IRBM PROJECT NEWSLETTER

EDITION 10 | JAN-MAR 2026

GEF/UNDP/ASEAN Project on Reducing Pollution and Preserving Environmental Flows in the East Asian Seas through the Implementation of Integrated River Basin Management (IRBM) in ASEAN Countries

Where Rivers Take Shape

Photo courtesy of LSANK, Malaysia

Photo courtesy of LSANK, Malaysia

The first quarter of 2026 marked a period of strengthened coordination and forward planning for the GEF/UNDP/ASEAN Integrated River Basin Management (IRBM) Project, as participating ASEAN Member States and partners continued to build on institutional arrangements at national level and advance pilot interventions at basin level. These shared efforts were shaped by closer inter-agency collaboration, alignment of strategies, and a growing emphasis on translating plans into practical, site-based solutions.

In the Philippines, a key activity was the convening of the Organizational Meeting of the Project Steering Committee (PSC) in January, bringing together representatives from national government agencies to guide project implementation. The meeting clarified the governance structures, including the roles of the PSC, Inter-agency Technical Working Group, and Project Management Unit, while also reviewing and approving the 2026 workplan and budget. Discussions underscored the importance of harmonizing existing plans and programs across agencies to support integrated river basin and water resources management, particularly in the Project's sites in Cavite and Pampanga.

At the basin level, coordination was further strengthened through a February meeting in Pampanga with the local government and the Department of Environment and Natural Resources for project implementation in Pasac–Guagua Watershed. The discussions provided updates on project implementation, revisited institutional arrangements, and identified priority directions for pilot project development. A notable shift emerged in the exploration of solutions, with stakeholders considering strategies to address solid waste—particularly food waste management—based on data showing that biodegradable waste comprises a significant share of total waste generated in the province. This reflects a more integrated and context-specific approach to address river basin challenges.

In March, the Project continued to support technical discussions on solid waste management through its participation in consultations in Da Nang, Viet Nam, where national and international partners examined priority concerns such as waste segregation, recycling systems, and the environmental impacts of landfill operations. Site visits further informed the identification of technical assistance needs and highlighted opportunities for innovation, including digital monitoring systems and alternative waste treatment solutions, where the Project could contribute.

In Cavite, Philippines, the Project participated in the review and updating of the 10-year Action Plan for the Imus-Ylang Ylang-Rio Grande Rivers (IYRR) Water Quality Management Area (WQMA), which brought together stakeholders to assess progress, identify gaps, and update strategies for improved river basin management. In support to the IYRR Action Plan and as part of pilot project development, the Project conducted the review of two feasibility studies commissioned by the DENR Environmental Management Bureau Region IV-A for the proposed wastewater and/or sewerage/ septage treatment system in three river basins in Cavite Province and the Local Water Utilities Administration for the identification of concept designs for sanitation projects in the Municipality of Amadeo. The results were presented to the 1st Quarter 2026 Governing Board meeting of the IYRR WQMA. The IYYR WQMA Governing Board agreed to issue a resolution on the proposed establishment of septage treatment plant (STP) in the Municipality of Amadeo marking a key step toward advancing pilot project implementation under the IRBM Project.

Collectively, the activities of the quarter reflect how these shared currents are beginning to take shape—grounded in strengthened partnerships and a clearer focus on practical solutions. This edition also features a profile story from Kedah River Basin in Malaysia, highlighting the experiences of women and communities whose livelihoods are closely tied to the river. Their stories underscore the vital role of women in sustaining water resources and shaping more inclusive and resilient approaches to river basin management.

Sustaining a Way of Life:

Kedah River Basin

River clean-up led by LSANK in partnership with the Northern Region Fishing Association in Alor Setar, Malaysia, on 30 January 2026. (*Photo courtesy of LSANK, Malaysia*)

Life in the Current

At midday along the Kedah River Basin, a small boat glides across the silted, tea-brown waters toward the city center of Alor Setar. Azizul Hakim Bin Mohamad Salleh, a seasoned fishing guide, eases the boat to a quiet stop before casting his line. For nearly two decades, Azizul has spent his days reading this river, its shifting currents and the habits of the fish beneath its surface.

What began as a way to secure a day's meal has grown into a livelihood that now connects him with visitors from Japan, Singapore, Thailand, Vietnam, France, Germany, and across Malaysia, all eager to experience leisure fishing along the Kedah River Basin.

