Mekong Thought Leadership and Think Tanks Network Program (MTT)

Rapid response projects are one of the critical knowledge-generating activities of the MTT Program. These are more flexible than the flagship projects and aim to support focused interdisciplinary research that seeks practical solutions to urgent or emerging challenges in the water-energy-climate nexus. The rapid response projects target an improved understanding of how climate resilience of specific water and energy systems, equity, and their interlinkages may be enhanced. **The Rapid Response Grants operationalize this through reinterpreting, integrating, sharing, and using existing policy-relevant research to engage governments, the public, and stakeholders, in practical solutions.**

The MTT Program supports 7 Rapid response projects, as described below.

1. Gender-sensitizing for the Design and Operation of Water-Energy-Climate Change Infrastructures in Soc Trang Province, Mekong Delta, Vietnam

Short project name: GS4Infra

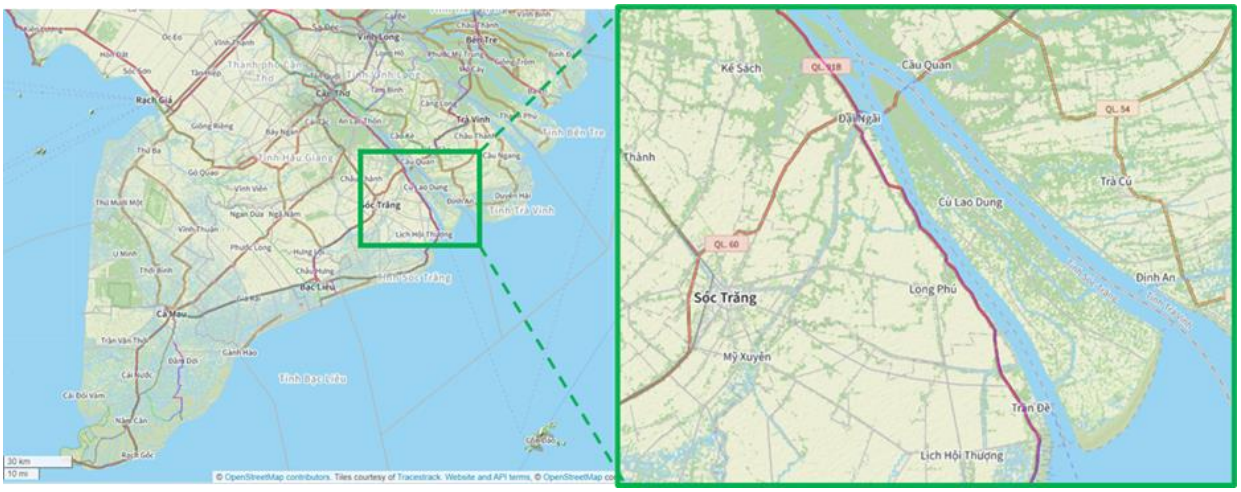
Country: Vietnam

Sectors: Water, Energy, Climate

Consortium: School of Business, University of Economics Ho Chi Minh City (UEH) Gender cluster at Gender Action Research Network Can Tho University, New Amsterdam Consulting, Department of Agricultural and Rural Development (DARD) of Soc Trang Province Vietnam

Contact: Ms. Nguyen Thi Thu Thuy (thuyntt@ueh.edu.vn)

The GS4Infra rapid response project focuses on two communes in Cù Lao Dung district, located in the Bassac River, a tributary of the Mekong, which face challenges from climate change and upstream hydropower development. Previous studies revealed that the design and operation of water, energy, and climate (WEC) infrastructures in these areas primarily ignored gender sensitivities. This has led to suboptimal performance of the WEC systems and exacerbated gender-related vulnerabilities, particularly affecting women and



Soc Trăng Province and the Cù Lao Dung District as GS4Infra project research area.

marginalized groups. The project aims to address these issues by developing a comprehensive understanding and solutions to incorporate gender-sensitive approaches in WEC infrastructure design and operation.

