

# Sustainable water resources management



**SEI Asia fact sheet**  
**June 2021**

Water is life in Asia, which is home to 60% of the global population and half of the world's poorest people. Sustainable use of water resources is therefore imperative for the livelihoods and economic prosperity of the continent's 4.5 billion inhabitants. Rapid growth, unsustainable development, the use of natural resources, and climate change have all led to significant pressures on the region's finite water resources, as well as the degradation of biodiversity and ecosystems.

The SEI Asia Sustainable Water Resources Management (SWRM) work theme seeks to significantly impact the sustainable use of water resources, climate risk reduction, and the improvement of health and well-being in the Asian region. It aims to do so by reducing water demands, water pollution, and water-related disaster risks – in particular floods and droughts – while increasing water efficiency and security, the value of water, resilient ecosystems and cities, and water cooperation on local, national and transboundary scales. Our research will contribute to the achievement of Sustainable Development Goal (SDG) 6, to ensure the availability and sustainable management of water resources for all other relevant SDGs – including Goals 11, 13, 15 and 17. This will occur through active engagement with policymakers and key stakeholders including governments, the development and private sectors, and civil society.

## Areas of work

The SEI Asia Water team offers technical and policy solutions as well as a range of expertise in areas including river basin planning; water resources development; flood and drought management; assessment of climate change impacts; application of water resources modelling; remote-sensing and Geographic Information Systems (GIS); wetland and ecosystem management; ecological economics; river health monitoring; water governance; gender-inclusive water management; multi-stakeholder engagement; and capacity building.

We focus on six thematic research areas:

- **Water security and teleconnection:** Developing innovative approaches and techniques to improve water security for key users in the region. The areas covered by this work include domestic and industrial agriculture; hydropower and ecosystems, through the consideration of the connection of resources; poverty; power; and stakeholders.
- **Water-related disasters risk reduction and climate change adaptation:** Reducing climate risks including flood, drought, and extreme events through natural and structural-based solutions.
- **Resilient social-ecological system:** Promoting an ecosystem-based approach, social and economic benefits, and restoration to maintain ecosystem services and ensure their sustainability and equitable use.

Photo (above): © WICHAI JUNTAVARO

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- **Water governance and cooperation:** Improving water governance frameworks, policies and practices, and transboundary water cooperation by strengthening partnerships, to improve the management of water resources .
- **Water, gender and livelihood:** Exploring the intersection of gender and water within diverse livelihood practices, and ensuring gender and social inclusion in sustainable water resource management.
- **Tools and knowledge management:** Developing a Robust Decision Support System for water resources planning, flood and drought warnings, and climate change adaptation to promote evidence-based decision-making.

## Projects

**SUMERNET 4 All:** Sustainable Mekong Research Network (SUMERNET) is an initiative for research and policy engagement which brings together research partners working on sustainable development in the countries of the Mekong Region. The current program aims to improve policies and practices for reducing water insecurity.

**Water Beyond Boundaries Initiative:** This initiative has the ambitious objective of creating a new agenda for water management that addresses the challenges of scale, scope and time, which are currently missing in Integrated Water Resource Management applications.

**River Basin Planning and Hydropower Development:** A partnership that provides technical support to the Government of Nepal's Water and Energy Commission Secretariat for the development of modelling tools and a decision support system to prepare its River Basin and Hydropower Development master plans.

**Chindwin Biodiversity and Ecosystem Services:** A project that aims to empower civil society and governmental agencies to mainstream biodiversity and ecosystem service values into development planning for the Chindwin River Basin in Myanmar.

**Community-based integrated catchment management to conserve the Upper Chindwin River:** This project implements a set of tailored land and water management practices in the Upper Chindwin River, Myanmar, to protect and restore this key biodiversity area (KBA) and secure sustainable livelihoods.

**Regenerating Ecosystems with Nature-based Solutions for Hydro-Meteorological Risk Reduction:** A transdisciplinary partnership between researchers, industry partners and responsible agencies from around the world that aims to demonstrate, reference and upscale nature-based solutions to reduce risks from hydro-meteorological hazards.

**SERVIR-Mekong:** A partnership with the Asian Disaster Preparedness Centre (ADPC) that aims to improve environmental management and climate change resilience in the Lower Mekong Region through the application of geospatial data and technologies.

**Understanding Water Modelling Capacity and Use in the Asia Pacific:** A partnership with the Food and Agriculture Organization of the United Nations (FAO) that aims to understand and document the current capacity of regional countries to develop water accounting and allocation models for water management and policymaking in Vietnam, Nepal, Indonesia, Bangladesh, Iran, Thailand and Myanmar.

**Capacity-Building and Development of Integrated Solutions to Build Back Better Resilient Agriculture Systems and Livelihoods:** A partnership with FAO that aims to build the disaster risk management (DRM) and climate change adaptation (CCA) capacities of the agricultural and other relevant sectors in Lao PDR. It also seeks to mainstream DRM and CCA in agriculture development and watershed management plans.