Water Governance in Cambodia

The Results of the High-Level Policy Dialogue on Water Governance 20 November 2025

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Disclaimer

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Acknowledgements

The Cambodia Development Resource Institute (CDRI) would like to express its deepest appreciation to all institutions and individuals who contributed to the successful organisation of the High-Level Policy Dialogue on Water Governance in Cambodia, held on 20 November 2025 in Phnom Penh. This important dialogue was organised by CDRI in close collaboration with the Ministry of Water Resources and Meteorology (MOWRAM), with generous support from the Australian Government through the Department of Foreign Affairs and Trade (DFAT), under the Ponlok Chomnes Programme (PCII), and the Lancang-Mekong Cooperation (LMC) Special Fund. The dialogue was designed to facilitate knowledge exchange, strengthen multi-stakeholder partnerships, and support evidence-based policy recommendations to improve water governance in Cambodia.

We are deeply honoured that the dialogue was presided over by His Excellency Thor Chetha, Minister of Water Resources and Meteorology, whose leadership and commitment to strengthening Cambodia's water governance provides strategic direction and inspiration. We are also sincerely grateful to His Excellency Derek Yip, Australian Ambassador to Cambodia, for his continued support and for highlighting the importance of collaboration between Cambodia and Australia in advancing climate-resilient water governance. Special appreciation is extended to His Excellency Dr An Pich Hatda, Secretary of State of MOWRAM, for delivering a thoughtful keynote address that emphasised the vital role of water governance in national development, climate resilience, and sustainable resource management.

CDRI also extends its sincere thanks to the distinguished speakers, panellists, and moderators from national ministries, development partners, research institutions, universities, and civil society organisations. Their expert presentations and valuable insights enriched the dialogue and contributed to meaningful discussions on Cambodia's pressing water governance challenges and opportunities. The participation of policymakers, practitioners, and experts from diverse sectors strengthened the quality of deliberations and helped identify practical pathways for improving coordination, data sharing, institutional effectiveness, and ecosystem protection.

We would also like to express our heartfelt appreciation to all participants who attended and actively engaged in the dialogue. Their presence and contributions demonstrated the strong national commitment to addressing water security challenges and promoting sustainable and inclusive water governance. The event brought together key stakeholders and served as a strategic platform for collaboration, knowledge exchange, and collective action toward climate-resilient water management.

Finally, CDRI sincerely thanks MOWRAM, DFAT, LMC Special Fund, development partners, and all stakeholders for their collaboration, support, and dedication. The dialogue was conducted successfully and productively, marking an important milestone in advancing evidence-based policymaking and strengthening partnerships to ensure sustainable and equitable water governance for Cambodia's future.

Credits

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About CDRI

Cambodia Development Resource Institute (CDRI) works to produce independent, objective, and high-quality policy-relevant development research, to maximise its accessibility to policy makers, influencers and stakeholders and to have it affect policy in five interrelated areas: agriculture and rural development, development economics and trade, education and innovation, governance and inclusive society and natural resources and environment.

Our Vision

CDRI is a leading policy research institute in development working to contribute to a peaceful and prosperous future for Cambodia and its region.

Our Mission

CDRI seeks to produce high quality, influential and impactful development knowledge through policy research and capacity development to contribute to the prosperity of Cambodia and its region.

Our Core Values

- Independence, honesty and integrity
- Transparency and accountability to our partners, stakeholders and clients
- Excellence in research quality, research products and policy influencing
- Good governance, sustainability and institutional strengthening
- An inclusive and supportive workplace culture that values each individual's contribution and the well-being of our staff and their professional development
- Service and respect for Cambodia's history, culture and the well-being of its people.

Introduction

Cambodia has abundant water resources in the wet season, primarily sourced from the Mekong River and Tonle Sap Basin (FAO 2021). Despite this wealth of water, only small volume of water is utilised each year, with agriculture accounting for total consumption. However, climate change, hydropower development, and infrastructure projects have significantly altered the hydrological regimes of the Mekong and Tonle Sap systems. These changes have led to more frequent and severe floods during the wet season and prolonged droughts in the dry season, disrupting agriculture, infrastructure, and livelihoods. Cambodia is among the world's most flood-vulnerable nations, ranking fourth globally in flood exposure. About 80 percent of the population living along the Mekong and Tonle Sap floodplains faces recurring flood risks (Chor 2016). Conversely, droughts threaten 30 percent of farmland and contribute to 36 percent of annual crop losses, posing a major challenge to food security. Effective water governance is therefore crucial to ensuring the well-being of both people and their food security.

Cambodia's water governance faces multiple challenges, including centralised sectoral influences, top-down strategies, weak inter-agency coordination, and limited local community engagement (Sithirith et al. 2024). In response, the country has adopted decentralised approaches such as Farmer Water User Communities (FWUCs), Community Fisheries (CFis), and Community Fish Refuges (CFRs) (CEDAC 2009). While FWUCs focus on supply side management of irrigation for water for rice farming, CFis and CFRs depend on water for sustainable fisheries. However, decentralisation is complicated by centralised control: FWUCs are overseen by the Ministry of Water Resources and Meteorology (MOWRAM), while CFis/CFRs fall under the Fishery Administration (FiA) and the Ministry of Agriculture, Forestry, and Fisheries (MAFF). MOWRAM prioritises irrigation management (Sithirith 2017), whereas MAFF integrates water into rice production planning. These conflicting mandates hinder cross-sector coordination, undermining decentralised governance (Nang et al. 2011). Climate change further exacerbates these challenges by threatening water availability for all three systems.

At the regional level, Cambodia's water governance is heavily influenced by transboundary water flows between the Tonle Sap Lake (TSL) and the Mekong River. Current governance frameworks fail to address the multi-scale and multi-level dynamics affecting TSL's water resources. The Mekong River Commission (MRC) assists the Member Countries to manage and use the water in a reasonable and equitable manner and to protect the ecological balance, and to avoid, minimise, and mitigate transboundary harms. In managing their water, the MRC Member Countries have implemented a number of agreed Procedures in order to ensure good water governance, while considering their transboundary commitments enshrined in the 1995 Mekong Agreement (Sithirith 2021). Consequently, TSL's governance is deeply interconnected with water and resource management across the Mekong Basin, operating at regional, national and local scales.

In addition, climate hazards, including droughts, floods, storms and typhoons, damage agriculture and public infrastructure (e.g., schools and health centres). These impacts affect agricultural productivity, livelihoods, public health, education, and water, sanitation and hygiene (WASH) services (UNDP 2022). Despite Cambodia's 2025 goal of universal sustainable WASH coverage (RGC 2011), current access remains inadequate. Only half of urban populations have safely managed drinking water, while safely managed sanitation covers 44.7 percent urban and 34.1 percent rural populations (WHO/UNICEF 2022). Over 25 percent of rural residents rely on untreated water sources. Climate change will worsen existing inequalities, particularly affecting children, the elderly, women, and informal settlement residents, who face increased risks from water scarcity and contamination (UNICEF 2024).

Contributing to improved water governance is one of the key focuses of CDRI's business activities. To support this goal, CDRI is developing a research programme aimed at assisting the government in enhancing water governance in the Mekong and Tonle Sap regions. This programme will establish a research consortium to conduct longitudinal national and regional studies on climate change, green development and trade, and transboundary water governance. Using robust data collection and analysis, the initiative will compile datasets on specific sectors/areas of research to enable regular monitoring. It will also foster continuous stakeholder dialogue to inform policy and practice on critical regional challenges, while promoting discussions on shared cross-border issues.

Given the growing national and regional attention to water security in the Mekong region, CDRI, as part of its Research Programme, organised a High-Level Policy Dialogue on Water Governance in Cambodia.

This policy dialogue seeks to achieve the following key objectives:

- To bring key stakeholders working on water to come together to share and discuss the water security that is of interest to the region and Cambodia.
- To facilitate knowledge exchange and multi-stakeholder discussions on pressing water security challenges affecting the Mekong region and Cambodia.
- To identify strategies and pathways to enhance water security in the Mekong River and Tonle Sap Lake ecosystems.
- To build a sustainable network and institutional platform to support ongoing water policy dialogues, aligned with the government's water governance priorities; and
- Contribute to evidence-based policy recommendations to strengthen water governance and improve service delivery for affected communities.

This in-person policy dialogue with national stakeholders will be conducted primarily in Khmer, with simultaneous English interpretation available. The dialogue will be structured around two main topics of water governance—Water Governance and WASH, each addressing critical aspects contributing to understanding the implications of water security and climate uncertainties on Cambodia's long-term growth, identifying policy and strategy for Cambodia to address these challenges, and supporting government agencies to

respond to the changing water landscapes to achieve a Cambodia's long-term development vision.

The dialogue commenced with opening remarks by HE Thor Chetha, Minister, Ministry of Water Resources and Meteorology (MOWRAM), congratulatory remarks by HE Derek Yip, Australian Ambassador to Cambodia and welcoming remarks by Dr Eng Netra, Executive Director, Cambodia Development Resource Institute, followed by keynote address by HE Dr An Pich Hatda, Secretary of State, MOWRAM and expert presentations and a moderated panel discussion. It was followed by presentations from line ministries on water uses and management, and from stakeholders, and two parallel technical sessions (water governance and WASH).

Through these sessions, participants engaged in substantive discussions on pressing water security issues, evaluating both current interventions and potential policy solutions. The focus was on policies, plans and the roles of different key stakeholders in enhancing water resource management and WASH accessibility. The dialogue concluded with a synthesis of key findings and recommendations, followed by formal closing remarks from a senior government official.

This dialogue serves as a strategic platform for CDRI to engage with key stakeholders in the water sector at both national and regional levels, while also laying the groundwork for CDRI's upcoming research programme on climate change and water governance. The dialogue was expected to produce the following outcomes:

- Establishment of a collaborative network hub connecting scholars and researchers working on water and climate-related issues in the Mekong region;
- Strengthened multi-stakeholder partnerships to enhance coordinated action on water governance challenges;
- Development of collective strategies and policy recommendations to improve water management at local, national, and regional levels; and
- Creation of a sustainable high-level platform for open and engaging dialogue on water security and resilient development.

This dialogue was held in Phnom Penh on 20 November 2025 at the Oakwood Premier Phnom Penh Hotel.

The event brought together 104 influential policymakers and experts from both regional and national levels, including 23 females, representing leading government agencies, development partners, research institutions, universities, and international and non-governmental organisations.

The dialogue was funded by the Ponlok Chomnes Programme (PCII) through The Asia Foundation, with support from the Australian Government. It forms part of an ongoing research and dialogue initiative on water governance implemented by the Cambodia Development Resource Institute (CDRI) under PCII. This broader initiative aims to strengthen evidence-based policymaking and multi-stakeholder collaboration on water governance in Cambodia over the coming year. The Asia Foundation receives funding support from the Department of Foreign Affairs and Trade (DFAT).

Also, part of the funding for the dialogue was provided by the Lancang-Mekong Cooperation (LMC) Special Fund and the Water Diplomacy Project of CDRI.

Welcoming and Opening Remarks

Welcoming Remarks

Dr Eng Netra
Executive Director, Cambodia Development Resource Institute (CDRI)

Excellencies, Ladies and Gentlemen,

His Excellency Thor Chetha, Minister of Water Resources and Meteorology;

His Excellency Derek Yip, Ambassador of Australia to the Kingdom of Cambodia;

Excellencies, Ladies and Gentlemen, distinguished national and international guests, representatives of development partners and civil society organisations.

At the outset, on behalf of the Cambodia Development Resource Institute (CDRI), I would like to extend a warm and heartfelt welcome to all Excellencies, Ladies and Gentlemen, who have kindly taken time from your busy schedules to attend this High-Level Policy Dialogue on Water Governance in the Kingdom of Cambodia.

It is both an honour and a great pleasure for us to welcome all distinguished guests here today. Your presence is a clear reflection of the importance you attach to water governance in Cambodia, and it encourages us greatly in our collective efforts.

At the same time, I would like to express my sincere appreciation to the Ministry of Water Resources and Meteorology (MOWRAM) for its strong support and active engagement in the preparation of this High-Level Policy Dialogue. This collaboration is a meaningful demonstration of the partnership between CDRI and MOWRAM in advancing evidence-ased water governance.

Excellencies, Ladies and Gentlemen,

We have gathered here today with a shared objective: to address pressing challenges facing Cambodia's sustainable development—particularly the need to strengthen water governance in the context of climate uncertainty, population growth, and socio-economic transformation.

As Cambodia's leading independent development policy research institute, CDRI recognises that water is not merely a natural resource, but a complex governance issue. As highlighted in the background concept note, key challenges include:

- Limited coordination and unclear institutional roles in decentralised water resource management;
- Transboundary water governance challenges in the Mekong River Basin and the Tonle Sap system; and
- The urgent demand for climate-resilient water supply and sanitation (WASH) services.

Research evidence consistently shows that many of our challenges are not simply due to physical water scarcity, but rather to gaps in coordination, data and information sharing, and planning processes. Climate change further acts as a risk multiplier, intensifying existing vulnerabilities and disproportionately affecting poor and at-risk populations.

This dialogue represents a critical first step in CDRI's broader research programme aimed at generating robust evidence and longitudinal data to inform the design

and implementation of policies on water governance and climate resilience.

Our objective today is not only to exchange views, but to listen, learn, and build long-term partnerships. The structure of this dialogue has been carefully designed to begin with regional and national perspectives on the Mekong Basin, and then move toward local realities through parallel technical sessions focusing on water governance and water supply and sanitation (WASH).

I sincerely hope that this High-Level Policy Dialogue will not only help to identify challenges, but will also foster collaborative efforts to identify shared solutions.

Excellencies, Ladies and Gentlemen,

This dialogue is organised with the generous support and partnership of the Australian Department of Foreign Affairs and Trade (DFAT) through The Asia Foundation's Ponlok Chomnes Programme, as well as the Lancang–Mekong Cooperation (LMC) Special Fund. Your commitment to promoting the use of data and dialogue for development has been instrumental in making this important initiative possible.

In particular, I would like to extend my deepest appreciation to representatives from relevant ministries and institutions of the Royal Government of Cambodia, development partners, civil society organisations, researchers, and practitioners. Your experiences and expertise are invaluable assets for today's policy discussions.

I firmly believe that today's dialogue will lay a strong foundation for sustainable, evidence-based, and cooperative water governance in Cambodia. I encourage all participants to use this platform to build networks and develop strategies that will ensure water security for the Mekong region as a whole, and for Cambodia in particular.

In closing, I would like to wish all Excellencies, Ladies and Gentlemen a successful and fruitful dialogue, enriched with new insights and shared learning.

Thank you very much.

Congratulatory Remarks

HE Derek Yip
Australian Ambassador to Cambodia

Your Excellency Thor Chetha (*pron. tor che-tah*), Minister of Water Resources and Meteorology

Dr Eng Netra, Executive Director, Cambodia Development Resource Institute

Excellencies and Distinguished Guests

Good morning

I am very pleased to join you at this High-Level Policy Dialogue on Water Governance.

I would like to thank MOWRAM and CDRI for convening today's event, bringing together key stakeholders to address two of our most pressing challenges - water security and climate resilience.

Australia is very pleased to be participating.

We are a steadfast, reliable and trusted partner of Cambodia. We work together on many issues, including water and climate.

Let's start with water:

- Water for drinking
- Water for washing and sanitation and hygiene
- Water for agriculture
- Water for fish and flooded forests and healthy rivers
- Water for the Tonle Sap pulse
- Water that is under the ground
- Water for energy
- Water for navigation
- Water for mining
- Water for industry

All these different types of water uses need to be carefully considered and governed – to the extent possible – with customs and policies and transparent rules that ensure water, for many different needs, is available for the benefit of all Cambodians.

Ladies and Gentlemen,

I am invited here to offer a congratulatory remark and not give a long speech. So, I will not elaborate.

But, it is clear that Water Governance is a huge topic – difficult, yes, but immensely important for both Australia and Cambodia, for present and future generations.

Now, add climate change and the water governance challenges become even bigger – for Australia, for Cambodia and for all of our neighbours.

We need people, like you all, that understand your own area of expertise, but also appreciate the importance of water for families, villages and cities across Cambodia and the wider Mekong region.

We need to be able to prepare for and respond to storms, floods, pollution and droughts that impact Cambodia and its neighbours.

Australia is committed to supporting Cambodia in tackling water and climate change challenges through various mechanisms, including CAPRED, Australian Water Partnership and Ponlok Chomnes.

I can see in today's programme the diversity of people, ministries and organisations who Australia is proud to be partnering with. There are many of you – all important and respected.

However, before ending, I must acknowledge CDRI as a key knowledge partner and commend their efforts to generate policy-relevant research for Cambodia in many areas, over many years.

I would like to also acknowledge the Ministry of Water Resources and Meteorology. We are very pleased to be working closely with you on a variety of tasks that will be discussed in today's programme.

Congratulations to both CDRI and MOWRAM on assembling today's event.

In conclusion, I will be very interested to see what emerges from today, especially in the final session when you discuss ways forward, priorities and your collective visions for collaboration between many Cambodian organisations and with your longstanding development partner friends, such as Australia.

I wish you all good health and a successful day.

Opening Remarks

HE Thor Chetha

Minister, Ministry of Water Resources and Meteorology

Excellency Derek Yip, Ambassador of Australia to the Kingdom of Cambodia,

Excellencies, and Distinguished Representatives of relevant Ministries, Development Partners, Civil Society Organisations, the Private Sector,

Ladies and Gentlemen!

It gives me great pleasure to join you this morning for the High-Level Policy Dialogue on Water Governance and WASH, organised by the Cambodian Development Resource Institute and its partners under the Ponlok Chomnes Programme.

Allow me to thank the Australian Government, The Asia Foundation, and all participating ministries, development partners, and researchers for joining this important exchange of ideas.

Today, I wish to focus on three things: the changes that we see in the Mekong and the Tonle Sap; the role of data and knowledge in guiding policy; and the need for stronger cooperation among all who manage and use water.

For Cambodians, water means rice in the field, fish in the net, and safety for our families. When the flow of water changes, it affects every part of life.

In recent years, the Mekong River Basin has entered a new and uncertain phase. According to the Mekong River Commission's 2023 State of the Basin Report, the dry-season flow in the upper parts of the river has almost doubled, while the wet-season flow has decreased. Water is now arriving at the wrong times, disrupting agriculture, fisheries, and ecosystems that rely on predictable rhythms.