The project aims to improve women's participation in local planning and decision-making processes related to WEC infrastructures. By involving women's unions and female entrepreneurs in project activities, GS4Infra will demonstrate the benefits of inclusive participation, encouraging policymakers to institutionalize these practices. The project will revise design guidelines for dikes, irrigation canals, and sluice gates to incorporate gender-sensitive criteria, adapt existing policies to address the needs of women and marginalized groups and strengthen institutional support for gender-sensitive practices through capacity-building initiatives and continuous engagement with local authorities.

The project's implementation framework is guided by the Gender-Sensitive Evaluation framework and the Gender-sensitive monitoring system. Combining these frameworks, the project will tailor them to the specific context of Soc Trang. The methodology involves conducting semi-structured, in-depth interviews with individuals and families in the target communes, capturing diverse experiences based on social backgrounds and interactions with local infrastructure development projects. This approach aims to learn from relevant actors about local planning and the participation of women and men in community meetings.

GS4Infra will gather comprehensive data on how current infrastructures impact women differently and use this information to form the basis for policy recommendations. A crucial aspect of the project is the collaborative approach to developing solutions. GS4Infra will work closely with local stakeholders, including women's unions, female-headed households, and ethnic minority groups, to co-develop practical recommendations. This participatory approach ensures that the solutions are context-specific and have local buy-in, increasing the likelihood of successful implementation.

GS4Infra will produce several key deliverables aimed at influencing policy. The project report on gender-sensitizing WEC infrastructures will detail the findings and provide concrete recommendations for incorporating gender sensitivities into the design and operation of WEC infrastructures. Training modules will be developed to educate local policymakers, engineers, and community leaders on the importance of gender-sensitive approaches and how to implement them effectively. The project will organize policy dialogues to engage with key decision-makers and present policy briefs that distill the research findings into actionable insights.

The project expects significant impacts by integrating gender sensitivities into WEC infrastructures, improving sustainability and resilience. It aims to address the needs and interests of women, including various female groups, in policy guidelines and infrastructure design. The project seeks to understand and support women's participation in local development and decision-making processes by involving women's unions and local actors. GS4Infra will ensure conflict sensitivity and adhere to ethical guidelines, prioritizing the safety and well-being of all involved. The project embraces an intersectional approach, recognizing the complexity of gender and social equality issues and aiming to address individual and structural inequalities in a nuanced manner.

GS4Infra will share good practices from other communities that have successfully integrated gender-sensitive approaches into their WEC infrastructure projects. This knowledge transfer will help local policymakers understand the benefits and practicalities of these approaches, fostering a more supportive policy environment. The project will adhere to the Do No Harm framework and SUMERNET ethics guidelines, ensuring that all interventions are conflict-sensitive and ethically sound. Ultimately, GS4Infra aims to create a lasting policy impact by embedding gender sensitivities into the structural planning and operational norms of WEC infrastructures. This will lead to more resilient and sustainable infrastructures that better serve the entire population, particularly women and marginalized groups, setting a precedent for similar initiatives in other regions.

2. Addressing Water Scarcity through Groundwater Use: Development of Solar-Powered Groundwater Treatment System for Remote Areas of Cambodia

