P-LINK
People's Livelihoods Initiative
through water-energy-food Nexus
in the MEKONG Region

2024 ANNUAL REPORT

Triangular Cooperation Project on Sustainable Development in the Lower Mekong Basin based on the Water-Energy-Food (WEF) Nexus [RoK-UNOSSC Facility Phase 3]

Ministry of Science and ICT
MRC Mekong River Commission for Sustainable Development
United Nations Office for South-South Cooperation
STEPI Science and Technology Policy Institute
Mekong Institute

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EXECUTIVE SUMMARY

Launched in September 2021 by the Ministry of Science and ICT (MSIT) of the Republic of Korea (RoK), the Mekong River Commission (MRC), and the UN Office for South-South Cooperation (UNOSSC), the "Triangular Cooperation on Sustainable Development in the Lower Mekong Basin based on the Water-Energy-Food (WEF) Nexus" [RoK-UNOSSC Facility Phase 3; Project ID:127005] aims to promote integrated WEF Nexus solutions through South-South and triangular cooperation in Cambodia, Lao PDR, Thailand, and Viet Nam. The project aligns with the *MRC's Basin Development Strategy (BDS) 2021-2030,* the *Mekong Institute Strategic Plan 2021-2025*, the *UNOSSC Strategic Framework 2022-2025* and the *UN Sustainable Development Goals*. It emphasizes innovation, local ownership, and inclusive development to foster sustainable livelihoods in the region.

In 2024, the project advanced from pilot co-design to full implementation in all four countries, with official launches and technical pilot rollouts in Cambodia, Lao PDR, and Thailand—built on earlier baseline studies and technical assessments by local and Korean experts. In Viet Nam, the pilot remains in national approval due to ongoing government restructuring, with continued efforts to secure both national and local endorsement under the country's ODA protocol.

The year also marked a significant expansion of the project's advocacy and knowledge sharing reach. P-LINK was featured in high level events such as *ESCAP's 80th Commission Session*, the *8th International Meeting on Triangular Cooperation*, and the *2024 Mekong Forum*. Through these platforms, the project highlighted the role of digital innovation, integrated resource management, and South-South and triangular cooperation in advancing sustainable development in the Mekong region.

Capacity building was enhanced through the second Training of Trainers (ToT) programme, organized as a structured learning visit to the Republic of Korea. This facilitated peer learning and technology exchange, promoting the use of adaptable Korean solutions in national development contexts.

Despite institutional transitions and coordination delays, steady progress was made. In line with Steering Committee recommendations, the results framework was revised to improve relevance and accountability, introducing specific indicators tailored for the technical pilots. Output 3, was updated with country-specific indicators to better track clean water access, energy efficiency, and food production—disaggregated by gender and beneficiary type.

The project further advanced a public-private partnership model, sourcing innovative Korean technical solutions customized to local contexts, with active engagement from national and local stakeholders, including logistics and civil works providers. It exemplified triangular cooperation and South-South cooperation by leveraging Korean expertise alongside local and regional actors, fostering mutual learning, resource-sharing, and sustainable development partnerships.

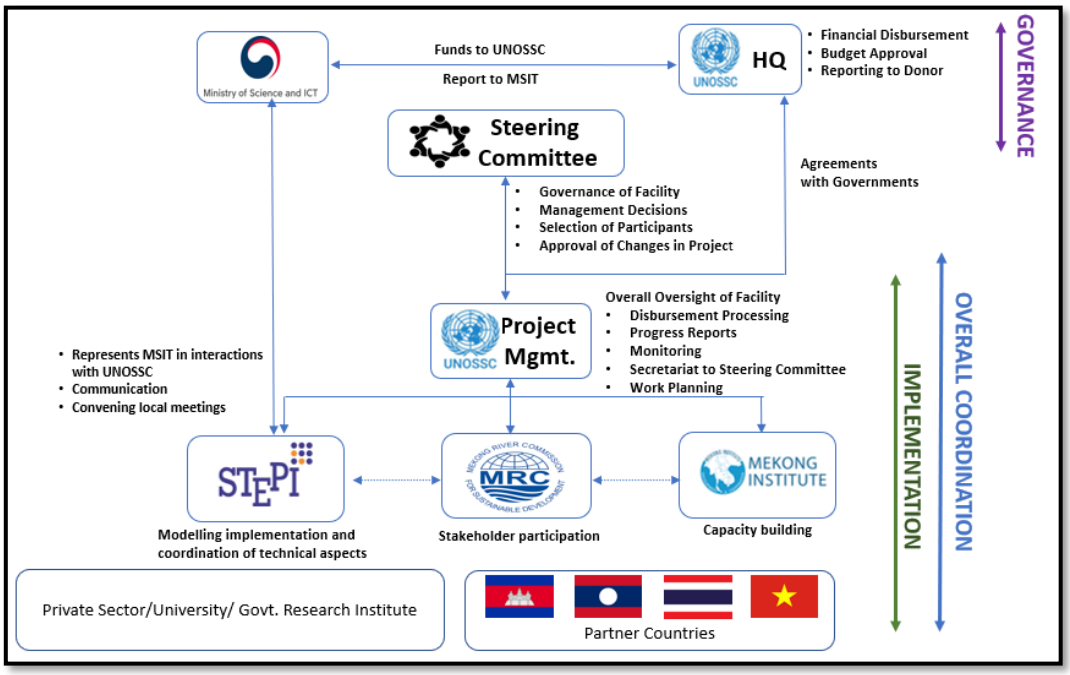
Looking ahead, the report outlines key recommendations for timely delivery, stronger coordination, and achieving sustainable and scalable outcomes in 2025.

CONTEXT

The RoK-UNOSSC Facility Phase 3—also referred to as P-LINK (People's Livelihoods Initiative through the Water-Energy-Food Nexus in the Mekong Region)—was launched in 2021 to strengthen access to water, food, and energy for vulnerable communities in Cambodia, Lao PDR, Thailand, and Viet Nam. The project promotes integrative, multi-sectoral approaches by applying appropriate technologies and innovations to enhance community resilience and livelihoods. Anchored in the principles of South-South and triangular cooperation—including national ownership and leadership, mutual accountability, and demand-driven support—P-LINK aims to demonstrate scalable and replicable WEF Nexus solutions tailored to local needs.

With a total budget of USD 4 million over five years (2021–2025), the project is funded by the Ministry of Science and ICT (MSIT) of the Republic of Korea and implemented by UNOSSC, in collaboration with the Mekong River Commission Secretariat (MRCS), Mekong Institute (MI), and Science and Technology Policy Institute (STEPI) of the Republic of Korea. STEPI also mobilizes technical expertise from other Korean institutions and private sector to support implementation.

Figure 1: Implementing Structure



Informed by the *MRC Basin Development Strategy (BDS) 2021–2030*, the *Mekong Institute Strategic Plan 2021–2025*, and the *UNOSSC Strategic Framework 2022–2025*, the project adopts a demand-driven approach in identifying community needs, designing country-led pilot projects, and promoting sustainable development in line with the 2030 Agenda.

The core building blocks of the project include 1) Knowledge generation, 2) Multi-Sectoral Platform, 3) Advisory Services, 4) Technology Identification, 5) Capacity Building and 6) SS & TrC.

In 2024, planning and design activities were completed in all four countries—Lao PDR, Cambodia, Thailand, and Viet Nam—while pilot implementation began in the first three. Each pilot was co-designed with national stakeholders, drawing on detailed baseline studies and technology assessments. In Viet Nam, rollout has been delayed due to government restructuring, but coordination is ongoing to enable implementation once the necessary approvals are in place.

To support broader objectives, the project also expanded advocacy, knowledge-sharing, and capacity-building efforts through engagement in regional and international platforms—such as the UN STI Forum, the ESCAP's 80th Commission Session, and the 2024 Mekong Forum—and organized a second Training of Trainers (ToT) as part of a structured learning visit to the Republic of Korea. These activities showcased the potential of digital innovations and integrated resource management to advance WEF Nexus solutions.

The project continues to adapt to dynamic implementation realities. In 2024, the results framework (Refer to Annex 1) was revised to better reflect operational context and improve results-based management. Notably, Output 3 (WEF Nexus pilot implementation) was further refined with country specific indicators, allowing the project to more effectively capture the impact of each pilot site on relevant benefit such as access to clean water, renewable energy, and agricultural productivity, with disaggregated data by gender.

The following key changes were introduced:

- Revised Outcome Statement:
  Enhanced access to clean water in pilot project communities through more efficient energy use, contributing to improved food security via innovative technology transfer and strengthened South-South and triangular cooperation.
  This outcome now incorporates specific indicators linked to relevance/effectiveness, sustainability, and scalability of interventions.

- Refined Output 3 Indicators:
  Indicators under Output 3 were disaggregated by pilot site and technological solution and distinguish between direct and indirect beneficiaries. This adjustment improves the precision of impact measurement, particularly for capacity-building participation, service access, and agriculture-related outcomes, with a clear gender lens.

In 2024, the project advanced from planning to full-scale implementation, guided by the recommendations of the Second Steering Committee (SC) Meeting and evolving contextual realities in the region. As endorsed by the SC, the project also began preparations for a comprehensive self-assessment, replacing the originally planned mid-term evaluation. This assessment will capture lessons learned and implementation progress to date, serving as a key input for final-year planning and potential scale-up discussions.

Key activities undertaken in 2024 included:

- **Launch of pilot projects** in Lao PDR, Cambodia, and Thailand, informed by prior baseline studies and technical assessments conducted with local and Korean experts.
- **Continued preparation for the Viet Nam pilot**, pending government approval due to ongoing administrative restructuring.
- **Refinement of the results framework** as per SC recommendations, including the development of tailored indicators for Output 3 to capture pilot-specific outcomes nd disaggregated beneficiary data.
- **Initiation of a self-assessment report** to replace the mid-term evaluation, supporting strategic planning for 2025.
- **Delivery of the second Training of Trainers (ToT)** through a structured learning visit to the Republic of Korea, enabling peer learning and exchange of WEF Nexus innovations.
- **Participation in key regional and international events**, including the *UN STI Forum*, *ESCAP's 80th Commission Session*, the *8th International Meeting on Triangular Cooperation*, the *2024 Mekong Forum*, the *3rd GMS Agriculture Ministers' Meeting, and 7th G-STIC (The Global Sustainable Technology & Innovation Community) Conference in India, etc*.
- **Production and dissemination of knowledge products**, including case studies on WEF Nexus innovations and lessons learned across the Lower Mekong Basin.
- **Increased project visibility and outreach**, with over 25 news articles published and promotional materials produced to communicate project achievements and impact.

PROGRESS REPORT FOR 2024

2024 Activities

The project made significant strides in 2024, transitioning from pilot design to full implementation across multiple countries. Table 1 below captures the key activities undertaken throughout the year, organized by thematic area and aligned with the project's results framework

Table 1: Snapshot of major activities in 2024

1	23 Jan	*Project Mgmt.* 2022-2023 Work review and planning workshop (INTERNAL)	Review the project progress and prepared 2024 workplan and reporting for the SC
2	28 Feb	*Pilot Design:* Cambodia: Second National Consultation Forum	Finalize the National Pilot Project led by CNMC (project team's virtual participation)
3	Jan-Mar	*Pilot Design:* Completion of the Baseline Studies for Nexus Technology Develop. and Application	To identify the necessary technologies for each country and assess their applicability, baseline studies conducted by local experts.
4	6 Mar	*Advocacy* 2024 Global Policy Dialogue Series: Dialogue #1: Charting New Horizons: South-South and Triangular Cooperation for Sust. Development	Introduced P-LINK project (virtual arrangement)
5	Apr-Sep	*Pilot Implementation:* Call for proposal from ROK private sector	Arranged via ROK public procurement service
6	May-Sep	*Pilot Implementation:* Assessment and Selection of ROK companies	
7	24 Apr	*Advocacy, Knowledge Sharing and Partnerships:* Digital Innovations for Enhancing Sustainable Local Livelihoods in the Mekong Subregion based on the WEF Nexus approach	ESCAP 80th Commission Side Event-Co-organized with ROK Embassy, USAID and ESCAP-APCTT, media
8	24 May	*Advocacy and Knowledge sharing:* UN STI Forum by UN interagency task team on STI for the SDGs (IATT)	Presented on STEPI's Insights from the case studies on the WEF Nexus and its STI implications for the SDGs
9	28 Jun	*Governance* 3rd SC Meeting	Project Mgmt. presented outstanding issues & proposed annual work plan to the SC
10	28 Jun	*Pilot Implementation*: Lao pilot inception ceremony	Milestone in Action – Tasked to the ROK Private Sector, media
11	1 Jul	*Pilot Implementation:* Thai pilot launch	Milestone in Action – Tasked to the ROK Private Sector, media
12	9 Aug	*Pilot Implementation:* Cambodia pilot launch	Milestone in Action – Tasked to the ROK Private Sector, media
13	31 Jul - 1 Aug	*Advocacy, Knowledge Sharing and Partnerships: 2024 Mekong Forum*	P-LINK Highlights Digital Innovations for Rural Development through South-South and Triangular Cooperation, media
14	22-27 Sep	*Capacity Building* 2nd Training of Trainers (ToT)	Structured Learning Visit - Lower Mekong Countries Learn from the ROK's Technologies on Integrated WEF Mgmt., media

15	7-8 Oct	*Advocacy, Knowledge Sharing and Partnerships:* 8th International Meeting on Triangular Cooperation	P-LINK showcased as a key example of the Republic of Korea's commitment to advancing SSC & TrC through STI, media
16	19-26 Oct	*Pilot Implementation: VN site assessment*	Milestone in Action – Tasked to the ROK Private Sector
17	23 Oct	*Harmonising Technology, Policy and Business Pathways for Sustainable Future and Coexistence: 7th G-STIC Conference in India*	Introducing the P-LINK, which demonstrates how innovative STI solutions can implement the WEF Nexus and enhance the value of SSTC.
18	19-22 Nov	*Advocacy, Knowledge Sharing and Partnerships:* 3rd Greater Mekong Subregion (GMS) Agriculture Ministers' Meeting (AMM-3)	P-LINK demonstrated as WEF application promoting STI and SSTC. Underscored the importance tailored digital solution to facilitate countries to leapfrog development

Main Adjustments to Project Implementation and Steering Committee Recommendations

The Third Steering Committee took place in June following the inception ceremony of the Lao pilot and prior to the Thai pilot launch event. In response to implementation realities and evolving needs, the project underwent several strategic adjustments in 2024, endorsed by the Steering Committee. The most notable change was the refinement of the project's results framework to incorporate country-specific indicators, enabling more precise measurement of pilot outcomes, especially regarding access to water, renewable energy, and food security. The Committee also approved the replacement of a formal mid-term evaluation with a structured self-assessment and peer-learning review, to be conducted in Q4 2024. This approach better aligns with the project's South-South and triangular cooperation modality and enables shared reflection among country stakeholders. The USD 30,000 originally allocated for the mid-term evaluation was reprogrammed to support enhanced monitoring, spot checks, and investments in sustainability and scalability.