The Tonle Sap Lake, which is the heart of Cambodia's water system, now receives much less reverse flow from the Mekong each year.

The 2023 joint MRC-China study found that the Lake fills with around 11 billion cubic metres less water than it did a decade ago, and that the flood pulse now ends nearly three weeks earlier. That loss equals about 4.4 million Olympic-sized swimming pools of water each year–a striking reminder of how much the Lake has changed. When this happens, fish stocks drop, farmers lose income, and the resilience of our rural communities weakens.

These are not abstract figures. They represent changes that people already feel: the delayed planting, the smaller catch, and the shorter flood season.

These trends remind us that managing water today requires not only infrastructure but also intelligence and cooperation. Cambodia's approach is to move from data to knowledge, and from knowledge to wisdom.

We have many data sources, from MOWRAM's national networks, from the MRC, and from the Lancang-Mekong Cooperation. But data alone is only the beginning. The real challenge is how we use and share it; how it becomes knowledge that informs policy and wisdom that shapes decisions.

That is why dialogue like this is timely. It brings together policymakers, researchers, and community practitioners. It is a space where science can speak to policy, and where policy listens to evidence.

Institutions like CDRI help connect research and decision-making. Their role is vital because policy can only be as strong as the evidence that supports it. For research to inform policy, it must be relevant, understandable, and available when decisions are being made.

We must also guard against the politicisation of science. When facts are shaped to serve particular interests, they stop serving the public good. Trust is hard to earn and easy to lose, and without trust, science loses its power to guide policy. Protecting the integrity of science is, therefore, a shared duty of researchers, of governments, and of partners alike.

Policymakers also have a responsibility to engage with research, to ask for data, and to act on it. Evidence should not stay on paper. It should move into strategies, budgets, and projects that make a difference in people's lives, not on what impact factor a research paper has in a journal.

Evidence does not come only from laboratories or satellites. It also comes from the people who live beside rivers and lakes. Farmers, fishers, and communities already observe and record what they see. If we can support them with simple tools to measure rainfall, water levels, or soil moisture, they can generate local data that complements scientific monitoring. This is how local wisdom becomes citizen science, and how policy becomes more grounded and responsive.

This dialogue complements the Government's Pentagonal Strategy Phase I, which places good governance and public service reform at the centre of national development. Water governance is a clear part of that agenda.

Water connects many ministries, such as Water Resources, Agriculture, Rural Development, Health, Environment, and Planning.

Effective coordination among them is essential to ensure that irrigation, WASH, and water-quality management are addressed as one integrated water agenda.

To help advance this integration, our Ministry, with upcoming support from the Australian Government, will implement the Cambodia Climate Resilient Water Resources Governance Programme. This programme represents a new chapter in how we manage and protect our water resources. It aims to strengthen Cambodia's capacity to plan, allocate, and safeguard water more effectively under changing climate conditions. The programme focuses not only on infrastructure, but also on the systems, policies, and institutional frameworks that make sound water governance possible.

It will also serve as a shared platform for coordination among ministries, development partners, research institutions, and civil society.

Building on existing national plans and regional mechanisms, it seeks to make Cambodia's water management more inclusive, accountable, and climate-resilient. I take this opportunity to invite all stakeholders, representing government agencies, academia, the private sector, and communities, to join hands in this important effort. Your knowledge, experience, and cooperation will be essential in making this initiative practical and beneficial for the people of Cambodia.

At the regional level, the MRC's 2023 Joint Study with China shows that sharing real-time hydrological and dam-operation data can significantly improve our ability to manage droughts and floods. This cooperation offers a practical model of science-based diplomacy, where transparency builds trust and shared data leads to shared safety.

Ladies and Gentlemen,

The task before us is to transform how we generate, interpret, and use knowledge. We need researchers to ask questions that matter for policy, and policymakers to act on the knowledge that science and communities provide.

Cambodia will continue to support this science-policy-society partnership, where data informs decisions, local knowledge adds depth, and institutions work together for the common good.

We need to ensure that every drop of water we manage brings security to our farmers, dignity to our communities, and confidence in our shared future.

I wish this dialogue great success and look forward to the practical ideas that will emerge from your discussions.

Thank you.

Keynote Address

HE Dr An Pich Hatda
Secretary of State, Ministry of Water Resources and Meteorology

Good morning!

Excellency Thor Chetha, Minister of Water Resources and Meteorology,

Excellency Derek Yip, Australian Ambassador to the Kingdom of Cambodia,

Dr Eng Netra, Executive Director of Cambodia Development Resource Institute,

Excellencies, Distinguished Representatives of relevant Ministries, Development Partners, Civil Society Organisations, Private Sector,

Ladies and Gentlemen!

It is a great honour to join you today at this National Policy Dialogue on Water Governance in Cambodia. I am grateful for the opportunity to deliver a keynote address on a subject that touches every aspect of our lives—water. In Cambodia, water is not just a resource. It is a source of life, a driver of development, and a symbol of our cultural heritage. Dating back over 1000 years to the Angkor Wat civilisation, and from the Mekong River to the Tonle Sap Lake, water has shaped our landscapes, our livelihoods, and our identity. Today, we are called to reflect not only on what water has given us—but on how we must govern it to ensure a secure and sustainable future.

It is important, firstly, to understand what good water governance means. The UN's Human Rights Council identifies six key attributes of good governance: transparency, responsibility, accountability, participation, responsiveness, and adherence to the rule of law. The Swedish International Water Institute describes good water governance as "the process of managing water resources and services in an effective, efficient, and inclusive way through policies, laws, and institutions."

Cambodia needs to use a wide range of tools across these principles. Our water challenges are growing more complex. We face seasonal water scarcity in some regions, and many parts of the country face increasingly devastating floods. Pollution from urban runoff, agricultural chemicals, and industrial waste threatens the health of our rivers and lakes. Competing demands for water—from agriculture, hydropower, fisheries, and urban development—are placing increasing pressure on our limited resources. Climate change is amplifying these risks, disrupting rainfall patterns, intensifying droughts, and increasing the frequency of extreme weather events. These are not distant threats. They are realities that are already affecting farmers in many provinces, families in Phnom Penh, and communities along the Mekong.

In this context, good water governance becomes not just an abstract concept, but a national imperative. It is about the scientific evidence base underpinning how decisions are made, who makes them, and how they are implemented. It is about ensuring that water is allocated fairly, used efficiently, and protected for future generations. It is about building systems that are transparent, inclusive, and resilient. Good governance is the foundation of water, energy and food security—without it, even the best infrastructure and technology will fall short of achieving Cambodia's goals.

Excellencies, colleagues, and friends,

To strengthen water governance, we must begin with our institutions and legal frameworks. Today, water management in Cambodia is fragmented across multiple ministries and agencies, each with overlapping mandates and limited coordination. This fragmentation leads to inefficiencies, gaps in enforcement, and

missed opportunities for integrated planning. The revision of Cambodia's raft of water legislation presents a historic opportunity to address these challenges. We must ensure that the new law clearly defines institutional roles, promotes inter-ministerial coordination, and embeds principles of equity, sustainability, and accountability. It must balance the principle of subsidiarity with national strategic perspectives and international water diplomacy. It must empower both national and subnational authorities to act decisively, but reasonably and equitably; it must be backed by adequate resources and capacity-building.

But laws and institutions alone are not enough. Water governance must be inclusive. It must reflect the voices and needs of all stakeholders— especially those who are often marginalised. Women, indigenous communities, smallholder farmers, and youth—these groups are not just passive recipients of water policy. They are active stewards of water resources, with valuable knowledge and experience. We must create platforms for meaningful participation, where communities can engage in decision-making, contribute to monitoring, and hold institutions accountable. Participation must be more than consultation—it must be empowerment.

Let me share an example. In some provinces, community-based water user groups have successfully managed irrigation systems, resolved conflicts, and improved water use efficiency. These models demonstrate the power of local ownership and collective action. But they need support—legal recognition, technical assistance, and financial resources. Scaling up such initiatives can help bridge the gap between national policy and local practice.

Data and technology also play a critical role in modern water governance. We cannot manage what we do not measure. Cambodia must further invest in reliable data systems—from hydrological monitoring to water quality and river health assessments. We must make data accessible to all. Digital tools can enhance transparency, support early warning systems, and enable evidence-based planning. Satellite imagery, Lidar surveys and GIS mapping can help track land use changes and identify areas at risk of

flooding or erosion. Mobile apps can support farmers in optimising irrigation and reducing water waste. Innovation—whether through nature-based solutions, smart infrastructure, or decentralised water treatment—can help us adapt to changing conditions and build resilience.

However, technology must be guided by ethics and equity. We must ensure that digital tools do not exclude those without access to smartphones or internet connectivity. We must protect data privacy and promote open access. And we must prioritise solutions that are appropriate to local contexts and capacities.

Financing is another cornerstone of sustainable water governance. Too often, water governance is undervalued and underfunded. Investing in water is investing in health, food security, economic growth, and climate resilience. National budgets must reflect the strategic importance of water, and development partners must align their support with national priorities. At the same time, we must explore innovative financing mechanisms—such as blended finance, green bonds, and payments for ecosystem services—that can mobilise additional resources and incentivise sustainable practices.

The private sector also has a role to play. Businesses depend on water for production, and they have a responsibility to use it wisely and contribute to its protection. Corporate water stewardship initiatives—such as water audits, pollution control, and watershed restoration—can complement public efforts and create shared value. Public-private Partnerships can play a vital role in expanding access to clean water and sanitation, particularly in underserved communities. They also help alleviate the financial burden on the public sector by supporting the operation and maintenance of irrigation systems.

Finally, we must recognise that Cambodia's water future is intertwined with that of our neighbours. The Mekong River is a shared lifeline, and its governance must be rooted in cooperation, not competition. Transboundary water management requires trust, transparency, and joint planning. Regional platforms—such as the Mekong River Commission and its five Procedures—must be strengthened to promote data sharing, conflict resolution, and coordinated investment. Cambodia must continue to play an active role in regional dialogues, advocating for equitable and sustainable use of shared water resources.

Excellencies, colleagues, and friends,

The path ahead is challenging, but it is also full of promise. Today's dialogue is more than a meeting—it is a milestone. It is an opportunity to chart a bold, inclusive, and forward-looking vision for water governance in Cambodia. Let us commit to reforms that empower institutions, engage communities, harness technology, and mobilise resources. Let us build partnerships—across sectors, across borders, and across generations. Let us ensure that every Cambodian—in every village, every city, and every province—has access to safe, sustainable, and equitable water.

The time for action is now. Let us rise to the challenge with courage, wisdom, and hope. Together, we can build a water-secure Cambodia—for today, and for generations to come.

Thank you for your kind attention.


Plenary Discussion
Navigating Uncertainty: Challenges and Opportunities for Water Governance in A Changing Mekong River for the Region and Cambodia
Moderator
Dr. Mak Sithirith
Scientist and Director, Centre for Natural Resources and Environment, CDRI
Panellists
Mr. Kol Vathana
Director of Technical Support Division of the Mekong River Commission (MRC) Secretariat, Laos PDR
H.E. Hell Tony
Permanent Vice Chairman of the Tonle Sap Authority, MOWRAM
Mr. Koeut Puthvarun
Deputy Director, Department of Water Supply and Sanitation, MOWRAM
Mr. Simon Tilleard
General Manager – International, Alluvium
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Distinguished Trigger Speakers:

Navigating Uncertainty: Challenges and Opportunities for Water Governance in A Changing Mekong River for the Region and Cambodia

1
Dr Mak Sithirith
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Navigating Change: Water Resources Governance in the Mekong Region—Challenges and Opportunities

Mr Kol Vathana
Mekong River Commission Secretariat

The Mekong River is one of the world's most significant transboundary river systems. It is the longest river in Southeast Asia, the 12th longest globally, and ranks among the world's largest rivers in terms of flow and drainage area. Ecologically, it is the second most biodiverse river system and supports the largest inland fisheries in the world. Economically, the Mekong underpins approximately 51 percent of regional rice production, 50 percent of fisheries output, over 10 percent of energy generation, and around one-third of tourism activities across the region. The river system is therefore central to food security, energy security, livelihoods, and economic growth in the Lower Mekong Basin and the wider ASEAN region.

The Mekong's importance extends beyond national borders. Around 40 percent of rice imports within ASEAN are sourced from the Mekong region, and the basin is a major exporter of rice, fish, and energy to regional and global markets. As such, the sustainability of the Mekong is not only a national concern for riparian countries but also a matter of regional economic and food system stability.

Despite its importance, the Mekong River system is undergoing rapid and profound change. Climate model projections indicate that average temperatures across Southeast Asia could increase by approximately 1°C by 2030, with further

increases expected over the century. These changes are already manifesting in greater hydrological variability, including more frequent and intense floods, prolonged droughts, and increasingly unpredictable rainfall patterns.

Between 2011 and 2022, the Mekong Basin experienced more frequent and severe droughts compared to previous decades. Conversely, in 2023–2025, several parts of the basin—particularly Laos, followed by Cambodia and Vietnam—experienced intensified flash floods. These extremes have disrupted river flow regimes, affecting seasonal water availability and timing.

One of the most critical consequences of these changes has been the reduction in reverse flow into the Tonle Sap Lake, Southeast Asia's largest lake and a cornerstone of Cambodia's food and ecological systems. Altered flow regimes have weakened the annual flood pulse that sustains fisheries productivity, floodplain agriculture, and biodiversity.

The presentation highlighted a substantial decline in sediment transport downstream of the Mekong. Between 2009 and 2022, sediment levels decreased by approximately 70 percent at Phnom Penh and 50 percent at Tan Chau. This reduction threatens riverbank stability, floodplain fertility, delta sustainability, and long-term agricultural productivity.

Water quality monitoring indicates that water quality remains "excellent" at 15 out of 22 monitoring sites, demonstrating that basin-wide cooperation and monitoring have yielded positive outcomes in some areas. However, ecological pressures are evident in fisheries. While fish abundance has remained relatively stable in the northern basin and parts of the delta, fish catch and species diversity have declined in the 3S Basin (Sekong, Sesan, Srepok) and the Tonle Sap system, signalling growing ecological stress in critical areas of the basin.

A central message of the presentation is that the Mekong River is “luckier than most international rivers” because it is governed by a formal cooperation framework: the 1995 Mekong Agreement. This Agreement provides a shared platform, guiding principles, procedures, and obligations for the sustainable and equitable use of Mekong water resources among the MRC Member Countries.

The Agreement enables cooperation on water utilisation, data sharing, environmental protection, and dispute avoidance. Under the guiding principle of “One Mekong, One Spirit,” the MRC has consistently promoted collaboration rather than competition among riparian states, encouraging countries to move beyond minimum procedural compliance toward deeper joint action.

One of the MRC’s core actions has been the strengthening of basin-wide monitoring and planning systems. The Commission has expanded hydrological, sediment, water quality, and fisheries monitoring networks, enabling evidence-based assessments of basin conditions and trends. Recent initiatives include the development of integrated dashboards, Flood and Drought Television, a mobile MRC application, and a new Situation Room at the MRC Educational Visitor Centre. These tools aim to improve real-time information sharing, early warning, and transparency for both policymakers and the public.

In parallel, the MRC has pursued proactive regional planning, including the Joint Study Phase 2 with China, which explores cooperative approaches to flow management, data sharing, and joint investments of basin-wide significance. These planning processes are designed to anticipate risks rather than respond only after crises occur.

The presentation highlighted concrete actions taken to address environmental risks associated with hydropower development. These include Joint Action Plans for major projects such as Luang Prabang, Pak Beng, and Pak Lay, aimed at improving dam design, mitigation measures, and environmental impact assessment (EIA) processes. By advising and facilitating improved national EIA procedures and mitigation strategies, the MRC seeks to reduce cumulative impacts on flow regimes, sediment transport, and fisheries while balancing development needs.

Beyond technical and regulatory measures, the MRC has supported direct investments in people-centred outcomes. These include a USD12 million investment in transboundary fisheries and a USD16 million commitment for ecosystems and livelihoods, targeting vulnerable communities affected by hydrological and ecological changes. The MRC has also promoted South–South cooperation, including collaboration with institutions such as the Thailand Institute of Scientific and Technological Research (TISTR), to strengthen regional capacity, innovation, and shared learning.

Despite these efforts, significant challenges remain. Hydrological uncertainty driven by climate change and infrastructure development continues to outpace governance and institutional adaptation. Extreme events are becoming more frequent and severe, testing existing forecasting, coordination, and response mechanisms.

Sediment loss remains a critical unresolved issue, with long-term implications for delta sustainability, floodplain productivity, and coastal resilience. Fisheries declines in ecologically sensitive areas highlight the limits of current mitigation measures and the need for stronger integration of ecosystem considerations into basin planning.

Institutionally, while the 1995 Mekong Agreement provides a strong foundation, implementation depends on political will, trust, and national ownership. Differences in development priorities, data transparency, and technical capacity among riparian states continue to constrain deeper cooperation. Balancing national economic growth with basin-wide sustainability remains a persistent tension.

The presentation articulated a clear vision for the Mekong Basin: a future that is economically prosperous, environmentally sound, and socially just. Achieving this vision requires sustained commitment to three strategic pillars.

First, strengthening planning and monitoring through enhanced data sharing, joint studies, and integrated decision-support systems will remain essential. Second, the MRC must continue to advise and facilitate improved national policies, environmental safeguards, and cooperative infrastructure planning. Third, capacity building and investment in people—particularly communities most affected by hydrological change—must be scaled up.

Central to this way forward is the principle that the MRC must remain strong, relevant, and genuinely owned by its Member Countries. Enhanced cooperation, transparency, and joint investment are critical to navigating uncertainty and ensuring that development in the Meko ng Basin supports long-term resilience, equity, and sustainability for all riparian societies.

Securing Tonle Sap—The Heart of Cambodia: Water Governance Responses to Declining Resources in The Tonle Sap Basin

Mr Hell Tony
The Tonle Sap Authority/MOWRAM

Tonle Sap Lake is the largest freshwater lake in Southeast Asia and the ecological and socio-economic heart of Cambodia. It functions as a unique flood-pulse system, driven by the seasonal reversal of flow between the Mekong River and the Tonle Sap River. During the wet season, water from the Mekong flows into the lake, increasing its surface area and depth; in the dry season, the water drains back into the Mekong, sustaining downstream flows. This dynamic hydrological regime makes Tonle Sap one of the most productive inland fisheries systems in the world and a cornerstone of national food security.