"The river gives us many kinds of fish. We keep the medium-sized ones for food and release the giants," Azizul says with a smile.

For Azizul and other fishing guides, angling is more than just a source of income, it deepens their connection with the river. And for families living along the river banks, these waters remain a vital source of food, identity, and continuity.

Azizul Hakim Bin Mohamad Salleh, a fishing guide living near the Kedah River Basin.

Azizul, a fishing guide, maneuvers along the river in Alor Setar City.

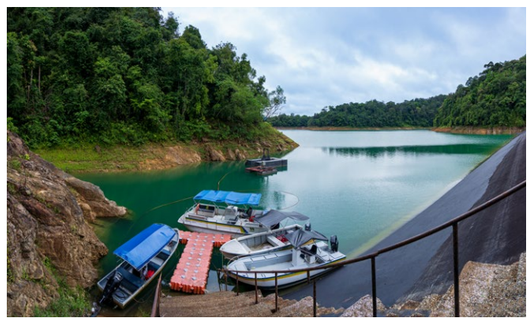
Photos by Orange Omengan/PEMSEA

Pedu Dam draws its headwaters from the upstream rainforests of the greater Ulu Muda forest complex, a landscape of interconnected reserves that feeds the Kedah River Basin. *(Photo courtesy of LSANK, Malaysia)*

Where the Forest Breathes the River to Life

The Kedah River Basin takes shape high in the mist-shrouded mountains along the northern border where Malaysia meets Thailand. From these uplands, Sungai Kedah, known in English as Kedah River, emerges within the ancient forests of the Ulu Muda Forest Reserve, a 105,000-hectare expanse long regarded as the country's "water tower," where rainfall is gathered, stored, and slowly released into the river system below.

As the river moves downstream, its course is gently redirected by a series of structures built to manage seasonal flows across the basin. At Empangan Muda, water is gathered and steadied during periods of high rainfall before passing through the Saiong Tunnel, cut deep beneath the hills, toward Empangan Pedu, where it joins the waters of Empangan Ahning. These reservoirs form a broad reserve that buffers both dry months and heavy rains, anchoring water supply and flood moderation across the basin.



Boats anchored along the edge of Pedu Dam, one of the main reservoirs supplying water to the Kedah River Basin. Surrounded by forested catchments, the dam plays a critical role in water supply, flood regulation, and downstream irrigation. *(Photo by Orange Omengan/PEMSEA)*

From Pedu Dam, the river's journey continues along the historic Wan Mat Saman Aqueduct—recognized by the International Commission on Irrigation and Drainage (ICID) as a World Heritage Irrigation Structure—carrying regulated, life-giving water across the rice-growing plains managed by the Muda Agricultural Development Authority (MADA), which have long sustained Kedah's role as the nation's rice bowl.

At its source, the river sustains forest ecosystems where hornbills, elephants, and riverine species depend on the steadiness of upland waters. Downstream, that same regulated flow supports fields, livelihoods, and food security. In this way, Sungai Kedah carries a dual responsibility—linking ancient landscapes with a modern agricultural system that continues to shape life across the basin.

Monkeys are among the wildlife that inhabit the forests around Pedu Dam, a reservoir embedded in the wider Ulu Muda catchment landscape. *(Photo by Orange Omengan/PEMSEA)*

Species such as the yellow bittern, whiskered tern, and kingfisher can be found along the Kedah River Basin. *(Photos courtesy of LSANK, Malaysia)*

At a Glance

Kedah River Basin

The Kedah River Basin has a catchment area of **2,972 sq. km** and a total length of approximately more than **100 km** which passes through Kedah State's capital city, Alor Setar and district/municipalities, such as **Kota Setar, Pokok Sena, Kubang Pasu, Padang Terap, Kuala Muda, and Pendang**

- **Climate:** tropical, with high rainfall influenced by monsoon seasons

The river basin supports over **976,500 people** (2018).

About **98.3%** of Kedah's population uses safely managed drinking water services—meaning water from an improved source that is accessible on premises and safe to drink—consistently recorded from 2021 to 2023.