Additional recommendations emphasized the need for stronger country-level leadership, stakeholder engagement, and harmonization of pilot technologies with national systems to ensure sustainability beyond the project lifecycle. The Committee requested that each implementing partner (UNOSSC, MRCS, MI, STEPI) identify and lead at least one actionable item contributing to the project's exit strategy, such as conducting Operational and Management (O&M) cost analysis, integrating systems into local frameworks, or developing capacity-building plans. The importance of financial sustainability was underscored, with clear guidance to align pilot O&M costs with national budgets and avoid high-maintenance technologies. Moving forward, all partners committed to contributing to the refinement of the exit strategy and engaging in a shared learning process to ensure scalability and long-term impact of the pilot interventions. (Refer to Annex 2: SC minutes)

Table 2 captures the cumulative progress made by the project, aligned with the finetuned results framework. The project has achieved notable milestones, particularly under Outputs 1, 2, and 4, with tangible on-the-ground impact expected in 2025 through the full implementation of national pilot projects.

Table 2: Summary of Key Achievements Aligned with the Results Framework

Outcome: Enhanced access to clean water in pilot project communities through more efficient energy use, contributing to improved food security via innovative technology transfer and strengthened South-South and triangular cooperation		
Outputs	**Indicators**	**Progress(*#*)**
Output 1: Assessments and research conducted, to select pilot projects, building on knowledge and data.	No. of case studies produced analyzing WEF Nexus projects	6
	No. of consultative and planning meetings convened (Regional Stakeholder Forum, SC meetings, Project Team Annual workplan review and planning meetings)	11
	No. of capacity-building training events conducted (MI regional TOT, virtual trainings, etc). - from 2023	6
Output 2: WEF nexus models projects designed targeting identified sites leveraging South-South learning and partnerships.	No. of WEF nexus models projects designed *(Refer to Table 4 & Annex 4)*	4
	No. # of meetings convened to prepare for the design of the pilots (e.g. national consultations, ROK stakeholder consultations/assessment of ROK solutions)	36 (ongoing)
	No. of stakeholders (institutions) engaged during WEF nexus model design	30
	No. of people engaged during WEF nexus models projects design (total/female)	72/31
Output 3: WEF nexus pilots implemented in participatory manner.	No. of WEF pilot projects implemented *(Refer to Annex 1 for further details)*	4 (ongoing)
Output 4: Advocacy and knowledge products developed and disseminated to promote SS & TrC exchanges.	No. of advocacy and knowledge products developed & disseminated	6
	No. of press release and media coverage	59
	No. of SS & TrC exchanges facilitated *(national, regional consultations, site visits, trainings, advocacy)*	15
	No. of people participated in advocacy events (total/female)	220 (102)

Pilot Implementation

Following detailed site assessments and consultations—particularly in Lao PDR, Thailand, and Viet Nam—project stakeholders reached consensus on pilot modalities and tailored technical solutions. These are summarized in Table 3 below.

Table 3: Pilot Site and Technical Solutions

Country	**Site**	**Project Title**	**Tech Solutions**
Cambodia	Sdao Commune, Stung Treng	Improving Access to Clean Water and Increasing Food Security in Sdao Commune, Stung Treng	Solar power generated water treatment system
Lao PDR	Vientiane and Nakio Village in Mahaxy District, Khammouane Province	Integrated water mgmt. via centralized national facilities and enhanced local flood forecasting and early warning system in Xebangfai river basin in Khammouane Province	Advisory services on mid-term and long-term roadmap, data quality improvement, etc.
Thailand	Bung Khla Sub-district, Bueng Kan Province	Increasing the Efficiency of Tap Water System in Moo[1] 1,2 and 3 Bung Khla Sub-district, Bueng Kan Province	Smart Water Mgmt. System

[1] Moo means village in Thai

Viet Nam	Con Linh (Linh Island), Giog Trom District, Ben Tré Province	Improvement of Livelihoods through the Application of WEF Nexus Approach in the Mekong Delta of Viet Nam	Saline groundwater desalination system generated by renewable energy

In the respective year, ROK solution providers were officially commissioned by STEPI through Korea's Public Procurement Service to deliver technical solutions for each pilot site. This enabled the commencement of national-level activities. Under the joint supervision of partner country task forces and the project team, these providers have fine-tuned the design and implementation modalities. They are also working closely with local service providers to install systems and deliver capacity-building for operations and maintenance (O&M) to ensure sustainability.

* *Cambodia Pilot Launch*

In August 2024, the Cambodia pilot was officially launched in Sdao Commune, Stung Treng Province, marking a significant milestone in community-led development under the P-LINK initiative. The project aims to improve water accessibility and food security through a solar-powered water treatment system. The launch brought together representatives from the government, local stakeholders, and Korean partners, highlighting the project's participatory approach and alignment with national priorities. Read more

* *Lao Pilot Inception Ceremony*

Launched in June 2024, the Lao PDR pilot focuses on integrated water management and early warning systems (EWS) in Khammouane Province's flood-prone Xebangfai River Basin. The initiative aims to strengthen national forecasting capacity and local response readiness. The event convened national and provincial stakeholders, signaling strong government ownership and cross-sectoral cooperation for climate-resilient development. Read more

* *Thailand Pilot Launch*

In July 2024, the Thailand pilot was launched in Bung Khla Sub-district, Bueng Kan Province, introducing a smart water management system to improve the tap water supply across three local villages. The pilot combines ROK innovation with strong local participation, aiming to improve service efficiency and resilience to water stress. The launch showcased collaboration between national agencies, provincial government, and community networks. Read more

Through these launch events, the project not only introduced WEF Nexus-tailored solutions to national and local stakeholders but also reaffirmed each country's ownership and commitment to the pilot initiatives. These gatherings served as platforms for knowledge-sharing and peer learning, enabling participating countries to exchange experiences and good practices—thereby strengthening South-South cooperation under the broader subregional framework. Additionally, the events provided valuable networking and visibility opportunities with development partners in each country, including ROK Embassies, the UN Resident Coordinator Offices (UNRCO), UNDP, and other key stakeholders.

The project aims to deliver tangible results for at least three pilots—Cambodia, Lao PDR, and Thailand—by September 2025, with ROK companies playing a central role in the following areas:

- Conducting technical assessments and preparing site-specific solution proposals.
- Overseeing the transfer and installation of technical facilities and equipment.
- Leading capacity-building programmes for local communities and institutional stakeholders.

For the Lao PDR and Thailand pilots, facility installations are scheduled for completion by May 2025, after which efforts will focus on:

- Optimizing facility operations;
- Delivering targeted capacity-building to support sustained usage.

Similarly, the Cambodia pilot is also expected to complete its installation by May 2025, with post-installation efforts dedicated to:

- Ensuring long-term sustainability through the effective operation of installed facilities;
- Implementing capacity-building programs for national and sub-national stakeholders.

In parallel with field implementation, the project continues to emphasize strategic communication, partner visibility, and logistical coordination to ensure smooth execution and long-term impact. Activities are focused on:

- Showcasing project outcomes through targeted outreach and documentation;
- Managing operational challenges—including customs, shipping, and installation timelines—to support timely and effective pilot rollouts across all sites.

To highlight the real-world impact of each pilot, the project will develop multimedia promotional materials—such as videos, photo essays, and testimonials—featuring human-centered success stories. These materials will play a key role in partnership engagement and visibility efforts scheduled for Q4 2025, targeting regional stakeholders and development partners.

The project continues to invest significant effort in managing the logistics of equipment delivery, including shipping, customs clearance, and inland transportation. Ensuring timely and efficient delivery to pilot sites remains a top priority, requiring close coordination with national authorities, local partners, and ROK solution providers to avoid delays and support seamless implementation.

Capacity Building

The Training of Trainers (ToT) programme, led by the Mekong Institute (MI), has significantly strengthened the capacity of working-level officials and community stakeholders from the four Lower Mekong countries. The training deepened participants' understanding of the Water-Energy-Food (WEF) Nexus, enhanced project management skills, and supported the development of effective pilot implementation strategies.

The second ToT, conducted in September 2024 across multiple sites in the Republic of Korea, engaged 24 participants (including 5 women) in a structured learning visit. The programme highlighted Korea's urban and rural applications of WEF Nexus solutions, offering participants exposure to practical models and policy frameworks that could inform their national efforts. (Annex 3: TOT Report)

Post-training evaluations revealed a 26.32% increase in knowledge related to WEF Nexus integration and pilot project execution. Over 80% of participants rated the training methodology as highly effective. Feedback underscored the value of case-based learning, peer-to-peer exchanges, and real-world site visits in helping participants to refine and advance their national pilot designs.

Overall, this capacity-building initiative has contributed to strengthening technical know-how, regional collaboration, and the sustainability of pilot interventions, while reinforcing the enabling environment for South-South and triangular cooperation across the Mekong region.

Project Visibility and Advocacy

The project actively promoted the Nexus approach, Science, Technology, and Innovation (STI), and South-South and triangular cooperation through strategic advocacy and partnerships.

80th ESCAP Commission Session Side Event

Mekong Forum 2025

8th International Meeting on Triangular Cooperation

3rd GMS Agriculture Minister's Meeting

In 2024, the project continued to gain visibility through high-level platforms such as the *2024 Mekong Forum*, the *8th OECD International Meeting on Triangular Cooperation*, the *GMS Agriculture Ministers' Meeting*, and the *80th ESCAP Commission Session*, reinforcing regional collaboration, policy influence and fostering new partnerships. These efforts are documented through news articles and visibility materials on the project page.

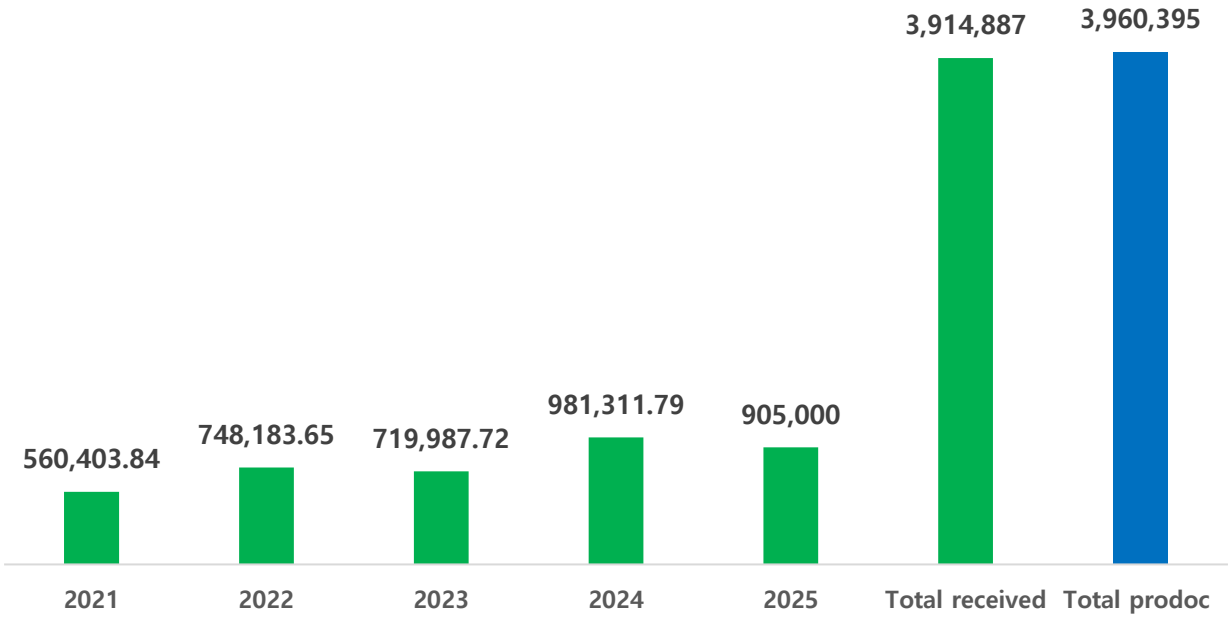
FINANCIAL STATUS

As of May 2025, the Government of the Republic of Korea (RoK) has contributed a total of USD 3,914,887 to the P-LINK project through five installments by the Ministry of Science and ICT (MSIT):

- USD 560,403.84 (KRW 655,000,000) in September 2021
- USD 748,183.65 (KRW 968,000,000) in June 2022
- USD 719,987.72 (KRW 938,000,000) in June 2023
- USD 981,311.79 in July 2024
- USD 905,000 in May 2025

A difference of USD 45,508 between the total project budget and actual funds received is attributed to KRW-USD exchange rate fluctuations during the contribution period.

Figure 3: P-LINK Financial Status – Funds received



CHALLENGES AND INNOVATIONS

1. **Governance and Institutional Coordination**
   Delays were caused by complex approval processes, inter-agency coordination barriers, and staff turnover.
   - *Mitigation:* Strengthened government-private sector engagement, streamlined administrative procedures, and adapted to stakeholder-specific regulatory systems.

2. **Procurement and Logistical Constraints**
   Technical needs identification, equipment delivery, and customs clearance were delayed due to procurement bottlenecks and transport limitations.
   - *Mitigation:* Introduced buffer periods, advanced planning, and engaged local actors to support shipping and customs procedures.

3. **Infrastructure and O&M Limitations**
   Remote pilot sites lacked stable power, internet, and transport infrastructure, complicating installation and long-term maintenance.
   - *Mitigation:* Explored introducing context-specific innovations—e.g., solar panels, LoRa networks, WiFi HaLow, and manual transport methods.

4. **Technology Adaptation and Localization**
   Adapting advanced technologies to local contexts required significant adjustments to address site-specific limitations.
   - *Innovation:* Developed hybrid power systems, translated interfaces into local languages, and customized designs for rural application.

5. **Public-Private Partnerships and Multi-Stakeholder Engagement**
   Integrating ROK private sector actors into local implementation required new engagement models and stronger coordination.
   - *Innovation:* Pioneered public procurement-driven PPPs, aligning Korean technical expertise with national priorities and fostering ROK-local company collaboration.

WAY FORWARD AND RECOMMENDATIONS

Building on the foundation laid over the past years, the P-LINK initiative continues to demonstrate relevance and effectiveness in addressing Water-Energy-Food (WEF) security challenges across the Lower Mekong Basin. The following forward-looking recommendations are proposed to guide implementation in 2025 and beyond:

1. **Strengthen Coordination and Operational Efficiency**

Despite progress, implementation delays due to administrative bottlenecks and coordination gaps remain a key challenge. Moving forward, the Project Team will:

- Work closely with national counterparts to streamline internal processes;
- Improve timeline alignment across agencies and implementation partners;
- Foster stronger communication mechanisms, particularly between national authorities, UNOSSC, and ROK partners.