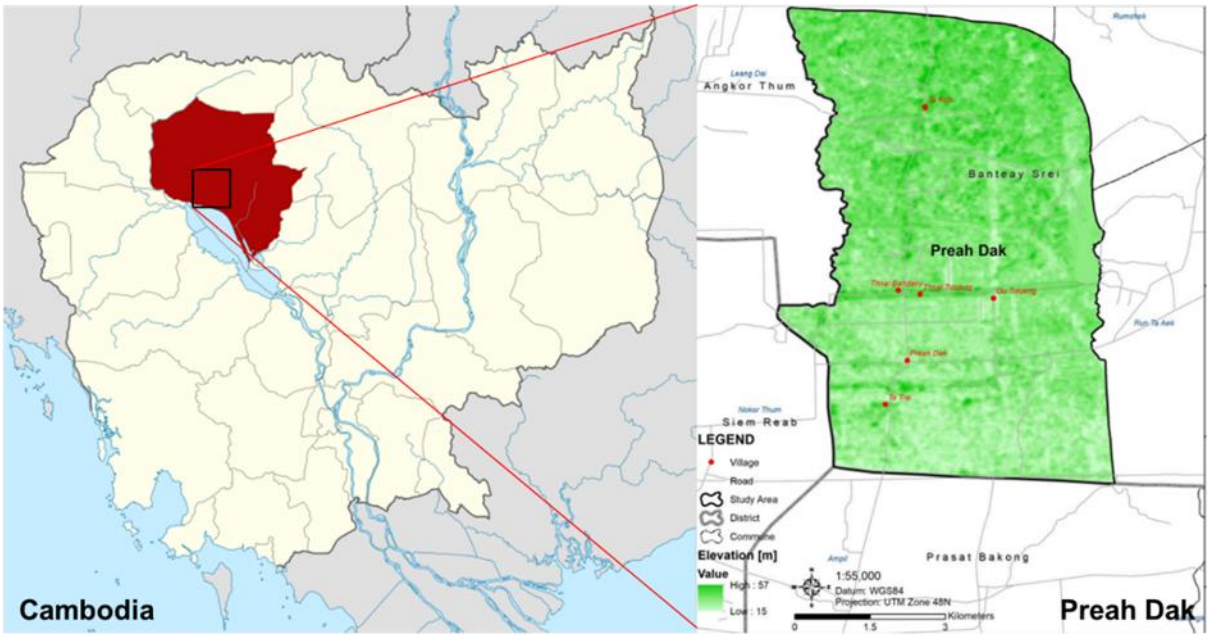
Short project name: Solar Groundwater Treatment System
Country: Cambodia
Sectors: Water, Energy
Consortium: School of Business, University of Economics Ho Chi Minh City (UEH) Gender cluster at Gender Action Research Network Can Tho University, New Amsterdam Consulting, Department of Agricultural and Rural Development (DARD) of Soc Trang Province Vietnam
Contact: Dr. Saret Bun (saret_bun@yahoo.com)

Water scarcity is a severe global issue, and groundwater is a critical resource in regions like Cambodia, where surface water is not readily available. However, groundwater in Southeast Asia, including Cambodia, is often contaminated. Therefore, proper water treatment is essential. This project combines membrane filtration and UV disinfection, supported by solar panels and batteries, to create an effective mobile water treatment system. Field testing and laboratory validation will ensure the system's feasibility in remote settings. Therefore, the project aims to improve groundwater quality and provide a sustainable solution for rural and semi-urban areas in Cambodia and beyond, and addressing this has become a prominent research topic in the twenty-first century. This project aims to mitigate water scarcity by developing a solar-powered groundwater treatment system for a rural area in Cambodia. The primary objectives are conducting a preliminary assessment of groundwater quality and understanding local social perspectives, optimizing the groundwater treatment process regarding performance and power consumption, and evaluating the prototype system's operation in a real community setting.

The project is structured in three stages: evaluating and optimizing groundwater treatment, evaluating and optimizing surface water treatment, and estimating power consumption while fabricating the combined system. Quantitative data from previous research on groundwater quality and household water use in rural Cambodia will be used to optimize the treatment and supply system. Groundwater treatment will use membrane filtration to target pollutants such as iron, arsenic, fluoride, manganese, and turbidity. UV disinfection will follow to remove living organisms from highly turbid water. The optimal treatment processes will be combined into a solar-powered system fabricated as a compact, mobile unit.

Previous projects indicate that groundwater constitutes 93% of the domestic water source for households in Preah Dak commune, Cambodia, with iron contamination being a significant issue. Groundwater in this region often contains high levels of iron, arsenic, manganese, and fluoride, making it unsuitable for domestic use without proper treatment. Given the lack of a piped water supply and the reliance on untreated groundwater,

developing a sustainable groundwater treatment system powered by solar energy is crucial. This system will address water scarcity and adapt to climate change.