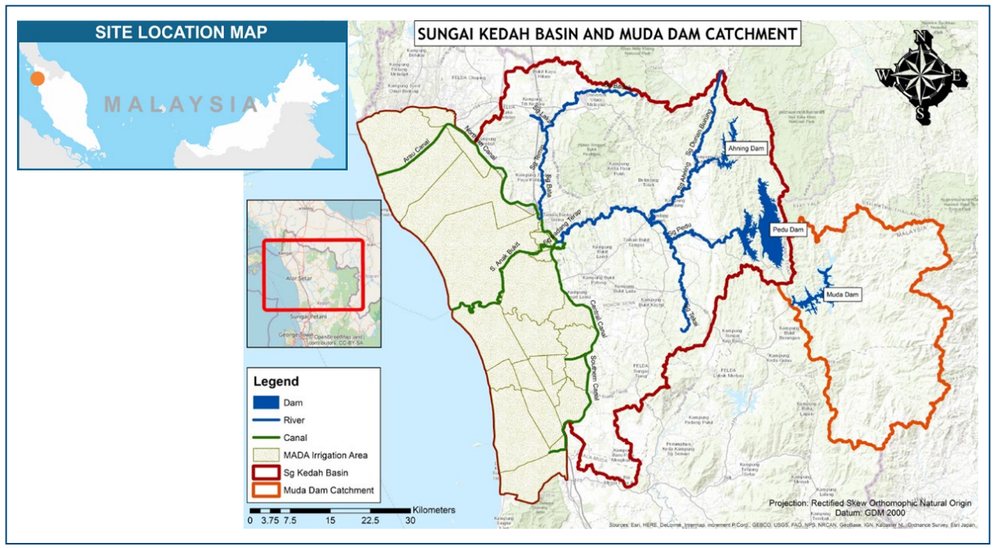
25.5% of Kedah is served by connected sewerage services, while 33.5% is served by individual septic tank (IST) and 38% via pour flush (IRBM Sg Kedah, 2018)

Kedah River Basin originates from the Northern and northeastern mountainous areas of Kedah, flowing directly to Malacca Strait.

Land use: build up area, forest reserved, agriculture, and water body

62.2% of Kedah River Basin land use is primarily for agriculture. **90%** of the water in the basin is used for paddy irrigation – mainly the Muda Irrigation Scheme granary area. Water conveyed to the Pedu Dam is principally used for the Muda Irrigation scheme of about 100,685 ha of agricultural land.

The **Ulu Muda Forest Complex** is an important biodiversity hotspot along Kedah River Basin which has substantial populations of large mammals such as the Asian elephant and tapirs, and a rich diversity of birds.



Map of the Kedah River Basin and Muda Dam Catchment. *(Source: DID, Malaysia)*

The Kedah River flowing through Alor Setar, Malaysia. *(Photo courtesy of LSANK, Malaysia)*

Where Water Sustains Fields and Communities

The Kedah River Basin plays a crucial role in agriculture, water supply, flood management, and the socio-economic development of Kedah. It supports extensive paddy cultivation, particularly within the MADA irrigation scheme, earning Kedah its title as the "Rice Bowl of Malaysia" and supplying around 40 percent of Malaysia's rice needs.

Completed under the Muda Irrigation Scheme, Pedu Dam stores approximately 1,080 million cubic meters of water and is managed by the MADA. It supplies water to households and industries while sustaining one of Malaysia's largest rice-producing regions. About 100,685 hectares of paddy fields across Kedah and Perlis rely on controlled releases from Pedu Dam to maintain planting and harvesting cycles.

(Left) A diorama at the *Muzium Padi*, or Paddy Museum, opened in 2004 in Alor Setar, depicts stages of traditional paddy cultivation, reflecting practices that have long shaped Kedah's rice-growing landscape. (Right) A large cross-section model at the Paddy Museum reveals the structure of a rice grain, offering a closer look at the science behind rice — a staple central to Kedah's agricultural heritage. *(Photos by Orange Omengan/PEMSEA)*

Roughly 60 percent of the dam's water is allocated for domestic use, while 40 percent supports irrigation. Together, these flows support nearly 40 percent of Malaysia's rice production, making the Kedah River Basin a pillar of national food security.

Beyond agriculture, the river supports inland fisheries and wetland habitats that provide both biodiversity value and local livelihoods. Downstream in Alor Setar, families remain closely tied to the river through fishing and domestic water use, and brace themselves each year for the returning monsoon floods. For them, the health of the basin is not just an abstract environmental concern but part of daily life.