2. **Accelerate Pilot Completion and Maximize Impact through Realistic Sustainability and Scalability Measures (Exit Plan)**

As recommended by the Steering Committee, the Project Team—together with ROK partners—should prioritize the timely completion and long-term impact of all pilots scheduled for completion by September 2025. To this end, the following actions are recommended:

- Maintain close oversight of facility installation, promptly address technical issues, and strengthen local capacity in operations and maintenance (O&M).
- Document lessons learned during implementation and actively showcase key achievements to support the final project evaluation and knowledge-sharing efforts.
- Secure operational sustainability of each pilot by Q4 2025 through reinforced local engagement and alignment with national priorities for scaling up.
- Where feasible, link successful pilots to national or regional funding channels or multilateral financing to sustain and scale impact beyond the project's life cycle.

3. **Deepen Policy Integration and Regional Cooperation**

To build on momentum from national dialogues and the Regional Stakeholder Forum:

- Support policy alignment across water, energy, and food sectors;
- Facilitate cross-border learning through peer exchanges and regional knowledge-sharing;
- Leverage WEF Nexus approaches in future regional policy and program design.

4. **Promote Local Innovation and Inclusive Technology Transfer**

The project is in the course of demonstrating success in adapting STI solutions to local contexts. To amplify this:

- Support local innovators and research institutions through tailored partnerships and training;
- Continue engaging ROK solution providers in adaptive co-design and local capacity-building;
- Translate technical tools and materials into local languages to enhance usability.

5. **Advance Gender Inclusion and Community Empowerment**

- Gender-responsive approaches must remain integral to all stages of project implementation. The Project Team will:
- Prioritize women's participation in technical training, decision-making forums, and leadership roles;
- Work with country partners to integrate gender in WEF-related policies and pilot design;
- Ensure inclusive engagement of vulnerable groups at the community level.

Looking Ahead

In its final year of P-LINK, the project will prioritize scaling up pilot outcomes, enhancing regional collaboration, and securing long-term sustainability. Strong national ownership and continued support from partners will be essential to transforming pilot results into lasting, climate-resilient development across the Mekong region. The project also aims to distill good practices and lessons learned to inform similar efforts in other regions facing integrated resource management challenges.

P-LINK
People's Livelihoods Initiative through water-energy-food Nexus in the MEKONG Region

Finetuned Results Framework of RoK-UNOSSC Facility (Phase 3) as of Jun 2025

OUTCOME LEVEL (last two indicators to be reviewed)

The RoK-UNOSSC Facility (Phase 3)/P-LINK's outcomes are aligned with the Basin Development Strategy (BDS) 2021-2030 of the Mekong River Commission and UN SDGs as follows:	·Outcome 1: Strengthened safe(clean) water, efficient energy and food security for basin community wellbeing. ·Outcome 2: Increased employment and reduced poverty among vulnerable people dependent on Mekong River Basin. ·Outcome 3: South-South and triangular cooperation approached used to facilitate quick transfer and adaptation of innovative solutions and technology applications conductive for supporting sustainable development policies that promote gender equality and empower disadvantaged groups.

RESULTS STATEMENT	DIMENSIONS	INDICATORS	DATA SOURCES	BASELINE	TARGET	FINAL	DATA COLLECTION FREQUENCY	RATIONALE
OUTCOME: Enhanced access to clean water in pilot project communities through more efficient energy use, contributing to improved food security via innovative technology transfer and strengthened South-South and triangular cooperation.	Relevance/ Effectiveness	% of community members reporting sustained access to clean water and improved household well-being 3 months (TBD) after facility installation.	Post-installation surveys/FGD completed by community members	2023	At least 50% satisfaction rate within 3 months of installation		One-time survey post-installation within 2025	Ensures the project meets its primary goal of improving access to clean water through efficient energy consumption and community well-being, reflecting alignment with SDG 6 (clean water and sanitation), SDG 7 (Affordable and clean energy).

		% of community members reporting sustained access to clean water and improved household well-being 3 months (TBD) after facility installation.	Follow-up surveys/FGD, stakeholder interviews, task force reports.	2023	At least 60% trained individuals applying skills effectively.		One-time survey within 3 months post-training.	Demonstrates the effectiveness of capacity-building initiatives and their contribution to sustaining project outcomes, ensuring local ownership and accountability.
	Sustainability	# of community-led task forces actively maintaining facilities 3 months post-establishment. (community guidelines, policy established**)	# of community-led task forces actively maintaining facilities 3 months post-establishment. (community guidelihne, policy established**)	2023	One active task force per pilot site.			Focuses on the sustainability of the project by tracking the functionality of maintenance mechanisms.
		% of facility users reporting manuals as effective in guiding proper usage and maintenance.	% of facility users reporting manuals as effective in guiding proper usage and maintenance.	2023	At least 75% of users reporting positive feedback.			Ensures distributed materials are practical and impactful, supporting effective use and maintenance of project deliverables.
	Scalability	# of pilot initiatives	Documentation of replication	2025	At least 1 replication			Focuses on the

		replicated or scaled up in other communities or regions	initiatives, meeting records.		within 2 years after project completion.			sustainability of the project by tracking the functionality of maintenance mechanisms.
		# of formal expressions of interest from additional stakeholders to adopt pilot models. (Very ambitious, need to discuss)	Documentation of commitments (e.g., letters of intent, emails, meeting summaries)	2025	At least 2 formal expressions of interest by project end.			Tracks the broader impact and adaptability of pilot projects, aligning with the project's objective of promoting scalability and systemic change.

OUTPUT LEVEL

RESULT STATEMENTS	INDICATORS	DATA SOURCES	BASELINE	Targets (cumulative)					DATA COLLECTION FREQUENCY
				Y1/2022	Y2/2023	Y3/2024	Y4/2025	Final	
Output 1: Assessments and research conducted to identify and implement pilot projects, building on knowledge and data (sub-regional)	# of case studies produced analyzing WEF Nexus projects	Published case studies	2021 (0)	0	4	6	6	6	Verified upon publication of case studies
	# of consultative and planning meetings convened (Regional Stakeholder Forum, SC meetings, Project Team Annual workplan review and planning meetings)	Meeting reports	2021 (0)	3	6	8	11	11	After each meeting
	# of capacity-building training events conducted (MI regional TOT, virtual trainings, etc) - from 2023	Training reports	2023 (0)	N/A	N/A	2	4	6	Verified following the completion of each training event.
Output 2: WEF nexus models projects designed, targeting identified sites leveraging South-South learning and partnerships.	# of WEF nexus models designed	Project data base	2023 (0)	N/A	3	4	4	4	Verified after each pilot design proposal
	# of meetings convened to prepare for the design of the pilots (e.g. national consultations, ROK stakeholder consultations and assessment meetings of the ROK companies)		2023 (0)	3	7	26	36	36	Quarterly
	# of stakeholders (institutions) engaged during WEF nexus model design		2022 (8)	8	16	20	30	30	Quarterly
	# of people engaged during WEF nexus models projects design (total/female)		2023 (0)	43/15	64/27	72/31	72/31	72/31	Quarterly

OUTPUT 3 (WORK IN PROGRESS, DRAFT BELOW OUTPUT 4)

RESULT STATEMENTS	INDICATORS	DATA SOURCES	BASELINE	Targets (cumulative)					DATA COLLECTION FREQUENCY
				Y1/2022	Y2/2023	Y3/2024	Y4/2025	Final	
Output 4: Advocacy and knowledge products developed and disseminated to promote SS & TrC exchanges.	# of advocacy and knowledge products developed and disseminated (publication, annual reports, promotional materials)	Published case studies	2022	0	3	6	**7**	**10**	Annually
	# of press release and media coverage	Media	2022	9	18	59	**70**	**70**	
	# of SS & TrC exchanges facilitated (advocacy, regional forums, national launch, etc.)	Project Database	2021	2	7	15	**20**	**20**	
	# of participations in advocacy events (total female)		2021	67/31	176/76	220/102	**250/110**	**250/110**	

*****our target for now**

OUTPUT 3 (WORK IN PROGRESS)

***our target for now

RESULT STATEMENTS	INDICATORS	COUNTRY	DATA SOURCES	BASELINE	Targets (cumulative)					DATA COLLECTION FREQUENCY
					Y1/2022	Y2/2023	Y3/2024	Y4/2025	Final	
Output 3: WEF nexus pilots implemented in participatory manner.	# of WEF pilot projects implemented	4	Proj. DB	2024	N/A	N/A	4	4	4	Annually (set figure)
	DIRECT BENEFICIARIES FROM THE PILOT									
	# of trainees who received capacity building trainings provided by ROK private sector under the pilot (total/female)	CAMBODIA	Project database, training report, Trainee List	2024	N/A	N/A	0	**20**	**20**	After each training session
		LAO PDR					0	**100**	**100**	
		THAILAND					24	**30**	**54**	
		VIET NAM					0	**TBC**	**TBC**	
	# of people with better access to clean water for household usage (total/female)	CAMBODIA	Household surveys, facility usage records	2024	N/A	N/A	0	**1637**	**1637**	After facility installation
		LAO PDR					N/A			
		THAILAND					0	**3916**	**3916**	
		VIET NAM					0	**2500**	**2500**	
	Amount (Ton) of water supplied for agri.(KH)/aqua.(VN) purposes	CAMBODIA	Facility water supply logs, agricultural reports	2024	N/A	N/A	0	**965**	**965**	After facility installation
		LAO PDR					N/A			
		THAILAND								
		VIET NAM						**74**	**74**	
	Amount of renewable energy (energy efficiency) used to produce clean water (kWh)by installed facility (to be measured after installation)	CAMBODIA	Facility energy monitoring records, Facility report	2024	N/A	N/A	0	**TBC**	**TBC**	After facility installation
		LAO PDR					N/A			
		THAILAND					0	**TBC**	**TBC**	
		VIET NAM					0	**TBC**	**TBC**	

RESULT STATEMENTS	INDICATORS	COUNTRY	DATA SOURCES	BASELINE	Targets (cumulative)					DATA COLLECTION FREQUENCY
					Y1/2022	Y2/2023	Y3/2024	Y4/2025	Final	
Output 3: WEF nexus pilots implemented in participatory manner.	# of data generated & shared based on two water facility installed from May - September (2025)	LAO PDR	Facility reports, system monitoring data	2024	N/A	N/A	0	**43200**	**43200**	After facility installation
	Enhanced water monitoring and management system	CAMBODIA	Facility reports, system mon. data	2024	N/A	N/A	0	1	1	After facility installation
		LAO PDR					0	1	1	
		THAILAND					0	1	1	
		VIET NAM					0	1	1	
	# of beneficiaries with better informed water monitoring system (total/female)	CAMBODIA	Training and awareness session reports, surveys	2024	N/A	N/A	N/A			After system development
		LAO PDR						**6000**	**6000**	
		THAILAND					N/A			
		VIET NAM								
	# of staff members directly employed for the pilots (total/female)	CAMBODIA	Facility and training reports, etc. (facility installation, mgmt.., maintenance, capacity dev. etc.)	2024	N/A	N/A	0	**TBC**	**TBC**	After each relevant activity (facility installation, O&M, trainings)
		LAO PDR					0	**TBC**	**TBC**	
		THAILAND					0	**TBC**	**TBC**	
		VIET NAM					0	**TBC**	**TBC**	
	INDIRECT BENEFICIARIES FROM THE PILOT									
	# of impact stories (Overall community members' satisfaction of their livelihood through the facility installation/capacity building etc.)	CAMBODIA	FGD, baseline and endline assessments, featured in the pilot showcasing videos produced by the ROK private sector	2024	N/A	N/A	0	1	1	Before pilot completion
		LAO PDR					0	1	1	
		THAILAND					0	1	1	
		VIET NAM					0	1	1	

Third Steering Committee Meeting for Triangular Cooperation Project on Sustainable Development in the Lower Mekong River Basin based on the Water-Energy-Food (WEF) Nexus [RoK-UNOSSC Facility Phase 3/P-LINK] (Project ID: 00127005)

Meeting Minutes

Date: 28 June 2024
Venue: Hybrid meeting (Mekong River Commission Secretariat, Vientiane, Lao PDR)
Agenda: Refer to Annex 1
Participants: Refer to Annex 2
Meeting photos: https://rb.gy/mq39xz
Annexes: https://shorturl.at/BVsuW

Opening Remarks

Ms. Xiaojun Grace Wang, Trust Fund Director of the UN Office for South-South Cooperation (UNOSSC) and Acting Chair of the Steering Committee, welcomed all members of the Committee, and extended thanks to the participants from ROK private sector as invited to update the Steering Committee. She emphasized that the Steering Committee is a vital mechanism for leveraging collective wisdom and decision-making to ensure timely and results-based project implementation. She highlighted that the project had a highly productive year in 2023 and noted that 2024 is a crucial year, with the actual implementation of technical pilots in four countries. The first inception ceremony for Lao PDR's pilot has been completed, with the Thai pilot launch scheduled for July 1, and the Cambodia and Vietnam pilots to follow in the coming weeks. She recognized the project team's efforts in finalizing the design and rollout of the pilots through a thorough assessment of local needs and capacities and the sourcing of appropriate technology solutions from the Republic of Korea. She encouraged the meeting to not only review the progress made so far but also examine the immediate plans for 2024 and consider the long-term sustainability and scalability of the project.

Ms. Eunyoung Huh, Director of the Multilateral Cooperation Division, International Cooperation Bureau at the Ministry of Science and ICT (MSIT) and the Steering Committee Co-Chair, congratulated the project on reaching the milestone of rolling out technical pilots through close consultations with governments, experts, communities, and relevant stakeholders from Cambodia, Lao PDR, Thailand, and Viet Nam. She shared the Ministry's expectations that the project's outcomes will successfully contribute as a key outcome of the ROK's Strategy by harnessing technology and innovative digital solutions to address climate change in the Mekong region. She expressed her hope that the meeting would facilitate the project stakeholders in reaching a better understanding of the progress and reaffirm future commitments and capacities.

Dr. Surasri Kidtimonton, Chairperson of the Mekong River Commission (MRC) Joint Committee for 2024 (Secretary-General of the Office of National Water Resources and Thailand National Mekong Committee Secretariat), expressed gratitude and honour in representing the four countries as the 2024 Steering Committee member of P-LINK. Dr. Kidtimonton highlighted the significant milestone marked by the recent launch of Lao PDR's pilot project and the upcoming launch of Thailand's project on 1 July 2024. He commended P-LINK as a platform for discussions, knowledge sharing, technology transfer, and collaboration. Since its inception in 2021,

the project has achieved several milestones, including the finalization of pilot projects in each member country and the identification of compatible technological solutions to enhance access to water, food, and energy. He acknowledged that the project's success had been supported by national consultative forums, regional meetings, and capacity-building workshops. Dr. Kidtimonton looked forward to updates on 2023 implementations and 2024 plans, as well as technical information on pilot projects and project management. He also expressed hope for the project's continued progress and its impact on local communities.

Dr. Seung Woo Yang, Acting President of the Science and Technology Policy Institute (STEPI) congratulated the project for delivering milestone activities thus far. He highlighted the longstanding partnership between MSIT, UNOSSC, and STEPI since 2010 under the three phases of the ROK-UNOSSC Facility to promote sustainable development in developing countries. He also emphasized that the active participation, strong interest, and support of national and local governments, communities, and other stakeholders in the lower Mekong River basin countries are essential for the success of the national technical pilots in demonstrating the successful applications of science and innovations to create synergies between water, energy, and food. He also stressed that policy alignment, partnership strengthening, technology transfer, and capacity building must be considered from the outset to ensure the project's scalability and sustainability. Dr. Yang reaffirmed STEPI's commitment to providing unwavering support to ensure the successful implementation of the national pilot project using innovative technology solutions from Korea.

