cross-border cooperation, improved urban planning, and evidence-based policymaking. He underscored Phnom Penh's worsening flood risks due to inadequate drainage and structural limitations, calling for multilateral financial support and better data collection for effective mitigation. After Dr. Kimlong's presentation, Ms. Naomi Hatsukano (moderator) opened the floor to the second panelist.

Panelist 2: Mr. Daovone Phonemanichane , Oxfam Laos

Mr. Daovone Phonemanichane provided an overview of Laos' experience with extreme weather events in 2024, emphasizing the extensive damage caused by flooding. The country suffered an estimated **\$27 million in damages**, affecting **15 out of 18 provinces** and impacting **76,000 households**. Despite receiving early warning alerts, the response mechanisms proved inadequate, highlighting critical gaps in disaster preparedness.

One key aspect of Laos' flood response was its collaboration with **Chiang Rai authorities** to mitigate the impact. However, according Mr. Daovone, several challenges emerged as follows:

- The **intensity of the floods** was beyond what local communities could cope with.
- The **Early Warning System (EWS)** was ineffective due to capacity limitations.
- While **social media** played a role in disseminating information, it also contributed to **panic and misinformation**, complicating response efforts.

- A significant factor worsening the situation was **public behavior**—a mix of **stubbornness, lack of awareness, and reluctance to evacuate**, further straining disaster response efforts.

Daovone underscored the **importance of community-based disaster risk management (DRM)** as the most effective approach to resilience-building. He called for **better transboundary data sharing and early warning systems**, emphasizing that recovery efforts must extend beyond infrastructure to include **social, economic, and psychological dimensions**. To improve resilience, he stressed the need for:

- **Stronger early warning and community monitoring systems**
- **Enhanced transboundary coordination** for more effective disaster response
- **Comprehensive community awareness programs** to ensure proactive risk mitigation

He concluded by presenting a case study on **community monitoring efforts**, demonstrating how **true local DRM** initiatives could enhance preparedness and reduce disaster risks.

Mr. Douk Daro (Oxfam, Cambodia)’s Brief Discussion

Mr. Douk Daro is an Oxfam representative from Cambodia, and after Mr. Daovone Phonemanichane’s presentation he briefly gave his remarks. He highlighted their organization's (Oxfam) ongoing collaboration with local partners in Cambodia to strengthen community-based responses to flooding. Referring to the flood case from the previous year, he explained that several provinces were affected by floods, prompting the establishment of community-based mechanisms at the local level. These systems, managed locally, are designed to enable swift action when flood alerts are issued.



Figure 1-4. Oxfam’s efforts in establishing a community-based water-level monitoring systems using color color-coded Flood Gauge Depth Marker.
(Source: Oxfam)

Mr. Douk referred again to the illustration of a monitoring visit from Mr. Davone's last presentation slide to showcase Oxfam's efforts in raising community understanding and responding to flood warnings.

Q&A

After the discussions with the two panelists, the moderator, Dr. Lee Lai To opened the floor for questions from the audience. There were two questions from Dr. Kenji Otsuka and another one from an online participant.

1. ***Are budget shortages the primary obstacle, or do policy priority and allocation play a more significant role?***

Dr. Kenji Otsuka posed a key question to first panelist, Dr. Kimlong, asking whether the budget constraints cited in disaster management and climate resilience efforts stem from genuine financial limitations or if they reflect deeper issues related to governance and policy prioritization.

Dr. Kimlong answered that the government of Cambodia has been facing a budget deficit for 20 years. However, since around 2012, revenues from taxation have been on the rise, and the deficit gap has been narrowing. Despite this, several policy priorities, particularly on infrastructure development such as roads, bridges, and logistics to facilitate cross-provincial commerce, are becoming more urgent due to growing demand.

He pointed out that technical challenges have also prevented the government from effectively utilizing the available funds. Coordination difficulties and the complex topography of the region, especially the old city layout, have made progress difficult. JICA (Japanese International Cooperation Agency-JICA) has been involving in supporting flood control management in Cambodia. **Due to lack of data and proper monitoring, it is quite difficult. He provided an example of how JICA has revised plans for central Phnom Penh due to changes in rainfall patterns.** Moreover, the loss of wetlands continues to be a pressing issue. He ended the answer by stating that the government facing a dilemma over land use, weighing the importance of flood control against the desire to transform these areas into revenue-generating zones.

2. ***“What do you mean it is not contextualized? If you compare EWS in Laos and Cambodia, what is the problem?”***

Dr. Kenji Otsuka's second question was on the Early Warning System (EWS), expressing curiosity about the second panelist, Mr. Daovone Phonemanichane's remarks on the need for local contextualization/localization of EWS.

In response, **Mr. Daovone** also interjected on the first question as well, stating a similar policy priority over development on the Laos side. With regard to the second question, he

highlighted that the country has had to rely significantly on external funding, which affects the sustainability of disaster risk management (DRM) efforts. **He emphasized the importance of community ownership in ensuring long-term effectiveness.** For EWS to be precise, exact information is crucial, and social media responses must be actionable while avoiding misinformation and disinformation. Additionally, he underscored the need for a transboundary and regional information-sharing mechanism to enhance coordination. By addressing these factors, community action in disaster preparedness and response can become truly effective.

3. Is there any communication between local government and their communities?

The question raised was about the importance of communication between local governments and their communities.

Dr. Chheng Kimlong explained that the Cambodian government has been increasing efforts to empower local governments and synchronize their actions with central government policies. However, urban planning remains complicated, especially with the influx of internal migration to the cities. This has made flood management even more challenging due to the increased population. While Dr. Kimlong questioned the accuracy of the statistics, he noted that Phnom Penh's population, which is officially 2.3 million, likely has doubled in size, with the city growing twice its original size in terms of area. He emphasized that the government is actively working on these issues, but acknowledged that it remains a multi-dimensional challenge.

Mr. Daovone responded by highlighting the importance of community involvement in addressing issues like early warning systems and disaster management. He stressed the need for an information system that is easily accessible online, ensuring that it can be used by local communities. Additionally, Daovone emphasized the necessity of adapting these systems to the local population's level of understanding, suggesting that the information provided should be less technical and more user-friendly to effectively engage and empower the community.

After this Q&A session, the coffee break was commenced.

Key Takeaways from the first two presentations

The following are Key Takeaways from the first two panelists:

Here are three key takeaways:

1. **Budget and Governance:** Competing priorities like infrastructure and flood control limit resources for urban planning and disaster management.
2. **Technical Challenges:** Issues with coordination, old city layouts, and topography complicate flood control, despite external support from organizations like JICA.

3. **Local Governance and Community Involvement:** Efforts to empower local governments are underway, but urbanization and the need for accessible early warning systems remain challenges for effective disaster response.

Panelist 3: Dr. Nguyen Minh Quang and Ms. Truong Thao Anh, Can Tho University/ Mekong Environment Forum, Vietnam

Dr. Nguyen Minh Quang presented his talk which is titled as ‘Mapping the Impacts of Citizen Science in the Lower Mekong Subregion’. In response to questions from the moderator, Dr. Quang elaborated on the practical application of citizen science in flood management. Dr. Quang cited the example of a project in northern Cambodia where local people and students were trained to use a mobile app to monitor changes in the Mekong River. By taking photos with embedded coordinates, they provided timely data on water level fluctuations in different areas. This allowed researchers to analyze the river flow dynamics across the district and send notifications directly to the users, serving as a form of monitoring and early warning system.

Another example from the Mekong Delta in Vietnam illustrated the use of citizen science for water quality monitoring and tidal flood observation. Local rice and shrimp farmers, vulnerable to tidal flooding, were trained to use social science data to report their observations. Researchers analyzed this data and provided feedback on water quality relevant to their livelihoods and predictions about potential flooding. This addressed the question of feedback mechanisms for citizen scientists.

Dr. Quang further explained their approach to data collection for disease surveillance using the WV Tracker app. They obtained local consent and trained users to identify and report specific indicators of disease hotspots, such as mosquito sightings and water pollution levels. Users contributed both qualitative (photos, videos) and quantitative data. Researchers analyzed this information and disseminated weekly reports back to the volunteers and local authorities. These reports highlighted areas with potential disease outbreaks, enabling timely interventions by local authorities to mitigate risks. This demonstrated a clear communication loop and the tangible impact of citizen science data.