Pedu Dam, a major rock-fill embankment in northern Kedah, creates the expansive Pedu Lake that supplies vital water for Malaysia's Rice Bowl. The reservoir supports irrigation, strengthens regional water security, and anchors the forested landscapes linked to the Ulu Muda watershed. *(Photo courtesy of LSANK, Malaysia)*

The snakehead, locally known as *ikan toman*, is prized by anglers and remains culturally woven into life along the Kedah River Basin, anchoring traditional diets and recreational fishing.

People of the River's Midstream

Further downstream, the Kedah River Basin supports small fishing communities and recreational anglers who rely on it for food, income, and identity. Local groups, most notably the Northern Region Fishing Association, have cultivated a growing ecotourism sector built around artisanal fishing, river guiding, and catch-and-release practices.

Fishing tourism typically peaks between January and March, when many freshwater species, including snakehead (*Channa spp.*), become more active along the shallow margins of the river. During this season, a 12-hour guided trip can earn between RM 300-700 (USD 74-172)*, providing an important source of income for local fishing guides.

* RM 4.05 = USD 1 (as of 21 January 2026)

Local entrepreneurs are also shaping this river-based economy. Epol Tech Industries, led by Mohamad Sharful Afrendi and Zanariyan Binti Azizan, produces fishing lures inspired by species found in the Kedah River Basin. Their designs draw on well-documented fish behavior, as many freshwater predators hunt using a combination of visual cues, vibration, and movement. By mimicking the size and swimming patterns of natural prey, the lures increase strike efficiency while supporting the catch-and-release ethics promoted by local fishing guides.

"We design each lure to replicate natural prey in size, shape, and movement," Zanariyan says. *"This helps recreational fishers catch more efficiently."*

Zanariyan Binti Azizan of Epol Tech Industries.

Sample fishing lure made by Epol Tech Industries.

Photos by Orange Omengan/PEMSEA

The Northern Region Fishing Association is now preparing for the Sungai Kedah Snakehead Master Champion 2026, an angling competition expected to attract participants from across Malaysia and abroad.

Yet growing interest in river tourism comes with challenges. Heavy rains often send fallen trees, sediment, and debris downstream, making navigation hazardous. Along the riverbanks, the limited number of homestay facilities also constrains the number of visitors the community can host. Yet even within these constraints, local groups cling to a shared hope for greater government support for their budding ecotourism industry.

To keep the river safe and accessible, local groups organize *gotong-royong* clean-ups to clear river banks, remove debris, and plant trees.

"We take care of the river," one guide says, *"because the river provides for our livelihood."*

Members of the Northern Region Fishing Association with the founders of Epol Tech Industries.

Siti Aminah Into Saidin, a vendor of rice flour–based delicacies at Pekan Rabu market in Alor Setar City.

Flavors Carried by the River

In Alor Setar's lively Pekan Rabu market, the river's influence appears in everyday foods. Women entrepreneurs like Siti Aminah Into Saidin transform rice flour, abundant because of the region's paddy heritage, into delicate *kuih* or rice delicacies.

Rice-based *kuih* made from rice flour and coconut, sold at Pekan Rabu market in Alor Setar, Kedah.

Photos by Orange Omengan/PEMSEA

Sabriah Binti Ebow, a vendor who specializes in preparing *ikan pekasam* for sale at Pekan Rabu market in Alor Setar.

Nearby, Sabriah Binti Ebow prepares *ikan pekasam*, Kedah's signature fermented freshwater fish made using salt and toasted rice.

"My mother taught me this," Sabriah says. *"We use local fish from the river, and fermenting them helps preserve the catch. It gives a tangy, salty flavor that has long been part of our food traditions."*

Ikan pekasam, a traditional fermented freshwater fish, is preserved using toasted rice and salt.

Pekan Rabu market is a popular destination for local delicacies and locally made products in Alor Setar, Kedah.

Photos by Orange Omengan/PEMSEA

The Kedah River as seen from Alor Setar's city center, with the state mosque in the background. The river appears turbid due to sediment carried downstream.

The River Under Pressure

Despite its richness, the Kedah River Basin faces mounting environmental strain. Receiving nearly 2,900 millimetres of rainfall each year, Malaysia ranks among the ten wettest countries on Earth. This abundance of water, however, also brings heightened risk. Across the low-lying plains of Alor Setar, monsoon rains, flat terrain, and the pull of tides near the river mouth combine to make flooding a familiar seasonal presence. During peak monsoon months, river levels rise quickly, as reservoirs and downstream channels strain to absorb sudden surges of water. In this shifting landscape, effective river basin management and flood mitigation remain enduring priorities. Yet the pressures on the river extend beyond water quantity alone.

