



2018 **SUMERNET**
STREAMS OF CHANGE



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This booklet provides a brief look at the success of the Sustainable Mekong Research Network's (SUMERNET) Phase 3, from 2014 to 2017, through highlights of its outcome harvesting activities, which were undertaken to collect evidence of outcomes and then determine if SUMERNET interventions contributed to them. The outcome harvesting was completed by SUMERNET staff and reported in March 2018.

The SUMERNET "Streams of Change" theme was chosen to represent how SUMERNET Phase 3 stimulated change through its partners' ideas, research and policy engagement that stream benefits to communities, just as the flow of the Mekong and its tributaries benefit these same communities, economically and socially, through the provision of natural resources for thriving livelihoods.

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SUMERNET

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The Sustainable Mekong Research Network (SUMERNET) helps to bridge science and policy by supporting policy-relevant research and outreach with partners working on sustainable development in the Mekong Region countries: Cambodia, China, Lao PDR, Myanmar, Thailand and Viet Nam.





SUMERNET nourishes a growing community of researchers that aim to inform and influence the Mekong Region's sustainable development through

- Supporting credible, collaborative research
- Catalysing independent discussions on key regional issues
- Engaging with decision-makers

Within this context, SUMERNET pursues an evolving agenda that is responsive to the emerging challenges and policy issues in the region. Phase 3 of the SUMERNET project, from 2014 to 2017, focused on three prevailing research themes:

- Climate-compatible development: promoting human development while addressing both mitigation of, and adaptation to, climate change.
- Regional economic integration: seeking mechanisms for ensuring both environmental sustainability and social equity in a region developing together.
- Ecosystem services and local development: assessing the value of ecosystems and the services they provide for local development in rural and semi-urban settings.

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Knowledge Stream

Kulen Promptheap Wildlife Sanctuary

Kulen Promptheap Wildlife Sanctuary (KPWS) is located in Cambodia's Northern Plains. KPWS land in Preah Vihear Province is mainly covered by open deciduous Dipterocarp forest communities, grassland savannahs and seasonal wetlands. It surrounds the upper Stung Sen River, a major tributary to the Tonle Sap, and is managed under the Ministry of Environment.



The project has not only been valuable in providing opportunities for academic research and training but it also provided important information for the Cambodian government to manage wetlands better.

Dr. Srey Sunleang

Director of Wetland and Coastal Zone Department
Ministry of Environment, Cambodia

1 Livelihoods

Farming is the main source of income. Rice is the most important crop, followed by cassava and vegetables. Other income-generating activities include fishing, hunting, driving motorcycle taxis and merchandising (small shops).

Rice

Fishing & Hunting

Cassava & vegetables



Cambodia's Northern Plains

 Kulen Promthep Wildlife Sanctuary

 Preah Vihear Province

 Tonle Sap

 Phnum Samkoh Wildlife Sanctuary



2 Wetlands Protection

Wetland ecosystems are home to many critically endangered species and provide resources necessary for the livelihoods of local communities. KPWS is threatened by farm land expansion for rice growing and land concessions for rubber plantations. Rice paddy expansion directly effects wetlands because wetlands are easier to convert and wetland soils are more suitable for growing rice.

3 Wetlands Use

The wetlands are important for livelihoods. Local people harvest many kinds of wetland and forest products. They also use fishing nets, bamboo fish-traps, harpoons, animal traps.



Solution

Actions

SUMERNET raised awareness and understanding of the importance of wetlands in KPWS and other Dipterocarp forests in Cambodia and Vietnam. Researchers collaborated with (1) local people who live in project areas, (2) managers and staff of the two protected areas where the project operated and (3) Ministry of Environment of the Kingdom of Cambodia. Academic and research communities also benefit, through the publication of scientific peer-reviewed papers on the ecology and conservation of wetland ecosystems in dry deciduous Dipterocarp forests of the Mekong River

Impacts



SUMERNET described and mapped KPWS, leading to critical knowledge and policy recommendations for conservation.



SUMERNET encouraged more participation from local villagers, and identified a need for improved cooperation between KPWS and local communities.