Preah Dak commune, Siem Reap province, Cambodia

The project addresses gender equality, disability, and social inclusion (GEDSI) by improving sanitation for both genders, reducing the traditional daily workload of women, enhancing education opportunities for girls, and ensuring accessible clean water for people with disabilities. It promotes social inclusion by providing equal access to quality, sustainable, and low-cost water. The project upholds human rights by ensuring access to safe drinking water and sanitation and equal rights to use groundwater. Benefits include safe, low-cost, and sustainable water for people; renewable energy and sustainable water sources for the environment; and contributions to several Sustainable Development Goals (SDGs) such as no poverty, good health and well-being, clean water and sanitation, affordable and clean energy, industry, innovation and infrastructure, sustainable cities and communities, and climate action.

This project directly aligns with several key national policies and international frameworks. It supports the Royal Government of Cambodia's goal of achieving 100% coverage of rural sanitation services, universal urban water supply by 2025, and universal access to clean water by 2030. By improving access to clean water and enhancing WASH services, the project contributes to these targets and aligns with the Cambodian Water and Sanitation Policy. Additionally, it supports the government's climate change adaptation strategies by providing a renewable energy-powered solution that can withstand environmental changes.

3. Assessing the Communities' Resilience to Climate Change: Water-Energy-Climate Nexus: A Case Study in Mekong Sub-Region's Marginalized Communities in Stung Treng Province, Cambodia

Short project name: Communities Resilience
Country: Cambodia
Sectors: Water, Climate
Consortium: My Village (MVi), Romport Indigenous Collective Land Titling (CLT) Kroeng Indigenous Community, Tunsorng Indigenous Community, and Kouy Indigenous Community
Contact: Dr. Lonn Pichdara (myvillage@mvicambodia.org)

Stung Treng province in Cambodia faces several climate-related challenges, including rising temperatures, changes in rainfall patterns, floods, and droughts. These changes have significantly damaged homes, infrastructure, crops, and fisheries, leading to food shortages and diminished livelihoods for vulnerable communities. The construction of hydropower dams, such as the Sesan River dam, has also disrupted the natural hydrological regime of the Mekong River, impacting water levels and flow patterns. Indigenous communities, in particular, have faced additional vulnerabilities in coping with the effects of natural disasters.

The impacts of climate change on the five villages in Stung Treng province include experiences of floods and droughts, which have particularly affected community assets. All five villages have encountered flood events, while two faced drought conditions. However, the local administration's budget is limited in addressing these impacts of climate change. Previous research on climate change vulnerability in Stung Treng identified gaps in understanding the differential effects of climate change on various social groups, the lack of a water-energy-climate change nexus approach, and the absence of inclusivity and gendered approaches. These gaps hinder a comprehensive understanding of the issue and the development of effective strategies to address climate change impacts.

The long-term goal is to increase marginalized communities' resilience to climate change through equitable use of energy, water, and climate resources. The project aims to foster collaboration among ministries in addressing climate change impacts across sectors, such as water, energy, and climate change, by building local communities' resilience and ensuring local planning includes a 'community resilience with water-energy-climate nexus' approach. This includes increasing the budget and response capacity for addressing climate change for marginalized communities, including women, GLBTs, people with disabilities, and poor people.

Two research objectives are expected to be achieved: (1) to amplify the voices of marginalized people (women, youths, people with disabilities, GLBTs, people from poor families, indigenous peoples, widowers, and older people) on climate change impacts to decision-makers and policymakers at sub-national and national levels; and (2) to increase understanding of marginalized communities' resilience to climate change using a water-energy-climate nexus approach, providing identified solutions to decision-makers and policymakers at sub-national and national levels.

The project will document the vulnerabilities and resilience of marginalized communities to climate change, with solution recommendations, through research and engagement with decision-makers. This involves engaging marginalized people in the research process, including tool development, data collection, dissemination, and consultative workshops. Additionally, the project will involve marginalized people in policy dialogues on community resilience, using the water-energy-climate nexus approach and local planning workshops, culminating in policy brief submissions to ministries.