Water quality concerns are also increasing as activities along the basin intensify. Key pollution sources include agricultural runoff, industrial effluents, and domestic wastewater. Paddy cultivation and livestock farming may introduce nutrients such as nitrogen and phosphorus, accelerating eutrophication and sediment buildup. Sedimentation linked to agriculture and land development remains a persistent challenge, documented in multiple assessments by the Department of Irrigation and Drainage. Untreated or partially treated sewage and household waste further degrade water quality, particularly in more densely populated areas of Kedah State.

These conditions reflect findings from the National Water Resources Study (2000-2050), which identifies agricultural intensification and land-use change as key drivers of pollution in northern Malaysian river basins.

As part of LSANK's ongoing initiatives, a river clean-up activity was carried out with the Northern Region Fishing Association on 30 January 2026. *(Photos courtesy of LSANK, Malaysia)*

River Governance: Coordinating the Basin

Managing the Kedah River Basin requires coordination across agencies and sectors. The GEF/UNDP/ ASEAN Integrated River Basin Management (IRBM) Project supports strengthened collaboration among state-and national-level agencies in Malaysia to facilitate collaboration, capacity building, and joint planning in line with IRBM principles and Source-to-Sea approach.

At the state level, the Project works with Kedah State Water Resources Board locally known as Lembaga Sumber Air Negeri Kedah (LSANK), which serves as a key coordinating body for water resources management, including regulation of water abstraction and oversight of catchment protection. At the national level, the Department of Irrigation and Drainage (DID), under the Ministry of Energy Transition and Water Transformation locally known as Kementerian Peralihan Tenaga dan Transformasi Air (PETRA), leads river basin planning, flood mitigation, and the design, operation, and maintenance of drainage and flood-control infrastructure.

Integrated River Basin Management Project

Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) implements the IRBM Project, with support from the United Nations Development Programme and the Global Environment Facility, and in collaboration with the ASEAN.

Project Components

- Baseline Assessment of Source to Sea Management Continuum
- Improved Governance and Management in Kedah River Basin
- Knowledge Management and Capacity Development
- Monitoring and Evaluation

Priority Issues to address in Kedah River Basin

- **Seasonal flooding intensified by heavy monsoon rainfall, flat terrain, and tidal influence near the river mouth**
- **Declining water quality due to agricultural runoff, industrial effluents, and domestic wastewater**
- **Sedimentation linked to agriculture and land development**
- **Strengthening integrated river basin management, governance, and financing**

Coordination Mechanism

- Regional Steering Committee
- National Level: Department of Irrigation and Drainage (DID), Kementerian Peralihan Tenaga dan Transformasi Air (PETRA)
- State Level: Kedah State Water Resources Board locally known as Lembaga Sumber Air Negeri Kedah (LSANK)

Through this multi-level coordination, the IRBM Project aims to strengthen governance and decision-making and to support the development of initiatives focusing on reducing pollution, safeguarding environmental flows, adapting to climate change vulnerabilities, and enhancing the long-term sustainability of the Kedah River Basin.

The Project's integrated approach was underscored during the coordination meeting held on 21 October 2025 in Alor Setar. Encik Mohammad Khairol Akmal Bin Adnan, Assistant Director, Kedah State Economic Planning Department emphasized the importance of integrated river basin management.

"The Kedah River Basin is a vital asset for our state — central to water security, agricultural productivity, and ecological health," he said. *"Implementing IRBM here is not just a project, but a necessity for our sustainable development."*

Reflecting on the long-term nature of IRBM implementation, he added: "IRBM is complex. We cannot expect results in two or three years. Water management requires long-term commitment — the real outcomes may only be visible over a longer period."

Encik Mohammad Khairol Akmal Bin Adnan, Assistant Director, Kedah State Economic Planning Department

The IRBM Project, in coordination with the DID under the Ministry of Energy Transition and Water Transformation, convened a consultation meeting with representatives from the Kedah State Economic Planning Division, the Kedah State Water Resources Board, the MADA, and the District and Land Office on 21 October 2025 to identify emerging issues affecting the Kedah River Basin and gather national and state perspectives on potential pilot solutions including monsoon-related flooding and sedimentation.