Hydrologically, Tonle Sap receives approximately 53.5 percent of its inflow from the Mekong River, 34 percent from eleven major tributaries, and 12.5 percent from direct rainfall. About 88.5 percent of lake outflow returns to the Mekong, highlighting the lake's deep connectivity with the broader Mekong Basin. This connectivity underpins rice farming, fisheries, floodplain agriculture, biodiversity, and the livelihoods of millions of people living in and around the lake.

Ecologically, the Tonle Sap floodplain supports extraordinary biodiversity, extensive flooded forests, and diverse habitats essential for fish spawning, feeding, and migration. Recognising its global importance, Tonle Sap has been designated a UNESCO Biosphere Reserve, reflecting its role as a living system where ecological integrity, human livelihoods, and sustainable development are inseparable.

Despite its resilience, Tonle Sap is facing unprecedented pressures. The presentation highlighted that changes in Mekong flow regimes, driven by climate change and upstream water infrastructure, are reducing the magnitude, duration, and predictability of the flood pulse. Data presented show a declining annual maximum flood extent and increasingly constrained minimum flood areas between 2011, 2015, and 2025, signalling a structural shift in the lake's hydrology.

Land-use change and unregulated development around the lake have accelerated flooded forest loss, sediment disruption, and habitat degradation. At the same time, water pollution from agriculture, settlements, and industry is degrading water quality and ecosystem health. These environmental pressures intersect with rapid population growth, rising poverty, and increasing competition for land and water resources in the Tonle Sap Basin.

Socio-economically, Tonle Sap supports an estimated 500,000 tonnes of fish catch annually, contributing roughly 10 percent of Cambodia's GDP and serving as a primary protein source for rural households.

However, declining fish stocks, illegal and over-fishing, and loss of breeding habitats are undermining food security and pushing vulnerable communities deeper into poverty.

The Tonle Sap Authority is the central coordinating institution responsible for integrated governance of the Tonle Sap Lake and its basin. TSA brings together multiple national ministries, provincial administrations from eight surrounding provinces, research institutions, and development partners to ensure coherent planning and management across sectors. Its mandate spans water resources, fisheries, environment, land use, disaster risk management, and socio-economic development.

TSA operates through inter-ministerial committees, technical working groups, and advisory platforms that link national policy with sub-national implementation. This structure is critical given the lake's complex governance landscape, where fragmented mandates historically undermined effective management.

A central pillar of TSA's work is the promotion of Integrated Lake Basin Management (ILBM). ILBM provides a holistic framework that integrates hydrology, ecology, livelihoods, land use, and governance. Under this approach, TSA emphasises:

- basin-wide planning rather than sectoral silos,

- coordination between upstream and downstream interventions,
- balancing conservation with socio-economic development, and
- linking national strategies with community-based management systems.

TSA has led efforts on Tonle Sap zoning and land-use planning, defining core conservation zones, buffer zones, and sustainable use areas. These zoning frameworks aim to protect critical flooded forests, fish habitats, and water corridors while guiding settlement, agriculture, and infrastructure development. Maps presented in the slides illustrate zoning boundaries and development pressures, underscoring the importance of spatial planning as a governance tool.

TSA has expanded its role in scientific research, monitoring, and reporting, producing State of the Basin reports, spatial analyses, and environmental assessments. These efforts strengthen the evidence base for policymaking and improve understanding of long-term ecological trends, climate impacts, and socio-economic vulnerabilities in the Tonle Sap system.

The presentation identified several persistent challenges. Governance fragmentation remains a core issue, with overlapping mandates, uneven enforcement, and limited coordination across institutions. Capacity constraints—technical, financial, and human—limit effective monitoring, enforcement, and

community engagement. Environmentally, Tonle Sap faces accelerating climate variability, including floods, droughts, and water-level instability. Flooded forest loss, sediment reduction, and pollution threaten ecosystem resilience. Fisheries are under pressure from illegal practices and declining habitat quality, while water-borne health risks persist due to inadequate WASH services in floating and floodplain communities. Socially, high poverty rates, limited access to basic services, and dependence on natural resources make Tonle Sap communities highly vulnerable to environmental change. Competition for land and water is intensifying, increasing the risk of conflict and inequity.

Despite these challenges, the presentation highlighted significant opportunities. The UNESCO Biosphere Reserve status provides an international platform for conservation-development integration. Growing recognition of Tonle Sap's national and regional importance has strengthened political attention and donor interest.

Institutionally, TSA's expanding mandate and coordination role create opportunities to align land, water, fisheries, and climate policies more effectively. Advances in spatial data, monitoring technologies, and regional cooperation—particularly through Mekong frameworks—offer pathways to improve adaptive management and resilience.

The way forward for Tonle Sap governance centres on strengthening institutional effectiveness, integration, and resilience. The presentation emphasised the need to:

1. Strengthen ILBM implementation, ensuring basin-wide planning that integrates climate change, biodiversity, and livelihoods.
2. Enhance legal and policy enforcement, particularly for land use, fisheries management, and environmental protection.
3. Deepen community-based management, recognising local communities as stewards of the lake and strengthening participation, equity, and accountability.
4. Expand research and knowledge platforms, including the proposed Tonle Sap Knowledge and Research Centre (TSKRC), to support evidence-based decisions.

A recurring message in the presentation is that Tonle Sap's future depends on shared responsibility and long-term commitment. TSA called for stronger collaboration among government agencies, development partners, researchers, civil society, and communities. Investments in capacity building, institutional strengthening, and sustainable financing mechanisms are essential to translate policy into lasting impact.

The long-term vision is for a resilient, productive, and socially just Tonle Sap Lake, where ecological integrity underpins food security, livelihoods, and national development. Achieving this vision requires sustained political will, coordinated governance, and adaptive management in the face of climate and hydrological uncertainty.

Groundwater Resources in Cambodia: Current Status, Challenges, and Strategic Directions for Sustainable Use

Mr Keout Putvarun
Department of Water Supply and Sanitation/MOWRAM

Groundwater plays a critical role in Cambodia's water security, supporting domestic water supply, rural livelihoods, agriculture, irrigation systems, and industrial development. According to the presentation, Cambodia's groundwater resources are estimated at approximately 17,600 million cubic metres, stored within aquifers across the country. To date, 61,707 groundwater wells have been officially recorded and mapped, reflecting the rapid expansion of groundwater use nationwide.

In recent decades, agricultural expansion, urbanisation, and industrial growth have significantly increased groundwater abstraction. Groundwater has become a preferred source due to its reliability during dry seasons and drought periods. However, this growing dependence has placed increasing pressure on aquifers, particularly in densely populated and economically active areas.

At the same time, climate change is exacerbating groundwater stress. Shifts in rainfall patterns and increased climate variability are reducing aquifer recharge rates, limiting the natural replenishment of groundwater reserves. In some regions—especially coastal and low-lying areas—these pressures are already manifesting in declining groundwater levels, land subsidence, and saline intrusion, threatening long-term water security and water quality.

The presentation identified several structural and operational challenges affecting groundwater governance in Cambodia. First, there is limited monitoring and database available for groundwater. Existing observation wells and monitoring systems are insufficient to capture nationwide trends in groundwater levels, quality, and abstraction rates. This constrains evidence-based planning and early detection of over-extraction and contamination risks.

Second, institutional and coordination gaps remain significant. Groundwater use has largely expanded without effective regulatory control, resulting in widespread abstraction but limited management. Groundwater is often under-represented in broader water resources planning, which traditionally prioritises surface water systems.

Third, there are capacity and resource constraints. Cambodia faces shortages of specialised human resources in groundwater-related fields such as hydrogeology,

groundwater modelling, and aquifer management. Financial constraints further limit the expansion of monitoring networks, data systems, and technical studies.

Fourth, the presentation highlighted legal and regulatory gaps. The absence of comprehensive legal instruments and technical standards for groundwater management weakens enforcement, licensing, and protection of aquifers. In addition, limited access to modern technologies and analytical tools hampers effective groundwater assessment and governance.

To address these challenges, the presentation outlined a set of strategic directions for sustainable groundwater use. A key priority is the expansion of groundwater monitoring infrastructure, including the construction of additional observation wells as national budget resources allow. Provinces such as Kampong Thom and Siem Reap were identified as potential priority areas for enhanced monitoring due to growing demand and environmental sensitivity.

The Department has initiated regular groundwater monitoring and data recording, including monthly data collection in provinces such as Prey Veng and Svay Rieng, with plans to expand monitoring coverage to additional provinces. Groundwater mapping and data management are supported through national platforms, including the Cambodia Well Map system.

Institutionally, efforts are underway to finalise a national groundwater management framework, strengthening policy coherence and providing a foundation for regulation, planning, and enforcement. The presentation also emphasised the importance of development partner support in financing monitoring systems, capacity building, and technical assistance.

Capacity development is another central action area. The Department aims to strengthen the skills of existing staff while recruiting additional specialists with expertise in hydrogeology, hydrology, and groundwater modelling, enabling more advanced assessment and management of groundwater resources.

Looking ahead, the presentation underscored that sustainable groundwater governance is essential for Cambodia's long-term water security. Priority actions include increasing national budget allocations to support nationwide groundwater studies, monitoring expansion, and data system development. Strengthening institutional capacity and inter-agency coordination will be critical to integrate groundwater more fully into Integrated Water Resources Management (IWRM) frameworks.

The presentation called for accelerated development and enforcement of legal and regulatory instruments governing groundwater abstraction, protection, and quality management. Improved use of technology and data—combined with stronger collaboration among ministries, sub-national authorities, and development partners—will be key to managing groundwater risks under climate change.

In conclusion, the presentation emphasised that groundwater must be treated as a strategic national resource, not merely an emergency substitute for surface water. Proactive investment in monitoring, governance, and institutional capacity today is essential to ensure that groundwater remains available, safe, and sustainable for both current and future generations in Cambodia.

Safe Operating Space (SOS) for the Mekong: Pathways to Climate Resilient and Sustainable Water Management

Mr Simon Tilleard
Alluvium Group

The presentation situates the Mekong River Basin at a critical turning point, experiencing rapid and unprecedented environmental change. Across the basin, communities face riverbank collapse, flooding, droughts, pollution from mining and industry, and declining agricultural productivity. These impacts are not isolated or accidental but reflect systemic pressures arising from development choices and governance frameworks that prioritise short-term economic gains over long-term ecological limits.

The speaker emphasised that current trade-offs—between hydropower, agriculture, fisheries, and ecosystems—are not inevitable characteristics of the Mekong system, but rather outcomes of planning and governance decisions. Historical narratives of "taming" the Mekong to harness its economic potential continue to shape policy approaches, even as evidence shows that such framings are no longer compatible with climate resilience or sustainability.

The presentation argues that addressing environmental problems in isolation—through project-level mitigation, monitoring, or restoration—will not be sufficient to redirect the Mekong toward a sustainable pathway. Instead, the basin requires a new framing for development, one that recognises biophysical limits and aligns economic and social aspirations within those limits.

To support this shift, the presentation introduces the concept of Planetary Boundaries and Safe Operating Space (SOS). This framework recognises that Earth systems have biophysical thresholds, and that crossing these thresholds increases the risk of irreversible change, ecosystem collapse, and loss of resilience. Applying SOS thinking to the Mekong involves downscaling global ecological limits to river-basin-specific boundaries, including flow regimes, sediment connectivity, fisheries migration, flood-pulse dynamics, and delta stability.

A central focus of the presentation is the Tonle Sap Lake flow reversal, identified as one of the most critical indicators of the Mekong's Safe Operating Space. The Tonle Sap reversal is globally significant: it provides approximately 50 percent of the lake's annual water volume, drives one of the world's most productive inland fisheries, and sustains fertile floodplains that underpin food security in Cambodia and Vietnam.

Evidence presented shows that the Tonle Sap flow reversal has declined by approximately 40–50 percent since the late 1990s, with projections indicating a 64–73 percent decline by 2038 if current trends continue. This decline is driven primarily by riverbed lowering, sediment loss, and altered flow regimes associated with hydropower development, with system-wide consequences including fisheries


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High-Level Policy Dialogue on
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Mr Simon Tilleard

collapse, increased flood risk in the delta, and salinity intrusion.

Within the SOS framework, the Tonle Sap reversal functions as:

- An ecological ceiling, representing the minimum level of reversal required to sustain hydro-ecological functioning;
- A measure of ecological overshoot, indicating how far the system has already moved beyond safe limits; and
- A social foundation, reflecting the ecosystem services that support livelihoods, food security, and regional economies.

Failure to maintain this boundary risks both ecological collapse and deepening social shortfalls. The presentation highlights that the SOS framework offers Cambodia a strategic governance tool rather than a purely scientific concept. By identifying non-negotiable ecological thresholds, SOS can help governments:

- Set clear, shared targets across ministries,
- Focus planning and investment where it matters most,
- Align with ongoing MOWRAM water governance reforms, and
- Strengthen Cambodia's position in regional and transboundary negotiations on Mekong development.

Importantly, SOS reframes governance debates away from individual projects toward system-level risk management, encouraging anticipatory rather than reactive policy responses. It also provides a language for balancing development aspirations with ecological realities in a way that is transparent, measurable, and defensible in regional dialogue.

The presentation concludes with a call for a Mekong Safe Operating Space approach as a constructive and forward-looking pathway for the basin. This approach aims to help countries anticipate systemic risks, safeguard the Tonle Sap and downstream delta systems, and guide water governance reforms toward long-term resilience and sustainability.

Mekong SOS is presented as a growing collaborative initiative, led by organisations committed to sustainability science and planning, including Alluvium, RMIT University, and the Mekong Institute (Can Tho University). The initiative seeks to work with regional partners, including Cambodian institutions, to translate SOS principles into practical planning tools, policy dialogue, and investment guidance.

Overall, the presentation positions the Safe Operating Space framework not as a constraint on development, but as an enabling governance lens—one that ensures the Mekong remains productive, resilient, and socially inclusive for future generations.

Plenary Discussion Q&A:

Question from **Mr Sean Vichet**, WorldFish: Prey Veng Province is one of Cambodia's primary rice-producing provinces, yet it lacks major surface water reservoirs, resulting in heavy reliance on groundwater for irrigation. In this context, what additional guidance or recommendations can the panel provide to support sustainable groundwater management? Specifically, can groundwater supplies be naturally or artificially replenished, and are there observable differences in groundwater levels between flood-prone and non-flooded areas? Furthermore, what mechanisms or regulatory frameworks should be established to effectively monitor, manage, and protect groundwater resources over the long term?

Answers:

- Groundwater recharge depends largely on soil type and local hydrogeological conditions. For example, areas near streams with predominantly alluvial soils often experience lower recharge rates due to limited infiltration capacity. The Ministry of Water Resources and Meteorology (MOWRAM) has established targets and plans to categorise water users, exempting small-scale and domestic users from fees, while commercial and industrial users are required to pay. However, monitoring and reporting remain limited. Currently, data are only available from a few large users, such as Chip Mong, selected beer factories, and several special economic zones in Kamchay Mear and Svay Rieng, indicating gaps in comprehensive groundwater use information.
- No clear intervention yet on the reduction of groundwater. MOWRAM has a project on groundwater, but we still have limited technical…?

Question from **Mr Lam Socheat**, API: (i) In addressing Cambodia's water shortages, which approaches are likely to be most effective and cost-efficient: national-level investments within Cambodia or strengthened regional cooperation with upstream countries such as China, Laos, Thailand, and Vietnam? Given limited public resources, how should the government prioritise its budget between domestic solutions—such as local infrastructure and management reforms—and transboundary or basin-wide initiatives that require regional coordination? (ii) What locally driven or community-based solutions can help alleviate water scarcity without heavy reliance on government funding? Are there successful local practices—such as farmer-led irrigation management, water-saving techniques, or community water-sharing systems—that could be studied, strengthened, and scaled up nationally to complement government-led interventions?

Answer:

- The most effective response depends on the specific context and scale of intervention. There is no single solution that is universally more efficient; rather, national and regional measures should complement each other and be implemented simultaneously. Cambodia's water challenges are shaped by two main types of flooding: (i) seasonal floods originating

from the upper Mekong Basin and (ii) localised flash floods caused by intense rainfall. Because water systems are interconnected across administrative boundaries, actions taken in one province—such as water storage, diversion, or abstraction—can directly affect neighbouring areas. Therefore, water governance must adopt both basin-wide regional cooperation and coordinated national and local management to ensure balanced, equitable, and sustainable outcomes.

- Regarding solutions for Cambodia at the national level, several institutions already play important roles in water governance. The Tonle Sap Authority oversees management and coordination within the Tonle Sap Basin, while the MRC facilitates regional cooperation and coordination of water use among Mekong countries. In addition, the Ministry of Land Management, Urban Planning and Construction contributes by integrating land use planning with water resource management to support more sustainable and coordinated development.

Question from Mr Taing Phanara, Key Consultant, Cambodia – work on water: (i) on groundwater: Does MOWRAM or any entity study subnational or regional groundwater filling? Does any area or province have data on the recharge of groundwater? and (ii) by 2038, the reverse flow to Tonle Sap will decrease significantly. What will happen in 2050? Any solution or model to reduce the impact?

Answer:

- At the moment, no solution for the reverse flow for Tonle Sap Lake (TSL). But the government needs to consider the system's scale and collaborate with other governments in the region.

Question from Dr Seak Sophat, Royal University of Phnom Penh: (i) any groundwater data shared with universities, and (ii) do the relevant ministries work together or have a consolidated plan to address groundwater issues?

Answer:

- A: MOWRAM has worked on the groundwater and used triangle work with the Ministry of Agriculture, the Ministry of Rural Development, and the Ministry of Land Management to improve water governance and cooperation.

Insights or answers from Dr Hatda on the reverse flow to the Tonle Sap Lake. The Tonle Sap's future depends on the reverse flow from the Mekong River, and this depends on two things: (i) the 1995 Mekong Agreement to protect the Tonle Sap's reverse flow and five procedures of the MRC to protect the flows and the reverse flows of TSL. The 1995 MRC Agreement depends on five procedures. However, these procedures have limitations in regulating the flows.

To operate and generate electricity, those hydropower dams collect water and store them to run the turbines. MRC has to coordinate the operations of those cascade dams. But these need commitment from riparian countries that own hydropower dams – to be clear on how much water volume they collect to prevent less water flow to the lower mainstream, and to be clear on how to release water. However, the coordination of these cascade dams and their operations has not been operationalised.