The specific target users of this research are marginalized communities, NGOs, commune administrations, district administrations, provincial administrations, and ministries. Marginalized and vulnerable communities and NGOs will use the research findings to inform local community planning and advocate for increased budget allocations to address climate change impacts, focusing on the water-energy-climate nexus. Commune administrations will use the findings to inform regional planning for more responsible approaches to addressing climate change impacts. District administrations will utilize the research findings to enhance local planning efforts to address climate change impacts. Provincial administration and provincial departments, such as the Department of Environment and the Department of Agriculture, Fishery and Forestry, will receive the project findings to support their efforts. Ministries, including the Ministry of Agriculture, Forestry, and Fisheries, the Ministry of Water Resources and Meteorology, the Ministry of Environment, and the Cambodia National Mekong Committee, will use the research findings to foster more collaborative responses to climate change impacts, emphasizing the interconnection of water, energy, and climate.

4. **Strengthening climate resilience of agricultural livelihoods in Savannakhet Province, Lao PDR, through participatory Ecosystem-based Adaptation**

Short project name: Climate Resilience through Participatory EbA
Country: Lao PDR, Thailand
Sectors: Water, Climate
Consortium: Asian Institute of Technology (AIT), National University of Laos (NUOL), Kasetsart University
Contact: Dr. Indrajit Pal (indrajit-pal@ait.asia)

In Lao People's Democratic Republic (Laos), a landlocked Least Developed Country in Southeast Asia, agriculture is vital, contributing 30% to the GDP and supporting about 80% of the population. However, the country is highly vulnerable to climatic hazards, including severe flooding and drought. In 2018, floods caused damages of USD 370 million, heavily impacting the agriculture and transport sectors. Historical data indicates an increasing frequency of such climatic events, adversely affecting agricultural livelihoods.

Savannakhet Province, the largest in Laos, plays a crucial role in the country's agriculture, with extensive flood plains and significant rice production. However, with 78% of rice cultivation reliant on rain, it is highly susceptible to changes in precipitation patterns. The heavy rainfall between August and September 2019 caused severe flash floods, damaging crops and livestock and resulting in food insecurity. Addressing how climate-related hazards impact agricultural livelihoods and finding solutions to enhance resilience is critical for this province.

This project employs a research-to-policy approach to strengthen agricultural resilience through participatory Ecosystem-based Adaptation (EbA). It integrates rigorous scientific research on climate-related impacts with community engagement, focusing on vulnerable and marginalized groups. The project includes analyzing climate hazards, simulating ecosystem service models, assessing EbA practices, and identifying barriers to implementation. It also aims to influence policymaking at national and regional levels through stakeholder engagement, addressing policy gaps that hinder EbA, and promoting sustainable livelihoods.

The project's impacts include enhancing climate resilience by developing scenarios of climate-hazard impacts and assessing EbA practices to empower agricultural communities in Savannakhet. This approach improves livelihood resilience and reduces adaptation inequalities. Community empowerment is achieved through focus groups and engagement with marginalized groups, amplifying their voices to policymakers and fostering local ownership of resilience

The project addresses Gender Equality, Disability, and Social Inclusion (GEDSI) gaps by promoting climate adaptation measures that are gender-responsive and accessible to all. It emphasizes community engagement, co-developing EbA measures, and visualizing benefits to build resilience among marginalized communities. The research and engagement components are designed with GEDSI considerations, including accessible venues and equitable participation. A GEDSI plan and scoping will be developed to ensure non-discrimination and adherence to social inclusion principles.

In Laos, climate resilience actions are guided by the Water and Water Resources Law 1996, the National Adaptation Plan (NAP) 2009, and the National Climate Change Strategy 2010. These policies recognize agriculture's importance but lack specific adaptation practices and often involve limited community engagement. The project aims to support the development of targeted, GEDSI-responsive policies and strategies for EbA. By combining scientific evidence with community input, the project seeks to create equitable solutions, enhance community ownership, and improve the likelihood of successful policy implementation.