Photos by Orange Omengan/PEMSEA

Managing the River for the People of Kedah

As the IRBM Project transitions from planning toward implementation, efforts are underway to develop and implement a pilot project that aims to address key issues in the Kedah River Basin, including sedimentation, declining water quality and monsoon-related flood risks in vulnerable areas.

The Kedah River Basin remains a lifeline for families and a foundation of Malaysia's rice bowl—providing food, supporting livelihoods and recreation, and forming an integral part of Kedah's culture.

For the people of Kedah—those who fish its waters, cultivate its fields, and sustain its food traditions—safeguarding the river also means sustaining their way of life.

The Kedah River winds through Alor Setar City, passing urban neighborhoods along its banks. *(Photo by Orange Omengan/PEMSEA)*

IRBM Project Convenes Organizational Meeting of the Project Steering Committee in the Philippines

The Regional Project Management Unit with the PSC members during the meeting.

Manila, Philippines - The IRBM Project convened the Organizational Meeting of the Project Steering Committee (PSC) on 27 January 2026, bringing together key government agencies to discuss governance arrangements and progress in project implementation since 2023.

In particular, the PSC members were apprised on the progress of project implementation at the regional, national, and basin levels. The meeting clarified the roles and functions of the PSC, Inter-agency Technical Working Group and the Project Management Unit; reviewed and approved the 2026 workplan and budget; and identified strategies for organizing the National Stakeholders Forum.

The PSC members also deliberated on key actions to facilitate harmonization of plans and programs of the various agencies on river basin management and water resources management and advance IRBM/IWRM interventions in the Project's two pilot sites—the Imus–Ylang-Ylang–Rio Grande Rivers in Cavite Province and the Pasac–Guagua Watershed in Pampanga Province.

The meeting was chaired by the Undersecretary of Policy, Planning and International Affairs of the Department of Environment and Natural Resources (DENR) and East Asian Seas (EAS) Partnership Council Chair Atty. Jonas R. Leones.

PSC members in attendance included the Department of Environment and Natural Resources—through the Biodiversity Management Bureau (BMB), Environmental Management Bureau (EMB), Forest Management Bureau (FMB), Ecosystems Research and Development Bureau (ERDB), Foreign-Assisted and Special Projects Service (FASPS), Manila Bay Coordinating Office (MBCO), National Water Resources Board (NWRB), and the River Basin Control Office (RBCO); the Department of Agriculture (DA)—through the Bureau of Fisheries and Aquatic Resources (BFAR) and the Bureau of Soils and Water Management (BSWM); the Department of the Interior and Local Government (DILG) through the Office of Project Development Services; and the Local Water Utilities Administration (LWUA).

(L-R) Atty. Jonas R. Leones, Undersecretary of Policy, Planning, and International Affairs of DENR and EAS Partnership Council Chair with Ms. Aimee Gonzales, Executive Director of PEMSEA Resource Facility.

Ms. Nancy Bermas, the Regional Project Manager of the IRBM Project, presenting updates to the PSC.

Photos by Orange Omengan/PEMSEA

IRBM Project Holds Coordination Meeting with DENR and Local Government for Pilot Project Development in Pasac-Guagua Watershed in Pampanga

The Regional Project Management Unit, together with PG-ENRO and PPDO Pampanga with representatives from DENR Region III, DENR-EMB Region III, DENR PENRO during the meeting. (*Photo by Orange Omengan/PEMSEA)*

Pampanga, Philippines – The IRBM Project held a coordination meeting on 19 February 2026 with the Department of Environment and Natural Resources (DENR) Region III, including the DENR–Environmental Management Bureau Region III and the DENR–Provincial Environment and Natural Resources Office Pampanga, together with the Provincial Planning and Development Office (PPDO) and the Provincial Government's Environment and Natural Resources Office (PG-ENRO).

Jointly organized by the PG-ENRO Pampanga and the Regional Project Management Unit, the meeting provided updates on project implementation at the national and basin levels, shared progress on pilot project development, revisited the designation of the Angeles–San Fernando–Minalin–Sasmuan River System Water Quality Management Area (ASFMSRS-WQMA), and discussed the implementation timeline toward project completion for the Pasac–Guagua Watershed.

A key focus of the discussion was the exploration of integrated pilot solutions to address priority issues in the Pasac–Guagua Watershed, including the shift from the initially proposed mangrove rehabilitation pilot toward addressing issues on solid waste, particularly food waste management.