Question: There has been discussion on whether to rehabilitate Tonle Sap or not?. What can we do in place to protect fish? Should we partially rehabilitate the Tonle Sap Basin?

Question: Is the 1995 agreement not legally binding? To enforce the agreement, think about the lower countries and have countries respect each other. What can MRC do to make the agreement legally binding to hold the country that violates the agreement?

Question from Mr Matthew, the World Bank's Consultant: Within the context of forest management and eco-restoration, how could forest management contribute to water governance? Is there an intergovernmental ministry integration to manage forest areas on the watershed of the TSL?

Answers:

- Fisheries: Studies by the Mekong River Commission indicate that fish stocks have declined due to a combination of overfishing, habitat degradation, and changes in natural flow regimes. Altered water levels disrupt migration and breeding cycles, while deforestation and loss of flooded forests reduce critical habitats and nursery areas. Although fisheries remain relatively stable in upstream sections of the Mekong, particularly in Laos and Myanmar, catches have declined significantly in Cambodia's stretch of the river, highlighting growing ecological and management pressures in the lower basin.
- The 1995 Mekong Agreement functions as a foundational legal framework—often described as a "constitution" for regional water governance—supported by five formal procedures and detailed technical guidelines to guide implementation. While the agreement is legally binding in principle, its effectiveness is limited by weak enforcement mechanisms. In practice, there are no formal sanctions or penalties for non-compliance, and accountability relies largely on diplomatic pressure and reputational consequences, such as public scrutiny and "naming and shaming," rather than enforceable legal action.

- The Mekong River Commission serves its member states by facilitating coordination and technical cooperation, rather than directing or governing them. It is not an authority over the Mekong Basin but a platform for collaboration. Its governance structure is led by member countries, with a secretariat that supports the implementation and coordination of agreed actions. Need all state members to agree, not just a few state members.
- Sediment levels are declining across the basin. The construction of dams slows river flows and traps sediment behind reservoirs, reducing the amount transported downstream. As additional dams are developed, sediment delivery is likely to decrease further, affecting river morphology, soil fertility, and aquatic ecosystems.
- Whether rehabilitation of the Tonle Sap Lake should proceed must be guided by careful assessment rather than immediate action. A thorough understanding of the basin's hydrology, ecology, and potential impacts is essential before any intervention is undertaken. Decisions must be grounded in reliable data, scientific knowledge, and evidence. To address current information gaps, the Ministry of Water Resources and Meteorology (MOWRAM) has initiated multiple studies, collaborating with technical partners to assess riverbed conditions and the status of 16 associated lakes, and has requested government budget support to expand this research. Any rehabilitation plan requires a comprehensive analysis of existing ecosystems, including habitats, biodiversity, and food chain dynamics, to ensure that actions protect rather than disrupt the lake's ecological balance and livelihoods.
- Land use change and deforestation are growing challenges at both global and regional scales and represent critical concerns for the Mekong River Basin. These pressures significantly affect hydrology, sediment flows, and ecosystem health. Any strategic planning, including SOS initiatives, must account for these cumulative impacts and actively engage all stakeholders in the discussion and decision-making process.

Technical Parallel Sessions

Technical Parallel Session 1
Water Governance in Cambodia: Challenges and Opportunities

1 **Prof Dr Rath Sethik**
Dean, Faculty of Development Study, Royal University of Phnom Penh

2 **Mr Sok Khim**
Natural Resource Governance Program Manager, Oxfam Cambodia

3 **Mr Sanjiv de Silva**
Senior Regional Researcher, International Water Management Institute (IWMI)

4 **Dr Andrew Wyatt**
Deputy Head, Lower Mekong Subregion, International Union for Conservation of Nature

Strengthening the Engagement of Marginalised Groups in Climate-Resilient Water Governance in the Mekong Region

Mr Sok Khim
Oxfam Cambodia

The presentation underscores that climate change and water stress disproportionately affect marginalised groups—including poor rural households, women, ethnic minorities, floating and floodplain communities, migrants, and informal workers—whose livelihoods depend directly on fragile water and ecosystem systems. In Cambodia, climate-induced floods, droughts, declining fisheries, groundwater stress, and WASH vulnerabilities intersect with poverty, limited political voice, and insecure tenure, reinforcing structural exclusion.

The presentation situates CR-WG as not only a technical challenge but a governance and equity challenge. Without deliberate inclusion of marginalised groups in decision-making, climate and water policies risk reinforcing inequalities, reducing legitimacy, and undermining long-term resilience outcomes.

The presentation focuses on why and how marginalised groups should be meaningfully engaged in climate-resilient water governance frameworks. It highlights that effective engagement requires moving beyond consultation toward participation, representation, and co-production of knowledge.

Key thematic areas include:

- Power and access: Marginalised groups often lack access to information, planning processes, and institutional platforms where water and climate decisions are made.
- Knowledge asymmetries: Local and lived knowledge of climate impacts, seasonal change, and resource use remains under-utilised in formal planning.
- Institutional gaps: Existing governance structures are frequently sector-based and top-down, limiting responsiveness to diverse social realities.
- Intersectionality: Vulnerability is shaped by overlapping factors such as gender, location, livelihood type, migration status, and legal recognition.

The presentation emphasises that strengthening engagement is central to achieving equitable, legitimate, and adaptive water governance under climate uncertainty.

Several challenges constrain the effective engagement of marginalised groups in CR-WG:

1. Structural exclusion – Decision-making spaces at national and sub-national levels are often inaccessible to marginalised communities due to language barriers, costs, legal status, or lack of representation.
2. Weak institutional mechanisms – Limited mandates, resources, and coordination among agencies reduce opportunities for inclusive participation.
3. Capacity constraints – Both communities and institutions may lack skills, information, or facilitation tools to support meaningful engagement.

4. Tokenistic participation – Engagement processes may exist in form but not in substance, with limited influence on actual decisions.
5. Climate and livelihood pressures – Immediate survival needs can prevent marginalised groups from sustained engagement in governance processes.

These challenges highlight the risk that climate-resilient water strategies may fail to reach those most affected if equity is not explicitly addressed.

The presentation identifies several opportunities to strengthen engagement:

- Decentralised governance reforms create space for community-level participation and locally responsive planning.
- Community-based institutions (e.g., water user groups, fisheries committees, women's networks) can serve as entry points for inclusive governance if properly supported.
- Policy dialogue platforms, such as those facilitated by CDRI, offer neutral spaces to connect marginalised voices with policymakers.
- Climate finance and donor programmes increasingly prioritise social inclusion, gender equality, and safeguards, creating leverage for reform.
- Participatory data and citizen science approaches can elevate local knowledge and improve the relevance of planning.

The presentation concludes with a call to embed social inclusion as a core pillar of climate-resilient water governance, rather than treating it as an add-on. Key directions include:

- Institutionalising participation by formalising roles for marginalised groups in planning, monitoring, and evaluation processes.

- Strengthening capacities of both communities and government officials to engage effectively, including facilitation, communication, and conflict-sensitive approaches.
- Improving access to information, ensuring climate and water data are understandable, timely, and locally relevant.
- Aligning policies and investments so that climate resilience programmes deliver tangible benefits to marginalised populations.
- Sustaining dialogue and learning, using iterative platforms to adapt governance arrangements as climate risks evolve.

Overall, the presentation positions inclusive engagement not only as a matter of social justice, but as a prerequisite for effective, resilient, and sustainable water governance in Cambodia.

Integrated Decentralised Food System Governance at the District Level Using Ecosystem Approaches

Mr Sanjiv de Silva
International Water Management Institute (IWMI)

The presentation addresses a central challenge in Cambodia's floodplains: chronic water conflicts arising from competing demands for rice irrigation, fisheries, livestock, and domestic water use. These conflicts are especially pronounced in multifunctional floodplain ecosystems, where water supports multiple food systems, biodiversity, and livelihoods simultaneously. When unmanaged, such conflicts degrade ecosystems, undermine food system productivity, weaken local economies, increase health risks, and erode social cohesion.

The presenters argue that sector-based governance approaches—which treat irrigation, fisheries, and domestic water use separately—are poorly suited to managing these interconnected systems. Effective governance in floodplains, therefore, requires institutional arrangements that match ecological complexity, integrate across sectors, and operate at scales relevant to local resource use.

The presentation introduces Technical Working Groups (TWGs) as a practical institutional solution to address these challenges. TWGs are multi-sector, cross-scale platforms designed to support collaborative management of multi-functional aquatic ecosystems that underpin diverse food systems.

Key features of TWGs include:

- Multi-actor participation, bringing together sectoral agencies, provincial and district authorities, commune representatives, and community-based organisations.
- Cross-scale governance, linking local ecosystem management with district and provincial planning processes.
- Problem-solving orientation, focused on collective analysis of water conflicts and consensus-based decision-making.
- Replicability, providing a model that can be adapted and scaled across districts and floodplain contexts in Cambodia.

Through TWGs, water is treated not as a single-sector input but as a shared resource central to ecosystem integrity, food production, and livelihoods.

The presentation reports several significant outcomes from TWG implementation:

- A shift in governance culture, characterised by increased cross-learning, trust-building, and collaboration among agencies, local authorities, and communities.
- Development of management plans that address key water conflicts through a combination of new infrastructure (supply-side measures) and improved water-use efficiency (demand-side measures).

- Enhanced water security for both ecosystems and people, contributing to improved floodplain productivity and landscape functionality.
- Sustained biodiversity and food systems, supporting fisheries, rice production, and diversified livelihoods in pilot sites.
- Policy alignment, with TWG outcomes directly contributing to national priorities, including Cambodia's Third National Strategy for Food Security and Nutrition (2024–2028), the Pentagonal Strategy (Phase 1), Cambodia's Third Nationally Determined Contribution (NDC 3.0), and the Draft Climate-Resilient Water Resources Governance Roadmap.

Collectively, these outcomes demonstrate that TWGs can translate high-level policy commitments into practical, place-based governance solutions. The success of the TWG approach is attributed to strong and sustained collaboration among a diverse set of partners. These include:

- WorldFish Cambodia and the International Water Management Institute (IWMI), providing technical leadership and research support.
- National institutions such as CARD, IFReDI, and CDRI, ensuring policy coherence and evidence-based engagement.
- Provincial and district authorities in pilot areas (notably Prey Veng, Kampong Thom, Santuk, and Ba Phnom).
- Community-based organisations managing fisheries, irrigation, and other natural resources.

This collaboration has enabled TWGs to function as legitimate and trusted platforms, capable of bridging science, policy, and local practice. Looking ahead to 2026 and beyond, the presentation calls for scaling up TWGs as a nationally relevant

institutional model for integrated ecosystem management and food system resilience. Key priorities include:

- Embedding TWGs within formal planning and governance structures at district and provincial levels.
- Expanding the model to additional floodplain and aquatic ecosystems.
- Strengthening capacity-building and financing mechanisms to sustain long-term operation.
- Inviting new partners to support scaling, innovation, and learning.

The presentation concludes that collaborative institutions such as TWGs are essential for building food systems that are not only productive, but also resilient, equitable, and ecologically sustainable in the face of climate change and growing resource pressures.

Transboundary Groundwater Governance in the Mekong Delta Region

Dr Andrew Wyatt
International Union for Conservation of Nature

The Cambodia–Mekong River Delta Aquifer (CMDA) is a shared transboundary groundwater system between Cambodia and Vietnam that plays a vital role in drinking water supply, agriculture, ecosystem health, and drought resilience. As surface water becomes increasingly variable due to climate change, groundwater has emerged as a critical buffer for water security in both countries. However, unsustainable abstraction, declining recharge, land-use change, and limited cross-border coordination pose growing risks to the long-term viability of this hidden resource.

The CMDA project responds to these challenges by promoting a joint, science-based and cooperative approach to groundwater governance. The initiative recognises that aquifers do not respect political boundaries and therefore require harmonised data, shared institutions, and coordinated management strategies to ensure sustainability across borders and generations.

The CMDA project is structured around five interlinked components, designed to move from diagnosis to action and long-term institutionalisation:

a. Transboundary Diagnostic Analysis (TDA)—This component assesses the current state of the aquifer, including groundwater quantity, quality, recharge, and extraction dynamics. It also analyses groundwater-dependent ecosystems and identifies cause–effect relationships driving aquifer degradation. The outcome is a jointly agreed TDA and a set of Environmental Status Indicators shared by both countries.

b. Pilot Demonstrations—Innovative pilot activities are implemented by relevant agencies—DWRM in Vietnam and GDEP in Cambodia—to test practical groundwater management and utilisation measures. These pilots demonstrate solutions that can be scaled up and inform policy and investment decisions.

c. Transboundary Cooperation Mechanisms—This component focuses on harmonising groundwater monitoring networks and protocols, establishing data exchange mechanisms, and designing a permanent Transboundary Consultation and Coordination Body (TCCB) to sustain cooperation beyond the project lifecycle.

d. Joint Strategies and Action Programmes (SAP)—Building on the TDA, countries jointly develop a Strategic Action Programme (SAP), including a shared long-term vision (20-year horizon), environmental quality targets, and a prioritised 5-year action plan aligned with national policies.

e. Institutional Capacity, Participation, and Gender Mainstreaming—This component strengthens institutional capacity, promotes inclusive participation, integrates gender considerations, and supports monitoring, coordination, and learning, including engagement with GEF IW: LEARN platforms.

The Transboundary Diagnostic Analysis highlights several core challenges affecting the CMDA aquifer:

- Over-abstraction and declining groundwater levels, particularly in intensively used agricultural and urban areas.
- Water quality degradation, including risks from salinity intrusion, pollution, and land-use practices.
- Weak integration of groundwater into IWRM and climate adaptation planning.
- Fragmented institutional arrangements and limited cross-border coordination.
- Insufficient and unharmonised monitoring data, constraining evidence-based decision-making.

These challenges are interconnected and driven by both physical pressures and governance gaps, reinforcing the need for a coordinated transboundary response.

The CMDA Strategic Action Programme is the central policy and implementation instrument of the project. It is defined as a negotiated plan of priority actions, agreed by countries and communities, to protect and sustainably manage the shared aquifer.

SAP Vision (By 2045)

- The CMDA aquifer is safeguarded for people, ecosystems, and the economy.
- Groundwater quantity and quality are protected.
- Shared monitoring, open data, and simple rules link land use and surface water management to aquifer balance.
- Governance is inclusive, climate-resilient, and transparent, delivering tangible benefits in both countries.

Strategic Water Resource Objectives include:

- Ensuring adequate groundwater quantity for drinking water, environmental flows, and drought resilience.
- Maintaining and improving groundwater quality to protect human health and ecosystems.
- Protecting groundwater-dependent ecosystems (GWDEs).
- Promoting equitable allocation of groundwater resources, including gender equity.
- Strengthening data, monitoring, and knowledge exchange through harmonised systems.
- Building institutional frameworks for transboundary governance (IMCs, JTCs, TCCBs).
- Raising awareness and capacity at all levels.

- Integrating groundwater into IWRM and climate adaptation strategies.

The SAP is being developed through a highly participatory process, including:

- Visioning workshops to define the shared 20-year vision and environmental thresholds.
- SAP drafting workshops to prioritise actions, align indicators, and agree on safeguards.
- Annual transboundary aquifer meetings to review data, assess risks, and set priorities.
- Stakeholder and gender consultations embedded at every stage to ensure inclusiveness and legitimacy.

Moving forward, the CMDA project aims to institutionalise cooperation through permanent coordination mechanisms, ensure sustained financing and capacity development, and position groundwater as a central pillar of water security and climate resilience in both Cambodia and Vietnam.

The CMDA presentation demonstrates that transboundary groundwater governance is both feasible and necessary. By combining robust scientific analysis, pilot innovations, inclusive dialogue, and long-term institutional frameworks, the CMDA initiative provides a model for cooperative aquifer management in the Mekong region. Its success will be critical not only for groundwater sustainability, but also for regional resilience, equity, and shared prosperity under climate change.

Discussion: Q&A Session:

Question from MAFF: Mechanism on food security to subnational authorities (province and district): Can we integrate water dialogue to the district level or provincial level to help resolve and discuss the food security?

Answer: We are working to better understand water availability across both systems—in Boeng Sneh, Prey Veng and Boeng Ream, Kampong Thoms, as this provides the essential foundation for sustainable planning and allocation of water resources for rice farming and fisheries. Reliable data are shared with technical subgroups to support integrated decision-making and help balance competing needs, particularly between agriculture and fisheries, where trade-offs are often necessary. At the same time, attention must focus on the demand side by improving water-use efficiency. These subgroups can facilitate the adoption of better farming practices and appropriate technologies at the farm level, helping farmers use water more effectively. Strengthening these collaborative platforms enhances coordination, supports informed decisions, and aligns with our broader vision of creating a more functional, efficient, and sustainable water management system.

Question: During the pilot in these sites, did we think about groundwater management? Did we carefully consider the linkage of toxic chemicals used by farmers in rice farming?

Answer: Within the scope of the project, the aquifer and the surface water are being assessed and modelled. There is a hydrology assessment. That assessment also looks at the water quality issue, involving the arsenic from Vietnam's side, as well as the surface water contamination. How we tackle that issue in the project is still in question. Our partners and we will design? We won't know what the pilot test consists of yet till the quarter of next year.

Question from John Dore: work relationship and possibility of transboundary cooperation between Cambodia and Vietnam, and looking at the ecological issue, and people in a different part of the data: the possibility of these aspects, is it positive to have a delta cooperation without thinking of one country or another?

Answer: We should adopt a more integrated and systematic approach to water management that considers both supply and demand dynamics. This includes clearly understanding the boundaries and interactions between groundwater recharge processes and extraction, so that sustainable limits can be defined and resources managed without exceeding natural replenishment rates. The transboundary cooperation over the groundwater in the Mekong Deta should be prioritized.

Question: Are there lessons or components from Sajiv's project that can inform Andrew's new initiative, rather than developing an entirely new approach from the beginning?

Answer: Yes. With clearly defined roles and the right stakeholders involved, many elements of Sajiv's project can be adapted and scaled up. Its scalable design not only supports improved land and water management but also helps strengthen local capacity and bridge existing technical and skills gaps.