Adoption of the Agenda

The proposed Agenda (Annex 1) for the meeting was adopted, without any other business recommended for inclusion.

Note: The meeting fulfilled the minimum requirements for a quorum as laid out in the project document.

Agenda Item 1: Project Overview, 2023 Work Progress, 2024 Work Plan and Suggested Way Forward

Ms. Yejin Kim, Project Manager, recaptured the overall structure of the project. She reminded the Steering Committee that the project initially focused on structural mechanisms and governance at the national level but has since expanded to include technical pilots at the local level. These pilots will be executed in partnership with the Mekong River Commission Secretariat (MRCS), Mekong Institute (MI), and Korean private sector companies, with respective National Mekong Committees (NMCs) serving as national focal points.

She reported on the project progress since the previous Steering Committee, recapped key discussions and advice from the previous meeting (Refer to Annex 3: Project Mgmt. PPT), including the review of 2022 work plan and approval of 2023 work plan, UNOSSC restructuring, and the integration of a multisectoral modality with the annual Regional Stakeholder Forum. She reminded that the Steering Committee also suggested postponing the midterm evaluation and refining the project's results framework to align with regional policies and incorporate country-level indicators. In line with the initial design of the project as well as previous Steering Committee recommendations, Ms. Kim reported that the project has improved and further detailed its results framework to reflect the planned results of the agreed upon activities for each pilot. The results framework has also been simplified and expanded to include measurable outcomes to quantify direct and indirect beneficiaries' access to water, renewable energy, and food security, particularly for women. The project has completed publication of two knowledge products (STEPI and MI) that are being disseminated throughout the various advocacy events, designed the technical pilots in the four countries, initiating public-private partnership by engaging the ROK technology companies (STEPI), delivered first regional training of trainers (MI) and convened the second regional stakeholder forum and required national consultative meeting to finetune the pilot design.

She presented the proposed 2024 work plan to be endorsed by the Steering Committee as summarized in Table 1.

Table 1: Summary of Consolidated 2024 Work Plan (Year 4)

Output	**Activities**	**Remarks**
Governance	3rd Steering Committee	28 June 2024
Output 3	Implement national pilots by procuring tailored innovative solutions from ROK private sector (led by STEPI with support from ROK companies and NMCs) - Detailed assessment - Facility installment - Capacity building	- Selection and procurement of ROK companies through ROK public procurement - Detailed pilot design and assessment of procure ROK companies - Approval from countries and official launch of the national pilots
	Pilot launch/inception events (Project Team)	Q2 onwards (Lao PDR held on June 28, Thailand on July 1, Cambodia August 8-9, Viet Nam tentatively in October)
	Second Regional CB Training (MI)	Study tour in the ROK (Sep 22-27) - Structured Learning Visits on Exploring the Republic of Korea's Good Practices under the Water-Energy-Food (WEF) Nexus Framework
	Third Regional Consultative Forum (MRCS) - Technical progress of the pilots - Reinforce the networking - Present the knowledge products developed - Linkages of national pilots & regional work	End of November Invite other related initiatives and stakeholders (beyond project stakeholders
Advocacy	Raise project visibility and showcase innovative solutions for WEF nexus through South-South and triangular cooperation	ESCAP 80th Commission, Mekong Forum, Asia Water Forum, etc.
Monitoring and Mgmt.	Self-assessment of the project in Q4	Replacing a mid-term evaluation by an independent evaluator, and serve as a peer-learning exercise
	Spot check for STEPI	UNDP corporate policy for responsible parties receiving more than USD 150,000/year
Exit strategy	Finetune scalability and sustainability plans in parallel with pilot implementation	

She also elaborated on the challenges and issues faced by the project as listed below:

- Multi-stakeholder coordination (clear roles and responsibilities, time management);
- Piloting a new approach (public procurement/open bidding of ROK companies by STEPI) resulting in learning-by-doing to overcome unexpected risks and difficulties;
- Changes and delays in administrative/operational arrangements;
- Postponement of roll out of the pilots.

On the way forward, she requested for greater ownership and leadership from partner countries both at national and local level to expedite the pilot implementation and yield impact on the ground. She informed that the project team has prepared an initial exit plan for sustainability and scalability of the pilots. As living documents, sustainability and scalability plans serve to guide the project to think and plan beyond the project completion, ensuring the transferred solutions and capacities can be operated and managed by national and local stakeholders even after the project ends. The project will also showcase tangible achievements and successful factors in various advocacy and networking occasions.

Agenda Item 2: Detailed 2022 Work Progress and 2023 Work Plan by Implementing Parties (STEPI, MRCS, MI)

- *Science and Technology Policy Institute (STEPI)* (Refer to Annex 4: STEPI PPT)
  Dr. Hwanil Park, Chief Director, Division of Global Innovation Strategy at STEPI recaptured the project objectives and STEPI's key activities to be delivered in line with the project document, which are as follows:
  1. Establish WEF Nexus Knowledge and data system
  2. Design and implement WEF Nexus models for pilot projects
  3. Contribute to capacity building activities
  4. Support effective coordination among the Steering Committee members

  He informed that STEPI has produced a publication on WEF nexus related projects by drawing the lessons learnt from the three case studies[1], and a policy paper entitled, "Insights from the case studies on the Water-Energy-Food Nexus and its STI implications for the SDGs in Mekong region". He also shared about the advocacy and networking activities conducted by STEPI last year including side events at 2023 UN STI Forum.

  With regards to technical pilots, additional site visits and technical consultations were made for Thailand and Viet Nam to identify the local needs and available solutions. In parallel, STEPI organized several ROK technical expert group meetings to prepare the initial technical proposals for the pilots. These proposals have been submitted to NMCs accordingly. Also, STEPI supported NMCs to conduct local assessments of the pilot sites.

  Most of all, STEPI's endeavour for public-private partnership was successfully realized through ROK public procurement mechanism. As a result, ROK tech companies for Cambodia, Lao PDR and Thailand have been procured. (Note: company for Viet Nam pilot will be procured in Q3. Refer to STEPI's PPT slide # 12).

- *Mekong River Commission Secretariat (MRCS)* (Refer to Annex 5: MRCS PPT)
  Mr. Thanawat Wetchapan, Project Coordinator at MRCS delivered the presentation on behalf of Mr. Santi Baran, Chief of Strategy & Partnership Officer, Office of CEO. Mr. Wetchapan summarized that one regional forum, and five national forums/visit were arranged in 2023 and first half of 2024, closely liaising with NMCs. He highlighted the Second Regional Stakeholders Consultative Forum facilitated project stakeholders to exchange on technical solutions proposed by ROK experts and its implementation modality. Furthermore, he noted that the regional stakeholders built a consensus on next actions, including project information notes, follow-up field visits (as needed), additional surveys, and milestones for national project endorsement and launch by 2023/early 2024.

  In 2024, MRCS will continue to facilitate the consultative process between the partner countries and the Project Team for roll out and implementation of the pilots. Scheduled for Q4, the Third Regional Stakeholder Forum aims to broker sharing of experiences from the pilot implementation and finetune exit strategies.

- *Mekong Institute (MI)* (Refer to Annex 6: MI PPT)
  Mr. Suriyan Vichitlekarn, Executive Director of MI stressed that the Institute has been actively contributing to the project by focusing on capacity development. Since the project's inception, MI has been responsible for designing, implementing, and following up on capacity-building activities to ensure interlinkages among various project components and support the timely implementation of project plans.

  In 2023, MI developed a study on "Sustainable Development in the Lower Mekong Basin: Building Forward Better toward COVID-19 Recovery with Water Energy Food (WEF) Nexus Approach through South-South and Triangular Cooperation", which was discussed and disseminated at the Second Regional Forum. It also advocated the P-LINK project approach through participation in forums like the Asia Development Bank (ADB) policy dialogue and Stockholm Environment Institute (SEI) regional roundtable, emphasizing the need for

[1] Case study of Nexus in Korea and utilization for LAC countries, Water and Energy for Food (WE4F) and Urban Nexus

interagency collaboration and innovative approaches. Last but not least, it also conducted the first Regional training of trainer (ToT) and a follow-up online meeting to ensure the participants serve as a community of practice in designing and implementing national pilots.

In 2024, MI will carry out the Second TOT as a study visit in the ROK, focusing on preparing pilot countries for scalability and sustainability beyond the project timeline. This includes visits to Korean agencies like K-Water and STEPI to learn from their experiences. MI will also connect the Nexus approach with the Greater Mekong Subregion Economic Cooperation Program and to feature the project at the upcoming Mekong Forum, aiming to explore future opportunities for collaboration and continuation beyond the project's current phase.

MI will work closely with MRCS and STEPI to design the training curriculum as well to convene the workshops and monitor the learning curve of the trainees.

Agenda Item 3: Presentation about technical solutions for pilots in Lao PDR and Thailand

ROK private sector representatives for Lao PDR and Thailand presented their proposed solutions for the respective sites. (Refer to Annex 7-1 and Annex 7-2: Private Sector PPTs).

The Lao pilot focuses on two main goals: data integration and system sustainability. It includes installing solar-powered automatic gauge stations for consistent data transmission, even in low sunlight. To address the limited data sharing among agencies, the project aims to integrate and standardize databases. An AI-based flood forecasting model is introduced for early warnings, complemented by a capacity-building plan with training workshops for officials and local communities. The plan targets effective operation, maintenance, and scalable sustainability of the Flood Forecasting and Warning System (FFWS).

The Thai pilot aims to address issues such as water loss, water quality, and energy efficiency by utilizing AI, IoT, and cloud technologies, with a focus on smartening the current water system and reducing water loss. WI. Plat representative highlighted the potential benefits, including job creation for local women, improved water management efficiency, and the possibility of lowering water supply costs through digital technology integration.

Table 2: Summary of proposed solutions in the two countries

Country	ROK solution provider	Proposed work
Lao PDR	Hermesys & JLSOFT (consortium)	• Provide advisory services for the design of a National Water Resources Data Management Center (NWRDMC) and the development of mid- and long-term plans. • Install hydrological gauge stations and early warning posts, and develop a real-time information system. • Facilitate capacity building and knowledge sharing to ensure local ownership and sustainability.
Thailand	WI. Plat	• Provide advisory services: Conduct a comprehensive water system assessment and validate GIS data to design a customized water monitoring system. • Implement advanced systems: Build a Supervisory Control and Data Acquisition (SCADA) system and monitoring center, implement an Intelligent Water Loss Management System, install IoT devices for water leak detection, and establish a smart water billing system. • Facilitate capacity building: Offer training and knowledge-sharing sessions on water loss prevention, energy efficiency, and water service improvements to ensure local ownership and sustainability.

Agenda Item 4: Comments and feedback from Steering Committee members

With reference to pilots, Mr. Baran proposed the budget breakdown (cost for the ROK company, equipment, capacity building activities, etc.) to be shared with countries as they would be keen to know. He also underscored the importance of harmonizing/integrating applied local solutions with the relevant national systems, instead of leaving them as standalone facilities/solutions.

Acknowledging Mr. Baran's suggestions, Dr. Park emphasized that the ROK companies are aware of harmonizing the solutions and they will consult closely with national and local government stakeholders to do so. He also noted that the budget breakdown could be shared by companies with countries later.

The Chair also stressed the need to integrate the pilot solutions to national systems and requested the Steering Committee and the Project Team to plan on required scaling-up strategies.

Mr. Vichitlekarn proposed featuring P-LINK in the upcoming Mekong Forum, which focuses on digitalization, innovation, and technology, particularly in agriculture, energy, and the environment. MI requested support for one representative from each target country under P-LINK to attend the forum, as it would provide valuable learning and engagement opportunities related to the Nexus approach. The proposal hinges on budget considerations, and MI seeks the Steering Committee's approval and discussion with relevant partners to facilitate this participation. He also shared that MI is working to include the "Nexus" concept approach in its next strategic plan 2026-2028.

The committee has taken note of the request for supporting member countries' participation in the Mekong Forum. The Chair suggested that budget availability could be assessed based on AWP to be approved by the Steering Committee. If there is sufficient budget balance room, the request may be accommodated.

With regards to the pilots, the meeting discussed about active local stakeholder engagement, operations and management arrangement of the pilot for sustainable project success and long-term benefits for the local community.

Agenda Item 5: Project Quality Assurance (QA), Social and Environmental Screening Procedure (SESP)

On behalf of Mr. Bhushan, Result Management Specialist at UNOSSC, the Project Manager delivered a presentation on Project Quality Assurance (QA) and the Social and Environmental Screening Procedure (SESP) (Refer to Annex 8: UNOSSC PPT). She informed that QA and SESP are critical components of the UNDP's corporate framework, ensuring that projects align with organizational standards throughout their lifecycle. QA is mandatory at key stages—design, implementation, and closure—evaluating 21 criteria across strategic relevance, principled approaches, management, efficiency, effectiveness, sustainability, and national ownership. Low scores in any of these criteria necessitate risk management plans, and QA findings are presented to the Project Board to inform decision-making. Importantly, QA is conducted independently from project management, ensuring an objective assessment of project quality.

The SESP plays a vital role in assessing and managing the social and environmental impacts of projects. It is implemented at the same stages as QA and involves comprehensive screening and risk categorization, with high or moderate-risk projects requiring the establishment of grievance mechanisms. The procedure emphasizes stakeholder engagement, ensuring affected populations are informed of UNDP's accountability mechanisms. Timely implementation of SESP, particularly with field observations, is essential for mitigating risks. Both PQA and SESP highlight the need for improved project monitoring, gender equality, capacity building, and enhanced oversight by the Steering Committee/Project Board to ensure the quality, timeliness, and sustainability of project outcomes. The project manager has informed the project stakeholders on SESP mechanisms directly at the launch of pilots and at the Steering Committee where members of the committee will further pass on the information to relevant local stakeholders.

During the design phase, QA was initiated and SEPS was conducted. At the project implementation stage, QA and SESP were completed in April 2024. The internal assessment provided some recommendations including expediting the implementation to capture measurement on the ground and incorporate exit strategies for project sustainability and scalability. The project quality assurance presentation highlighted the importance of integrating feedback from the steering committee and the quality assurance exercise into action plans. She requested the continued oversight, guidance and support from the Steering Committee and ensured that the project will deliver expected results in close collaboration with responsible parties and country stakeholders.

Agenda Item 6: Project risk treatment actions and plans, scalability and sustainability plans

The Project Manager discussed risk treatment actions and implementation timelines based on recent Quality Assurance (QA) and Social and Environmental Screening Procedure (SESP) findings (Refer to Annex 9: UNOSSC PPT). The exit strategy, which will be a working document open to further refining in collaboration with country stakeholders, was also presented. MI, STEPI, and UNOSSC have developed realistic and actionable scalability and sustainability plans, which will be elaborated in partnership with MRCS and country stakeholders at the upcoming Regional Stakeholder Forum.