Regarding the sustainability of local scientists, Dr. Quang emphasized the importance of community education to shift local mindsets towards recognizing the value of their contributions. Highlighting how their data directly benefits themselves, their environment, and their community serves as a key motivator. Dr. Quang provided examples of projects in Phuket (shark and coral reef conservation) and Vietnam (flood resilience) where demonstrating the tangible benefits of data contribution, such as improved livelihoods and timely government intervention, fostered community commitment and support for citizen science initiatives.



Dr. Quang presenting on mapping the impact of citizen science in Lower Mekong region and the importance of citizen science in disaster management

Q & A

Thanks for your inspiring presentation how to ensure that the local scientist or social scientist sustainable or give supporting community. What is the best approach to increase the number of student scientists?

Dr. Nguyen Minh Quang responded by drawing from his own experience, emphasizing that a key starting point for sustaining local scientists and social scientists is community education aimed at changing local mindsets. He noted that student scientists are more motivated when they see their work directly supporting local communities and government efforts to address urgent needs. For those looking to employ student scientist approaches, he advised clearly demonstrating how their contributions benefit not only the environment but also their own communities and personal development.

He provided an example from a project in Phuket, where local fishermen who depended on coral reef ecosystems were facing livelihood challenges due to reef degradation and declining shark populations. Researchers intervened to shift community attitudes toward sustainable fishing and showed how data collection on shark and elephant populations could lead to conservation and improved incomes.

In Vietnam, despite limited space for civil society, Dr. Quang explained that local governments have shown support for social science projects. These initiatives allow for the engagement of various stakeholders—particularly farmers and local residents—in contributing data related to flood risks. This information helps authorities better understand and address pressing issues, fostering stronger commitment from both communities and local officials.

Takeaway Notes

- Citizen science can be effectively applied to flood management through community-based monitoring and mobile technology.
- Providing timely and relevant feedback to citizen scientists is crucial for maintaining engagement and motivation.
- Demonstrating the direct benefits of their contributions to their livelihoods and communities is key to ensuring the sustainability of local scientists.
- Community education plays a vital role in fostering a mindset that values citizen science and its impact.
- Collaboration with local authorities and integrating citizen science data into decision-making processes can enhance the impact and sustainability of such initiatives.

Panelist 4: Mr. Taiyong Chen, Haihui Poverty Alleviation Center, China

Mr. Taiyong Chen discussed his part of panel titled “Rebuilding Communities and Restoring Livelihoods: Haihui’s Approach Post-Wenchuan Earthquake and Pingjiang Flood”. Reflecting on the Sichuan earthquake, which devastated over half of Sichuan province, Mr. Chen recounted how Haihui, though not initially focused on disaster relief, joined the emergency response effort. The organization mobilized funds and delivered essential supplies such as food, clean water, shelter materials, and clothing. While military and professional teams managed life-saving operations, Haihui focused on providing material support and conducting needs assessments for long-term recovery. Based on their background in livelihood development, the team proposed a recovery program centered on restoring agricultural and livestock-based livelihoods. With support from international donors, they launched a \$6 million program covering ten counties, which combined technical training, psychosocial support, and mutual aid group formation. Emphasis was placed on community planning and the integration of bottom-up approaches with China’s top-down governance model. This hybrid strategy helped ensure both community engagement and administrative coordination.

To promote sustainability, beneficiaries were encouraged to pass on livestock to other families once their own situation stabilized. This “pass-on” principle fostered a cycle of support, helping over 10,000 families over time. The program also introduced values-based training on environmental stewardship, family care, and mutual aid before distributing livestock or assistance. In parallel, Haihui organized cultural activities such as traditional dance and music to restore community morale and cohesion. These efforts were supported and recognized by a broad range of stakeholders, including local governments, foreign consulates, and public figures.

Mr. Chen also described Haihui’s more recent engagement in response to the 2023 floods in central China. Working with local cooperatives and government partners, the organization focused on agricultural recovery and infrastructure repair. Rapid assessments, proposal development, and partnerships with professional relief organizations allowed for timely implementation. Within a year, communities showed significant progress in restoring livelihoods and regaining confidence. He concluded by emphasizing the importance of combining livelihood recovery, community resilience-building, and cross-sectoral collaboration. His experience highlighted that successful post-disaster interventions depend not only on technical inputs but also on trust, community ownership, and integrated support systems.



Mr. Taiyong Chen, a panelist in plenary session II: Review of recent flash floods and disasters in riparian countries (part II), explains about Haihui's approach in rebuilding communities and restoring livelihoods post-Wenchuan earthquake and Pingjiang flood

Q & A

Could you explain more about the difference between the earthquake disaster and flood disaster?

In response to the question about the differences between earthquake and flood disasters in terms of resilient community building, Mr. Chen highlighted several key distinctions:

- **Frequency:** Floods are a more frequent occurrence in China, often happening annually in various riverine areas, while earthquakes are relatively less frequent and more geographically localized to specific tectonic regions.
- **Degree of Damage:** Earthquakes generally cause more extensive and sudden damage, often leading to widespread collapse of infrastructure and higher casualties with less time for escape compared to floods, where people often have time to move to higher ground. While floods can impact smaller areas, earthquakes can devastate large regions.
- **Resource Mobilization:** Mobilizing resources differs significantly. For earthquakes, there's a strong societal mobilization, including a unique mechanism where developed coastal provinces support specific affected inland counties. In contrast, due to the higher frequency of floods, resource mobilization can be more challenging, allowing NGOs to play a more significant role in flood relief compared to the more government and military-led response to earthquakes.

Mr. Chen concluded by emphasizing the importance of learning from both types of disasters to build more resilient communities.

Takeaway Notes

- Earthquake and flood disasters differ significantly in frequency, degree of damage, and resource mobilization strategies.

- Understanding these differences is crucial for tailoring effective disaster preparedness and response efforts.
- While government and military often take the lead in earthquake relief, NGOs can play a more prominent role in the more frequent flood disasters.
- Regional factors and geological characteristics influence the occurrence and impact of earthquakes.
- Continuous learning and adaptation are necessary to build resilience against both sudden and more frequent natural disasters.

Day 2 Foreword

On Feb 27, 2025, the 5th Mekong Dialogue convened for a second-day event. Like on the first day, it was hosted by Dr. Sawang Meesang and Dr. Jaruwan Hatapasu of the School of Social Innovation, Mae Fah Luang University. The second day was centered on Plenary Session III: International Experiences on Resources/Disaster Management. It was organized in two parts.



Plenary Session III: International Experiences on Resources/Disaster Management

The plenary session III was commenced by the hosts, Dr. Sawang Meesang and Dr. Jaruwat Hatapasu. The session was conducted in English language. The plenary part III session is taken in two parts due to the number of contributing panelists. Ms. Maki Aoki Okabe and Dr. Kenji Otsuka of IDE-JETRO facilitated and moderated the panel. The personnel details on the plenary sessions are as follows:



Panelist 1: Dr. Zhifei Li, China Academy of Social Science (online)

Panelist 2: Dr. Kenji Nagata, Japanese International Cooperation Agency (JICA)

Panelist 3: Mr. Khaled Mashfiq, Regional Liaison Officer for Asia and the Pacific, UN Satellite Centre (UNOSAT), UNITAR

Panelist 4: Mr. Shreehari Achary, CSO Platform

Panelist: 5: Mr. James Borton, Senior Fellows, John Hopkins University

Moderator 1: Dr. Kenji Otsuka (IDE-JETRO)

Moderator 2: Ms. Maki Aoki Okabe (IDE-JETRO)

Dr. Kenji Otsuka welcomed the panelists and audiences and commenced the panel by inviting Dr. Zhifei Li to start her presentation.

Panelist Contributions:

Panelist 1: Dr. Zhifei Li, China Academy of Social Science

Dr. Zhifei Li presented a thorough exploration of the Lancang-Mekong Cooperation (LMC)’s disaster response strategies in the presentation titled “LMC’s Policy and Practices in Disaster Management.” The discussion was structured into four main sections:



Figure 2-1. The overview of Dr. Zhifei Li’s presentation
(Source: Presentation by Dr. Zhifei Li)

1. Building a New Platform for Disaster Governance

Dr. Li began by highlighting the increasing disaster risks faced by the Lancang-Mekong Cooperation (LMC) countries due to climate change, which pose significant challenges to socio-economic development. Since the establishment of the LMC, the primary focus has been on disaster prevention, reduction, safety, and rescue operations. The presentation emphasized the importance of governance in addressing these risks, considering it a shared future and a crucial tool supported by China’s three global initiatives: Global Development, Global Security, and Global Civilization Initiatives.