Policy recommendations

Technical Parallel Session 2: Water, Sanitation and Hygiene (WASH) Services at the Grounds

Mr Kim Hor
Country Director,
East Meets West
Cambodia (EMW)

Dr Ang Raksmey
Research Fellow,
Cambodia
Development
Resource Institute
(CDRI)

Mr Michele Paba
Chief of WASH,
Climate and
Environment, UNICEF
Cambodia

Community-Led Climate-Resilient Water Safety Planning (CR-WSP) Development and Implementation

Mr Kim Hor
East Meets West Cambodia (EMW)

Cambodia is highly vulnerable to climate shocks, including floods, droughts, and storms, which increasingly threaten the safety, reliability, and sustainability of rural and small-town water supply systems. These climate risks intersect with weak infrastructure, limited financial resources, and governance gaps, particularly affecting poor and marginalised households.

In response, Cambodia has taken an important policy step by issuing two national Water Safety Plan (WSP) guidelines resilient to climate in May 2023:

- The Ministry of Rural Development (MRD) guideline for commune-level rural water supplies; and
- The Ministry of Industry, Science, Technology and Innovation (MISTI) guideline for clean water services.

The Climate Resilient and Inclusive Water Safety Plan (CRI-WSP) initiative operationalises these guidelines by integrating climate risk assessment and social inclusion into WSP development and implementation, ensuring that water safety planning addresses both climate resilience and equity.

The presentation highlighted that CRI-WSP aims to strengthen water safety planning by:

- Embedding climate risk assessment (flood, drought, extreme weather) into water system risk management;
- Promoting inclusive governance, with particular attention to Gender Equality, Disability and Social Inclusion (GEDSI);
- Enhancing the capacity of local institutions to plan, implement, and monitor water safety measures under climate uncertainty.

CRI-WSP aligns with global best practices, drawing on WHO Water Safety Plan guidance for small community water supplies, while adapting approaches to Cambodia's institutional and socio-economic context.

CRI-WSP was implemented in 11 communes across five provinces, covering both piped and non-piped water systems. The pilots explicitly prioritised poor and vulnerable households, ensuring that climate resilience measures translated into improved access and safety for those most at risk.

A core feature of implementation was inclusive engagement of local governance structures, including:

- Commune Councils and Commune Water Committees (CCWCs),
- District Working Groups (DWGs), and
- Provincial Working Groups (PWGs).

These bodies played active roles in risk identification, planning, infrastructure prioritisation, and monitoring, strengthening ownership and accountability at local levels.

The presentation reported several notable results from CRI-WSP implementation:

- Improved climate resilience: Local actors applied WSPs using a climate risk lens, enabling better anticipation and management of climate-related threats to water safety.
- Strengthened inclusive governance: CCWCs, DWGs, and PWGs actively led planning and monitoring processes, demonstrating that inclusive institutions can effectively manage water safety risks.
- Enhanced equity and access: GEDSI-priority households were explicitly targeted for infrastructure improvements and risk-reduction measures, helping reduce disparities in access to safe water.

These outcomes demonstrate that CRI-WSP can translate national guidelines into practical, locally grounded action that improves both resilience and social outcomes.

The presentation acknowledged several challenges, including limited technical capacity at local levels, resource constraints, and the complexity of integrating climate risks into routine planning. However, these challenges were addressed through:

- Hands-on technical support and coaching,
- Simplified risk assessment tools, and
- Strong facilitation of multi-stakeholder engagement.
- Key lessons highlighted include:
- Climate resilience and inclusion must be integrated from the outset, not treated as add-ons;
- Local governance structures are critical for sustainable WSP implementation;

- National guidelines are effective only when supported by practical tools, capacity building, and inclusive processes.

The presentation concluded that Climate Resilient and Inclusive WSPs provide a practical and scalable approach to strengthening water safety in Cambodia under climate change. By aligning MRD and MISTI climate-resilient WSP guidelines with inclusive governance mechanisms, CRI-WSP contributes to safer water services, stronger local institutions, and more equitable outcomes.

Moving forward, scaling up CRI-WSP will require continued institutional support, financing, and integration into national and sub-national planning systems, ensuring that climate resilience and social inclusion become standard features of water safety planning across Cambodia.

From Guidelines to Action: Strengthening Climate-Resilient Water Safety Planning for Inclusive Water, Sanitation and Hygiene Services in Cambodia

Dr Ang Raksmey
Cambodia Development Resource Institute (CDRI)

The presentation highlights that Cambodia has made notable progress in improving access to water and sanitation, with 88 percent of the population having access to at least basic drinking water and 55.8 percent accessing safely managed sanitation services. However, disparities persist between urban and rural areas. Around 15 percent of rural populations still rely on untreated or contaminated water, and open defecation remains practised, particularly in rural communities. These gaps pose significant public health and equity challenges.

Climate change is intensifying these vulnerabilities. Floods, droughts, and extreme weather events increasingly disrupt WASH infrastructure and service delivery, disproportionately affecting women, children, poor households, and ethnic minorities. In this context, ensuring safe, reliable, and inclusive WASH services requires approaches that integrate climate resilience and social inclusion.

In response, Cambodia introduced Climate-Resilient Water Safety Planning (CR-WSP) guidelines in mid-2023, developed by the Ministry of Rural Development (MRD) and the Ministry of Industry, Science, Technology and Innovation (MISTI). These guidelines adapt the Water Safety Plan framework to address climate risks and provide a national foundation for improving WASH resilience under climate change.

This research aims to assess the adoption and implementation of the newly developed CR-WSP guidelines, and to evaluate their effectiveness in supporting climate-resilient and inclusive WASH services in Cambodia. The study specifically seeks to:

- Support government agencies, civil society organisations, and associations in the adoption of CR-WSP;
- Identify challenges and incentives that influence the development and implementation of WSP;
- Generate evidence to enhance the uptake, effectiveness, and long-term sustainability of CR-WSP in Cambodia.

Given that CR-WSP is at an early stage of national implementation, this research offers timely insights into the translation of policy intentions into practice.

The research was conducted in Kampong Chhnang and Pursat provinces, areas that are frequently exposed to floods and droughts. Multiple communes and sangkats were selected to capture diverse institutional and socio-environmental contexts.

The study was implemented through a multi-institutional partnership involving CDRI, Institute for Sustainable Futures (UTS), East Meets West (EMW), WaterAid Cambodia, and the Cambodian Water Supply Association (CWA), with funding from the Australian Government's Water for Women Fund. A mixed-methods approach was applied, including:

- Key Informant Interviews (KIIs) with government and NGO actors.
- Focus Group Discussions (FGDs) with commune councillors, village leaders, and water operators.
- GEDSI-focused reviews of MRD and MISTI CR-WSP guidelines.
- Observational research of CR-WSP training and implementation processes.

The research identified several positive outcomes from CR-WSP implementation:

- Improved access to clean water through piped systems and household water filters, particularly benefiting poorer households.
- Reduced household water expenditure due to decreased reliance on bottled water.
- Improved sanitation outcomes through the installation of latrines and hygiene facilities.

However, the study also revealed significant challenges:

- Low levels of sustained community participation in WSP processes.
- Limited understanding of the links between climate change and WASH risks.
- Lack of accessible, local-level climate data.
- Logistical constraints and insufficient financial support from government sources.

The research found that long-term capacity building, simplified and accessible training materials, and practical financial support are essential to strengthening CR-WSP implementation at the community level. A key contribution of this presentation is the analysis of Gender Equality, Disability, and Social Inclusion (GEDSI) within the context of CR-WSP. The study identified the following findings:

- Inclusive participation, especially by women, significantly enhances the effectiveness of Water Safety Plans (WSPs) because of their central roles in household water management.
- Targeted support is necessary to ensure that vulnerable groups benefit equitably from improvements in water, sanitation, and hygiene (WASH).

The GEDSI review of national guidelines identified significant gaps. Although the Ministry of Rural Development (MRD) guidelines promote gender balance and incorporate women-focused institutions, they could further enhance mechanisms for community input. In contrast, the Ministry of Industry, Science, Technology, and Innovation (MISTI) guidelines, which address private water operators, do not include explicit provisions for gender and community inclusion.

The presentation concludes that CRI-WSP represents a significant policy innovation for Cambodia's WASH sector, offering a pathway to address climate risks while improving water safety. However, its full potential has yet to be realised.

Key recommendations include:

- Strengthening community engagement and multi-stakeholder partnerships.
- Enhancing local government and community capacity to implement CR-WSP.
- Ensuring meaningful representation of marginalised groups in WSP processes.
- Improving access to reliable climate data for local planning.
- Establishing robust systems to monitor and evaluate CR-WSP effectiveness.

Overall, the presentation emphasises that climate-resilient and inclusive water safety planning is essential to achieving equitable, sustainable, and resilient WASH services in Cambodia under a changing climate.

Strengthening Climate-Resilient and Inclusive WASH Services

Mr Michele Paba
UNICEF Cambodia

The presentation situates Water, Sanitation and Hygiene (WASH) at the intersection of climate change, child wellbeing, and sustainable development in Cambodia. Increasing climate risks—particularly floods, droughts, and storms—are disrupting WASH infrastructure and services, threatening public health, education, and nutrition outcomes, especially for children and vulnerable populations.

Cambodia's progress toward the Sustainable Development Goals (SDGs) on water and sanitation remains uneven, with climate change emerging as a key risk multiplier. Climate shocks damage water supply systems, contaminate drinking water sources, interrupt sanitation services, and increase disease risks. These impacts disproportionately affect children, who are more vulnerable to waterborne diseases, malnutrition, and service disruptions.

Against this backdrop, the presentation emphasises the need to transition from conventional WASH service delivery to Climate-Resilient WASH (CR-WASH) systems that are designed to withstand climate stresses while contributing to long-term community resilience.

Climate-Resilient WASH is defined around three core objectives:

a. Ensuring WASH infrastructure and services are sustainable, safe, and resilient to climate-related risks such as floods, droughts, and extreme weather.

b. Strengthening community resilience, so that WASH systems support adaptation to climate change rather than becoming points of failure during crises.

c. Advancing a low-carbon WASH sector, contributing to national mitigation efforts while improving service reliability.

This framing aligns WASH not only with adaptation priorities but also with broader climate and development agendas, positioning CR-WASH as a strategic investment rather than a purely technical intervention.

The presentation draws on the GWP–UNICEF Strategic Framework for Climate-Resilient WASH, which promotes risk-

informed planning, climate screening of WASH investments, and integration of WASH into national climate strategies.

A key practical solution highlighted is the use of solar-powered water systems as a climate-smart WASH technology. These systems offer:

- Long-term durability and low operating costs, particularly compared to diesel- or grid-dependent systems;
- High suitability for piped networks and private water operators, especially in rural and peri-urban areas;
- Improved resilience during droughts, as solar pumping reduces reliance on fuel supply chains;
- Reduced greenhouse gas emissions, supporting Cambodia's low-carbon development goals.

The presentation also stresses a design principle of "storing water rather than energy," reducing dependence on batteries while increasing operational resilience.

A major focus of the presentation is the integration of WASH into Cambodia's Nationally Determined Contribution (NDC 3.0). WASH is explicitly recognised as both an adaptation and resilience priority, reflecting its central role in public health, livelihoods, and climate vulnerability reduction.

Key figures presented include:

- Total estimated cost for WASH measures in NDC 3.0: USD 1.21 billion.
- Representing 7.4 percent of the total NDC budget (USD 16.32 billion).
- Accounting for 17.9 percent of the total adaptation budget (USD 6.75 billion).

These figures underscore that WASH is one of the largest single adaptation investment areas in Cambodia's climate strategy, highlighting the scale of opportunity—and responsibility—for coordinated action by government, development partners, and service providers.

The presentation concludes that achieving climate-resilient WASH in Cambodia requires systemic change, not isolated projects. Priority directions include:

- Mainstreaming climate risk assessments into all WASH planning and investment decisions;
- Scaling climate-smart technologies, such as solar-powered water systems;
- Strengthening institutional coordination between WASH, water resources, climate, and energy sectors;
- Aligning donor and public investments with NDC 3.0 commitments.
- Ensuring that CR-WASH strategies explicitly prioritise children and vulnerable groups.

Overall, the presentation positions Climate-Resilient WASH as a foundational pillar of Cambodia's climate adaptation strategy, essential for safeguarding child wellbeing, sustaining development gains, and building long-term resilience in the face of increasing climate uncertainty.

Parallel Panel Discussions

Parallel Panel Discussion 1:
Water Governance at A Crossroads: Balancing Water Resources Development and Management Towards Building Climate Resilience and Improved Community Livelihoods

Panel Discussion 1 discusses water governance at the grassroots level by different ministries, focusing on roles and responsibilities and challenges. This Panel is Moderated by **Mr Mak Soeun, Ministry of Agriculture, Forestry and Fisheries (MAFF)** and participated in by various speakers from various ministries.

Dr Mak Soeun
Deputy General Director of the General Directorate of Agriculture, Ministry of Agriculture, Forestry and Fisheries

Dr Heng Kong
Director, Inland Fishery Research and Development Institute (IFReDI), Fishery Administration

Dr Ly Sophanna
Head of Office at the General Directorate of Natural Protected Areas of the Ministry of Environment

Mr Men Mlup Bon
Deputy Director of the Department of Water-Using Farmers' Communities, Ministry of Water Resources and Meteorology

Water Management for Agriculture

Dr Mak Soeun
Ministry of Agriculture, Forestry and Fisheries

Irrigated agriculture. 1.8 families who manage, 1.6 families who farm. 80 percent of the population uses water. Agriculture is important for food security and economic growth. This leads MAFF to create a strategy that ensures we have quality and accessible food to consume, agriculture for local use, and food and agriculture sustainability. Three strategies: (i) implement the agriculture value chain, (ii) manage natural agriculture resources to be sustainable, and (iii) support services (technical human resources to support local and commune to work on agriculture and farm support). Water is used more for rice production. In the wet season, 3.5 million tonnes of rice and agricultural products are produced. 300,000 hectares use water.

Cassava and other fruits still require water that is accessible. People still have limited water for agricultural farming. Pumping and draining water are expensive and difficult for them?

Export rice (4 million tonnes) to 84 countries and 94 countries for other agricultural produce exportation. Rice stocking capacity is up to 6 million tonnes. We sold 5 million tonnes to Vietnam due to limited storage.

Wetland Management

Dr Ly Sophanna
Ministry of Environment

The Tonle Sap is affected by both climate change and human activities. This has led to a declining water flow in the basin and river, causing the once-wet forests to dry out. This further affects the livelihood of fish in the wet forest. This also affects the livelihoods of those who fish. Waste pollutes the water in the basin and river, consequently devastating the fish population. Lack of fish also leads to the decline of birds. So, there are many impacts.

In the wet season, the level of water is now lower than before, although there is a surprising increase in the dry season, which floods the wet season for a long period of time. The solution might sound easy, but in reality, it is difficult to tackle this complex problem. It's better not to overlap to save resources, time and effort. The Ministry of Environment has created a centre and will publish. Economic activities integration in that area: all government and partners' projects also have a component to help create economic activities for local residents, so as to increase their economic livelihoods.

Inland Fishery Management

Dr Heng Kong
Inland Fishery Research and Development Institute (IFReDI)/Fishery Administration

Fishery depends entirely on water governance and management; however, the fisheries sector does not direct the water governance and management. The institute and fishery authorities have done a lot of work to address the impact of…on fisheries and the ecology? Water will flow to the Mekong Basin only in July, which is a bit late. This affects the survival rate of fish. Fisheries have two important areas: (i) the upper part and (ii) the Tonle Sap Basin, which is the largest fish production site in Southeast Asia. Temperature increases impact biodiversity and some types of fish that might soon become extinct. If our capacity is not assured, biodiversity will be doomed. And this in the end depends heavily on better and effective water governance, management and quality of water, which all heavily influence the fisheries and biodiversity in the Tonle Sap basin and Mekong River. The institute has a long-term programme that studies the change of Tonle Mekong to study the change in types and size of fish, fishing scale, as well as community-based studies to compare data with fishermen.

Farmer Water User Community (FWUC)

Mr Men Mlup Bon,
MOWRAM

We have about 7 million tonnes of rice remaining in stock, which is a surplus. If we enhance the technicality of agriculture (seed and technicality). We don't want to expand agricultural produce, especially rice, because it is hard for us to sell. Two sectors are cross-cutting. Climate change – rain is unpredictable, especially two years ago, there was an El Nino phenomenon causing severe drought. But now we face more floods in Banteay Meanchey and even Phnom Penh. To respond, MOWRAM dug large canals with a budget from the Japanese government. We have begun to be more resilient with climate change (flood) – to direct the flood out of Phnom Penh. To prevent water usage competition amongst water users, save water usage and utilise water resources like rain.

Q&A Session:

Question from Dr Netra: Are there practical lessons or experiences from existing initiatives that we can share to help address the water governance challenges discussed?

Question from World Bank representatives: What proven solutions or approaches can be scaled up to strengthen water management outcomes?

Response:

- The Ministry of Environment (MOE) has implemented several promising local practices, including supporting rice-farming communities through clear management guidelines and criteria for sustainable resource use. While safeguarding water resources is essential, it must also balance the needs of communities who depend on water for livelihoods. Competing demands between households living within river basins and those outside who rely on irrigation for agriculture often create conflicts. These challenges extend beyond national boundaries, as upstream development affects downstream availability in Cambodia. Therefore, Cambodia must strengthen advocacy and cooperation with upstream countries to establish clearer allocation rules and ensure adequate water flows are maintained for downstream users.

- Three key ministries—MOE, MOWRAM, and MAFF—collaborate on the management and development of major water basins. Water governance currently focuses primarily on the Tonle Sap and the Mekong systems; however, a more comprehensive and coordinated policy framework is needed. A joint water governance policy should extend beyond these main basins to address smaller rivers, tributaries, and other water sources, ensuring integrated and nationwide management.

Parallel Panel Discussion 2: Strengthening Climate-Resilient and Inclusive Wash Services

The second panel discussion focused on the implementation of climate-resilient and inclusive Water, Sanitation, and Hygiene (WASH) services at the community level. Moderated by **Mr Hor Khykeng, Team Leader of the Rural Water and Sanitation Team (RWST)**, the session brought together government representatives, non-government organisations (NGOs), and sector experts to explore practical approaches, challenges, and solutions for ensuring that WASH services are both inclusive and resilient to climate change.

Mr Hor Khykeng
Team Leader, Rural Water and Sanitation Team (RWST)

HE Chreay Pom
General Director, Technical Affairs, Ministry of Rural Development

Michele Paba
Chief of WASH, Climate and Environment, UNICEF Cambodia

Mr Sou Sokkung
Head of Programmes, WaterAid Cambodia

Ms Khorn Vicheka
Area Program Manager, World Vision Cambodia

Climate Change as a Present Reality: The panel emphasised that climate change is already affecting WASH services, with increased rainfall variability and extreme weather events disproportionately impacting vulnerable communities. Discussions highlighted the need for context-specific adaptation strategies.