The project prioritizes stakeholder engagement, ensuring that solutions are adapted to local needs rather than imposed by UNDP. The exit strategy is built on three pillars: advisory services and knowledge products, advocacy and networking through the multi-sectoral nexus platform, and further technical interventions in pilots and capacity building. Ongoing consultations with MRCS and participating countries will continue to define future actions, and the team remains committed to regularly updating the steering committee on progress.

Feedback from SC members:

- Mr. Baran (MRCS) highlighted the critical need for financial sustainability in the project, emphasizing that it must be completed within the existing budget of USD 500,000 without additional funds. He pointed out that this approach reduces the risk of an incomplete project and ensures tangible outcomes. Mr. Baran also stressed that operation and maintenance (O&M) costs should not exceed the initial investment and should be incorporated into the national budget for long-term sustainability. He proposed re-evaluating the budget breakdown to align with the project's financial goals and offered to lead this effort with national focal points and the secretariat.

  Additionally, he underlined the importance of considering O&M costs when choosing technology for projects. He cautioned that high-end technology might not always be practical due to O&M considerations. He recommended a thorough O&M cost analysis involving STEPI and the private sector to ensure the selection of suitable equipment.

- Mr. Vichitlekarn (MI) suggested working backward from the project's end to refine scalability and sustainability plans throughout its implementation. He recommended using upcoming regional capacity-building training, stakeholder forums, and steering committee meetings as key milestones to continually assess and ensure these goals are met. Additionally, he proposed exploring opportunities for scalability and sustainability beyond the current project framework by engaging with international partners and events, emphasizing that these considerations should be integrated into every phase of the project, including quality assurance and data collection.

- Ms. Huh, the meeting co-Chair, emphasized the critical importance of implementing an evaluation as a key component of the sustainability plan. While acknowledging that the sustainability plan is solid, she underscored that effective implementation of the evaluation is essential to ensure the project's long-term success.

- Ms. Wang, the Chair, stressed the importance of taking a practical approach to sustainability and scalability. While acknowledging the general principles of sustainability, such as delivering tangible results within budget and managing operation and maintenance costs, she highlighted the need for concrete action. She

stressed the importance of being realistic, acknowledging that while many issues may be identified, it's crucial to prioritize and address a manageable number within the project's scope. **The Chair encouraged implementing institutions (MRCS, MI, STEPI and UNOSSC) to propose at least one actionable item they could lead within the project to advance sustainability and scalability.** Examples included conducting an operation and maintenance cost analysis or considering system design implications for scaling up. The Chair reiterated that the Steering Committee holds shared accountability and urged members to refine and solidify their action points following the discussion.

- Dr. Park (STEPI) expressed agreement with the suggestion for each party to take leadership in specific activities related to sustainability and scalability. He emphasized the importance of identifying champions within the project to lead these efforts. Additionally, he requested examples from the UN system, asking if there are best practices or similar cases from other UN agencies that have successfully achieved sustainability and scalability. He suggested that sharing these examples with all members could provide valuable guidance on developing activities and roadmaps for the project's sustainability and scalability efforts.

- The Chair also shared with the meeting that that discussions had begun on how to mobilize additional resources, not only for the current project phase but also to explore relevant financing mechanisms for sustainability. The idea is to map existing financing options that align with the project's nexus and technological leverage, and to build the capacity to access these resources.

Agenda Item 7: Financial status and proposed arrangements (mid-term evaluation, spot checks, monitoring)

The Project Manager provided an update on the project's financial status (Refer to Annex 10: UNOSSC PPT), noting that three tranches have been received since 2021, with two additional instalments of approximately USD 1.9 million expected as of June 2024. She also presented on the project's evaluation plans. Initially, the project was designed to include both a midterm and final evaluation. However, due to resource constraints and additional requirements for spot checks, the project management proposes conducting only a final evaluation, in line with UNDP's Independent Evaluation Office's evaluation guidelines for projects of this scale (USD 3-5 million).

She requested the Steering Committee's approval to reallocate the USD 30,000 budget initially set aside for the midterm evaluation to other necessary oversight, monitoring, and project management activities. Additionally, the project team plans to conduct a self-review towards the end of Q3 or early Q4 to assess progress, document achievements, conduct peer-learning and knowledge sharing, identify areas for improvement, and refine the exit strategy. The Project Manager sought the Steering Committee's flexibility and approval for these proposed adjustments.

The Committee members discussed the proposals and considered such adjustment of plan is reasonable, considering the timeline of project, remaining budget, and increased measures of spot checking. They also agreed that peer-learning type of review is most valuable to the project in line with its nature as a South-South and triangular cooperation facility. The committee confirmed the proposal to conduct a single external evaluation, which will serve as the final evaluation of the project. The Chair advised that if no mid-term evaluation, the project would benefit from a self-assessment engaging all key stakeholders. This exercise would provide an opportunity for project stakeholders to review and reflect on the progress, limitations, and lessons learned together. Especially as the pilots advance on the ground in four developing countries, knowledge-sharing among them can be facilitated through this joint review exercise. This approach will also help the project team plan and prepare for the final evaluation scheduled for 2025.

The USD 30,000 originally allocated for the midterm evaluation will be reallocated to support other necessary activities, such as spot checks and minimal investments in sustainability and scalability. This budget will be used according to the approved work plan. The Steering Committee's decision is to move forward with a single final independent evaluation and conduct a peer learning exercise in place of the midterm evaluation.

The Committee also discussed and agreed to the importance of continuing the appointment of the project manager and cover the cost till the completion of the project.

Agenda Items 8 & 9: Issues requiring Steering Committee decisions and any other items

The Chair outlined four decision points for the Steering Committee: 1) approve the 2024 work plan and reallocate savings from the midterm evaluation to spot checks and invest in sustainability and scalability actions; 2) conduct only a final independent evaluation, replacing the mid-term evaluation with a peer-review assessment to inform the final evaluation; 3) extend the project manager's budget to the end of the project; and 4) set a date for the next Steering Committee meeting. The Chair asked the Committee to review these points, propose a concrete action for sustainability, raise any objections or concerns, and suggest a meeting date.

Table 3 summarizes major issues discussed and the decision made by the Steering Committee in moving forward.

Table 3: Items discussed and Steering Committee's Decision

Item	Main discussion issue	Decision
1	Approval of 2024 Work Plan and Fund Allocation	Endorsed
2	Budget for Project Manager in 2025	Endorsed
3	Evaluation Arrangement: Self-review assessment (mid-term) and final evaluation	Self-assessment in Q4 2024 - Project Mgmt. Team develop a guidance note outlining a methodology for the project's review process. This should include a framework for each partner to conduct a self-review, followed by a cross peer review exercise. Final evaluation: Q3 (July/Aug) 2025 - Independent evaluation arrangement, finding to be incorporated in the design/development of the next phase of cooperation
4	Next SC Meeting Arrangements	Convene two meetings next year: 1. Q1 2025 to monitor the progress of the pilots 2. Q4 2025 (final review meeting) after the final evaluation, as an opportunity for the Steering Committee to review the results (could be linked with a showcasing event)
5	O&M Analysis for the pilots	Endorsed
6	Exit strategies (Sustainability and scalability plans)	Each stakeholder to contribute at least one realistic action focused on sustainability and scalability

Closing Remarks

The Chair concluded the meeting by expressing gratitude and emphasizing the importance of continuing to mobilize partnerships, particularly strengthening the strategic partnership with the Republic of Korea and all involved partners. She acknowledged the challenges encountered during the project, expressed confidence in the Steering Committee, partners, and the project team's ability to overcome them, and successfully move the project forward. She also conveyed her hope that the project's success and experiences would serve as a foundation for expanding collaboration in the long term.

Ms. Huh, the co-chair, recognized the importance of the SC meeting in reviewing progress and jointly planning upcoming activities. She expressed her commitment to collaborating with and supporting all implementing institutions. She affirmed the Government of Korea's strong commitment to addressing WEF nexus issues in the four LMB countries: Cambodia, Lao PDR, Thailand, and Viet Nam.

Dr. Kidtimonton expressed appreciation for the informative meeting, commended the hard work of all stakeholders, and looked forward to the tangible results of the project in supporting Mekong communities.

Signed by:

DocuSigned by:
Xiaojun Grace Wang
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Ms. Xiaojun Grace Wang
Trust Fund Director, UNOSSC
and the acting Chair of the Steering Committee

Date: 18-Sep-2024

Signed by:

Eunyoung Huh

Ms. Eunyoung Huh
Director, Multilateral Cooperation Division
International Cooperation Bureau, MSIT
and the Steering Committee Co-Chair

Date: 24-Sep-2024

Group Photo

3rd Steering Committee Meeting proceedings

Group Photo of in-person participants

MEKONG INSTITUTE

STRUCTURED LEARNING VISITS ON

EXPLORING THE REPUBLIC OF KOREA'S GOOD PRACTICES UNDER THE WATER-ENERGY-FOOD (WEF) NEXUS FRAMEWORK

COMPLETION REPORT

September 23 - 26, 2024

Daejeon, Sejong, Jeonju, and Incheon Metropolitan City, Republic of Korea

P-LINK People's Livelihoods Initiative through water-energy-food Nexus in the MEKONG Region

Ministry of Science and ICT

United Nations Office for South-South Cooperation

STEPI SCIENCE AND TECHNOLOGY POLICY INSTITUTE

MRC MEKONG RIVER COMMISSION FOR SUSTAINABLE DEVELOPMENT

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ACKNOWLEDGEMENTS

First and foremost, we wish to express our profound gratitude to the Ministry of Science and ICT (MSIT) of the Republic of Korea (RoK) for their generous financial support which made this project possible. We also extend our sincere thanks to the delegates from the four Lower Mekong countries for their active participation throughout the course, particularly during the fruitful discussions. Their dedication, especially in contributing to the development of group presentations was crucial and will surely benefit the implementation of their national pilot projects in the future.

We would like to extend our heartfelt thanks to MI's in-house resource persons and the external experts from each study site for their invaluable support and contributions. Their expertise greatly enriched the discussions on cutting-edge technologies and sustainable solutions to the Water-Energy-Food (WEF) challenges which will undoubtedly serve as essential resources for our delegates as they work toward developing their national pilot projects. Their generosity in hosting our visit left a profound impact on the project's success.

Lastly, we wish to convey our deep appreciation to our collaborative partners, including the United Nations Office for South-South Cooperation (UNOSSC), the Science and Technology Policy Institute (STEPI), and the Mekong River Commission Secretariat (MRCS). Without their considerable efforts and support, this structured learning visits' success would not have been possible.

Sustainable Energy and Environment Department
Mekong Institute
October 2024

COURSE INTRODUCTION

Introduction

Course Background

In 2021, the project titled "Triangular Cooperation on Sustainable Development in the Lower Mekong Basin based on the Water-Energy-Food (WEF) Nexus" (RoK UNOSSC Facility Phase 3 and P-LINK) was launched to enhance access to water, food, and energy for vulnerable communities in the Lower Mekong Basin (Cambodia, Lao PDR, Thailand, and Viet Nam). To support national pilot implementation, the Republic of Korea's Ministry of Science and ICT (MSIT) and the United Nations Office for South-South Cooperation (UNOSSC) collaborated with various institutions, including the Mekong River Commission Secretariat (MRCS), Mekong Institute (MI), and Korea's Science and Technology Policy Institute (STEPI). This partnership aims to improve stakeholder knowledge in national pilot design and indicators while promoting professional networks for implementation.

Against this backdrop, MI proposed to organize the second regional capacity building activity as Structured Learning Visits (SLVs) titled “Exploring the Republic of Korea's Good Practices Under the WEF Nexus Framework.” The overarching objective is to equip national and local officials with the skills and examples needed to integrate technologies and sustainable practices for addressing WEF challenges and developing national pilot projects.

This SLVs were scheduled from September 23 to 26, 2024, and held at seven selected locations in Daejeon City, Sejong City, Jeonju City, and Incheon Metropolitan City, Republic of Korea. During this period, participants had the opportunity to visit facilities demonstrating advanced WEF technologies, observe firsthand operation and maintenance of the technologies, and participate in networking sessions with Korean experts and practitioners.

Course Objective

- To observe practical examples of the successful integration of technologies and sustainable practices addressing WEF challenges; and
- To equip participants with practical skills for the national pilot implementation.

Course Participants

The SLV had 19 participants, as illustrated in **Figure 1**. According to the initial plan, we invited five delegates from each of the four Lower Mekong countries, namely Cambodia, Lao PDR, Thailand, and Viet Nam. However, due to unforeseen circumstances related to a passport issue, one delegate from Lao PDR was unable to attend the event.

The participants included representatives from the National Mekong Committee, local government officials, district governors, administrators, and members of technical departments, primarily from the ministries of environment and agriculture.

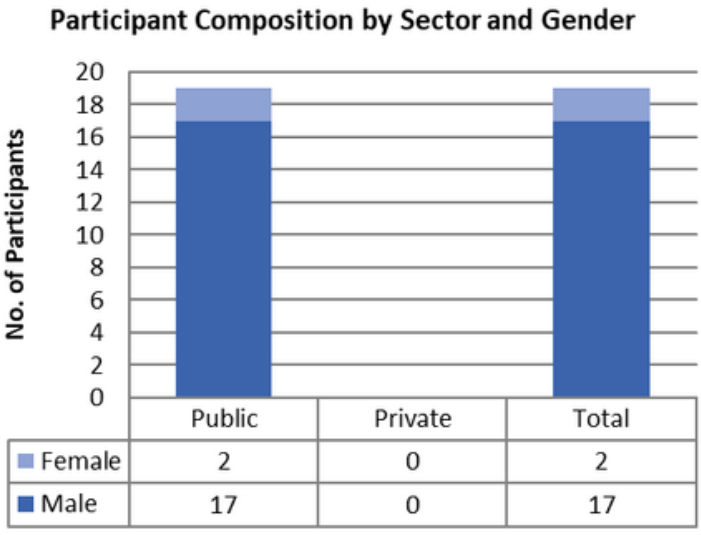


Figure 1. *Participants' Distribution by Sector and Gender*

COURSE ACTIVITIES

Online Pre-trip Briefing

The online pre-trip briefing was held virtually via Zoom on August 5, 2024. The session aimed to provide delegates with essential information about the SLV in advance. The content of the briefing covered the following topics:

- Event overview and schedule
- Guidelines for country group assignments
- Details of each study site and accommodation information
- Departure and arrival instructions
- Packing and preparation tips

Structured Learning Visits

The selection of sites was based on two main criteria. The first criterion focuses on the relevance of the following technologies and strategies: water leak detection systems, solar photovoltaic (PV) water pumping, Integrated Water Resources Management (IWRM), desalination systems, disaster risk reduction, and climate change mitigation. These technologies and strategies are utilized in the national pilot projects of the participating countries, ensuring that the visits are directly aligned with and beneficial to their ongoing efforts.