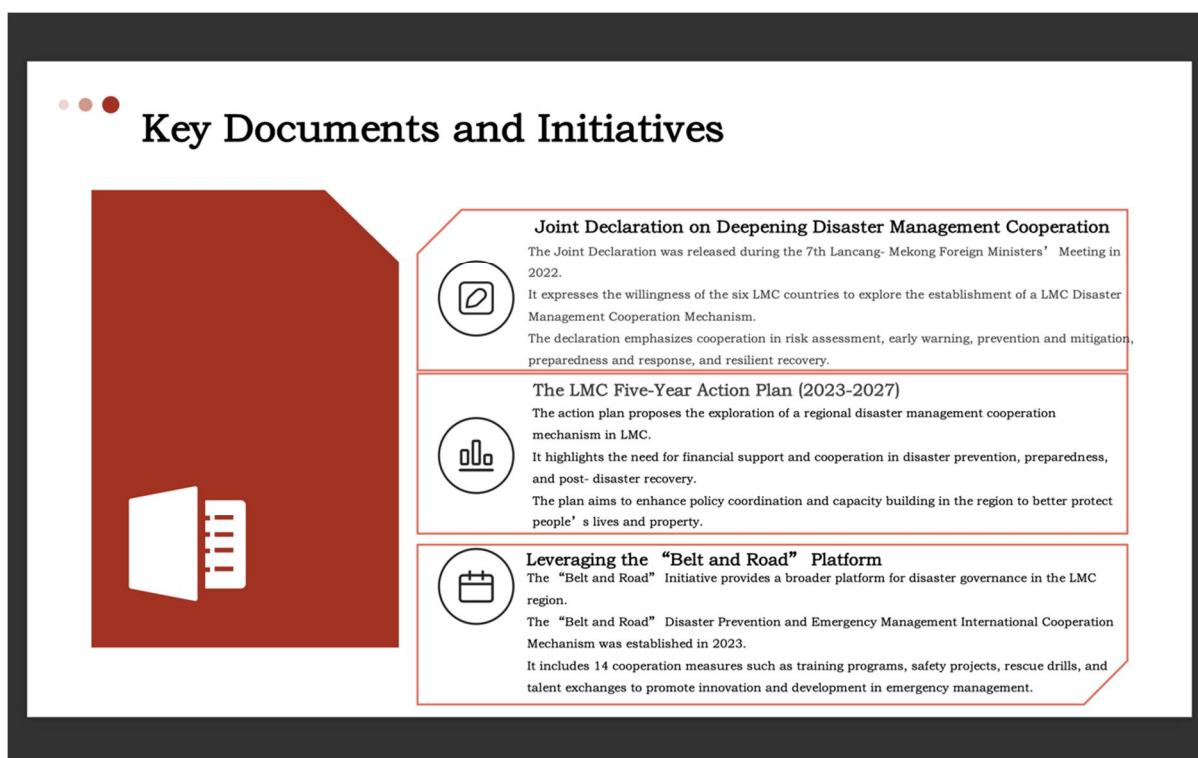


Figure 2-2. Key documents regarding LMC's disaster response strategies
 (Source: Presentation by Dr. Zhifei Li)

Key documents guiding LMC disaster management include the **Joint Declaration on Deepening Disaster Management Cooperation (2022)** and the **Five-Year Action Plan (2023)**. These documents emphasize cooperation assessment, early warning mechanisms, mitigation efforts, response strategies, and recovery processes. The five-year plan also outlines financial assistance mechanisms and capacity-building initiatives among the six participating countries. Furthermore, the Belt and Road Initiative (BRI) platform has been applied to enhance disaster management cooperation within the LMC framework.

2. Establishing Multi-Level Cooperation Mechanisms

The second part of the presentation explored the management mechanisms in place to improve information-sharing and collaboration among LMC nations. The system aims to:

- Enhance capacity-building and resource-sharing efforts.
- Align policies and share best practices.
- Develop and integrate new technologies for disaster response.

However, significant challenges remain, such as the varying levels of capability and development across countries, as well as ineffective communication and coordination. Dr. Li suggested targeted capacity-building and financial assistance for less-developed countries, along with expanded cooperation and collaboration efforts to overcome these obstacles.

The **OBOR Disaster Prevention and Emergency Management Mechanism (2023)** was also discussed, as part of the effort to leverage China's One Belt One Road Initiatives (OBOR) in the LMC countries. It includes 14 cooperation measures focused on training and drills. A notable initiative is the **Belt and Road Safety Production Accident Risk Prevention and Response Project**, which specifically addresses risks in the industrial sector and aims to train emergency professionals. Over the past two years, these efforts have significantly improved local response capabilities.

Synergies with Existing Mechanisms

Dr. Li also discussed synergies with existing regional disaster management frameworks, particularly the **China-ASEAN Disaster Cooperation Mechanism**. Since 2016, this initiative has organized numerous events, seminars, and workshops. The **China-ASEAN Workplan 2021-2025** serves as a guiding document for ongoing cooperation.

Over the past two years, regular policy discussions have facilitated the creation of information-sharing platforms, the release of critical disaster-related data, and the exchange of best practices. Additionally, the establishment of **China-ASEAN sister cities** has played a role in improving emergency management at the local level. The **Guangxi Province** signed an emergency cooperation framework with sister cities in Cambodia and Laos, leading to organized training programs and discussions on potential emergency rescue collaboration.

3. Strengthening Natural Disaster Prevention and Control Systems

Dr. Li outlined efforts to strengthen disaster reduction and control systems, particularly in border regions. Specific initiatives include:

- **Border Region Fire Prevention System:** Cross-border fire management between China and Myanmar, particularly for forest fires.
- **Earthquake Disaster Reduction Cooperation:** Support for emergency response in Laos and Myanmar, including monitoring networks and gas pipeline protection.
- **Policy and Standard Alignment:** Ensuring that Cambodia's equipment and warehouses meet national standards to facilitate cooperation.
- **Infrastructure Development:** Various projects, including the 2020 **Earthquake Monitoring Program in Laos**, meteorological early warning collaborations between Thailand and Malaysia, and the establishment of six water vapor observation stations to support regional weather monitoring.

Furthermore, LMC has extended collaboration with external countries and organizations, such as the United Nations (providing expertise and infrastructure development), and India and Bangladesh (exploring transboundary disaster risks). The adoption of innovative technologies, including remote sensing, big data analysis, and enhanced risk assessment tools, was also emphasized as a means to improve early warning capabilities.

4. Enhancing Disaster Response Capabilities and Future Directions

To further enhance disaster response capabilities, Dr. Li highlighted several key initiatives in the final part:

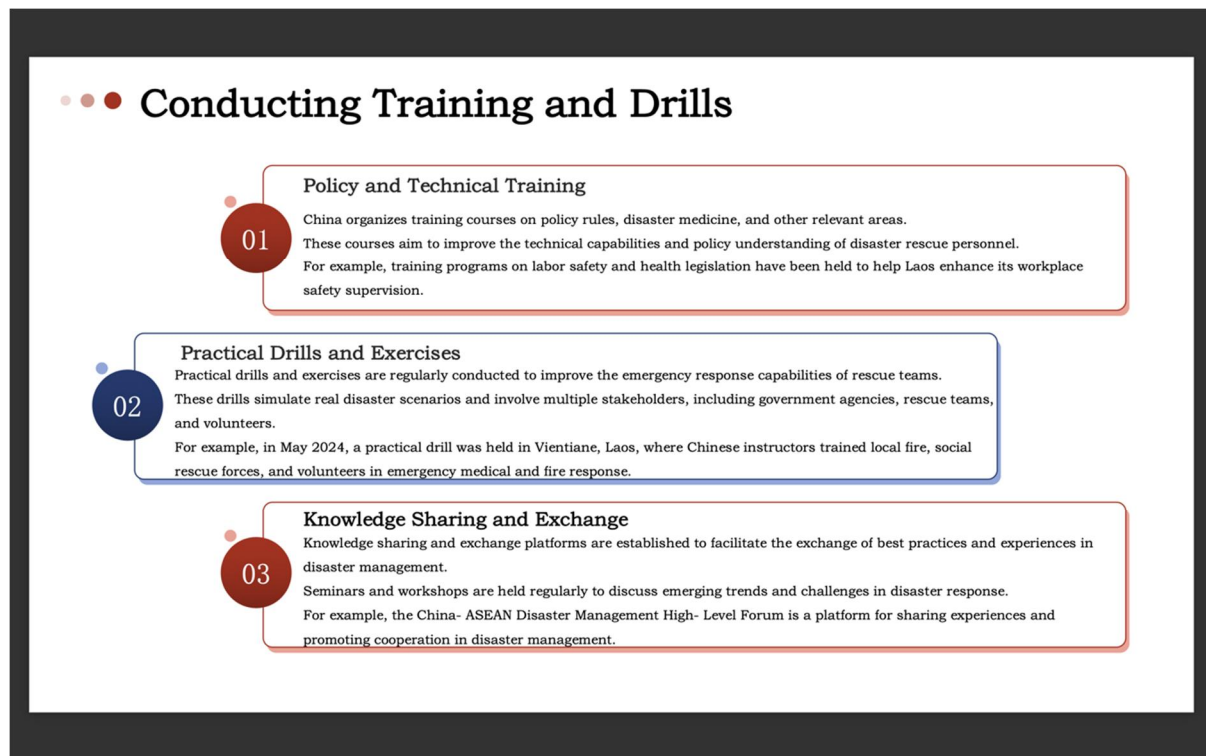


Figure 2-3. Explanation regarding Conducting Training and Drills
(Source: Presentation by Dr. Zhifei Li)

- **Establishing National Response Teams:** China has taken the lead with the **China International Rescue Team (2001)** and the **China Rescue Team (2018)**, both of which have received UN heavy rescue team certifications. These teams provide training courses to other nations.
- **Training and Drills:** Policy and technical training programs, alongside practical exercises, are being conducted regularly. In May 2024, Chinese instructors will provide drill training for LMC partners.
- **Knowledge Sharing and Exchange Platforms:** China-ASEAN disaster management forums, seminars, and workshops continue to play a crucial role in fostering cooperation.
- **Humanitarian Assistance and Rescue Operations:** China has been formulating international rescue plans, establishing intergovernmental mechanisms, and stockpiling emergency equipment. Notable examples include the **Blue Sky Team's operations in Laos (2013)** and China's support for Thailand's flood rescue efforts in 2021.

- **Technical Support for Emergency Response:** China provides remote sensing data, meteorological and hydrological information, and advanced communication and information technologies for disaster rescue operations and command centers.

The presentation concluded by stressing the importance of **data sharing and centralized data management**. The establishment of data centers and the continuous development of technological tools are seen as essential steps in enhancing regional disaster response capabilities. Moving forward, expanding cooperation, increasing resilience, and integrating innovative solutions will be critical for the LMC's disaster management framework.

Panelist 2: Dr. Kenji Nagata, Japanese International Cooperation Agency (JICA)

Dr. Kenji Nagata explored Japan's flood management policy and its implications for water resource management, particularly in the context of the "development first, flood control later" approach. Drawing from historical and contemporary examples, his discussion centered on the challenges of balancing development with disaster risk reduction.

Dr. Nagata began by referencing the September 2024 floods and mutual aid responses at the local level. He highlighted that Japan faces a similar issue—despite heavy investments in flood management, risks persist due to human settlement in flood-prone areas. Case studies from the Chikugo, Yoshino, and Tone rivers demonstrated how urban expansion along riverbanks increases exposure to flood hazards.

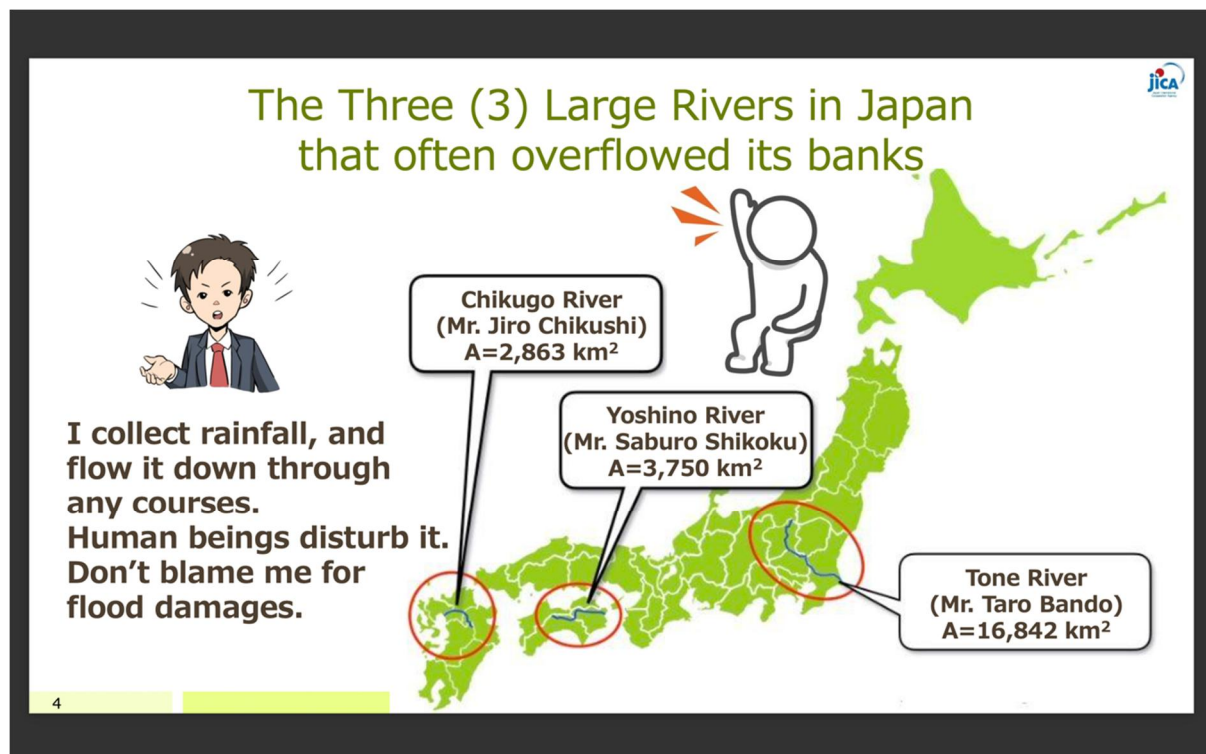


Figure 2-4. Three large rivers with flood risks in Japan
(Source: Presentation by Dr. Kenji Nagata)

He emphasized that flood control measures alone are insufficient if development continues unchecked, calling for a shift in policy and planning.

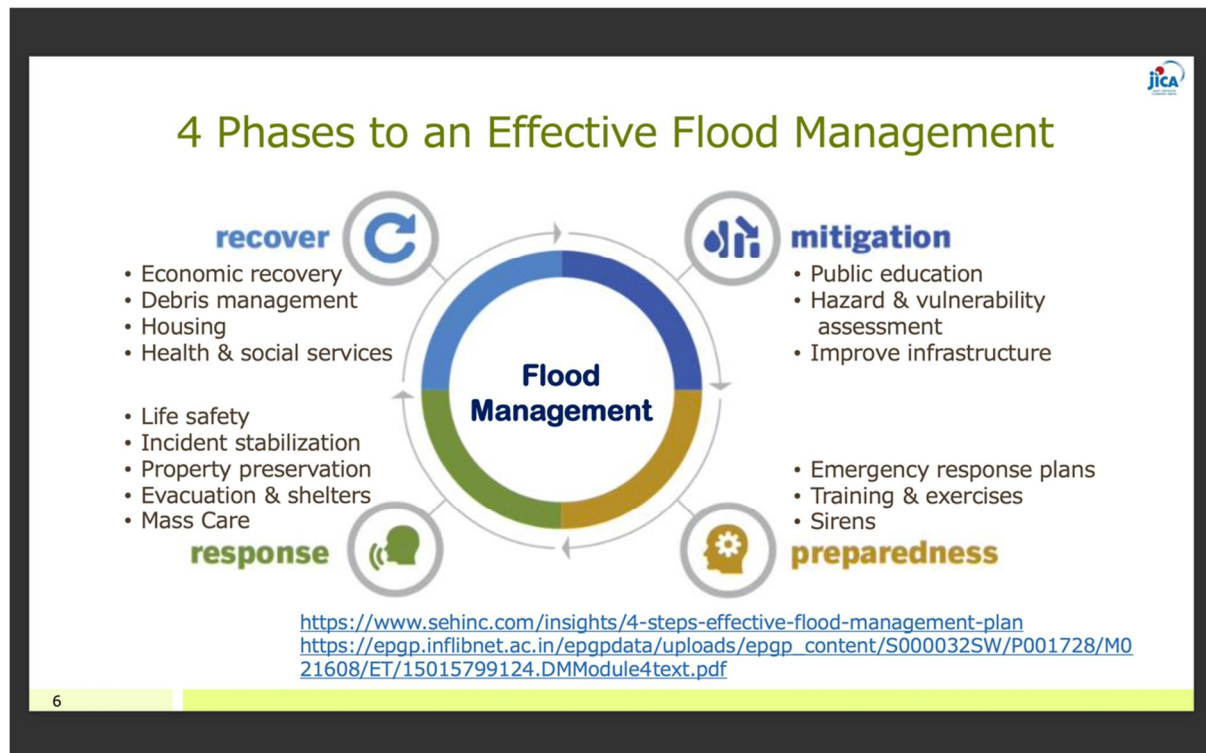


Figure 2-5. 4 Phases to an Effective Flood Management
(Source: Presentation by Dr. Kenji Nagata)