Inclusion of Vulnerable Groups: Participants stressed the importance of leaving no one behind, particularly women, children, persons with disabilities (PWD), and remote communities. Despite progress in national WASH coverage, gaps remain in reaching these groups due to geographic, economic, and social barriers.

Financing and Investment: Significant investment is required to extend WASH services to hard-to-reach populations. Michele Paba noted that approximately 30 percent of capital investment is needed to ensure access for vulnerable groups. The discussion highlighted the roles of climate financing, private sector engagement, and community-led models in mobilising resources.

Community-Led and Context-Specific Solutions: Several panellists, including Mr Sou Sokkung (WaterAid Cambodia), advocated for community-driven approaches that are tailored to local conditions. Income-generating activities and livelihood linkages were identified as key to sustaining community participation and ownership.

Policy and Implementation Gaps: HE Chreay Pom acknowledged the government's efforts in policy formulation but noted challenges in implementation, especially concerning floating communities and other marginalised groups. The need for updated action plans that integrate resilience and inclusion was emphasised.

Technological and Innovative Approaches: Examples such as solar-powered water pumping and flood-resistant latrines were discussed as viable solutions for enhancing climate resilience. Michele Paba highlighted the cost-effectiveness and reliability of solar energy in remote areas.

- High costs of reaching remote and vulnerable communities
- Lack of meaningful participation of marginalised groups in decision-making
- Fragmented coordination among stakeholders
- Insufficient financing mechanisms for climate-resilient WASH infrastructure
- Need for stronger integration of WASH into education and other sectors

Recommendations and Action Points:

- **Strengthen Local Governance:** Enhance the role of communes and districts in planning and financing WASH programmes.
- **Promote Inclusive Participation:** Move beyond token inclusion to meaningful engagement of vulnerable groups in design and decision-making.
- **Leverage Partnerships:** Foster collaboration between government, NGOs, private sector, and communities to pool resources and expertise.
- **Focus on Sanitation:** Prioritise sanitation as a critical component of climate-resilient WASH systems.
- **Develop Targeted Guidelines:** Create and disseminate practical guidelines for climate-resilient and inclusive WASH implementation.

The panel concluded that achieving climate-resilient and inclusive WASH services requires a concerted effort across sectors, with an emphasis on locally adapted solutions, sustained financing, and genuine inclusion of vulnerable populations. The call to action centred on moving from policy to practice, ensuring that WASH remains a central—not secondary—component of national development and climate adaptation strategies.

Roundtable Discussion on the Way Forward: Priority and Vision for Collaboration

The Roundtable Discussion discussed the way forward for improving water governance from government ministries, development partners, funders, and civil society. The discussion was moderated by **Dr Eng Netra**, and it was participated by various speakers including;

1 **Dr John Dore**
DFAT Lead Specialist, Climate Resilience and Water Security, Climate Diplomacy and Development Finance Division

2 **Prof Dr Rath Sethik**
Director of the Policy Analysis and Development Division, Royal University of Phnom Penh

3 **Dr Mak Soeun**
Deputy General Director of the General Directorate of Agriculture, Ministry of Agriculture, Forestry and Fisheries (MAFF)

4 **HE Serei Bandith**
Under Secretary of State

5 **Ms Sim Socheata**
Mekong Regional Program Manager, Oxfam Cambodia

6 **Dr Eng Netra**
Executive Director, Cambodia Development Resource Institute (CDRI)

7 **Mr Chan Virak**
Senior Water Resources Management Specialist, World Bank
(Online)

8 **Mr Lance Gore**
Principal Water Resources Specialist, Asian Development Bank Headquarter
(Online)

The moderator asked each speaker to speak about their work in relation to water governance and how they addressed water governance issues. This section summarises the discussion. We receive inputs from all panellists on what water reform governance should look like and the priorities requested by the Minister of MOWRAM in the opening speech. Seven speakers from different institutions and government agencies served as panellists: Oxfam, ADB, the World Bank, DFAT, MOWRAM, MAFF, and NCDD/MOI. Each panellist was asked a question from the moderator to discuss the roles of their institutions in relation to water governance, their programmes and funding. We started first with Oxfam, and then, MOWRAM, MAFF, NCDD, ADB and World Bank, as they were online, and ended up in DFAT:

1. Ms Sim Socheata, Oxfam Cambodia:

Based on our experience, one of the most important aspects is an engagement mechanism for all various key participants/ stakeholders to participate meaningfully, for them to be able to access information and have the opportunities to understand technical information. How to facilitate a process where difficult information can be greatly understood by many.

2. HE Serei Bandith, MOWRAM:

From MOWRAM's view, we see beyond the water. We don't focus just on 5 or ten years. Our ministry's priorities are how the water…? can help the government achieve its 2050 vision. We create a roadmap for water governance with the principle of inclusiveness. We work together with line ministries and include GEDSI. Last year, the government approved MOWRAM to initiate an idea to draft the roadmap for water governance (Water Resilience Governance). We created one roadmap for one country and worked together under one umbrella. The key is coordination between ministers and ministers, NGOs and development partners (DPs).

3. Dr Mak Soeun, MAFF:

We need to review water governance regulations to see how they guide us to better manage water. Second, it is about the mechanism for deciding whether to create a platform. Right now, we have a national mechanism, not yet at a subnational level. People have yet to understand how much water they need. We also need all key stakeholders to participate, especially academia and think tanks, which could help us work on how to efficiently manage and govern water and additionally to raise awareness of water governance (through social media).

4. HE Chey Sambathphalla, NCDDS:

We must carefully think and plan to better govern water, to ensure everyone can benefit from the water resources. It is best to give more budget and resources to local authorities so that they can manage and govern water in their areas/districts. Local

communities should come together to think and plan on water usage, for example, when community A needs the water and for which area, and when for others.

5. Mr Lance Gore, ADB Headquarters:
As a DP, we just want to readdress that we support the government – that is our priority. Everyone should speak with one voice and altogether prepare a roadmap for the whole country. Cambodia does have a good modern policy and legislation. The necessary part is the implementation to make sure it is well-resourced and well-coordinated. Supporting decision-making is critical. Make the information collective and well-documented for decision-making. Like a database, a modern tool for forecasting and warnings on disasters. We should have a careful plan to respond to extreme events like floods or droughts. Make sure everyone involved knows their roles and responsibilities so that they can be better off. We must ensure all agencies are well-resourced so that they can perform their role. We should invest in a hydro system?, technology and infrastructure for future needs, invest in water storage, a flood prevention system, financing to ensure its sustainability and maintain best actional projects to keep the good work alive.

6. Mr Chan Virak, World Bank:
The leadership and ownership part is very important to ensure good water governance. We have to have appropriate integrated policies and regulations, and an actual implementation with the following roadmap. Financing is, of course, important. The gap is in human resources. We can have good policies and a clear roadmap, but without human resources, little can be done. How we implement those depends on skilled human resources to outline those good policies and apply the guidelines. The water sector should focus more on human resources. We need a full set of different skills to help, thereby tackling those issues that interfere with water governance. We should also look back at what has been done in the last 10 and 20 years. Whether we have invested right and what is missing? Should we repeat the same investment or programme, or should we opt for a different approach, programme or investment? We should carefully think about what we really

want to see as an achievement.
We should also avoid duplicative projects among development partners and programme implementers, or among ministries. Don't overload. We should have a proper study (try to find the real problem) before we invest. Make sure all infrastructure is invested in and maintained to better serve this sector. We should lastly invest in soft infrastructure.

7. Dr John Dore, DFAT Lead Specialist, Bangkok Office:

The Roadmap is not exclusive to a good social process; meaningful engagement should not solely be contained in the roadmap but maintained in the continued process of water governance (when it signs off). Second, to remind that the roadmap is relevant to all Cambodians, not just to MOWRAM. Think of who can really be involved in this in the next ten to twenty years. How to encourage people to join the water-related sector is a great question to consider.

Brief keynote speech from each panellist: how are we going to support the government in implementing the roadmap well? Any ideas to share:

- Two parts: (i) As development partners (DPs), we consistently aim to ensure that our support to the government delivers tangible and positive impacts for people on the ground. We want our investments to generate sustainable benefits, including improved water services, livelihoods, and biodiversity protection. Investments must therefore be strategically aligned to produce meaningful and lasting results. All development partners should coordinate through a common platform to collectively and effectively support the government.
- ADB has been highly responsive to national priorities, providing technical assistance, financing, and expertise. We also promote inter-ministerial coordination and meaningful engagement with local communities to strengthen implementation.
- Greater engagement and input are needed in designing policies and the roadmap. Development partners have already provided significant support in this process, and MOWRAM remains open to information sharing and collaboration.
- To implement the roadmap effectively, a dedicated team and sustained technical and financial support are required.
- An inclusive working group is essential, involving key stakeholders, local authorities, and frontline implementers. Adequate resource mobilization is also critical, with academia, think tanks, and NGOs helping facilitate broad participation.
- Australia remains committed to supporting the roadmap and strengthening the water sector.
- NGOs such as Oxfam will actively engage in the roadmap and offer tools to enhance stakeholder participation and inclusivity.
- CDRI stands ready to collaborate closely with MOWRAM and contribute technical support to the roadmap's development and implementation.

Closing Remarks

HE Dr An Pich Hatda
Secretary of State, Ministry of Water Resources and Meteorology

It is a great honour for me to deliver the closing remarks for this year's High-Level Policy Dialogue on Water Governance in Cambodia.

First of all, I would like to express my deep appreciation to all participants—from line ministries, development partners, civil society organisations, universities, research institutes, and regional and international institutions—for your active participation throughout this full day and for sharing your valuable perspectives on strengthening water governance and climate resilience in Cambodia and the wider region.

Today's dialogue brought together approximately 100 participants from relevant ministries, development partners, academic and research institutions, and non-governmental organisations.

We began by listening to the welcome remarks from the Australian Ambassador to Cambodia, followed by the official opening remarks delivered by HE Thor Chetha, Minister of Water Resources and Meteorology. We then heard the keynote address by HE Dr An Pich Hatda, focusing on water governance. Subsequently, national and international speakers from domestic and overseas institutions presented on the status of water resources in the Mekong River Basin, Tonle Sap Lake, the Mekong Delta, and groundwater, highlighting key challenges and opportunities for improving water governance.

In the afternoon, the forum was divided into two parallel tracks:

1. Water Governance, and
2. Water Supply and Sanitation (WASH).

In these sessions, we listened to presentations by speakers from Oxfam, IWMI/WorldFish, and IUCN, who discussed community and stakeholder engagement in water and groundwater governance. Another session featured presentations from CDRI, EMW, and UNICEF. In addition, we participated in panel discussions with representatives from relevant institutions such as MAFF, MOWRAM, FiA, and NGOs. Finally, we engaged in roundtable discussions with speakers from DFAT, ADB, the World Bank, Oxfam, NCDDS, MOWRAM, and MAFF.

Today's dialogue was highly productive. We learned a great deal from presentations by speakers from line ministries, development partners, and researchers, which reflected the diversity and complexity of Cambodia's water resource ecosystems.

The presentations, discussions, and roundtables further confirmed that water governance in Cambodia faces a set of shared challenges, including:

- Changing Mekong River flow regimes, linked to hydropower development in the Mekong Basin and the impacts of climate change. Mr Kol Vathana from the Mekong River Commission highlighted the uncertainty of Mekong flows, declining water availability, and increasing climate risks.
- Reduced wet-season inflows from the Mekong River into the Tonle Sap Lake, leading to a decline in flooded areas around the lake. HE Hell Tony from the Tonle Sap Authority presented evidence of ecosystem service degradation and the urgent need for governance action to conserve the Tonle Sap ecosystem.
- Strong linkages between Cambodia's wetlands and the Mekong hydrological regime. Declining Mekong inflows into the Tonle Sap have affected wetlands along the Mekong and within the Tonle Sap system. These wetlands face emerging risks due to reduced flows, dam construction, and climate change,

threatening biodiversity and aquatic species and undermining the multiple uses of local communities.

- Impacts on fisheries resources, caused by reduced Mekong–Tonle Sap connectivity, infrastructure development, and climate change. Declining flooded plains around Tonle Sap have reduced fish habitats, affecting fisheries resources and the livelihoods of local communities.
- Growing dependence on water for agriculture and increasing dry-season demand. Farmers are expanding cropping seasons, yet water shortages for rice farming lead to lower yields. Combined with falling rice prices, water scarcity places significant economic pressure on farmers.
- Rising pressure on groundwater, as highlighted by the Ministry of Water Resources and Meteorology, is particularly linked to rural livelihoods. Seasonal hydrological patterns in the Tonle Sap are changing, and groundwater stress is intensifying.

These challenges are not future risks—they are already occurring and directly affecting livelihoods, the economy, and national food security. Their increasing severity clearly indicates that Cambodia's water governance must prioritise the following directions:

a) Ecosystem-Based Water Governance

Water, agriculture, fisheries, natural resources, and ecosystem services in the Mekong, Tonle Sap, and delta systems require strengthened ecosystem-based approaches. Water governance is the foundation of such approaches. Organisations including IWMI, WorldFish, CDRI, and IFReDI have promoted ecosystem-based food and water system management at the district level, with pilots in Prey Veng and Kampong Thom provinces.

b) Community-Level Water Governance

Speakers from Oxfam, IWMI, WorldFish, and IUCN emphasised that sustainable water governance must be grounded in local communities.

- Farmer Water User Communities (FWUCs) require stronger support to ensure equitable and sustainable water distribution through improved irrigation management.
- Local communities and vulnerable groups face significant challenges and require inclusive governance mechanisms.
- Transboundary groundwater between Cambodia and Vietnam requires enhanced cooperation.

c) Strengthening Multi-Sectoral Coordination

- Improved coordination among ministries, particularly MOWRAM, MAFF, MOE, and NCDDS.
- Stronger vertical coordination with sub-national administrations, District Technical Working Groups (DTWGs), and Commune Councils.
- Clearer institutional mandates and improved cross-sector collaboration.

d) Aligning Development Partner Investments with National Priorities

DFAT, ADB, and the World Bank reaffirmed their commitment to supporting:

- National leadership,
- Institutional strengthening, and
- Climate-resilient investments aligned with Cambodia's climate agenda and long-term water security roadmap.

e) Community Participation and Local Institutional Development

Participants recognised that strong governance requires:

- Empowering FWUCs and community fisheries,
- Mechanisms ensuring inclusion of women, youth, and disadvantaged groups, and

- Well-supported district and commune authorities at the frontline of water governance.

f) Immediate Actions and Long-Term Directions

- Short-term priorities: shared data systems, cross-sector coordination, and piloting basin-based solutions.
- Long-term priorities: a national water governance framework, basin–ecosystem planning, and climate-resilient investment pathways.
- Cross-Cutting Messages from the Dialogue
- Climate resilience must be mainstreamed across all sectors.
- Equity and inclusion are essential pathways toward sustainable development.
- Ecosystems are the foundation of water security.
- Strong institutions are critical to managing uncertainty.
- Regional and international cooperation is essential for safeguarding basin-scale, Tonle Sap, and groundwater resources.

Looking Ahead:

Today's forum does not mark an end, but rather the beginning of a shared vision for national water security. CDRI, through the Ponlok Chomnes Programme of the Australian Government and the Lancang–Mekong Cooperation (LMC) Fund, will prepare policy briefs for government agencies and development partners to support future water policy formulation.

The purpose of having a roadmap is to first allow us to have a national assessment of water in Cambodia to help us understand water resource capability in Cambodia, where and how to use those resources. Intervention must be well coordinated.

The policies and regulations are a bit out of date, as they were formulated since 2004. So, we need to revisit those policies and amend them to reflect reality. The capacity of subnational and local people (water users and local communities) is a must. We plan to have an MoU with CDRI to study local users of water and the local communities who consume water. The model from Cavac is also a good example. Work with GIZ also gives good results/models. We should learn from that model to upscale it. MOWRAM has been pushing for public-private partnerships and water governance at the subnational level.

I would like to express my sincere appreciation to:

- MOWRAM for its role as host ministry;
- MAFF, MOE, MRD, and NCDDS for their active engagement;
- DFAT, ADB, the World Bank, Oxfam, IWMI, WorldFish, and IUCN for their valuable support;
- CDRI and The Asia Foundation for organising and facilitating this forum; and
- All participants for your insights, questions, and active contributions.

Excellencies, Ladies and Gentlemen,

Today, we have taken an important step toward restoring and strengthening water governance in Cambodia. The challenges are significant, but so are the opportunities. Our shared commitment, deepened collaboration, and collective knowledge are laying a strong foundation for national water security.

On behalf of the organisers, I once again thank you all and wish you a safe journey home.

Thank you very much.

Conclusion and the Way Forward

The High-Level Policy Dialogue on Water Governance confirmed that Cambodia's water future is defined not by scarcity, but by governance. The country remains endowed with substantial seasonal water resources from the Mekong River, the Tonle Sap Lake, and extensive groundwater reserves. Together, these systems sustain agriculture, inland fisheries, ecosystems, domestic supply, energy production, and rural livelihoods. Yet these natural advantages are increasingly undermined by institutional fragmentation, hydrological instability, ecosystem degradation, and unequal access to services. The Dialogue repeatedly emphasised that without stronger coordination, evidence-based planning, and inclusive governance, Cambodia risks losing the productivity and resilience that have historically supported its development.

Climate change is accelerating these pressures. More frequent floods, prolonged droughts, and unpredictable rainfall are disrupting farming calendars, damaging infrastructure, and threatening food security. Reduced sediment flows and altered river regimes linked to upstream hydropower development are weakening floodplain fertility and fisheries habitats, particularly within the Tonle Sap system. At the same time, groundwater abstraction is rising rapidly with limited monitoring or regulation, while many rural and floating communities continue to lack safe water and sanitation. These converging stresses demonstrate that water challenges are interconnected across sectors—irrigation, fisheries, ecosystems, health, and livelihoods—and cannot be solved through isolated interventions. Sector-based management is no longer adequate for today's complex risks.