The second criterion is based on feedback from participants during the recently concluded follow-up activity titled “National Pilot Implementation Progress Update under the WEF Nexus Framework.” Participants emphasized the importance of maintenance and troubleshooting for each technology, with a focus on lifecycle management and maintenance skills for local technicians and communities.

Apart from that, the event also promoted knowledge on replicating these technologies in other communities, expanding their capacity, and installing them in new areas.

The participants had an opportunity to visit seven selected sites where they were situated in four different cities as follows: Daejeon, Sejong, Jeonju, and Incheon metropolitan city. The narratives below will explain the details of what the delegation have learned during each site and the order will be put according to the actual schedule.

Site 1:

K-water and K-water Research Institute (KWRI)

The first site to visit was K-water Head Office, led the tour by Ms. Youngmin Hong, Associate Director, Korea-Mekong Water Center, K-Water. She started by introducing the history of K-water since its establishment as Korea Water Resources Development Corporation. There are four main business areas where K-water is taking care of: water resources management, water supply service, renewable energy, and smart water cities. Apart from the national scale, K-water has been engaged in global business since 1993, stepped into the first public-private partnership in 2012, and established the Asia Water Council (AWC) later in 2016. After her presentation, the delegation group were taken to see the demonstration rooms for education and experience zone. Those focus on specific area which were drought and groundwater management. The concept of both were explained with the showcase of innovative tools and equipment which some are designed to be applicable to utilize in the developing countries and even least developed countries. Their centralized database has shown how easily people can track the current situation of each particular community area or rural area, the systems were varying upon the field including early warning systems for flood prevention where they can check the level of current river level to avoid overflow flood, drought monitor and soil quality check, and groundwater classification for possibility of future investments with calculation function.

After finished exploring the facilities in the head office, the delegation groups moved to visit the KWRI. The activity at the institute began with another presentation from Dr. Jihye Kim, Principal Researcher of Water & Wastewater Research Center, KWRI. She introduced the KWRI which is a part of K-water. The institute is structured into several research centers, each focusing on different aspects of water management and technology. She also highlighted the institute's main research areas and products, such as integrated water environment management technologies, water treatment solutions, infrastructure safety management, and green energy innovations like floating photovoltaics.

After the introduction of KWRI, Dr. Jihye moved on to the presentation on an overview of seawater desalination technologies, focusing on reverse osmosis (RO) processes. She discussed the evolution from distillation-based to membrane-based desalination methods, highlighting energy efficiency improvements. She then detailed various components of the RO desalination process, including intake methods, pretreatment techniques, and post-treatment procedures. Plus, she also outlined K-water's current desalination projects in the RoK, particularly emphasizing the large-scale Daesan Industrial Complex project and its significance in addressing water scarcity issues.

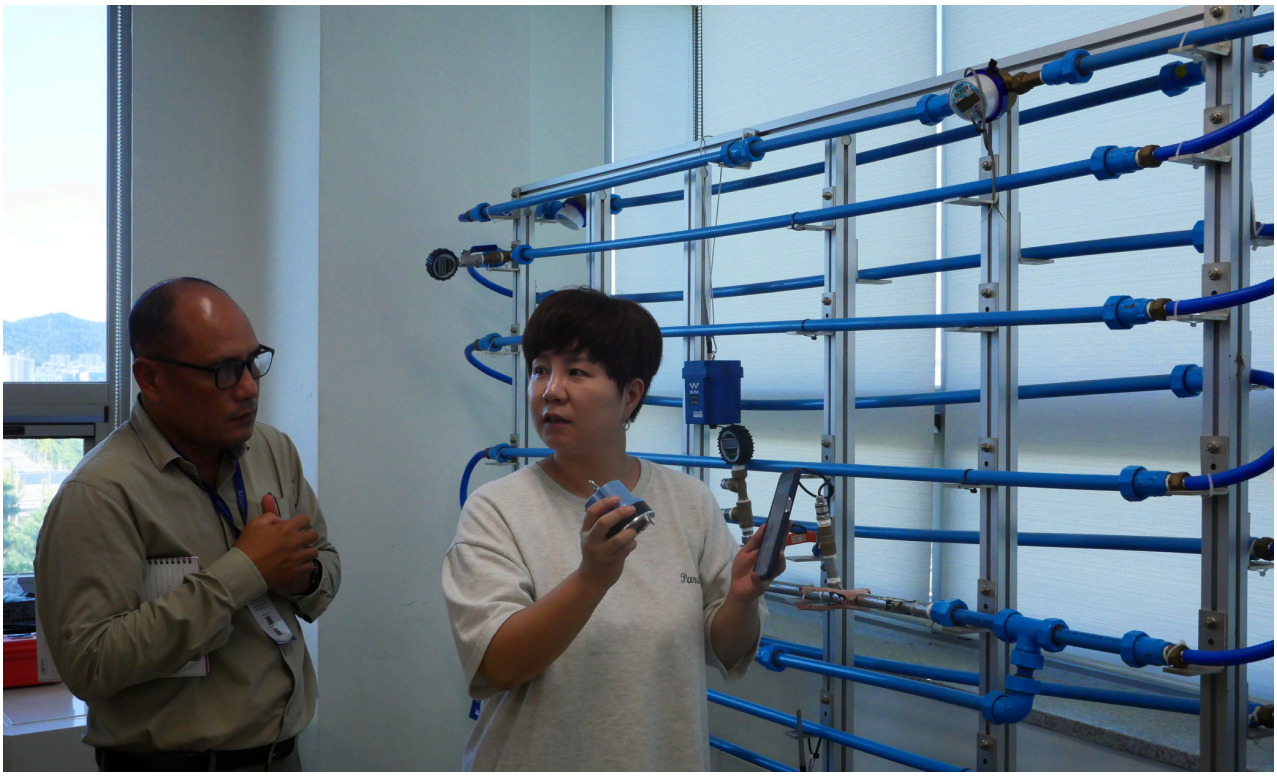
Once finished all the presentation session, the team were taken to the water treatment demonstration plant, where Dr. Jihye walked through the different interventions on the industry waste water, various types of chemicals were using for each of the tank to see the effectiveness of each chemical substance. Later, she took the group to another room showing the diagram of ultra-pure water process for water treatment. The use of microfiltration and ultrafiltration for the production of drinking water have been shown from its inception since the pre-treatment process to pure water process and how the procedure led to the end with the ultra-pure water process

Site 2:

WI.Plat Co., Ltd.

Their journey continued at WI.Plat, a private company involved in Thailand's national pilot project on water leakage detection systems. The visit began with the presentation from the representative of the overseas marketing department. She introduced WI.Plat, an in-house venture of K-water, and their innovative Intelligent Water Leakage Management Platform. The global issue of water leakage was highlighted, emphasizing its economic and environmental impacts. She then detailed WI.Plat's line products for leak detection utilizing AI technology, including the Mobile Acoustic leak sensor & Logger for leak inspection and Mobile Acoustic Logger for precise leak pinpointing. She explained how their devices, along with remote loggers like Remote Pressure Logger and Remote Acoustic Logger, integrate with their central data management and analysis server to form a comprehensive leak detection system. In addition to that, she also showcased the platform's effectiveness through case studies in the RoK and international projects in countries like Viet Nam, India, Indonesia, and Turkey. She concluded by demonstrating how WI.Plat's technology significantly reduces water loss and improves efficiency in leak detection compared to existing systems.

After the presentation, she showed how their devices really work through the demonstration of simulated pipelines. At the same time, several successful cases were examined with their online platform allowing the delegation to hear the actual leaking sound of the particular spot from different pilot sites.



Site 3:

Science & Technology Policy Institute (STEPI)

Dr. Dong-Un Park, Research Fellow, Office of Sustainable Innovation Policy Research, STEPI, delivered a comprehensive presentation on the STEPI at their main office in Sejong City. The visit to STEPI, a partner of the P-LINK project, provided an opportunity to tour their office and facilities. Dr. Dong-Un began by outlining STEPI's history since its establishment in 1987, tracing its evolution from the Center for Science and Technology Policy to its current form. He then elaborated on STEPI's organizational structure, comprising various research divisions focused on R&D innovation, future industries, global innovation strategies, and space policy. He detailed STEPI's main research areas, including the newly established Korea Space Policy Research Center and the Center for Asia-Pacific Strategy on Frontier Technology.

After the presentation, the delegation was taken to the Geumgang Pedestrian Bridge. The bridge is modeled after the city's circular design where it connects the central green space on the north side of the Guam River to the southern waterfront park, which houses sub-centers for culture, administration, and education. The bridge, the longest pedestrian bridge in the RoK, symbolizes the nation's history and culture and incorporates advanced engineering.

Site 4:

Rural Development Administration (RDA)

Proceeding to the next site, the RDA, an agriculture organization run under the Ministry of Agriculture, Food and Rural Affairs. Their core mission is to create the future value in agriculture, especially in the rural areas through leading science, technology, and innovations. They are focusing on the research and development, technology dissemination, and operating system. While we are aware that the RDA's technology and strategy may not be able to fully utilized and applied to the Lower Mekong countries at the current time, we expect the delegation to explore their innovations for the future advancement.

Dr. Seung-Oh Hur, Laboratory Head of Soil and Fertilizer Division, the National Institute of Agricultural Sciences (NAS), delivered an in-depth presentation on evaluating agricultural policies through the WEF Nexus. Dr. Seung-Oh started by highlighting the RoK's traditional agricultural policies, focusing on market stabilization, food security, and rural livelihoods. However, these policies have often been fragmented, addressing water, energy, and food resources separately, without a comprehensive framework to assess their overall impact. He emphasized that while recent policies, such as direct payment programs, have shifted towards environmental sustainability, they still lack mechanisms to evaluate synergies and trade-offs between agricultural resources like water, soil, and energy. Dr. Seung-Oh thus introduced the WEF Nexus as a holistic approach to address these gaps. Several projects were introduced, showing what RDA has been implemented in various countries. One of them is the Smart Nexus for Agriculture in Korea (SNAK) platform, where he showed how to track real-time data, demonstrating the calculation of soil carbon stock. The tool is designed to assess climate impacts on agricultural resources, and the Nexus Environmental Working for Sustainability-Integrated Platform for Agricultural Environment Conservation Program (NEWS-IPA), which supports sustainable agriculture through community-led conservation activities. Dr. Seung-Oh concluded by stressing the importance of integrated policy assessments to ensure long-term sustainability, particularly amid rising challenges such as climate change and resource scarcity. At the end of his presentation, he explained how their integrated platform work. The WEF evaluation tool shows the indicators to measure whether it sustainable or not. All data was available via website, allowing everyone to use the application. He guided the delegation through how to access to the platform to see how activities in a particular project in each community have been implemented with a post-implementation results and assessment.

The delegation then proceeded to visit the site managed by NAS where they observed an advanced agricultural technology called a "Lysimeter." This device is used to monitor water and nutrient transport through soil profiles under minimally disturbed conditions. NAS representatives guided the group to an underground room where the operational components of the Lysimeter system were located. The group were shown a real-time monitoring facility displaying various data points collected by the Lysimeter. Digital screens presented graphs and charts showing nutrient outflow, soil water content, weight changes of the soil column, and relevant environmental parameters. This technology allows researchers to precisely quantify water and nutrient dynamics in agricultural systems, contributing to the development of more efficient irrigation and fertilization practices.

Moving to the next building, National Institute of Agricultural Sciences (NIAS), Dr. Suk-Young Hong, Director of the National Agricultural Satellite Center (NASC) from Department of Agricultural Engineering, introduced the Compact Advanced Satellite (CAS) 500-4, a dedicated satellite designed to enhance monitoring capabilities in agriculture and forestry. The CAS500-4 is positioned to have a major impact on improving the accuracy of environmental and agricultural data collection. Managed by NASC under the NIAS, this satellite will provide essential information to support initiatives in smart agriculture. The satellite's functions will include detailed assessments of crop yields, soil moisture, land-use changes, and forest health, ultimately contributing to sustainable agricultural practices and food security. One of the key objectives of CAS500-4 is to enable real-time monitoring of agricultural conditions, such as crop growth, pest outbreaks, droughts, and floods. The data will not only support precision farming but will also aid in agricultural policy-making, particularly in managing agricultural water resources and responding to the impacts of climate change. Dr. Suk-Young emphasized the satellite's role in integrating satellite imagery with drone technology, making it a vital tool for enhancing agricultural resilience and sustainability in the face of evolving environmental challenges.

The next destination is an apple orchard with automation farming system, there were auto irrigation system and sprinkling water facilities examined to the group. It was shown that the irrigation system can adjust water levels based on real-time data, ensuring that the apple trees receive optimal hydration without any excess or shortage. Apart from that, the water sprinkling facilities help manage temperature and protect the crops during hot weather or frost conditions.

At the final site under RDA, the group moving on to the Agricultural Technology Service Center in Iksan city to explore technology dissemination. RDA is taking an initiative on innovating technology dissemination, introducing the programs with the public-to-private sectors and universities. Several places were introduced with demonstration program. Firstly, the group went to visit the warehouse that stores the various type of machine like mini tractor and small grain seeders for local farmers to rent. The presenter explained that the local farmer support program is supported by the government where it allows the farmer to rent the machine with 0.04% rental fee of the purchase price. Next, the presenter guided the group to observe the microorganism incubator, explaining that the device establishes optimal conditions for growing microorganisms, including bacteria and fungi, by regulating temperature, humidity, and gas composition. Lastly, the group visited the rooms focused on the bread-making process, showcasing each step from inception to completion. The demonstrations included sterilizing containers, preparing and mixing ingredients, the baking process, packing, and cleaning the equipment. Moreover, the branding of the containers was emphasized, illustrating the entire cycle involved in supporting the private sector and highlighting efforts to assist startup businesses.

Site 5:

Climate Technology Centre and Network (CTCN) Partnership and Liaison Office

Mr. Hoyoung Jo, Climate Technology Specialist, UN CTCN, delivered a presentation on an overview of the CTCN and its technical assistance activities, with a particular emphasis on the WEF nexus. Operating under the UNFCCC's Technology Mechanism, the CTCN supports developing countries through a demand-driven approach, responding to requests from National Designated Entities (NDEs). His presentation highlighted that 36% of current technical assistance projects are related to the WEF nexus, addressing critical challenges in climate-resilient agriculture, water management, and sustainable food production. Key trends in this area include the implementation of solar-powered irrigation systems, the use of digital technologies for drought monitoring and climate adaptation, and training on sustainable farming practices.

Mr. Hoyoung also provided several examples of completed technical assistance projects in the WEF nexus across different regions. These included promoting solar irrigation technology for smallholder farmers in Ghana, identifying climate-smart agriculture practices in Indonesia, and developing customized weather and climate information systems for climate-resilient agriculture in Nepal. Lastly, he introduced concept notes for potential multi-country projects, such as agrivoltaics and aquaponics, which aim to integrate renewable energy production with agriculture and aquaculture.