Japan's flood control framework follows a four-phase approach: mitigation, preparedness, response, and recovery. The country has developed extensive structural measures, including dams and flood control centers, alongside tightly managed river flows and floodplain monitoring. However, despite these efforts, urban expansion has continued, leading to persistent vulnerabilities.

A key focus of Dr. Nagata's presentation was Japan's evolving policy toward comprehensive flood management, encapsulated in the concept of *River Basin Disaster Resilience and Sustainability by All (River Basin DRSA)*. This multi-layered, integrated approach involves multiple stakeholders—national and local governments, private enterprises, residents, and water users—working together to enhance flood prevention, exposure reduction, and disaster resilience.

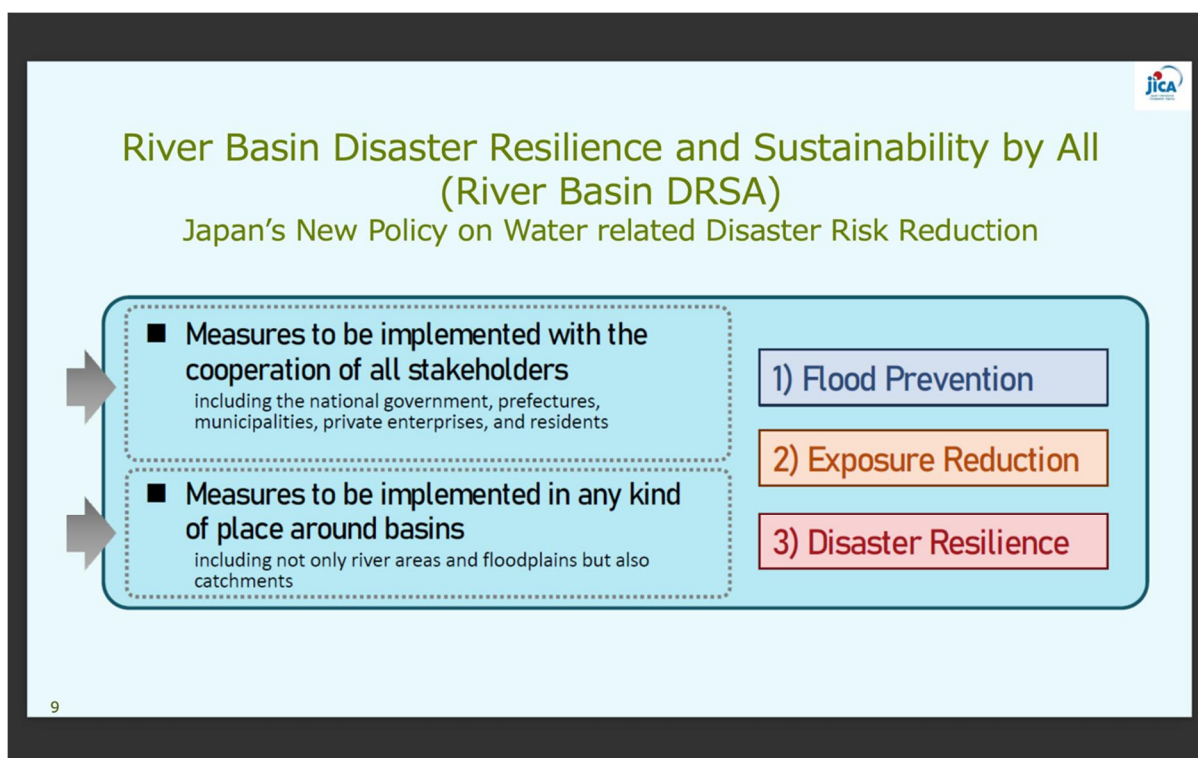


Figure 2-6. River Basin Disaster Resilience and Sustainability by All (River Basin DRSA).
(Source: Presentation by Mr. Khaled Mashfiq)

He stressed the need for integrated water resource management, which includes flood control, water use, and environmental conservation as interconnected elements. Effective land-use planning and social consensus are critical in ensuring sustainable development while mitigating flood risks. Additionally, early warning systems and essential flood control infrastructure remain crucial components of risk reduction strategies.

Dr. Nagata also addressed the significance of transboundary cooperation in river management, particularly concerning the Kok and Mekong rivers. He referenced past discussions with a former Mekong River Commission (MRC) president, emphasizing the importance of compensation mechanisms and future-oriented collaborative efforts. The role of actionable knowledge in sustainable river management was reiterated, linking scientific research with policy implementation.

Concluding with a thought-provoking question, Dr. Nagata challenged the audience and ended his presentation: *Does the development-first approach work? Did you find your answer?*

Panelist 3: Mr. Khaled Mashfiq, Regional Liaison Officer for Asia and the Pacific, UN Satellite Centre (UNOSAT), UNITAR

Mr. Khaled Mashfiq discussed the use of satellite imagery and geospatial technology in the disaster response in his presentation titled “Leveraging Earth Observation and Spatial Technology for Flood Risk Monitoring and Reduction”.

He emphasized the critical role of earth observation and spatial technology in flood risk monitoring and reduction. Reflecting on the discussions from Day 1, he reiterated that *disaster does not discriminate* and underscored the necessity of *collective action* in disaster management.

UNITAR serves as the training arm of the UN, focusing on sustainable development and risk management, while UNOSAT provides satellite imagery and geospatial technology for disaster response and data-driven decision-making. Through rapid emergency mapping and a free 24/7 service, UNOSAT delivers satellite-based assessments within hours. Additionally, it prioritizes capacity development, applied research, and artificial intelligence (AI) for enhanced disaster response.