SUMERNET recommended bold actions to reverse trends of sharp decline in crane population in the wetlands. Improved cooperation between NGOs and the government is needed.

Attitude Stream

An Giang Province

An Giang Province is located in the Mekong Delta in Southwestern Viet Nam. Most of An Giang is fairly flat and is crisscrossed by many canals and small rivers. It is a major agricultural center, producing significant quantities of rice. It is known for its deep water rice fields – also known as floating rice.



Since my involvement in the SUMERNET project in early 2013, the price for my rice has improved and in fact more than doubled. I can now pay my debt and the extra income I earned will be used to buy four cows for rearing. My family income has also improved.

Mr Nguyen Van Nao

Farmer, Vinh Phuoc commune,
Tri Ton district of An Giang province



Southwestern Viet Nam

An Giang Province

Ho Chi Minh City

Mekong River



Laos

Thailand

Cambodia

Vietnam

2 Livelihoods

Before 2014, the majority of farmers cultivated floating rice mainly to feed animals or to sell to local customers and in various temples in Ho Chi Minh city. Rice was also sold sites to local farmers at low prices.

3 Rice Cultivation Benefits and Challenges

Floating rice creates straw to cover soils for growing vegetables, conserves soil moisture, provides habitats for fish, reduces chemical fertilizer use and increases income diversification, by allowing for vegetable growing in the dry season. However, droughts severely affect rice production: lack of flooding in 2015 led to paddy destruction.

Vegetable growing



1 Shrinking floating rice area

Before 1975, the total area of floating rice was estimated to be greater than 500,000 hectares; by 1994, this had been reduced by 80 percent, mainly due to promotion of agricultural intensification. This has increased food production for domestic consumption and export, but also created a range of environmental and health problems, including growing agrochemical pollution and reduced soil fertility.

Floating Rice



Solution

Actions

SUMERNET focused on drought recovery and more inclusive ecological governance of wetlands in An Giang. It helped facilitate local knowledge recovery, supported ongoing agro-ecology pilot projects, and helped bridge the gap between science and local knowledge in wetlands management. It also advanced policy options based on development challenges at the local level and facilitated networks between local organizations, government agencies, academics and others in valuing agro-ecological systems.

Impacts



SUMERNET's research helped farmers and other boundary partners appreciate the value of floating rice for safe food production, maintaining biodiversity, recovering inland fisheries, and improving the environment. Farmer groups began marketing floating rice, and prices from 2014 to 2015 rose to between VND 12,000/kg to VND 15,000/kg. Many of the farmers have now signed contracts with companies who buy all of their rice. Farmers report being more connected and trusting toward the government and business, and have increased links to consumers that want to purchase floating rice.

Practice Stream

The Huay Sai Bat River Basin

The Huay Sai Bat River Basin is located in Northeastern Thailand and ranges from 150 to 550 metres above sea level. Its soil is mainly sandy, and its average annual rainfall of 1,032 mm is well below that of the whole region. Approximately 72% of the land area is covered by agriculture, with 16% forest and 4% urban. There is one large-scale dam and 37 small-scale dams. Rice is grown in the region, but yield is less than the average for Thailand.



The application of Robust Decision Support (RDS) in Huay Sai Bat sub-basin for addressing the uncertainties being faced for water resources management has been very useful. Khon Kaen provincial government allocated more than 80 million Baht last year and more than 150 million Baht this year for groundwater development to supply water during times of scarcity.

Mr. Vongwiwat Tanusilp

Khon Kaen Natural Resources and Environment Office

1 The impact of a changing climate

The Huay Sai Bat communities, particularly at the upper and middle reaches, suffer greatly from water shortages during the dry season as the water supply for farming activities and household consumption is severely limited. The temperature in this Northeastern part of Thailand is expected to increase by two degrees Celsius, which will result in significant stress on basin's agricultural crops and livelihoods.

2 Livelihoods

Agriculture is the main source of income in the region, making up approximately 72% of households. Rice production is prominent, with sugarcane, cassava and corn also grown.