Site 6:

United Nations Office for Disaster Risk Reduction Office for Northeast Asia & Global Education and Training Institute (UNDRR ONEA & GETI)

Upon arrival at the site, the group was taken to the Songdo waterfront area where they attended a presentation by representatives of the Development and Planning Division of the Incheon Free Economic Zone (IFEZ). The presenters introduced the Waterfront Development Project, which is divided into different phases. The project is designed to be a major disaster prevention initiative in Incheon to protect against heavy rainfall and flooding while creating a 21km-long waterway system that doubles as a recreational space around Songdo International City. With a large number of investments planned through 2027, the project combines various practical infrastructure, including floodgates and embankments, with public amenities such as artificial beaches, marina facilities, and water sports centers. The first phase, completed in June 2022, established a waterway with parks and water-friendly spaces, while subsequent phases are scheduled for completion by 2027, transforming Songdo into a marine-friendly city with improved flood protection and public waterfront access.

Moving to the next spot, the IFEZ Smart City Integrated Operation Center, the delegates had an opportunity to see the central management hub for managing IFEZ's smart city infrastructure, which was established in 2014. From this location, they observed how the center operates 24/7 to oversee three main districts: Songdo International Business District, Yeongjong District, and Cheongna International City. It provides five essential public services: real-time CCTV monitoring, coordination between institutions, emergency response management, public safety alerts, and distribution of civic information. The facility has become a global benchmark for smart city operations, showcasing how advanced IT infrastructure can enhance urban management and citizen services.

Finally, the group moved to the UNDRR ONEA & GETI office after finishing their visit to the IFEZ operation center. Mr. Sanjaya Bhatia, Head of ONEA & GETI, UNDRR, gave a presentation on the applications of technology to reduce disaster and climate risks. He highlighted the growing human cost of disasters and the changing environment, emphasizing intensifying disaster trends, resource scarcity, and increasing governance challenges. Mr. Sanjaya introduced the Sendai Framework for Disaster Risk Reduction 2015-2030, which aims to substantially reduce disaster risk and losses. He also discussed the digital divide, its causes, and potential solutions, stressing the importance of digital equity and inclusion in disaster risk reduction efforts. He then showcased several examples of how technology is being used to address disaster and climate risks. These included Korea's Flood Forecasting and Warning System, a self-quarantine management system, and citizen reporting platforms for emergency response. Mr. Sanjaya continued by highlighting cross-border initiatives such as the Central Asian Flood Early Warning System (CAFEWS) and data exchange agreements, like the one in Paraguay between the Space Agency and Ministry of Health. He emphasized the importance of comprehensive monitoring networks, citing the USA's National Weather Service's extensive flood gauge network as an example.

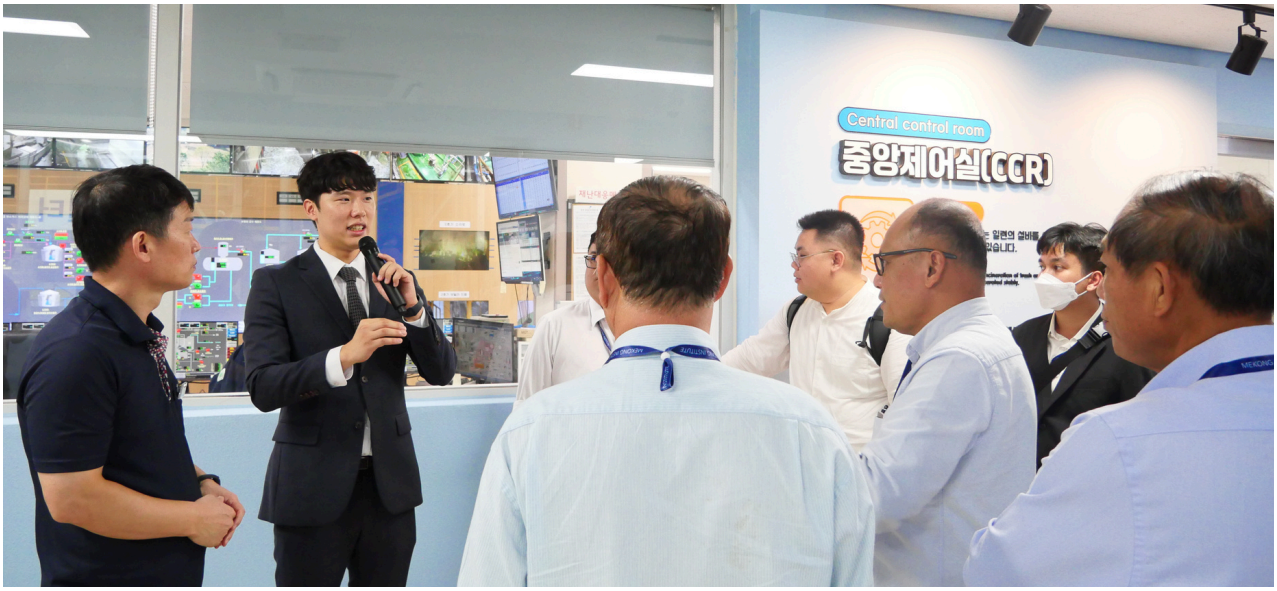
Site 7:

Environmental Corporation of Incheon (ECO-I)

The final site visited by the group was the ECO-I Songdo Office, located in Songdo District. While the SLV primarily focuses on the WEF nexus, the organizing team also included waste management systems in the tour itinerary. This provided an opportunity to broaden the delegates' perspective on sustainable community development. By observing how waste management intersects with various aspects, particularly public wellbeing, delegates gained insights into creating sustainable solutions that go beyond traditional sector boundaries to better serve their communities.

The visit began at the public relations center, where Mr. Cheolhyun Park, Overseas Cooperation Officer, Planning and Public Relations Office, ECO-I, presented on the company's business model and provided an overview of the ECO-I Songdo Office. The group then examined model diagrams of the schematic-driven process, followed by an inspection of the household waste entry point and odor management systems. After learning about the overall waste management procedure, the group visited various facilities within the building, starting with the crane room and waste storage tank. Mr. Cheolhyun demonstrated household waste removal using cranes and explained the pre-treatment process for safe incineration operations. He noted that liquid-containing waste is stored for three days until completely drained, after which incineration takes only one hour. Cranes are used to mix trash from different districts to maintain optimal moisture levels and balance for incineration as different types of waste generate varying levels of heat.

At the incinerator with waste heat boiler, the group learned about the incineration process and the role of SNCR (selective non-catalytic reduction). The process includes filtration to remove non-flammable substances, nitrogen removal to reduce heat from the air, and neutralization of toxic pollutants. The resulting ashes are repurposed for brick manufacturing. The tour continued to the central control room which showcased the automated incineration process and efforts to control air pollution and reduce pollutants. A key highlight was the food waste facility, designed to process discarded food materials through various treatment methods, including composting, animal feed production, and dehydration.



Country Presentations

After visiting all the sites, the delegates were organized into country teams to analyze the technologies and practices observed during the site visits. Each team was tasked with selecting 2-3 case studies to present on the final day. The presentations were structured to address the following questions:

1. What are the key features and functionalities of the selected technologies or practices?
2. What specific challenges or barriers might arise when implementing these advanced technologies or practices in your respective countries?
3. What potential adaptations or modifications could be made to optimize these technologies or practices for your pilot project?
4. What capacity building programs would be beneficial for future implementation?

The delegates presented an in-depth review of each case where they explored the potential applicability of Korean technologies in their respective countries through the following key case studies:

Cambodia

Case 1: Water Use Technique (Drip/Spray Irrigation)

The Cambodian team highlighted the potential of drip and spray irrigation techniques to optimize water use in agriculture, especially with reliance on groundwater. They noted barriers such as limited technical knowledge within farming communities, challenges in maintaining equipment, and the need for accessory replacement. The team recommended targeted training programs on water conservation techniques, system maintenance, and promoting soil quality awareness to enhance agricultural productivity.

Case 2: Agricultural Ecological System

Focusing on the integration of drones, remote sensing, and AI for advanced agricultural monitoring, the team recognized the system's potential to detect soil conditions, water shortages, and crop health. However, they identified significant challenges, including the high costs of equipment, a lack of technical skills in data interpretation, limited internet infrastructure, and financial constraints for farmers. Recommended adaptations included government incentives to encourage the adoption of non-chemical fertilizers, partnerships with private companies for resource-sharing, and public awareness initiatives to support climate-resilient farming practices.

Case 3: Climate Change Information System

They evaluated the use of satellite and GIS technology for drought and flood forecasting, emphasizing its importance for early warning and disaster risk reduction. Key challenges included inadequate internet and electricity infrastructure, limited historical data for forecasting, and insufficient human resources to manage and interpret data effectively. The team suggested developing a comprehensive historical data database, implementing nature-based solutions, and promoting stakeholder engagement to improve community awareness and disaster preparedness.

Lao PDR

Case 1: Water Resources Operation Center

The Lao team identified the potential of implementing a water monitoring dashboard like that of K-Water, which provides weather forecasts, flood/drought forecasts, and hydropower monitoring. However, current data collection in Laos is manual, and data integration between departments is limited. A lack of an advanced platform for data sharing, coupled with reluctance from departments to share information, poses challenges. The team proposed a phased approach, starting with core monitoring stations to focus on essential system elements and gradually building toward a broader platform.

Case 2: Community Water-Related Disaster Risk Reduction

They addressed flood forecasting and early warning, noting that current data collection is manual and prone to inaccuracies. Limited budgets, staff shortages, and gaps in digital access hinder effective monitoring. The team recommended enabling local authorities to independently access forecasting systems and using community speakers for alerts to improve digital inclusivity. Regular communication from local authorities to communities was also encouraged to enhance preparedness and engagement.

Case 3: Auto Irrigation System and Farmer Training Program

To boost agricultural resilience, the team proposed an auto-irrigation system together with a farmer training program. However, high investment costs, limited operational expertise, and resistance from local communities pose obstacles. As a solution, they suggested starting with a small pilot plot managed by district agricultural offices to demonstrate effectiveness to the community. The establishment of regular farming school sessions, as inspired by RoK's model, was proposed to encourage ongoing skill development and promote alternative agricultural practices beyond rice cultivation.

Thailand

Case 1: Water Leak Detection System

The Thai team examined the "NELOW" intelligent water leak detection system, noting the difficulties in implementation due to non-unified water pipeline systems across the project areas which complicates installation. Other barriers include a lack of local technical expertise and delays due to dependence on equipment and parts sourced from the RoK. To enhance local applicability, the team proposed capacity-building initiatives for local technicians, focusing on operational and maintenance training, along with translation of the system's mobile application into Thai to facilitate easier usage and maintenance by local operators.

Case 2: Water Treatment Technology

Their presentation also covered K-Water's water treatment technology, mentioning specific challenges related to the fluctuating turbidity of the Mekong River and the seasonal variance in water characteristics which impact chemical usage. Besides, frequent power outages and the lack of a connected water supply system hinder stable operation. Proposed adaptations included downsizing the system to better fit the area, exploring alternative energy sources like solar power and developing a dedicated water supply network for more reliable operation.

Viet Nam

Case 1: Seawater Desalination Technology

The team highlighted the challenges in adapting medium-to-large scale desalination technologies (developed by K-Water) to smaller, pilot projects in Vietnam. The differing water conditions, particularly fluctuating saline levels in brackish water, require technology modification for local relevance. In addition to that, concerns were raised about the availability of spare parts, maintenance support, and the need for operator training to ensure sustainable operation and maintenance (O&M) post-project handover.

Case 2: Integrated Water Resources Management (IWRM)

Emphasizing the importance of centralized water management, the team recommended that Viet Nam should consider a “one-stop shop” model for water resources management, similar to the RoK's approach. They identified potential barriers, including gaps in the legal and institutional frameworks, limited funding, and varying capacities among stakeholders. The team suggested conducting further research to assess which IWRM components could be realistically adopted within the Vietnamese context, considering resource and structural constraints.

Case 3: Adaptive Agricultural Practices

The Vietnamese team recognized the importance of supporting farmers in transitioning to climate-resilient agricultural practices. They pointed out that barriers such as limited financial resources and farmers’ capacity to adopt new technologies need to be addressed. Their presentation emphasized the necessity of government support mechanisms to improve farmers’ access to skills, technologies, and markets, with suggestions for capacity-building programs to introduce adaptive practices in response to climate change.

Project's Progress Monitoring and Evaluation

Four indicators based on the SLV's four key guiding questions have been developed to measure the results of the engagement and participation throughout the SLV in four dimensions:

1) Technical Solution;

2) Limitations/Concerns;

3) Application; and

4) Capacity Building

In addition, to give those results a bigger picture and show a close connection between the SLV and the whole P-LINK project, the results are linked and compared with the current project's progress/milestones (as of September 2024), especially on how the lessons learned from the SLV are connected with the national pilot projects and what steps are required to accelerate the project progress.

Structured Learning Visits (SLV)			Project Progress Monitoring	
SLV's Guiding Questions	**Indicator/s**	**Results**	**Project Progress/ Milestones as of September 2024**	**Way Forward/ Next Steps**
(1) Technical Solution: What are the key features and functions of the selected technologies/ practices?	The participants are able to identify at least 2-3 cases of RoK technologies/ practices, their key features, and functions and relate them with their national pilot project.	Based on the country presentations, the participants were able to identify at least 2-3 cases of RoK technologies/practices, their major features, and functions that could be applied in their home country.	• Technical solutions by the RoK experts for each pilot project identified and proposed to Member Countries. • Field assessment conducted to finetune the pilot implementation plan based on situational context and conditions.	• The project team & RoK experts to finetune and finalize the national pilot implementation plan, including detailed specifications of the technical solutions, in consultation with all relevant stakeholders, including taking lessons learned from the SLV into account.

		In addition, the participants demonstrated a good understanding of the selected technologies' features through clear examples and explanations, especially by highlighting key strengths and weaknesses of the interested technologies in line with their respective national pilot projects.	• Pilot launching events conducted in Cambodia, Lao PDR, and Thailand in Q2 and Q3.	• Accelerate the on-the-ground work.
(2) Limitations/ Concerns: Are there any specific challenges or barriers to implementing the advanced technologies/ practices in your home countries?	The participants are able to identify specific challenges or barriers to the selected technologies/practices in their home countries, including their own national pilot project.	The country presentations demonstrated the participant's understanding of limitations on technical application at both national and local levels. Limitations were generally identified as institutional/infrastructure problems, such as the lack of proper national institutions/ infrastructure frameworks in home countries to support the application of technologies. On the other hand, the participants highlighted challenges for implementing them at the local level, specifically, as part of their national pilot project.	• Throughout rounds of consultations, including regional and national consultative forums, the project stakeholders have identified similar concerns and limitations, especially regarding the proposed technology's compatibility and sustainability (O&M and financial aspects). • RoK experts and the project team took note of those concerns and are now addressing the comments in the project implementation plan accordingly.	• RoK experts and project team to ensure that the proposed technical solutions address these concerns raised by all stakeholders.
(3) Application: What potential adaptations or modifications could be made to these technologies/practices to better suit your pilot project?	The participants are able to determine potential specific challenges or adaptations or modifications that could be made to these technologies/ practices to better suit their respective pilot projects.	The participants were able to identify modifications that could be made to the introduced technologies to suit their pilot project better, highlighting the need for more support in capacity building,	• Before being fully operationalized, some projects need further refinements/adaptation, including enhancing local stakeholders' technical capacity for implementation, strengthening local authority governance of the project, and	• RoK experts and project team to ensure that the proposed technical solutions address these concerns raised by all stakeholders.

		institution framework improvement, stakeholder engagement, integration with local systems, translation, etc.	ensuring the technology's integration into the national/local system and compatibility and synchronicity with the existing systems.	• Some lessons learned from the SLV could be adapted and applied for the pilot implementation arrangement in each pilot project.
(4) Capacity Building: What capacity building programs would you prefer for the future?	The participants are able to recommend future capacity-building programs that suit their interests and demands, which are also applicable to their national pilot project.	The countries' participants identified some recommended capacity-building programs to be conducted in accordance with their national pilot project management, such as operating and maintaining the system, knowledge transfer for technical staff and field operators, financial mobilization, and adaptation skills.	• Capacity building activities (especially transferring of technical knowledge to local authority) are part of the project implementation plan.	• Project team to ensure that capacity-building programs as part of the national pilot project address key concerns and demands while prioritizing national and local ownership/leadership of the project. • Additional activities within the project to be discussed.