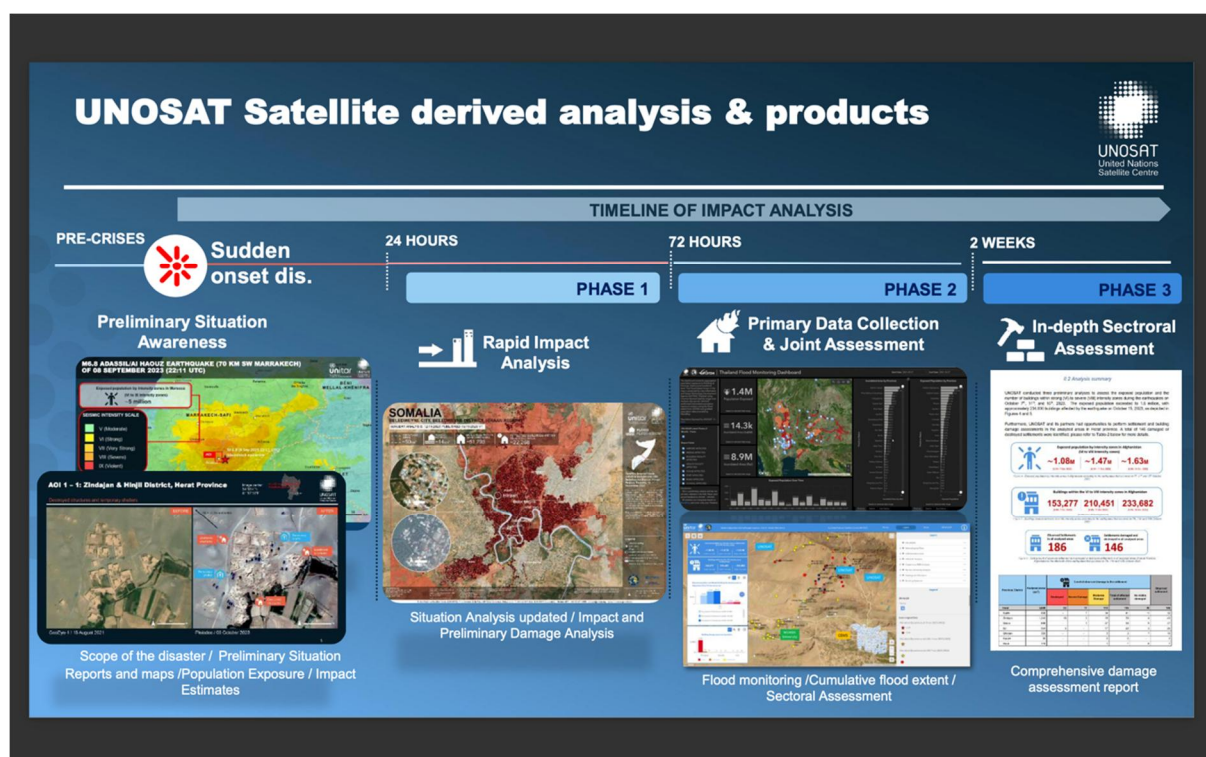


Figure 2-7. Example of UNOSAT services and works
(Source: Presentation by Mr. Khaled Mashfiq)

Mr. Mashfiq highlighted the Asia-Pacific region as a crucial area for flood risk analysis, citing statistics that out of *65 major climate-related disasters recorded recently, 39 were floods*. He also pointed to similar climate-driven disasters in the Arab and African regions.

UNOSAT follows a three-phase approach to flood response—capturing satellite images, conducting assessments, and providing statistical data for local authorities and governments. He referenced his direct involvement in monitoring the *September 2024 floods in Chiang Rai*, where satellite images from September 13 revealed sediment deposits and floodwaters, while those from September 19 still showed water stagnation and mud-covered

areas. Using satellite analysis, property damage assessments were generated within hours, all through open-source tools.

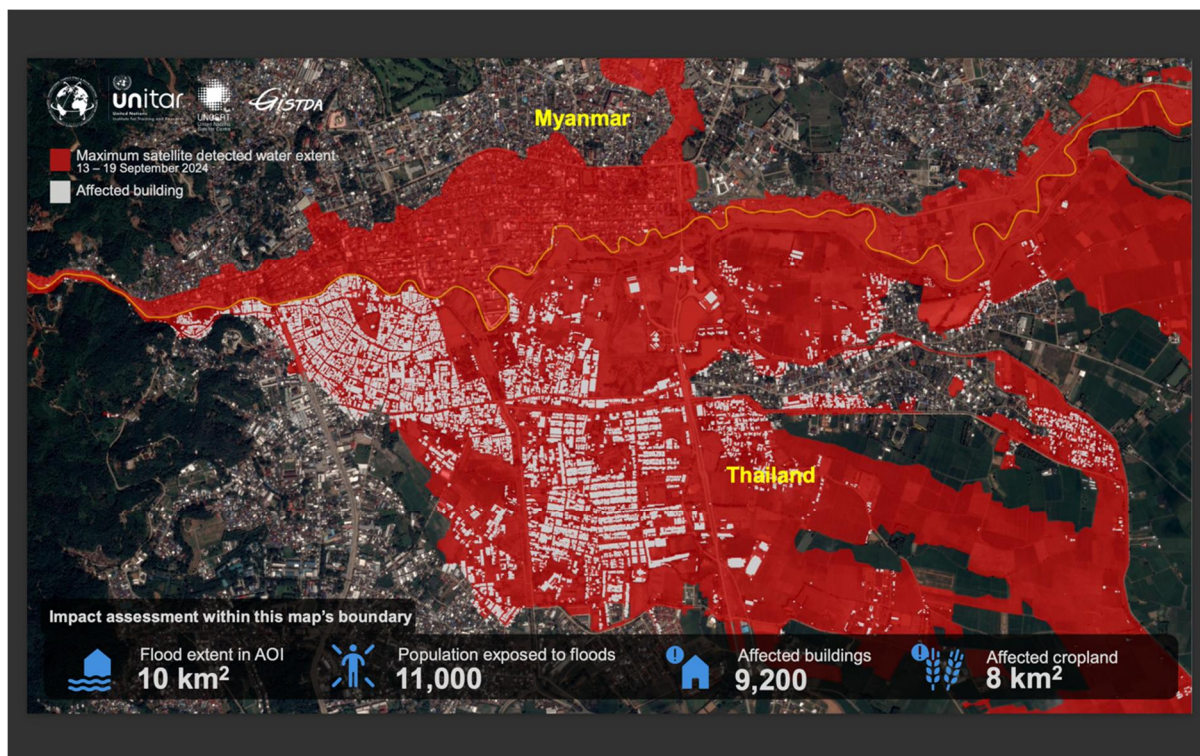


Figure 2-8: Example of UNOSAT's technology expertise
(Source: Presentation by Mr. Khaled Mashfiq)

Key capabilities of satellite-based flood monitoring include:

- Identifying flood retention zones and road blockages
- Assessing impacts on critical infrastructure, such as airports
- Calculating affected areas and populations

Mr. Mashfiq emphasized that *GIS (Geographic Information Systems)* can play a vital role in flood mitigation, and *spatial thinking must be integrated into risk management*. He provided an example from *Fiji's coastal flood risks*, demonstrating how geospatial technology can calculate risk spatially through the formula: **Risk = Hazard + Vulnerability + Exposure**

Additionally, historical satellite imagery from 1980 to 2025 enables long-term flood analysis, offering insights into:

- *Landscape changes over time*
- *Newly formed water bodies*
- *Emerging flood risks*

Mr. Mashfiq concluded by discussing **the potential role of the Mekong Dialogues** in supporting evidence-based decision-making for sustainable river basin management.

Q&A

After the discussions with the three panelists, the moderator, Dr. Kenji Otsuka opened the floor for questions from the audience. There were questions from Dr. Lee Lai To and one from an online participant. **All questions are particularly directed toward Dr. Zhifei Li's presentation on LMC.**

1. ***“How do LMC balance infrastructure development and Disaster Response Management (DRM) ? Some infrastructure can enhance the disaster risk. Whether it is from LMC or OBOR, how would they balance it”***

This question from the online participant critically inquires about the LMC and OBOR's balancing strategy on development and disaster management. The participant rightly pointed the potential effects of hydropower dams on the flood risk in the region and asked the question.

Dr. Zhifei Li responded by stating **people's safety is LMC's top priority**. She highlighted ongoing efforts in **mechanism building**, ensuring **all six countries collaborate** on disaster risk management while promoting infrastructure projects. LMC is integrating **high-tech solutions** to enhance **infrastructure safety** and **raise standards** for future developments. China sees LMC as a **core part of its foreign policy**, with continued investments in **institutional frameworks and local livelihoods**. She mentioned again that sustainable infrastructure planning is a core part of **China's three global initiatives** (Global Development, Global Security, and Global Civilization Initiatives).

Regarding **dam development**, Dr. Li noted both **benefits and challenges**. While dams aid **flood control and drought relief**, they also pose risks like **sediment disruption** and **ecological changes**, which LMC is addressing through **policy coordination** and **safety measures**. She expressed confidence that in the next **three years**, LMC will make **significant progress** in balancing development with disaster resilience.

2. ***“To what extent is LMC promoting transparency of dam construction and how it will affect Mekong states?”***
3. ***“What concrete actions were taken by LMC mechanisms in last year's flood ? What are the plans, current or future?”***

Dr. Lee Lai To's questions were directed toward Dr. Zhifei Li regarding LMC, infrastructural developments, and peoples' livelihoods.

In response to concerns over **transparency in dam construction** and its implications for Mekong states, **Dr. Zhifei Li** emphasized that despite international media criticism, *China remains committed to the well-being of local communities and livelihoods*. She asserted that **China actively cooperates with riverine countries** to enhance water management and resource utilization.

China's **development plans** include multiple measures to improve *water use efficiency* across the region. She stressed that the majority of resource cooperation under the **Lancang-Mekong Cooperation (LMC)** framework directly benefits all six member countries.