5. Building resilience and adaptive capacity of Women's Union to address water-energy-climate challenges in the Vietnamese Mekong Delta

Short project name: WEC Capacity for Women's Union in Vietnam Mekong Delta
Country: Vietnam
Sectors: Water, Energy, Climate
Consortium: Mekong Delta Development Research Institute (MDI), School of Social Sciences and Humanities Can Tho University
Contact: Dr. Nguyen Thanh Binh (ntbinh02@ctu.edu.vn)

The Mekong Delta, a critical economic region, faces numerous challenges due to climate change and natural disasters, including sea-level rise, saltwater intrusion, landslides, and erratic floods. Water scarcity, pollution, and ineffective management are critical challenges for water security in the Mekong River Basin, varying by socio-economic context and production systems. Energy security is also pressing, with hydropower plants on the main river and its tributaries exacerbating issues like silt and sand reduction, riverbank erosion, and soil degradation, compounded by saltwater intrusion affecting more than half the natural area.

This project targets three representative provinces in the Mekong Delta for scalable lessons: An Giang province in the upper part, facing flooding and pollution from intensive rice and catfish production; Vinh Long province in the middle part, dealing with water pollution from intensive fruit, rice, and livestock production; and Tra Vinh province in the coastal area, struggling with salinity intrusion, a large Khmer population, and pollution from intensive rice, fruit, and shrimp production. The project aims to address water scarcity through the development of solar-powered groundwater treatment systems.

A key strategy is improving community capacity through focused training and communication. Awareness initiatives will target officials and members of the Women's Union in the Vietnamese Mekong Delta, highlighting women's crucial role in resource management and children's education. The communication program will employ various mediums to convey essential information to local farmers, including video clips, visualization techniques, and the Participatory Adults Learning Approach (PALA).

The Women's Union system, from the central level to grassroots organizations, will be integral to implementing project activities. This established network ensures sustained and far-reaching impacts. A participatory approach will engage Women's Union members from the project's inception, including early-stage consultations, participation in Training of Trainers (TOT) classes, and development of practical teaching and training materials. This model leverages the existing association structure and actively involves the community in shaping and implementing the project.

All images and videos will be crafted from authentic community situations, focusing on women, children, individuals with disabilities, and older people. The Committee for the Advancement of Women, in collaboration with the local Women's Union, will disseminate essential information and knowledge using formats tailored to each research location. Expected project outcomes include training about 30 Women's Union staff on WEC knowledge and facilitation skills through a TOT training class, direct participation of at least 300 Women's Union members in capacity-building programs through meetings and workshops, development of at least three action plans to integrate WEC challenges into provincial Women's Union programs, creation of three video clips in the selected provinces, production of a policy brief, and organization of kick-off and final workshops.

The project will involve the Women's Union in these provinces to ensure the development of training materials, especially for socially marginalized groups. GEDSI principles will guide the project, guaranteeing inclusive awareness-raising activities targeting women, ethnic minorities, people with disabilities, and rural populations.

The project aims to convey sustainable water and energy use for climate change adaptation to the most socially marginalized and vulnerable groups.

The project embraces a holistic approach addressing the nexus of water, energy, and climate challenges while prioritizing gender equality, disability inclusion, social equity, human rights, conflict sensitivity, and participatory governance. The goal is to secure equitable benefits for all, particularly socially marginalized and at-risk communities. The research aligns with crucial national policies, including Governmental Resolution 120 (2017), emphasizing communication programs for Sustainable and Climate-Resilient Development in the Mekong Delta; the National New Rural Program, emphasizing environmental protection criteria; and the Resolution of the 13th National Women's Congress (2022), highlighting major Women's Union programs like "Three Clean" (clean house, clean alley, clean kitchen) and "Five Having" (having a safe house, sustainable livelihood, health, knowledge, and cultural lifestyle).

The project will begin with active participation from the Center for Women and Development in the Mekong Delta and the Women's Union across the 13 provinces. Outcomes will advance state policy implementation, including lessons learned and policy briefs.