Participants also highlighted that governance systems have not kept pace with these changing realities. Responsibilities for irrigation, fisheries, groundwater, environment, and WASH remain dispersed across ministries, often with overlapping mandates and limited coordination. This fragmentation leads to duplicated investments, weak enforcement, and missed opportunities for integrated planning. Although decentralisation reforms have established community-based institutions and local management bodies, many lack authority, financing, and technical capacity. As a result, communities closest to water risks are often least empowered to respond. Strengthening institutions, clarifying roles, and aligning policies across levels of government are therefore fundamental prerequisites for resilience.

At the same time, the Dialogue revealed clear opportunities for reform. Cambodia has an active research community, emerging monitoring systems, engaged development partners, and successful pilot models such as district Technical Working Groups and community-based resource management. These initiatives show that multi-sector coordination, local participation, and evidence-informed planning can improve outcomes. Regional platforms, particularly the Mekong River Commission, offer mechanisms for data sharing and transboundary cooperation that are critical for managing upstream impacts. With the right governance framework, these assets can be scaled to deliver national benefits. Ultimately, the Dialogue affirmed that water governance is not merely about infrastructure or supply expansion. It is about how decisions are made, who participates, and whether policies protect

both ecosystems and people over the long term. Transparency, accountability, participation, responsiveness, and rule of law must guide institutions so that water is allocated fairly, used efficiently, and safeguarded for future generations. By integrating science, strengthening institutions, empowering communities, and deepening cooperation across borders, Cambodia can transform growing water risks into opportunities for sustainable and inclusive development. The path forward requires collective commitment, but the foundation for a water-secure and climate-resilient future is clearly within reach.

Policy Recommendations

Based on the Dialogue's findings, the following priority actions are recommended to strengthen water governance nationwide:

1. Establish Integrated and Coordinated Governance

Cambodia should adopt Integrated Water Resources Management (IWRM) as its national framework, clarify legal mandates across ministries, and empower a lead coordinating body to align irrigation, fisheries, groundwater, environment, and WASH sectors. Joint basin and watershed planning, supported by shared budgets, will improve coordination, efficiency, and sustainable water resource management.

2. Strengthen Data, Science, and Evidence-Based Decision-Making

Cambodia should expand hydrological, sediment, groundwater, and water-quality monitoring networks to strengthen evidence-based water management, while developing interoperable national databases and open data platforms that enable timely information sharing across agencies. Integrating community observations and citizen science can complement technical data, and early warning systems and digital tools should support adaptive, risk-informed decision-making.

3. Protect Ecosystems as Natural Infrastructure

Cambodia should safeguard natural flood pulses, sediment flows, and critical habitats—particularly within the Tonle Sap Lake—to sustain fisheries, agriculture, and ecosystem productivity. This requires restoring flooded forests and wetlands, integrating environmental safeguards into hydropower and infrastructure planning, and promoting nature-based solutions that enhance climate resilience while protecting biodiversity and livelihoods.

4. Empower Decentralised and Inclusive Governance

Cambodia should devolve greater authority, financing, and technical capacity to provincial, district, and community institutions to enable locally responsive water management, while scaling up Technical Working Groups and community-based platforms that coordinate actions across sectors such as water, land, agriculture, fisheries and irrigation. Ensuring meaningful participation of women, indigenous groups, farmers, and fishers, alongside stronger transparency, accountability, and grievance mechanisms, will enhance equity, trust, and effective governance.

5. Regulate and Sustain Groundwater Use

Cambodia should introduce licensing systems and abstraction controls to regulate groundwater use, while protecting recharge zones and strengthening monitoring of aquifer levels to ensure sustainable supply. Groundwater must be fully integrated into national water planning and drought management strategies, supported by expanded hydrogeological expertise and technical capacity to guide evidence-based decision-making. Institutionalisation of groundwater management will ensure the sustainability of groundwater uses.

6. Improve WASH Equity and Climate Resilience

Cambodia should expand access to safe drinking water and sanitation services, particularly in rural and floating communities, while climate-proofing infrastructure to withstand floods and droughts. Integrating WASH planning within broader water governance frameworks will ensure coordinated investments, improve public health, and enhance resilience to climate and environmental risks.

7. Mobilise Financing, Partnerships, and Regional Cooperation

Cambodia should increase national budget allocations to strengthen water governance while leveraging private-sector participation and innovative financing mechanisms to mobilise additional resources. At the same time, stronger transboundary collaboration and real-time data sharing through regional platforms should be promoted, ensuring that donor investments are aligned with national priorities and coordinated effectively.

8. Improve Transboundary Water Governance

Strengthening transboundary water governance in the Mekong River Basin requires deeper cooperation among riparian countries through enhanced data sharing, coordinated dam operations, and joint flood and drought forecasting. Empowering the Mekong River Commission with transparent monitoring and collaborative planning will reduce risks and promote equitable, sustainable water use.

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Annexes

Annexe 1: Speakers, Panellists, and Moderators

Dr Eng Netra
Executive Director, CDRI

Dr Eng Netra has a long and distinguished career in development policy research, specialising in governance and inclusive society, as well as research management and policy influence. Her appointment as Executive Director of CDRI caps a history of managerial and leadership positions over a 15-year research career at CDRI. She began her committed journey with the Institute in 2003 as a research associate in the Policy-Oriented Decentralisation Research Programme.

From 2006-2010 and from 2015-18, Netra was a research fellow and the head of the governance unit (now the Centre for Governance and Inclusive Society). She oversaw many research studies that have produced original, high-quality and locally owned research on Cambodia's political and institutional transformation over the past twenty years, particularly on the critical sub-national governance reforms. She is also active in a range of international and regional networks of governance and development scholars and has published in international peer-reviewed journals and books. Before she was appointed the Executive Director, she served as Director of Research. Eng has a PhD in political science from Monash University.

HE Derek Yip
Australian Ambassador to Cambodia

HE Derek Yip is the Australian Ambassador to Cambodia. He is a senior career officer with the Department of Foreign Affairs and Trade and was most recently Assistant Secretary of the East Asia Political Branch. He has previously served overseas on two postings to China. HE Derek Yip holds a Bachelor of Economics and a Bachelor of Social Science from the University of New South Wales, and he speaks Mandarin.

HE Thor Chetha
Minister, Ministry of Water Resources and Meteorology

HE Thor Chetha is the Minister of Water Resources and Meteorology (MOWRAM). He also serves as Chairman of the Cambodia National Mekong Committee (CNMC) and the Tonle Sap Authority (TSA).

HE Dr An Pich Hatda
Secretary of State, Ministry of Water Resources and Meteorology

HE Dr An Pich Hatda is Secretary of State, Ministry of Water Resources and Meteorology (MOWRAM). From 2019 to 2021, HE Dr Hatda, a Cambodian national, served as the CEO of the MRC Secretariat. He is the 2nd riparian CEO of the organisation.

He holds a PhD in Development Studies from the University of Tokyo, Japan, and a Master of Science in Agricultural Planning and Management from the Asian Institute of Technology, Thailand. He obtained a Bachelor's degree in Agriculture from the Royal University of Agriculture, Cambodia.

HE Hell Tony
Permanent Vice-Chair of the Tonle Sap Authority/ MOWRAM

HE Mr HELL Tony is currently the permanent vice-chair of the Tonle Sap Authority, tasked with overseeing the authority's operations and management, including environmental management, governance, and public policy. Before joining the TSA, he worked at the Ministry of Planning (MoP) from 1997 to 2007 and at the Tonle Sap Basin Authority (TBSA) under the Council of Ministers from 2007 to 2009.

HE Tony obtained his Bachelor's Degree in Economics from the Royal University of Law and Economics (RULE), Cambodia, in 1998, and his Master's Degree in Public Policy from the National Graduate Institute for Policy Studies (GRIPS), Japan, in 2003. H.E. Tony obtained his Bachelor's Degree in Economics from the Royal University of Law and Economics (RULE), Cambodia, in 1998, and his Master's Degree in Public Policy from the National Graduate Institute for Policy Studies (GRIPS), Japan.

Mr Kol Vathana
Director of the Technical Support Division, Mekong River Commission Secretariat, Lao PDR

Kol Vathana has dedicated over 30 years to public service in Cambodia's natural resource and environmental sectors, holding senior roles across the Ministry of Agriculture, Forestry and Fisheries; the Ministry of Environment; the Ministry of Water Resources and Meteorology; the Cambodia National Mekong Committee; and the Mekong River Commission Secretariat. He currently serves as Director of the Technical Support Division at the MRC Secretariat, following more than two decades as Deputy Secretary General of the CNMC. In these roles, he has advanced Cambodia's leadership in transboundary water cooperation, climate change adaptation, and environmental governance in the Mekong region.

He holds an MSc in Soil Science from the University of Gent, Belgium, and a BSc in Forestry Science from the Royal University of Agriculture, Cambodia. His expertise includes integrated water resources management, river basin planning, water diplomacy and negotiation, and inclusive stakeholder dialogue.

Mr Simon Tilleard
General Manager, Alluvium Group

Simon Tilleard is the General Manager (International) of the Alluvium Group, leading the organisation's portfolio of water governance, climate resilience, and environmental management programs across the Mekong region, South Asia and the Pacific. Simon specialises in connecting hydrology, policy, and institutional strengthening to support evidence-based, inclusive, and climate-informed water resource management. He recently worked closely with MOWRAM to support their development of a five-year climate-resilient water governance program.

Mr Keout Putvarun
Deputy Director the of Water Supply and Sanitation/ MOWRAM

Mr Koeut Puthvorun is a senior water-resource specialist with over three decades of professional experience in Cambodia's water, sanitation, and hydrometeorological sectors. Born in Svay Rieng province, he holds a Bachelor's Degree in Hydraulic Engineering from the National Institute of Technology of Cambodia and completed advanced civil service training at the Royal School of Administration. His career spans key technical and leadership roles across both national and provincial levels, reflecting deep expertise in rural water supply, sectoral planning, and the management of water and meteorological institutions.

Since 2008, Mr Puthvorun has served as Deputy Director of the Department of Clean Water and Sanitation at MOWRAM, where he contributes to national policy implementation, technical coordination, and the expansion of rural clean water services. Before this, he led the Provincial Department of Water Resources and Meteorology, overseeing provincial-level water management operations. His earlier work with the Ministry of Agriculture, Forestry and Fisheries strengthened his foundation in hydrology, planning, and statistics. Fluent in English and widely respected for his technical integrity and commitment to public service, Mr Puthvorun continues to play a vital role in advancing Cambodia's water resource governance and rural water supply development.

Dr Andrew Wyatt
Deputy Head for the Lower Mekong Sub-Region, International Union for Conservation of Nature

Andrew is an Australian national who has over 25 years of research and project management experience in the Mekong Region. He has a B.Sc. from Macquarie University, with a 1st class Honours in Geography (Natural Resource Management) from the University of Sydney. He completed his PhD in Geography (Political Ecology) at the School of Geosciences, University of Sydney, in 2004.

Since joining IUCN in 2013, Andrew has led IUCN's program in the Mekong River Delta, focusing on climate change adaptation, agroecological transitions, and the elimination of unsustainable practices in large agricultural landscapes. This has included developing vulnerability assessment methodologies, designing and piloting NbSs to reverse the impacts of rice intensification, developing mangrove polyculture systems to increase the resilience of coastal mangrove landscapes, and advising on groundwater governance. He's worked with various development partner initiatives and provided technical advice to the Dutch Mekong Delta Plan Implementation Program and the Integrated Ayeyarwady Delta Strategy in Myanmar.

In 2018, he became the Deputy Head for Lower Mekong Subregion, overseeing operations in the Lao and Cambodia offices. He is the focal point for IUCN's work in the Mekong River Delta and contributes regionally and globally to IUCN's initiatives in Agriculture, NbS and Climate Change.

Mr Sok Khim
Natural Resource Governance Program Manager, Oxfam Cambodia

Khim Sok is the Natural Resource Governance Program Manager at Oxfam Cambodia, with over 20 years of experience in development work spanning disaster management, climate change, gender equality, and resilience building. Having dedicated more than 15 years to Oxfam, he leads a portfolio of projects that strengthen transparency, accountability, and responsible investment in Cambodia's natural resources. Widely respected for his ability to connect grassroots communities with national and regional policy frameworks, Khim Sok is an active voice in networks such as Fair Finance Asia, championing sustainable practices and social justice. His leadership is driven by a deep commitment to fighting poverty and injustice while empowering communities to build a more equitable and sustainable future.

Mr Sanjiv de Silva
Senior Regional Researcher, International Water Management Institute (IWMI)

Sanjiv has worked at the International Union for Conservation of Nature (IUCN) in Sri Lanka. He managed the Environmental Law Program in Sri Lanka, working with a range of government and nongovernment partners in policy development, law enforcement and legal reform, capacity building and environmental management planning. Sanjiv served on several national Task Forces and committees related to environmental issues in Sri Lanka. He was a visiting lecturer at the University of Kelaniya and Sabaragamuwa University of Sri Lanka.

Dr Rath Sethik
Dean, Faculty of Development Study, Royal University of Phnom Penh

Dr Rath Sethik is currently the Dean of the Faculty of Development Studies at the Royal University of Phnom Penh. His specialisation is management and planning. He has been teaching project planning and research methodology to undergraduate and graduate students for more than 20 years. He has been working on research projects funded by SUMMERNET in the field of water resource management in Takeo and Stung Treng provinces, conducted by the Stockholm Environment Institute (SEI), Sweden. At the same time, he is also the research project leader for a project on community water user management in Kampong Chhnang province, funded by the Korean Government through the Mekong Institute (MI), Thailand, in collaboration with Kon Ken University, Thailand. He also joined the project called "To become Urban", which understands the urban transformation of migrants to Phnom Penh, funded by the University of Chicago. Currently, he is a 7-year co-project leader with a Korean counterpart, leading a project on "Capacity building of Higher Education in Cambodia" at the Royal University of Phnom Penh, which the Korean Government funds through the International School of Urban Science, University of Seoul, Korea. Currently, he is a co-author for the project "Enhancing Carbon Market Readiness for Cambodia's Net-Zero Development", funded by the Economic Research Institute for ASEAN and East Asia (ERIA).

Dr Ly Sophanna
Head of Office at the General Directorate of Natural Protected Areas of the Ministry of Environment

Dr Ly Sophanna is the Head of Office at the General Directorate of Natural Protected Areas (GDNPA) of the Ministry of Environment, Cambodia. He holds a PhD in Civil Engineering from the Tokyo Institute of Technology, a master's degree in Environmental Management from the University of Minho (Portugal), and a bachelor's degree in Water Resources Engineering from the Institute of Technology of Cambodia. With experience across civil engineering, water infrastructure, and environmental management, he has worked with international companies, NGOs, and government institutions. He was recently nominated as Cambodia's representative to chair the East Asian–Australasian Flyway Partnership (EAAFP), a regional platform of more than 20 countries committed to conserving migratory waterbirds and their habitats.

Dr Sophanna's interests include wetland conservation, ecohydrology, climate resilience, environmental modelling, and integrated water resource management. He supports national environmental policies, protected area planning, and scientific assessments that advance conservation and sustainable development. Regionally, he collaborates with UNESCO-MAB, Ramsar, ASEAN, and Mekong–Lancang platforms, promoting nature-based solutions, environmental diplomacy, and cross-border cooperation.

Mr Men Mlup Bon
Deputy Director of the Department of Water-Using Farmers' Communities, Ministry of Water Resources and Meteorology

Mr Men Mlup Bon, a Bachelor of Science in Hydrology from the Institute of Technology of Cambodia (ITC) in 1995, is currently the Deputy Director of the Department of Water-Using Farmers' Communities at the Ministry of Water Resources and Meteorology.

Dr Heng Kong
Director, Inland Fishery Research and Development Institute (IFReDI), Fishery Administration

Heng Kong holds a PhD in functional ecology from Toulouse III University and an MSc from Universiti Sains Malaysia. He is currently the director of the Inland Fisheries Research and Development Institute at the Fisheries Administration in Cambodia, with over 20 years of experience as a senior fisheries researcher and consultant. He has worked on various projects funded by organisations such as the Mekong River Commission, WorldFish Centre, FAO, DANIDA, and the World Bank. Currently, he serves as a Monitoring and Evaluation (ME) specialist, focusing on developing ME systems, long-term strategic planning for the fisheries sector, and conducting Participatory Policy Impact Assessments (PPIAs) related to aquaculture and fisheries conservation.

Kong has led evaluations on fisheries conservation zones around Tonle Sap Great Lake and Mekong, as well as assessments for various projects, including the Feed the Future Cambodia-Rice Field Fisheries Phase II. He has collaborated with WWF-Great Mekong on community-based catch

monitoring initiatives. Throughout his career, he has published articles in high-impact journals and authored technical reports on fisheries conservation and community fisheries in Cambodia. His primary responsibilities include overseeing ME processes and improving alignment between the donor and the Fisheries Administration.

Dr Mak Soeun
Deputy General Director of the General Directorate of Agriculture, MAFF

Dr Mak Soeun is the Deputy General Director of the General Directorate of Agriculture (GDA) at the Ministry of Agriculture, Forestry and Fisheries (MAFF).

HE Chreay Pom
General Director, Technical Affairs, Ministry of Rural Development (MRD)

HE Chreay Pom is the General Director, Technical Affairs, of the Ministry of Rural Development (MRD), a Ministry he has served for more than 20 years. Before assuming this position, he was the Deputy Director and Director of the Department of Rural Health Care for 8 and 5 years, respectively. He heads the Secretariat of the Technical Working Group for Rural WASH, where he coordinates the roles of various sector partners in providing inputs to the TWG, which is chaired by the MRD and Co-Chaired by a Representative of the key Development Partners.

While serving as the General Director for Technical Affairs, HE Pom has maintained a strong focus on improving Rural WASH. He has represented Cambodia at many global forums on improving Rural WASH. He is actively involved in Sanitation and Water for All (SWA), a global partnership of governments, the private sector, civil society organisations, external support agencies, research and learning institutions, and other development partners working together to catalyse political leadership and action, improve accountability, and use scarce resources more effectively.

He has maintained a strong commitment to supporting MRD's strategic goal of enabling rural communities to live with equal access to WASH services in a clean, safe environment for all. HE Chreay Pom holds a master's degree in Public Administration from the University of Canberra, Australia and Rural Development Management from Khon Khaen University, Thailand.