Highlighting the **shared challenges faced by all Mekong nations over the past 5–10 years**, Dr. Li underscored the **importance of Disaster Risk Management (DRM)** within the LMC since its inception. Looking ahead, China aims to further strengthen **institutional mechanisms** for disaster response, including:

- **Organizing seminars and workshops** to brainstorm and develop coordinated flood management strategies
- **Enhancing regional cooperation** through data sharing and policy dialogue

In addressing **LMC's concrete actions during last year's floods**, Dr. Li pointed to the **expansion of information-sharing platforms**, improved **policy dialogues**, and **technical cooperation on disaster response**. She reaffirmed that LMC will continue to develop **long-term plans** to mitigate flood risks and ensure **sustainable water management** for all member states.

After this Q&A session, the coffee break was commenced.

Key Takeaways from the first three presentations

The following are Key Takeaways from the first three panelists:

1. **Balancing Development and Disaster Risk** – Infrastructure projects, especially dams, can both **mitigate and exacerbate disaster risks**. Effective **policy coordination, high-tech monitoring, and enhanced safety standards** are crucial for sustainable development.
2. **Integrated Flood Management is Essential** – Japan's **River Basin Disaster Resilience and Sustainability by All (DRSA)** framework emphasizes **multi-level governance, early warning systems, and social consensus** to manage flood risks effectively. Lessons from Japan highlight the **importance of land-use planning and regional coordination**.
3. **Leveraging Earth Observation & Spatial Technology** – Satellite imagery and **GIS tools** provide **real-time flood monitoring**, damage assessment, and long-term **risk mapping**. These technologies, used in Chiang Rai and other regions, **enhance disaster response and planning**.

4. **China-ASEAN & LMC's Role in Disaster Resilience** – Regional cooperation mechanisms, such as **LMC and China-ASEAN frameworks**, are **building emergency response capacities** through **data sharing, policy dialogues, and local-level collaborations** to strengthen disaster preparedness.
5. **Science-Driven Decision Making** – **AI-driven flood modeling, multi-criteria decision analysis, and historical satellite data** help policymakers **assess vulnerabilities and allocate resources efficiently**. Future advancements in **disaster risk reduction** will rely on **academic collaboration, citizen science, and frontier technology**.

Panelist 4: Mr. Shreehari Achary, CSO Platform

The afternoon session of Day two of the Mekong Dialogue revolved around the region's vulnerability to climate change and the increasing frequency of natural disasters. The Panelist no.4, Dr. Shreehari Achary's presentation addressed the critical intersection between climate change and disaster risk management. He emphasized that the Mekong region's rapid economic development, coupled with its geographical location, exacerbates the effects of climate-related disasters. He explained that understanding the long-term effects of climate change is essential for implementing effective disaster risk reduction strategies.

All experts in the session noted that natural disasters, particularly floods, droughts, and typhoons, are becoming more unpredictable and severe for Mekong region. Communities and governments must improve their readiness and disaster response mechanisms, focusing on early warning systems, robust infrastructure, and proactive policy measures. The importance of interdisciplinary research was underscored, as climate change and disaster risk management need expertise from diverse fields, including environmental science, economics, and public health.



Figure 2-10. Mr. Achary explains the scientific evidence between climate and rainfall patterns, reporting that in 2024, 15 out of 16 significant floods were caused by climate-enhanced rainfalls

(Source: Presentation by Mr. Shreehari Achary)

His session delved into the ways in which governments, international organizations, and local communities can collaborate to manage disasters more efficiently. Mr. Achary, representing USAID, discussed his organization's long-standing partnerships with various stakeholders in the region, including local governments and NGOs. Mr. Achary presented case studies from previous disaster responses, for example, the aftermath of Typhoon Haiyan, showing the positive impacts of collaboration and the challenges faced during recovery. One important point was the need for a comprehensive, multi-tiered approach to disaster management, which includes both emergency response and long-term recovery plans. Inclusion of local knowledge into these strategies was highlighted as an important factor in their success. Communities in these rural areas must be trained to handle disaster risks and mitigate their effects, empowering citizens to act timely during emergencies.

The speaker, from the ASEAN Disaster Management Center, spoke about the dual threats of climate-induced disasters and public health challenges in the Mekong region. The speaker noted that disasters not only cause immediate destruction but also exacerbate health risks by disrupting sanitation systems and access to healthcare. Spread of diseases such as malaria and dengue fever, especially in flood-prone areas, has become a growing concern. The discussion pointed to the need for integrating public health measures into disaster risk management policies. The health sector must be more involved in preparedness activities, including the development of medical response plans, the establishment of mobile health clinics, and the training of health workers to respond to disaster-induced health crises. The importance of cross-border cooperation was emphasized, since diseases spread quickly across borders during the time of regional disasters.



Mr. Achary highlights the dual threat of climate-induced disasters and public health challenges in the Mekong countries, emphasizing the need of integrated health measures in disaster risk management

Key Takeaways from the Panelist Mr. Achary

Key Takeaways for Mr. Achary's session are as following.

- ☐ The Mekong region is increasingly vulnerable to climate change and natural disasters, worsened by rapid economic development.
- ☐ Effective disaster risk management requires a comprehensive, multi-tiered, and collaborative approach.
- ☐ This approach should:
 - Integrate long-term climate change understanding.
 - Strengthen disaster preparedness and response mechanisms.
 - Emphasize interdisciplinary research.
 - Incorporate public health measures.
- ☐ Foster cooperation among governments, international organizations, and local communities.
- ☐ Value local knowledge to empower communities in disaster mitigation and response.

Panelist 5: Mr. James Borton, Senior Fellows, John Hopkins University

The discussion turned to strategies for enhancing resilience across the Mekong region. Dr. Borton's remarks on USAID's approach to resilience-building highlighted the agency's focus on creating sustainable solutions that not only address the immediate needs of disaster-affected populations but also reduce future vulnerabilities. Dr. Borton spoke of the importance of investing in disaster-resilient infrastructure, such as flood-proof housing, and ensuring that regional development policies account for the increasing risks posed by climate change. Resilience-building efforts must also prioritize the protection of the most vulnerable populations, including marginalized groups in rural areas and informal settlements. Panelists discussed various community-driven initiatives, where locals were trained to build more resilient homes and manage disaster risks in their own neighborhoods. He stressed that resilience is not just about infrastructure but also about creating systems that empower communities to adapt to changing conditions.

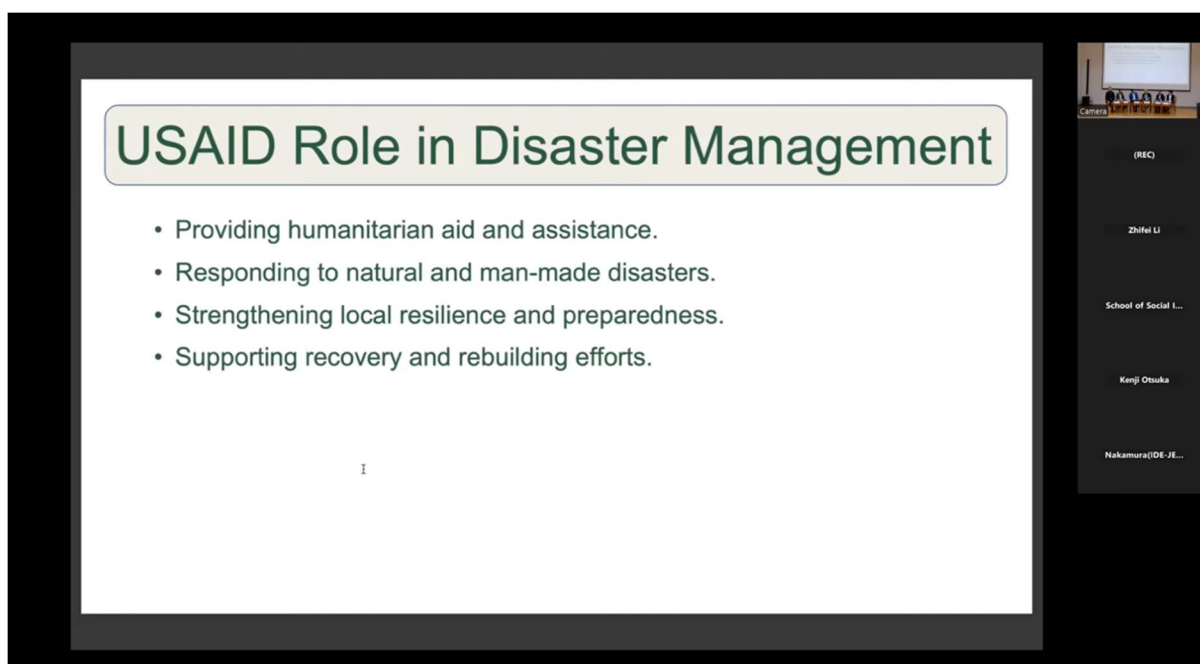


Figure 2-11. Mr. Borton outlined USAID's approach to resilience-building in the Mekong region, emphasizing sustainable solution, disaster-resilient infrastructure, and protection of vulnerable communities through initiatives
(Source: Presentation by Mr. James Borton)

Key Takeaways from the Panelist Mr. Borton Key

Takeaways for Mr. Borton's session are as following.