Based on the province's Waste Analysis and Characterization Study (WACS) data, approximately 48.63% of the total waste generated annually is biodegradable, providing a strong basis for the project to look into strategies for reducing and managing food waste.

Ms. Nancy Bermas, Regional Project Management Unit and Ms. Irene Villar, Assistant Department Head of the PG-ENRO Pampanga led the discussions. (*Photo by Orange Omengan/PEMSEA)*

IRBM Project Supports Consultations on Solid Waste Management Solutions in Da Nang, Viet Nam

Meeting with the Da Nang DAE and KEITI to assess the city's technical assistance needs for municipal solid waste management. (*Photo courtesy of Da Nang Department of Agriculture and Environment, Viet Nam)*

Da Nang, Viet Nam – The IRBM Project, represented by its Regional Project Manager Ms. Nancy Bermas, participated in consultation meetings held from 5-6 March 2026 to support discussions on addressing municipal solid waste challenges in Da Nang City.

Field visit to the Khan Son Landfill in Da Nang City, including discussions on ongoing environmental management challenges and community concerns related to odor and leakage. (*Photo courtesy of Da Nang Department of Agriculture and Environment, Viet Nam)*

Organized by the Da Nang Department of Agriculture and Environment (DAE) and the Korea Environmental Industry and Technology Institute (KEITI), the consultations included site visits to Khanh Son Landfill and Que Son Commune dumpsite to assess technical assistance needs in managing municipal solid wastes. Representatives from the Viet Nam Environment Administration (VEA), the Project's National Implementing Partner, also joined the discussions and the field visits.

Discussions focused on priority areas for improving solid waste management in Da Nang, including increasing recycling and waste segregation, strengthening collection systems in mountainous areas, establishing intermediate collection and recycling facilities, and developing digital systems to monitor waste transport. Addressing environmental impacts from landfills, such as leachate and methane emissions, was also highlighted as a key concern.

The consultations and site visits underscored the need for innovative waste treatment solutions and investments beyond existing landfill systems. As a next step, KEITI will develop a proposal for further discussion with DAE and partners, with potential support for feasibility studies, technology piloting, and financing. The IRBM Project will continue to support stakeholder coordination, advocacy, and technical discussions toward advancing sustainable solid waste management solutions in Da Nang.

Meeting with Da Nang Urban Environment Joint Stock Company, the organization that manages the Khan Son Landfill. (*Photo courtesy of Da Nang Department of Agriculture and Environment, Viet Nam)*

IRBM Project Participates in the Review of the 10-year Action Plan for the Imus–Ylang Ylang–Rio Grande Rivers WQMA

The participants during the two-day workshop. (*Photo courtesy of DENR Region IV -A)*

Cavite, Philippines – The IRBM Regional Project Management Unit (RPMU) participated in the workshop on the Review and Updating of the 10-year Action Plan for the Imus–Ylang Ylang–Rio Grande Rivers (IYRR) and Cañas-Maalimango Rivers (CMR) Water Quality Management Areas (WQMA), organized by the DENR Environmental Management Bureau (EMB) Region IV-A on 17-18 March 2026.

Attended by representatives from national government agencies, local government units, academe, NGOs, and the private sector, the workshop reviewed the status of implementation of the existing action plans covering 2016-2025, validated accomplishments and gaps, and updated the strategies, activities, and timelines. As the Imus–Ylang Ylang–Rio Grande Rivers in Cavite Province is one of the seven priority rivers, the Project is supporting the development of the IYRR Action Plan 2026-2035 as part of its targeted outcome of facilitating the formulation and updating, including the adoption and implementation of strategies and action plans across the seven river basins.

The RPMU participating during the first day of the workshop. (*Photo by Orange Omengan/PEMSEA)*

Through the RPMU's participation in this workshop, the Project is exploring how its activities can contribute to addressing the identified gaps and priority concerns of the IYRR-WQMA related to domestic, institutional and commercial, industrial, and recreational sources of pollution.