Dr Ang Raksmey
Research Fellow, Cambodia Development Resource Institute (CDRI)

Dr ANG Raksmey holds a Doctoral Degree in Engineering from the Tokyo Institute of Technology, Japan, where he majored in Global Engineering for Development, Environment, and Society. Additionally, He has a master's degree in engineering from the Asian Institute of Technology, Thailand, specialising in Water Engineering and Management. His research focuses on climate change and environmental issues, particularly assessing the potential impacts of climate and land-use changes on water resources, streamflow, sediment load, and water balance, as well as drought assessment. Additionally, he has worked on evaluating satellite-based meteorological datasets, which would be a useful alternative to climate data for water resources management. From his research, several publications have been published and presented at leading international journals and conferences.

He has extensive experience and skills in hydrological modelling and programming using software such as ArcSWAT, SWAT-CUP, QGIS, and ArcGIS. He can efficiently handle the processing, analysis, and scientific interpretation of large datasets. Before joining the CDRI, he worked as a consultant for a private engineering company on a project to develop a master plan for the urban drainage system.

Mr Michele Paba
Chief of WASH, Climate and Environment, UNICEF Cambodia

Mr Michele Paba is the Chief of WASH, Climate and Environment at UNICEF Cambodia. Michele has 20 years of experience in designing, managing, and leading WASH and climate programs across diverse countries and contexts, including Europe, Africa, the Middle East, and South and Southeast Asia. He has a strong background in sector coordination, systems strengthening, and financing, along with expertise in mitigation and adaptation interventions and humanitarian response during complex crises. Michele holds a Master's degree in Land and Water Resources Management and a Bachelor of Science in Environmental Sciences.

Mr Sou Sokkung
Head of Programmes, WaterAid Cambodia

Mr Sou Sokkung is an experienced development professional with over 17 years of experience in program leadership, strategy, and stakeholder engagement across sectors such as WASH, health, climate resilience, and community development. He currently serves as the Head of Programmes at WaterAid Cambodia. Sokkung has held key roles with leading INGOs, including Oxfam, World Vision, Catholic Agency for Overseas Development (CAFOD), and CARE Cambodia, focusing on system strengthening and inclusive development. A PhD candidate in Economics and Development Management at the Royal University of Agriculture, he combines academic rigour with practical expertise. Sokkung has represented Cambodia on diverse global platforms, including UNC Water and Health, World Water Week, and European Development Days. His work emphasises gender equity, social inclusion, and sustainable resource management, making him a respected voice in advancing development and climate resilience in Southeast Asia.

Mr Kim Hor
Country Director, East Meets West Cambodia (EMW)

Mr Kim Hor is a strategic and results-driven WASH manager with over 32 years of distinguished leadership in the sector. His career spans pivotal roles with the Ministry of Public Works, UNICEF, and now Thrive/ East Meets West, where he specialises in climate-resilient and inclusive WASH projects and Water Safety Planning (WSP). A skilled leader, Mr Kim Hor excels in partner coordination, social safeguards, resource mobilisation, and project management. He holds a degree in Geological Engineering and a Master of Business Administration, combining deep technical expertise with strong managerial acumen to drive sustainable WASH initiatives from conception to long-term success.

Mr Hor Khykeng
Team Leader, Rural Water and Sanitation Team (RWST)

Mr Hor Khykeng is a highly experienced WASH and business management professional with more than 23 years of leadership, advisory, and technical expertise in Cambodia's water, sanitation, and development sectors. He currently serves as Team Leader of the Rural Water and Sanitation Team (RWST), where he provides strategic direction, builds partnerships, and strengthens the capacity of WASH enterprises and service providers nationwide.

Since 2018, Mr Khykeng has also worked as a freelance consultant, delivering more than 30 technical and business feasibility studies for private water operators, conducting water asset valuations, leading financial and tariff modelling, and supporting access-to-finance initiatives with partners such as Proparco, FTB/AFD, Phillip Bank, and the DFAT-funded 3i project. His consultancy portfolio further includes solid waste and faecal sludge management studies, bulk water assessments, and municipal finance modelling for cities such as Siem Reap, Takmao, and Chbar Mon.

Previously, he served as the Executive Director of the Cambodian Water Supply Association (CWA), where he oversaw strategic planning, resource mobilisation, and sector advocacy. His career also includes roles with USAID, VBNK, IRI, and STAR Kampuchea. Mr Khykeng holds an MBA in Finance and continues to advance his expertise through extensive professional training and sector engagement. His deep local knowledge and multidisciplinary experience make him a trusted leader in Cambodia's WASH sector.

Ms Khorn Vicheka
Area Program Manager, World Vision Cambodia

Ms Khorn Vicheka is a dedicated programme professional with over 13 years of experience at World Vision International Cambodia, with experience in Program management, including Water, Sanitation, and Hygiene (WASH) programming. She has led initiatives that integrate climate resilience, gender equity, and community empowerment to ensure sustainable access to clean water and sanitation for vulnerable populations. Vicheka's expertise spans program design, implementation, and capacity building across diverse contexts in Cambodia. In 2025, she participated in international WASH learning exchanges in Zambia and Rwanda, strengthening cross-country knowledge sharing and innovation. Her work reflects a strong commitment to advancing inclusive WASH solutions that improve health, dignity, and resilience for marginalised communities.

HE Serei Bandith
Under Secretary of State, MOWRAM

HE Serei Bandith is Under Secretary of State, Ministry of Water Resources and Meteorology (MOWRAM).

Mr Chan Virak
Senior Water Resources Management Specialist, World Bank

Virak Chan is a Senior Water Resources Management Specialist with the World Bank Group's Water Global Practice, based in Cambodia. With more than 15 years of experience across the Mekong region, he brings deep technical and operational expertise in water supply, sanitation, and water resources management, with a strong focus on climate resilience, nature-based solutions, and river basin governance.

Virak currently serves as Team Leader for the Cambodia Water Security Improvement Project and Co-Team Leader for the Vietnam Integrated Climate Resilience and Sustainable Livelihood Project in the Mekong Delta. He also leads the flagship Tonle Sap Water Security Diagnostic Assessment—advancing new knowledge on basin-wide challenges and informing policy recommendations for the Royal Government of Cambodia.

Throughout his career, Virak has worked at the nexus of research and development, capacity building, private sector engagement, livelihood enhancement, and policy design. He holds three master's degrees: Integrated Water Resources Management, Business Administration, and Development Management.

Beyond his role at the World Bank, Virak founded the Centre for Sustainable Water (CSW), a non-profit organisation dedicated to nurturing the next generation of Cambodian water leaders. CSW focuses on strengthening local capacity, inspiring innovative solutions, and equipping practitioners to navigate uncertainty in water management for a more sustainable future.

Dr John Dore
DFAT Lead Specialist, Climate Resilience and Water Security, Climate Diplomacy and Development Finance Division

Dr John Dore is DFAT's Lead Specialist actively engaged in water security, energy transition and climate action. John works primarily across Asia and is involved in many of Australia's bilateral and regional engagements, including government-to-government partnerships and alliances with industry and civil society. 15 years (thus far) with DFAT (and former AusAID); with prior roles including: Leader - IUCN Asia Water Program, and Program Director – Mekong Program on Water Environment and Resilience (M-POWER). John has extensive practical experience working with partners engaged in transboundary governance and associated climate and development challenges in the Mekong Region, the Hindu Kush Himalaya, and the Murray-Darling. John is also an Associate Professor at the Australian National University's Fenner School, a member of the Editorial Board of the Water Alternatives Journal, a member of the UNECE Transboundary Water Allocation Experts Working Group, and a member of the World Bank-convened Advisory Committee for Transboundary Waters Cooperation.
B Agr Sc (Melbourne), M Env Mgt & Dev (ANU), PhD (ANU).

Mr Lance Gore
Principal Water Resources Specialist, Asian Development Bank Headquarter

Lance Gore is a Principal Water Resources Specialist for the Agriculture, Food, Nature, and Rural Development Sector Office of the Asian Development Bank. He helps to lead the bank's operational programs for river basin governance, IWRM, and irrigation modernisation. He is currently ADB's project team leader for supporting MOWRAM with preparing the Cambodia Resilient River Basins Masterplan and the Second Integrated Water Resources Management Project.

Lance has 25 years of experience in New Zealand, the United Kingdom, North Africa, and Asia. Lance has a Master of Engineering (Civil) from the University of Auckland, New Zealand.

Ms Sim Socheata
Mekong Regional Program Manager, Oxfam Cambodia

Since (re)joining Oxfam in July 2014, Socheata has held various positions, and her current role is Mekong Regional Water Governance Program Manager. Considering herself a gender and women's rights advocate, Socheata has, over the past 15 years, worked on various development projects and seeks to provide platforms and voices to people who are often not heard.

Born and raised in the village by the Mekong River, she sees the interconnection between women, the river, and water in sustaining life and livelihoods as essential, and this is why ensuring women's participation and leadership are the keys to achieving equitable access to sustainable water resource management in the region.

HE Chey Sambathphalla
Director of the Policy Analysis and Development Division, NCDDS

HE Chey Sambathphalla is Director of the Policy Analysis and Development Division at the National Committee for Sub-National Democratic Development Secretariat (NCDDS), Ministry of Interior.

Annexe 2: Agenda

High-Level Policy Dialogue on Water Governance in Cambodia
20 November 2025
Venue: Oakwood Premier Phnom Penh Hotel, Phnom Penh

Agenda

Time	Activity	
8:00-8:30	**Registration**	
8:30-8:35	**National Anthem**	
8:40-9:10	Welcoming and Opening Remarks: • Welcome Remarks by Dr Eng Netra, Executive Director, Cambodia Development Resource Institute (CDRI) • Congratulatory Remarks by HE Derek Yip, Australian Ambassador to Cambodia • Opening Remarks by HE Thor Chetha, Minister, Ministry of Water Resources and Meteorology (MOWRAM)	
9:10-9:30	**Keynote Address:**	
	Addressing Cambodia's Water Resource Governance Challenges in the Context of Climate Change and Shifting Demographics HE Dr An Pich Hatda, Secretary of State, Ministry of Water Resources and Meteorology (MOWRAM)	
9:30-10:00	**Group Photo & Coffee Break**	
10:00-11:30	**Distinguished Trigger Speakers**	
	• Navigating Uncertainty: Challenges and Opportunities for Water Governance in a Changing Mekong River for the Region and Cambodia • Navigating Change:Water Resource Management in Cambodia's Mekong Region through the Lens of the MRC • Mr Kol Vathana, Director of Technical Support Division of the Mekong River Commission (MRC) Secretariat, Lao PDR • Securing Tonle Sap—the Heart of Cambodia: Water Governance Responses to Declining Resources in the Tonle Sap Basin	• HE Mr Hell Tony, Permanent Vice Chairman of the Tonle Sap Authority, MOWRAM • Groundwater Resources in Cambodia: Current Status, Challenges, and Strategic Directions for Sustainable Use • Mr Koeut Puthvarun, Deputy Director, Department of Water Supply and Sanitation, MOWRAM • Safe Operating Space (SOS) for the Mekong: Pathways to Climate-Resilient and Sustainable Water Management • Mr Simon Tilleard, General Manager, Alluvium Group
11:30-12:00	**Plenary Discussion**	
12:00-13:30	**Lunch Break**	
13:30-14:30	**Technical Parallel Sessions**	
	Technical Parallel Session 1	**Technical Parallel Session 2**
	Water Governance in Cambodia: Challenges and Opportunities Moderator: Prof Dr Rath Sethik, Dean, Faculty of Development Study, Royal University of Phnom Penh	WASH Services in Cambodia: Challenges and Opportunities Moderator: Mr Sou Sokkung, Head of Programmes, WaterAid Cambodia
	Strengthening the Engagement of Marginalised Groups in Climate Resilient Water Governance in the Mekong Region Mr Sok Khim, Natural Resource Governance Program Manager, Oxfam Cambodia	Community-Led Climate-Resilient Water Safety Planning (CR-WSP) Development and Implementation Mr Kim Hor, Country Director, East Meets West Cambodia (EMW)

13:30-14:30	**Technical Parallel Session 1**	**Technical Parallel Session 2**
	Integrated Decentralised Food System Governance at the District Level Using Ecosystem Approaches Mr Sanjiv de Silva, Senior Regional Researcher, Natural Resources Governance, International Water Management Institute (IWMI)	From Guidelines to Action: Strengthening Climate-Resilient Water Safety Planning for Inclusive Water, Sanitation and Hygiene Services in Cambodia Dr Ang Raksmey, Research Fellow, Centre for Natural Resources and Environment, CDRI
	Transboundary Groundwater Governance in the Mekong Delta Region Dr Andrew Wyatt, Deputy Head, Lower Mekong Subregion, IUCN	Strengthening Systems for Climate-Resilient and Inclusive WASH Services Mr Michele Paba, Chief of WASH, Climate & Environment, UNICEF Cambodia
	Q&A	Q&A
14:30-14:45	**Coffee Break**	
14:45-15:45	**Parallel Panel Discussions**	
	Parallel Panel Discussion 1	**Parallel Panel Discussion 2**
	Water Governance at a Crossroads: Balancing Water Resources Development and Management towards Building Climate Resilience and Improved Community Livelihoods Moderator: HE Dr Chan Phalloeun, Under Secretary of State, Ministry of Agriculture, Forestry and Fisheries (MAFF) Panellists: • Mr Huy Vantha, Director, Department of Farmer Water User Community (FWUC), MOWRAM • Dr Mak Soeun, Deputy Director General, General Directorate of Agriculture, Ministry of Agriculture, Forestry and Fisheries (MAFF) • Dr Ly Sophanna, Head of Office at the General Directorate of Natural Protected Areas (GDNPA) of the Ministry of Environment • Dr Heng Kong, Director, Inland Fishery Research and Development Institute (IFReDI), Fishery Administration	Strengthening Climate-Resilient and Inclusive WASH Services Moderator: Mr Hor Khykeng, Team Leader, Rural Water and Sanitation Team (RWST) Panellists: • HE Chreay Pom, Technical Director General of the Technical Affairs, Ministry of Rural Development • Mr Michele Paba, Chief of WASH, Climate & Environment, UNICEF Cambodia • Mr Sou Sokkung, Head of Programmes, WaterAid Cambodia. • Ms Khorn Vicheka, Area Program Manager, World Vision Cambodia
15:45-16:45	**Roundtable Discussion on the Way Forward: Priorities and Vision for Collaboration** **Senior Representatives:** • HE Serei Bandith, Under Secretary of State, Ministry of Water Resources and Meteorology (MOWRAM) • HE Dr Chan Phaloeun, Under Secretary of State, Ministry of Agriculture, Forestry and Fisheries (MAFF) • Dr John Dore, DFAT Lead Specialist, Climate Resilience and Water Security, Climate Diplomacy and Development Finance Division • HE Chey Sambathphalla, Director of Policy Analysis and Development Division, the National Committee for Sub-National Democratic Development Secretariat (NCDDS) • Mr Chan Virak, Senior Water Resources Management Specialist, World Bank • Mr Lance Gore, Principal Water Resources Specialist, Asian Development Bank (ADB) Headquarter • Ms Sim Socheata, Mekong Regional Program Manager, Oxfam Cambodia	Moderator: Dr Eng Netra, Executive Director, CDRI
16:45-16:55	**Closing Remarks**	**HE Dr An Pich Hatda** **Secretary of State, MOWRAM**

Acknowledgements

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Annexe 3: Media Coverage

វីដេអូ៖ ឯកឧត្តមរដ្ឋមន្ត្រី ថោ ជេដ្ឋា អញ្ជើញជាអធិបតីបើកកិច្ចសន្ទនាគោលនយោបាយកម្រិតខ្ពស់ស្តីពីអភិបាលកិច្ចទឹក នៅព្រះរាជាណាចក្រកម្ពុជា.
https://www.facebook.com/share/v/1MNTZWtYSK/?mibextid=wwXIfr / https://mowram.gov.kh/news/2381.

Supporting water security and a climate-resilient future in Cambodia.
https://www.facebook.com/share/p/18Dr3YpJsq/.

រដ្ឋមន្ត្រី ថោ ជេដ្ឋា អញ្ជើញជាអធិបតីបើកកិច្ចសន្ទនាគោលនយោបាយកម្រិតខ្ពស់ស្តីពីអភិបាលកិច្ចទឹកនៅកម្ពុជា.
https://freshnews.com.kh/localnews/408929-2025-11-20-14-28-53.

Cambodia warned to brace for financial risks amid global uncertainty.
https://www.khmertimeskh.com/501792973/cambodia-warned-to-brace-for-financial-risks-amid-global-uncertainty/.

Cambodia Urged to Strengthen Water Governance Amid Rising Climate Risks.
https://kiripost.com/stories/cambodia-urged-to-strengthen-water-governance-amid-rising-climate-risks.

Cambodia, Australia join forces to upgrade water governance policies.
https://www.khmertimeskh.com/501793734/cambodia-australia-join-forces-to-upgrade-water-governance-policies/.

Annexe 4: List of participating organisations

No.	Organisation	Number of Participants per Organisation
	Ministries	
1	Ministry of Water Resources and Meteorology	19
2	Ministry of Land Management, Urban Planning and Construction	5
3	Council for Agricultural and Rural Development	1
4	Ministry of Agriculture, Forestry and Fisheries	3
5	Ministry of Rural Development	2
6	Ministry of Environment	2
7	Royal Academy of Cambodia	1
8	Ministry of Industry, Science, Technology and Innovation	2
9	Mekong River Commission	1
10	National Committee for Sub-national Democratic Development Secretariat	1
	Development Partners	
1	World Bank (including 1 online participant)	2
2	UNICEF	1
3	ADB (online participant)	1
4	UN-Habitat Cambodia	1
	CSOs and NGOs	
1	EMW	1
2	CAPRED	3
3	NGOF	2
4	TAF	2
5	World Vision	3
6	WPM	1
7	WaterAid	1
8	IWMI	1
9	Rural Water and Sanitation Team (RWST)	1
10	IUCN	3
11	Oxfam	2
12	WorldFish	2
13	PCDD	1
14	API	1
15	AWP	1
16	KCC	1
17	DFAT (online)	1
18	IFReDI	1
	Embassies	
1	Australian Embassy in the Kingdom of Cambodia	2
2	Chinese Embassy in the Kingdom of Cambodia	2
	Academic and Think Tanks	
1	RUPP	2
2	AVI	1
3	CKS	2
4	ITC	1
5	RUA	1
6	PUC	1
	Media	
1	Khmer Times	4
2	Kiri Post	2
3	The Best Sound	1
	Organiser	
1	CDRI	15
	Total	**104**

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