Rice



Northeastern Thailand

The Huay Sai Bat River Basin

Khon Kaen Province

Maha Sarakham Province

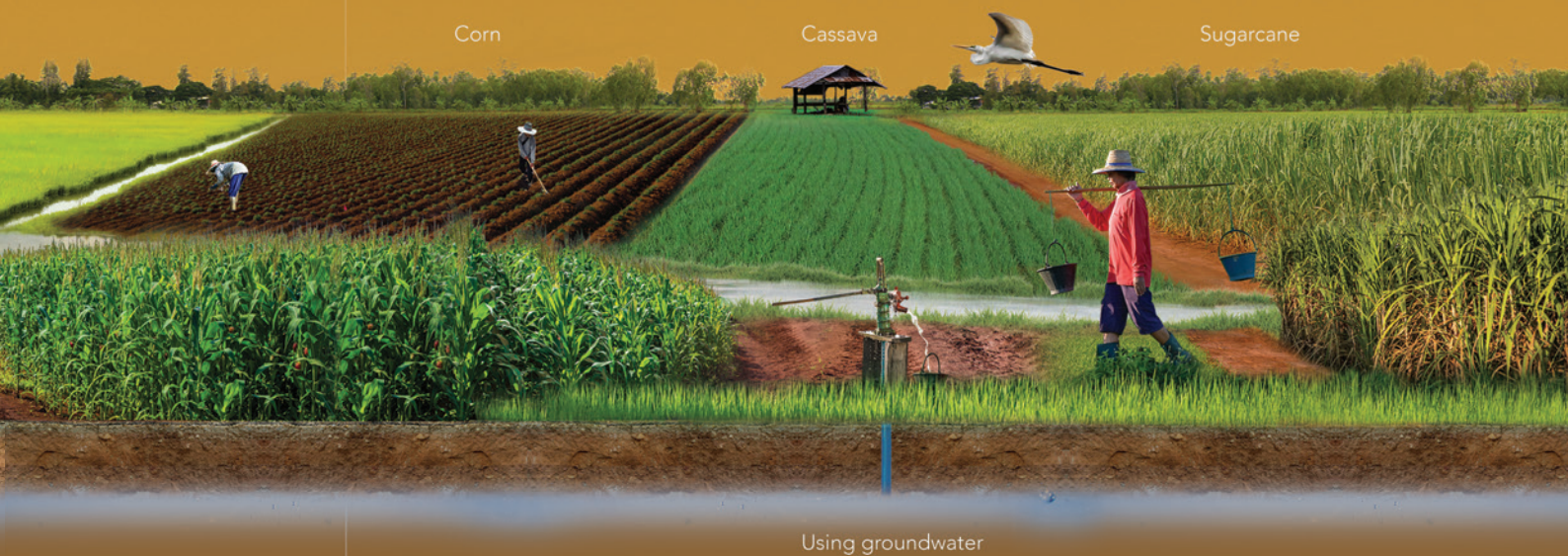
Chi River

Bangkok



3 Water Scarcity Challenges

The Huay Sai Bat communities suffer greatly from water shortages during the dry season as the water supply for farming activities and household consumption is severely limited. Climate change will also impact the region, with an expected rise in temperature around two degrees Celsius, which will result in significant stress on the agricultural crops and livelihoods. Water scarcity management is the main challenge for local communities.



Solution

Actions

SUMERNET helped to build a model to assess water scarcity in the Huay Sai Bat basin. It then brought together key boundary partners for consultation workshops and meetings. The model and consultations resulted in a Robust Decision Support system for four key sectors: domestic, agriculture, industry and environment. Recommendations included: dredging Non Yai swamp to increase its capacity, using groundwater as an alternative water supply for irrigation, delaying rice planting for areas not serviced by irrigation and building cascaded weirs along the river upstream to maintain water sources.

Impacts



SUMERNET's recommendations resulted in Khon Kaen provincial government allocating more than 80 million Baht in 2016 and more than 150 million Baht in 2017 for groundwater development to supply water during times of scarcity.

Disclaimer:

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