Imus–Ylang Ylang–Rio Grande Rivers WQMA Governing Board Endorses Septage Treatment Plant Establishment in Amadeo, Cavite

Ms. Maricor Ebarvia of the RPMU presenting the results of the feasibility studies during the Governing Board Meeting. (*Photo by Daisy Padayao/ PEMSEA)*

Cavite, Philippines - The IRBM Regional Project Management Unit (RPMU) presented the results of the review of two feasibility studies commissioned by the DENR Environmental Management Bureau Region IV-A for the proposed wastewater and/or sewerage/septage treatment system in three river basins in Cavite Province and the Local Water Utilities Administration for the identification of concept designs for sanitation projects in the Municipality of Amadeo- during the 1st Quarter 2026 Joint Governing Board Meeting of the Imus-Ylang Ylang-Rio Grande Rivers (IYRR) and Cañas-Maalimango Rivers (CMR) Water Quality Management Areas (WQMAs) on 19 March 2026.

Amadeo was identified as potential site for STP establishment, being the only municipality within the IYRR served by a Local Water District and not covered by a water concessionaire or private joint venture.

Following the presentation, the Governing Board agreed to issue a resolution for the establishment of STP in Amadeo with potential funding sources from the Department of Public Works and Highways (DPWH), LWUA, the Local Government Unit of Amadeo, the Amadeo Water District, and other partners.

FEATURE STORY

Life-Giving Water, Life-Giving Women

Shaping the future of women and water in the Kedah River Basin in Malaysia

In celebration of World Water Day on 22 March, this feature highlights the participation of women in Kedah River Basin in Malaysia, where water, livelihoods, and community life are closely intertwined. From the forested headwaters of Ulu Muda to the rice plains downstream, government agencies, civil society organizations, and local communities are working together to sustain the river system and the people who depend on it.

In this context, water is not only a resource but also a lens through which social realities are revealed. When access to safe and reliable water is uncertain, women and girls often carry a disproportionate burden – managing household water needs, caring for affected family members, and navigating the broader impacts on time, health, and opportunity. Addressing these challenges requires approaches that recognize and strengthen the role of women in water governance.

Through the IRBM Project in Malaysia, efforts are being made to support more inclusive and responsive water management systems, where women's participation contributes to more effective, resilient and equitable outcomes. Take a closer look at how these dynamics unfold in Kedah, where sustaining the river also means sustaining the communities and traditions that flow alongside it.

READ MORE

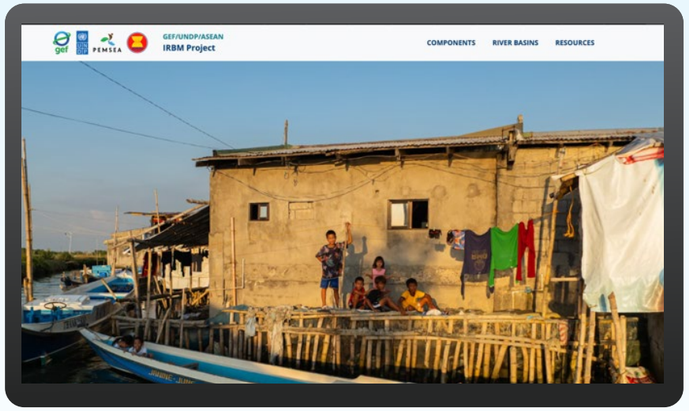
Upcoming Events

Regional Project Steering Committee meeting; ASEAN Regional Forum on Innovations in Integrated River Basin Management (IRBM) Governance
6-10 July | Lao PDR

Regional Workshop on Environmental Monitoring
10-14 August | Indonesia

Get the latest updates from the IRBM Project e-Portal at PEMSEA's SeaKnowledge Bank!

The IRBM e-portal on PEMSEA's SeaKnowledge Bank offers a dedicated space for sharing key resources, updates, and stories from our work across the region's river basins.



Website Features

- About the project
- News updates
- Featured stories
- River basin profiles
- Publications

irbm.seaknowledgebank.net

About the Integrated River Basin Management (IRBM) Project

Supported by the Global Environment Facility, the Integrated River Basin Management (IRBM) Project is working to set-up functional management mechanisms in priority river basins of six ASEAN countries to reduce pollution and sustain freshwater environmental flows as well as adapt to climate change vulnerabilities. The regional Project is being implemented by the United Nations Development Programme Bangkok Regional Hub, and executed by Partnerships in Environmental Management for the Seas of East Asia, in collaboration with ASEAN.

(+63) 2 892 92992

info@pemsea.org

PEMSEA Building, DENR Compound,
Visayas Avenue, Quezon City 1165,
Philippines

PEMSEA **pemsea** **pemsea.rf**

www.pemsea.org

Learn more about the IRBM Project