SLV Key Takeaways

- The participants demonstrated a good understanding of RoK technologies/practices' features and functions introduced during the SLV and were able to identify limitations and challenges for actual implementation in their home countries and, at the same time, suggest potential adaptations or modifications to be made. In so doing, the participants also linked these examples to their national pilot projects and described ongoing limitations and challenges and how they could be improved in practice according to their specific contexts.

- Capacity building remains an important aspect, strongly connecting the SLV to the project implementation on the ground. In essence, the participants highlighted the need for more capacity building, including knowledge transfer, for their technical staff and local stakeholders for project implementation, especially in enhancing technical knowledge on operation and maintenance and financial management. These capacities will strengthen national/local stakeholders' project ownership and accountability.

- The Participants raised some challenges regarding project sustainability and compatibility, which were to be addressed in line with their national pilot project implementation. This included limitations on the technical solutions' integration into the national/local system and their long-term sustainability after the project's completion (i.e., availability of spare parts, equipment durability, maintenance, and operation). It is important that the finetuning and consultation process of the national pilot project address these concerns.

- Some of the lessons learned and recommendations from the SLV could be taken into account and integrated into each national pilot project's design and implementation plan.

Overall Project Status

- As of September 2024, the national pilot project is progressing, with launching events taking place in three Member Countries and pilot site assessments arranged where necessary. The project implementation plans are being finetuned in line with each pilot site's requirements and based on actual situational contexts.

- As a way forward, the project stakeholders are to finalize all the details and initiate the groundwork by Q4 2024 or Q1 2025, in line with the project timeline. The project team is also required to discuss more about the implementation modality (including the logistics arrangements for shipping, pilot site management, capacity building, etc.).

- Advocacy events and regional meetings are under discussion (including the 3rd and 4th Regional Stakeholder Forums to be organized by the MRC Secretariat in 2025).

COURSE EVALUATION

The course employed an after-event evaluation method to assess the program's achievement against participants' expectations and gather feedback for future course improvements. It was done online through Google Forms.

A standardized set of questionnaires was used, including both closed- and open-ended questions on three major indicators: (a) Participants' perceived level of improvement of their knowledge and skills; (b) Level of satisfaction on the facilities and services provided by MI; and (c) Overall level of satisfaction on the SLV.

Using five-level Likert scales, the different components were rated with the following weighted average index (WAI) values:

Not Improved/ Met/Satisfied	Slightly Improved/ Met/Satisfied	Moderately Improved/ Met/Satisfied	Mostly Improved/ Met/Satisfied	Highly Improved/ Met/Satisfied
1.00	2.00	3.00	4.00	5.00

The following interpretations were used to describe the computed WAI values:

- Not Improved/Satisfied for WAI = 1.00–1.50;
- Slightly Improved/Satisfied for WAI = 1.51–2.50;
- Moderately Improved/Satisfied for WAI = 2.51–3.50;
- Mostly Improved/Satisfied for WAI = 3.51–4.50; and
- Highly Improved/Satisfied for WAI = 4.51–5.00.

Perceived Improvement of Knowledge and Skills, and Content Usefulness

To assess the effectiveness of the course, participants were asked to evaluate whether their knowledge and skills improved after attending the course and whether the training met their expectations. As shown in **Table 1**, participants reported a significant improvement in their knowledge and skills (WAI = 4.05) after completing the training program. These improvements were moderately significant. When participants were asked about the usefulness of each module in their work/organization, a positive rating was indicated.

Table 1. *Participants' Perception of Knowledge and Skills Gained from the Training Program*

Perception Indicator	WAI	Interpretation
Perceived improvement of knowledge and skills	4.05	Moderately improved
Relevance of knowledge and skills gained to their works	4.24	Mostly Satisfied
Level of confidence to utilize new knowledge and skills gained	4.05	Mostly Confident

Satisfaction on the Facilities and Services Provided by MI

Table 2. *Participants' Level of Satisfaction on Facilities and Services*

Logistic Facilities	WAI	Interpretation
Venues	4.81	Highly satisfied
Training Facilities	4.76	Highly satisfied
Accommodation	4.90	Highly satisfied
Food/Meals	4.48	Mostly satisfied
Transportation Arrangement	4.71	Highly satisfied
Support by MI Training Staff	4.90	Highly satisfied
Instruction during the Course	4.76	Highly satisfied

Overall Level of Satisfaction

Based on the results, the average rating for participants' overall level of satisfaction with the training program is 4.62 (highly satisfied), with the majority of participants giving a rating of highly satisfied (61.9 percent).

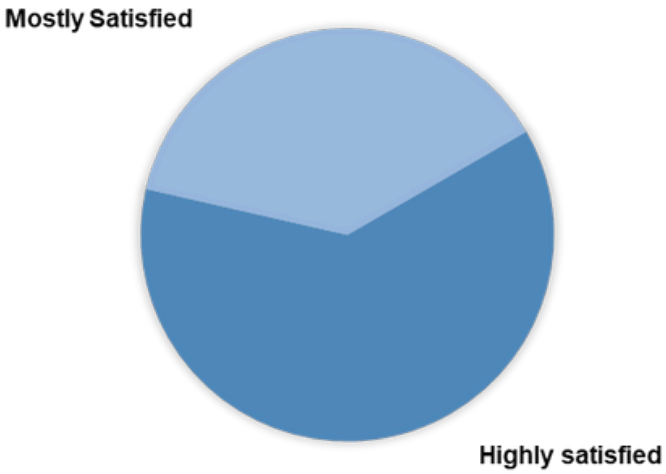


Figure 2. *Participants' Overall Level of Satisfaction*

Course Participants

Participant's Directory:

No.	Name & Position	Organization & Address	Contact Information
CAMBODIA			
1.	**H.E. Mr. Sok Khom** Deputy Secretary General	Cambodia National Mekong Committee (CNM) Phnom Penh, Cambodia	E-mail: khom.sk@gmail.com
2.	**Mr. Chheang Hong** Director	Information and Knowledge Management Department Cambodia National Mekong Committee (CNMC) Phnom Penh, Cambodia	E-mail: hong902241@gmail.com
3.	**Mr. Touch Bunthang** Deputy Director	Inland Fisheries Research and Development Institute, Fisheries Administration Ministry of Agriculture, Forestry and Fisheries Phnom Penh, Cambodia	E-mail: bunthangtouch@gmail.com Mobile: +855 78 206 917
4.	**Mr. Sovann Piseth** Governor	Se San District, Stung Treng province	E-mail: piseth.stg@gmail.com Mobile: +855 97 909 2999
5.	**Mr. Pen Raksa** Vice Chief Office	Water Supply and Sanitation Department Ministry of Water Resources and Meteorology	E-mail: raksapen29@gmail.com

LAO PDR			
6.	**Mr. Keobounkhouane SAYYAVONGSA** Deputy Director	Provincial Office of Natural Resources and Environment (PONRE), Khammouane Province	Mobile: +8562054054999 E-mail: Keobounkhouan.land@gmail.com
7.	**Mr. Sengchanh SAMONTRY** Vice Governor	Mahaxay District, Khammouane Province	Mobile: +8562099913699 E-mail: s.samontry@gmail.com
8.	**Mr. Vannaphone PHETPASEUTH** Water Specialist/GIS & Modelling Expert	Alternate National TD focal point Data and Information Division Lao National Mekong Committee Secretariat (LNMCS) Ministry of Natural Resources and Environment (MoNRE)	Mobile: +856 20 58 544 414 E-mail: vannaphonep@gmail.com
9.	**Mr. Thilaphone PHOUMMA** Environmental Specialist	Technical Officer of Governance and Cooperation Division (GCD) Lao National Mekong Committee Secretariat (LNMCS) Ministry of Natural Resources and Environment (MoNRE)	Mobile: +8562092698795 E-mail: p.thilaphone@gmail.com

VIET NAM			
10.	**Mr. Nguyen Xuan Tung** Official	Vietnam National Mekong Committee (VNMC)	Email: xuantungnguyen.mk@gmail.com
11.	**Mr. Nguyen Khac Phuong** Official	Office of People's Committee of Ben Tre province	
12.	**Mr. Trinh Minh Khoi** Deputy Director	Ben Tre Department of Natural Resources and Environment Ben Tre Provincial People's Committee (PPC)	
13.	**Mr. Bui Van Tham** Deputy Director	Ben Tre Department of Agriculture and Rural Development Ben Tre Provincial People's Committee (PPC)	
14.	**Mr. Le Van Dao** National Expert Former Deputy Director	Ben Tre Department of Natural Resources and Environment Ben Tre Provincial People's Committee (PPC)	

THAILAND			
15.	**Mr. Chana Promaruk** Chief Administrator	Bung Khla Subdistrict Administrative Organization, Bueng Kan Province	Mobile: 081-670-0909 091-050-9763 Email: pnoi2010na@gmail.com
16.	**Mr. Piya Panumas** Director	Division of Public Works Bung Khla Subdistrict Administrative Organization, Bueng Kan Province	Mobile: 081-117-7606 Email: sanimrimkhong@hotmail.com
17.	**Mr. Natchanon Boonchai** Irrigation Engineer (Practitioner Level)	Office of the National Water Resources, Regional (ONWR) Officer 3	Mobile: 063-909-9963 Email: natchanon.bch@gmail.com
18.	**Ms. Anantaya Lalumkon** Civil Engineer (Professional Level)	Policy and Master Planning Division Office of the National Water Resources (ONWR)	Mobile: 096-030-6442 Email: Llmknsky@gmail.com
19.	**Ms. Phimlapat Thaweewattana** Plan and Policy Analyst (Practitioner Level)	Foreign Affairs Division Office of the National Water Resources (ONWR)	Mobile: 098-670-8100 Email: interonwr@gmail.com

MI Organizing Team:

No.	Photo	Name & Position	Organization & Address	Contact Information
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3.		**Ms. Kademanee Suthum** Project Operations Support Asisstant	Sustainable Energy and Environment Department Mekong Institute Khon Kaen, Thailand	Tel: +66 43 202 411, ext. 4105 Fax: +66 43 203 656 Mobile: +66 94 736 1136 Email: kademanee@mekonginstitute.org

Program Schedule

September 22, Sunday (Day 1)	
Time	**Event**
00.00 – 07.00	**Depart from Home Countries** Arrive in Seoul (Incheon International Airport) at around 07.00 am (GMT+9)
09.00 – 12.00	**Travel to Daejeon City**
12.00 – 14.45	**Lunch** Euneungjeongi Culture Street (Walking Street)
15.00 – 15.15	**Check-in at Hotel** LOTTE City Hotel Daejeon
September 23, Monday (Day 2)	
08.40 – 09.00	**Depart from Hotel**
09.00 – 12.00	09.00 - 10.00 Facilities tour: Integrated water resource management and water disaster and flood management systems 10.00 - 11.00 Move to K-water Research Institute (KWRI) for a presentation on 'Overview of K-water's seawater desalination' and introduction to KWRI 11.00 - 12.00 Visit water treatment demonstration plant
12.00 – 13.15	**Lunch** Leewon (리원) Chinese Restaurant
13.30 – 14.30	**Visit WI.Plat Co., Ltd.** 13.30 – 14.00 Presentation 14.00 – 14.30 Technical demonstration of water leakage management equipment
15.00 – 16.30	**Visit Science & Technology Policy Institute (STEPI)**
16.30 – 17.00	**Return to Hotel**
18.00 – 20.00	**Welcome Dinner** Myeongryun Jinsa Kalbi

September 24, Tuesday (Day 3)	
08.15 – 08.30	**Check-out from Hotel**
08.30 – 10.00	**Travel to Jeonju City**
10.00 – 16.00	**Visit Rural Development Administration (RDA)** 10.00-10.20 Presentation on WEF Nexus project in RDA 10.20-10.30 Coffee break 10.30-11.40 Visit National Institute of Agricultural Science: Lysimeter and National Agricultural Satellite Center 11.40-12.40 Lunch at OVOLO Italian Restaurant 12.40-13.10 Move to Iksan 13.10-13.40 Visit Demonstration Sites of Automation Farming Systems (Apple Orchard): Auto irrigation system and sprinkling water facilities 13.40-15.30 Visit the Agricultural Technology Service Center: Explore technology dissemination and participate in farmer training programs
16.00 – 18.30	**Depart for Seoul**
18.30 – 18.45	**Check-in at Hotel** Nine Tree Premier RoKAUS Hotel Seoul Yongsan
September 25, Tuesday (Day 4)	
07.45 – 09.00	**Travel to G-Tower, Songdo District**
09.00 – 10.00	**Visit the UN Climate Technology Centre and Network (CTCN) Partnership and Liaison Office** 09.00 – 09.45 Presentation on Technical Assistance (TA) projects 09.45 – 10.00 Take a tour of the 32nd floor of G-Tower
10.00 – 12.15	**Visit the UNDRR Office for Northeast Asia & Global Education and Training Institute (UNDRR ONEA & GETI)** 10.00 – 11.00 Songdo waterfront 11.00 – 11.30 Smart City Operations Center 11.30 – 12.15 UNDRR Presentation

12.30 – 13.30	**Lunch** Gyeongbokgung Samgyetang (Songdo Branch)
14.00 – 15.30	**Visit Environmental Corporation of Incheon (Songdo Office)** 14.00 – 14.30 Public relations center 14.30 – 15.30 Waste management systems
15.30 – 16.30	**Return to Hotel**
September 26, Tuesday (Day 5)	
09.00 – 12.00	**Group Presentations** Synthesize data from site visits
12.00 – 13.30	**Lunch** Lunch Box Provided at the Hotel
13.30 – 17.00	**Free Time**
September 27, Tuesday (Day 6)	
12.00 – 12.15	**Check-out from Hotel**
13.30 – 14.45	**Gather at the Hotel Lobby** Depart for Incheon International Airport (1 hour)
17.30 – 21.20	**Departure from Seoul to Home Destination**

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