- USAID's approach to resilience-building in the Mekong region focuses on sustainable solutions.
- Key elements of this approach include:
 - Investing in disaster-resilient infrastructure.
 - Ensuring regional development policies account for climate change risks.
 - Protecting vulnerable populations, including marginalized groups.
- Resilience-building involves:
 - Infrastructure development.
 - Creating systems that empower communities to adapt.
- Regional cooperation and effective policy frameworks, such as ASEAN's AADMER, are essential.
- Governments and international organizations should enhance policy coordination, resource allocation, and the integration of climate adaptation strategies.

This last session of the conference focused on regional cooperation and the policy frameworks essential to tackle the rising challenges of climate change and disaster risks. Dr. Shafik and Dr. Lee discussed ASEAN's role in disaster management, highlighting the effectiveness of regional agreements like the ASEAN Agreement on Disaster Management and Emergency Response (AADMER). These frameworks allow a platform for member states to collaborate on disaster preparedness, share information, and coordinate response efforts.

Panelists also deliberated the role of international organizations, such as the United Nations, in supporting regional initiatives. They stressed that whilst the Mekong region has made significant strides in disaster management, there is still much work to be done related with policy coordination and resource allocation. Governments were pressed to allocate more funding for disaster risk reduction activities and to integrate climate adaptation strategies into national development plans.

Wrap up two days of discussion

Wrap-up session: Prof. Dr. Siriporn Wajjawalku

This wrap-up section for day 2 covers the wrap-up of a two-day discussion on water-related issues in the Mekong region. Prof. Dr. Siriporn from Thammasat University provided the closing remarks, summarizing key lessons learned and suggesting a way forward.

Key Lessons Learned :

Water-Related Disaster: Emphasis was placed on improving emergency response, humanitarian assistance, disaster relief, and early warning systems. The importance of risk reduction, recovery, mitigation, preparedness, and effective decision support systems (DSS) was highlighted. The critical nexus between disaster and development was also noted, emphasizing how mismanagement of development can lead to disasters and vice versa.

Water Resources Management: Governance for fair access to resources and local participation were deemed crucial. The transboundary nature of the Mekong River and the need for international cooperation were underscored, along with the mainstream-tributary connection and the water-food nexus. Constraints in budget, technical skills, communication, and cooperation were acknowledged, while examples of models and good practices like citizen science were mentioned.

Policy to Practice: The discussion stressed the need to move beyond policy discussions to concrete projects for problem-solving.

Way Forward:

Mae Fah Luang University's research team intends to focus on the tributaries of the Mekong River due to the complexities of managing the mainstream, which involves international sovereignty. Their approach will center on:

- Tributaries, water resources management, and governance (including inclusiveness).
- Identifying existing local institutions, actors, stakeholders, and partners.
- Mobilizing resources for future projects.
- Adopting a transdisciplinary approach, integrating knowledge from various fields (including science) to address complex regional issues like communication and coordination.

In conclusion, the wrap-up session summarized the critical discussions over the two days, highlighting key challenges and proposing a focused, collaborative, and transdisciplinary path forward, particularly emphasizing the role of tributary management in the Mekong region.

Future Directions and Challenges

The final panel of the conference on Day 2 provided a future-aiming perspective on the challenges and opportunities ahead for the Mekong region. While many progresses have been made in strengthening disaster response systems and building resilience, the speakers acknowledged that climate change will continue to cause significant risks. Increased political will, funding, and cooperation between the public and private sectors were seen as critical to addressing these challenges.

For example, the panel focused on the importance of integrating disaster risk reduction into national and regional policies. All speakers also stressed the need for enhanced data collection and monitoring systems to ensure that decision-making is based on the most updated information. Moreover, there was also consensus that climate change adaptation ought to be integrated into all sectors, from agriculture to urban planning, to bring a more sustainable and resilient future for the Mekong region.

Closing Remark- Dr. Siriporn

After the wrap-up session led by Dr. Siriporn, she also continued to give everyone closing remarks. The closing session featured remarks that emphasized the core mission of the Mekong Dialogue, conceived as a "track 2.5" initiative to ensure the inclusion of local people, NGOs, and other often-marginalized voices. The primary goal is to foster quality communication that leads to tangible outcomes, building upon the trust and cooperative spirit established with partners and stakeholders. Key priorities include the delivery of policy recommendations and the strengthening of partnerships. Attendees were encouraged to participate in future Mekong Dialogues and a research project session that afternoon, with gratitude expressed to all participants, moderators, and Mae Fah Luang University students for their contributions to the two-day event.

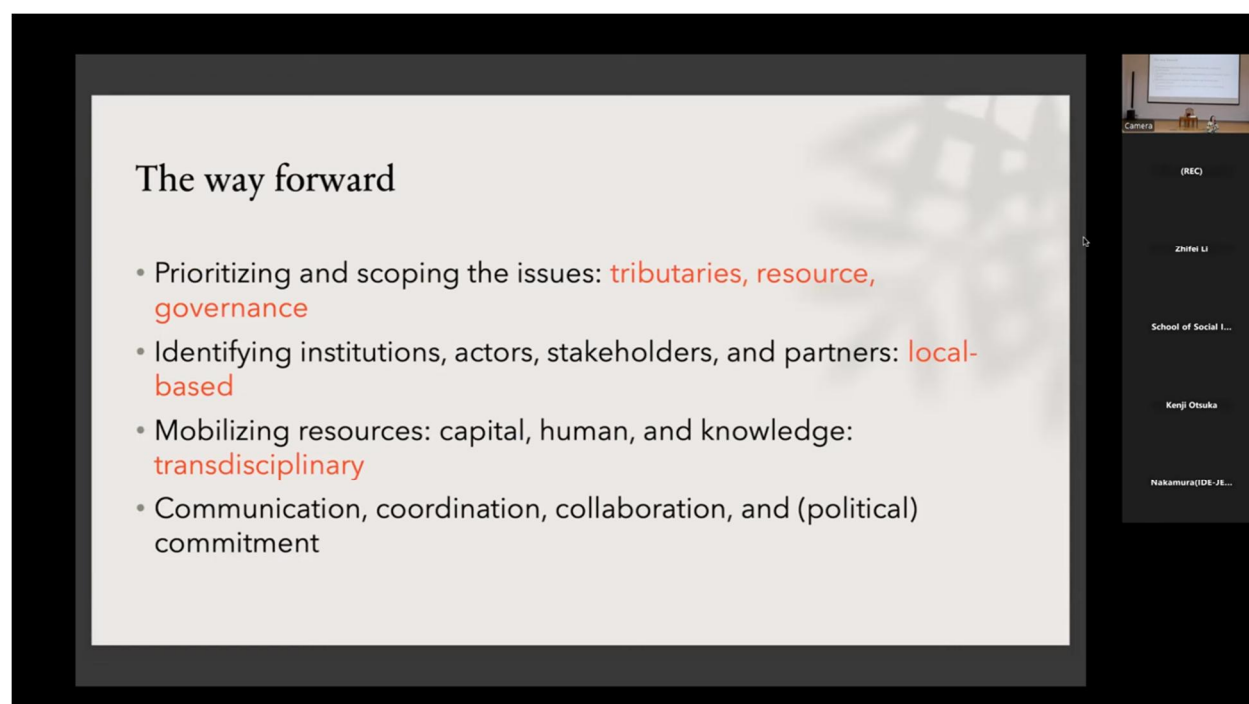


Figure 2-12. Prof. Dr. Siriporn, a co-founder of Mekong Dialogue, highlights the importance of focusing on local perspectives and trans-disciplinarity in research and outlines a future direction for the Mekong Dialogue, indicating a focus to Mekong tributary resources management and governance for future research.

(Source: Presentation by Prof. Dr. Siriporn Wajjwalku)

“Thank You”

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