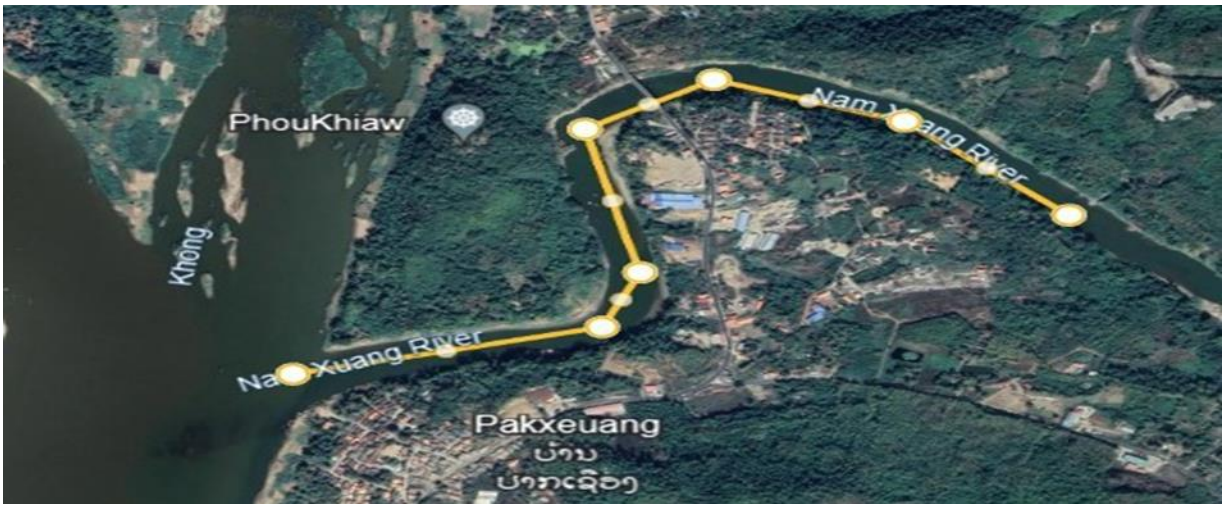
6. Enhancing Fisheries Resilience and Managing Fisheries Resources Sustainably under Climate Change Impacts through Local Community Participation in Lao PDR

Short project name: Enhancing Fisheries Resilience
Country: Lao PDR
Sectors: Water, Climate
Consortium: Maejo University, Northern Agriculture and Forestry College (NAFC), Souphanouvong University, Agriculture and Forestry Department Lao PDR
Contact: Dr. Khajornkiat Srinuansom (menakorn12@gmail.com)

The Lao People's Democratic Republic (Lao PDR), situated in the Mekong River Basin, faces significant challenges due to its reliance on climate- and water-sensitive natural resources. Marginalized communities, heavily dependent on aquatic biodiversity, rely on fish and other aquatic species for nutrition and income. This reliance has led to overfishing and the use of illicit methods, exacerbated by limited adaptive capacities due to economic and geopolitical issues.

About 70% of Laos's population resides in rural areas, with 36% involved in agriculture, forestry, and fisheries. The Mekong Basin, covering around 35% of Laos's territory, is recognized as a biodiversity hotspot, hosting approximately 1,148 fish species. However, 14 species, including the Mekong giant catfish, are critically endangered, and 50 are classified as endangered or vulnerable. The river's challenges include climate variability, hydropower development, disrupted river dynamics, increased fishing pressures, land-cover changes, and inadequate fishery governance, contributing to declining fish stocks.

Local stakeholders have proposed establishing conservation zones with robust community engagement to address these issues. Despite these efforts, challenges such as knowledge gaps and limited guidance persist. This project aims to address these challenges by utilizing existing datasets from Thailand and Laos and



Xuang River where the conservation zone will be potentially built. (credit: MTT Rapid Response Project - Enhancing Fisheries Resilience)

initiating participatory data collection involving diverse local inhabitants. The focus is on inclusivity, actively involving women, minorities, and marginalized communities to ensure equitable power dynamics and effective sustainability measures.

The project's primary goal is to enhance fisheries resilience in Laos's Mekong River Basin by tackling climate variability, hydropower impacts, water quality, and the over-reliance on fragile aquatic resources. The project plans to establish conservation zones to protect crucial spawning periods and introduce small-scale community-based aquaculture systems. This approach involves collaboration among communities, researchers, and local government to formulate local conservation policies with potential regional applications.

In addition to enhancing fisheries resilience, the project prioritizes Gender Equality, Disability, and Social Inclusion (GEDSI) by engaging women and minority groups in fisheries management. By understanding and promoting their roles, the project aims to sustain resilience and biodiversity conservation, enhance food security, stimulate local economic growth, and foster comprehensive community development.

The project employs a Theory of Change framework, integrating grassroots knowledge with scientific insights. It includes two Rapid Response Actions (RRAs) and participatory activities to develop evidence-based policy recommendations. These policies aim to protect fish reproduction, conserve ecosystems, and provide regional insights for adaptive management practices.

A key focus is on influencing policy at the local and district levels. The project targets local governance structures for policy creation, emphasizing enhanced fish reproduction, brood stock protection, sustainable resource use, and effective environmental management strategies. By aligning these outcomes with the

governance framework and leveraging success stories from similar initiatives, the project aims to impact local and district-level policies significantly. These efforts are designed to resonate with policymakers, promoting long-term, evidence-based conservation, and sustainable resource management that could be adapted across the region. This strategic approach seeks to integrate scientific data and local insights to drive meaningful policy changes, ensuring the resilience and sustainability of fisheries in Lao PDR.

7. Promote equitable sharing of water resources for ethnic minority communities living downstream of small hydropower projects through collaboration among the community, businesses, and the state in Vietnam

Short project name: SHARE-WREM
Country: Lao PDR
Sectors: Water, Energy
Consortium: Nghe An Centre for Forestry Development and Consultation (NACEFDECO), Vinh University
Contact: Dr. Ho Thi Phuong (phuongmt.dhv@gmail.com)

Ethnic minority communities in Vietnam's mountainous areas depend on irrigated agriculture, now threatened by climate change and water competition from upstream small hydropower plants. With over 600 small hydroelectric projects in Vietnam, these projects significantly strain water resources for irrigation, directly impacting millions of ethnic minorities. While irrigation helps alleviate poverty for ethnic farming households and provides economic opportunities for women, hydropower projects contribute to national socio-economic development. Addressing the water-energy-climate nexus is urgent, given the pressures of climate change. This research project aims to ensure harmonious development locally and nationally by providing evidence-based impacts of small hydropower projects on the agricultural livelihoods of ethnic minorities and developing an action plan for equitable water resource sharing among communities, businesses, and the state.

Nghe An Province, the largest in Vietnam with over 3.2 million people, has 54 hydropower projects with a total capacity of nearly 1,700 MW. The project area, Tam Thai Commune, is downstream of the Xoong Con hydropower plant, which has significantly impacted the lives of 8 of 9 villages in the commune. These villages, mainly inhabited by Thai ethnic people, suffer from flood damage during the rainy season and droughts during the dry season due to dam closures, leading to abandoned arable land.

The SHARE-WREM project's primary goal is to increase equitable access to water resources for ethnic minority communities in Tuong Duong District. The project will generate and disseminate lessons learned to other hydroelectric areas in Nghe An Province and across Vietnam. Two major approaches will be applied: a gender-sensitive approach ensuring equal participation of women and men and a participatory methods approach involving stakeholders in the project's activities.

The project aims to achieve two primary outcomes: knowledge-based evidence and an action plan with benefit-sharing regulations. The research will explore the impacts of small hydropower projects on agricultural livelihoods through qualitative and quantitative data collection, including questionnaires, expert consultations, pilot surveys, household surveys, focus group discussions, critical in-depth interviews, and consultation meetings. The action plan and benefit-sharing regulations will be developed based on community concerns and needs, reviewed by relevant parties, and promoted for equitable water resource sharing among local communities, businesses, and government agencies.

A gender equality, disability, and social inclusion (GEDSI) perspective will be mainstreamed throughout the project stages, ensuring the participation of marginalized groups such as women, youth, people with disabilities, and ethnic minorities. The project will comply with relevant water resource regulations while

addressing conflicts arising from top-down hydropower operation decision-making. By engaging industry leaders, government authorities, and local communities, the project will propose regulations to ensure hydropower plants' disaster response plans are responsible and informed, promoting legal compliance and human and environmental health. This initiative aims to enhance policy frameworks for equitable water distribution, supporting sustainable livelihoods and development for ethnic minority communities.