Moist Maps: Reimagining the Mekong River Through the Materiality of Its River Weeds

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Abstract

Since 2023, I have participated in a series of collaborative and transdisciplinary research groups involving artists, activists, and local communities to explore the shifting landscape of the Mekong River in Thailand, impacted by upstream dam construction in China and Laos. The fieldwork included interviews, workshops, and sensory engagement with local women and men who harvest Kai, an endemic and ecologically vital river weed. Once central to the Mekong's life cycle and local economies, Kai now faces threats from erratic water levels and chemical pollution caused by dams. Drawing on Ala Plastica's definition of initiatives as artistic processes emerging through exchanges shaped by context and relationships, this research adopts a fluid, responsive approach. Handmade paper crafted from Mekong River weed became the foundation for a "moist map" that challenges conventional, neo-colonial mapping practices. Historically, maps of the Mekong served as instruments of power, reducing its complex ecosystems to static forms for control and resource extraction. In contrast, this counter-visualization highlights the river's inherent dynamism and the entangled relationships between human and non-human actors. The Moist Maps: Collaborative Map-Making Initiative brought together artists and activists, with Kai weed harvesters and local youth from Baan Had Krai (Chiang Khong) to co-create a series of maps using locally sourced Kai. This workshop fostered intergenerational knowledge transfer, amplifying micro-stories and diverse perspectives that shape the river's reality. Through embodied cartography, the research reimagines fieldwork as a relational, place-based method, advocating for alternative representations that resist extractive narratives while nurturing situated knowledge and ecological awareness.

Keywords : Mekong River, Kai Riverweed, Extractive Practices, Colonial History, Visualisation Techniques, Collaborative Map Making

Art Worms

In May 2023, I joined Art Worms a collaborative and transdisciplinary research group involving artists, activists, and local communities to explore the shifting landscape of the Mekong River in Thailand, impacted by upstream dam construction in China and Laos. The impacts of these infrastructures, promoted as a means of modernization and progress, have affected the river's sustainability. Alterations to the water flow disrupt fish migrations, affect sediment transport, and transform aquatic habitats. At the same time, these changes have also negatively impacted the social fabric and livelihoods of communities living along the water.

Our first journey took place in the Thai town of Pak Chom, where the Mekong defines the geographic border with Laos. Through a series of interviews and workshops conducted closely with the local community, we discovered how the effects of dams, particularly the frequent and unpredictable changes they bring to the river's water level, are influencing, among other things, the viability and quality of Cladophora– a green a green river weed that thrives in

clean, flowing waters – with direct consequences on the human and non-human ecology that vitally intertwines with the river.



Figure 1. “Kai” Mekong’s riverweed, 2024 © Pietro Lo Casto

The Mekong algae, called Kai in the local language, emerges in the river's waters during the summer months when the water level typically recedes. Besides being important for the river ecosystem's life cycle, it is consumed as a seasonal delicacy. Traditionally, the collection of these algae is entrusted to women. Gathered and cooked, it is consumed within families or sold in local markets, becoming over the years a seasonal economic income relied upon by communities living near the river. It represents, albeit partially, one of the many interconnections between humans and the environment on the Mekong, making the residents' lives so interconnected with the river as to be almost symbiotic.

Today, these weeds often contain sand, minerals, and chemicals resulting from dam construction, intensive agriculture and residential developments, among others, reducing its suitability for collection and consumption. In some areas, it no longer exists.

Fascinated by this endemic Mekong River weed, we decided to undertake another series of visits during the summer months when communities engage in collection, with the goal of exploring the physicality of this natural material with all five senses.



Figure 2. Kai harvester in Chiang Khong, 2024 © Pietro Lo Casto

To find it, we ventured into this great river, accompanied by some women from the community of Baan Had Krai in Chiang Kong. Upon arrival, we found ourselves waist-deep in water, listening to the algae buzzing between the surface and the riverbed. When collected, it feels silky to the touch, wet, and porous. At the same time, it can be rough as it ages. We discovered that its life cycle is fast, lasting two to three days; if not collected in time, it turns into a fungus before returning to its original liquid state.

It can be consumed fresh, cooked following a local recipe called "Laab Kai" as explained by a local woman: "Here we eat it by adding shellfish, fish, or clams. It's delicious. Like how we make mackerel sauce, but less oily, as the algae is quite watery. The weed is soft, mixing it with natural water cleans it and makes it ready for cooking."



Figure 3. Preparation of Laab Kai, 2024 © Pietro Lo Casto

Back in the village, we followed the preparation of this dish, focusing on the sensory aspects of the ingredients and cooking process, the algae boiling in water, the slow frying of river snails, the high-pitched voice of our cook only momentarily interrupted by a neighbouring young man's clumsy attempt to offer the group a glass of local whisky as an aperitif. Finally, we all enjoyed the dish together.

This research process was crucial for developing situated knowledge, building an emotional connection with the territory and its people, and understanding the manifold meanings of this material.

Fieldwork allowed us to understand how these border river landscapes are layered territories, where the past shaped by Western colonial influence has contributed to building a present and future narrative that sees them as places where ecological and cultural richness are overlooked in favour of resource extraction.

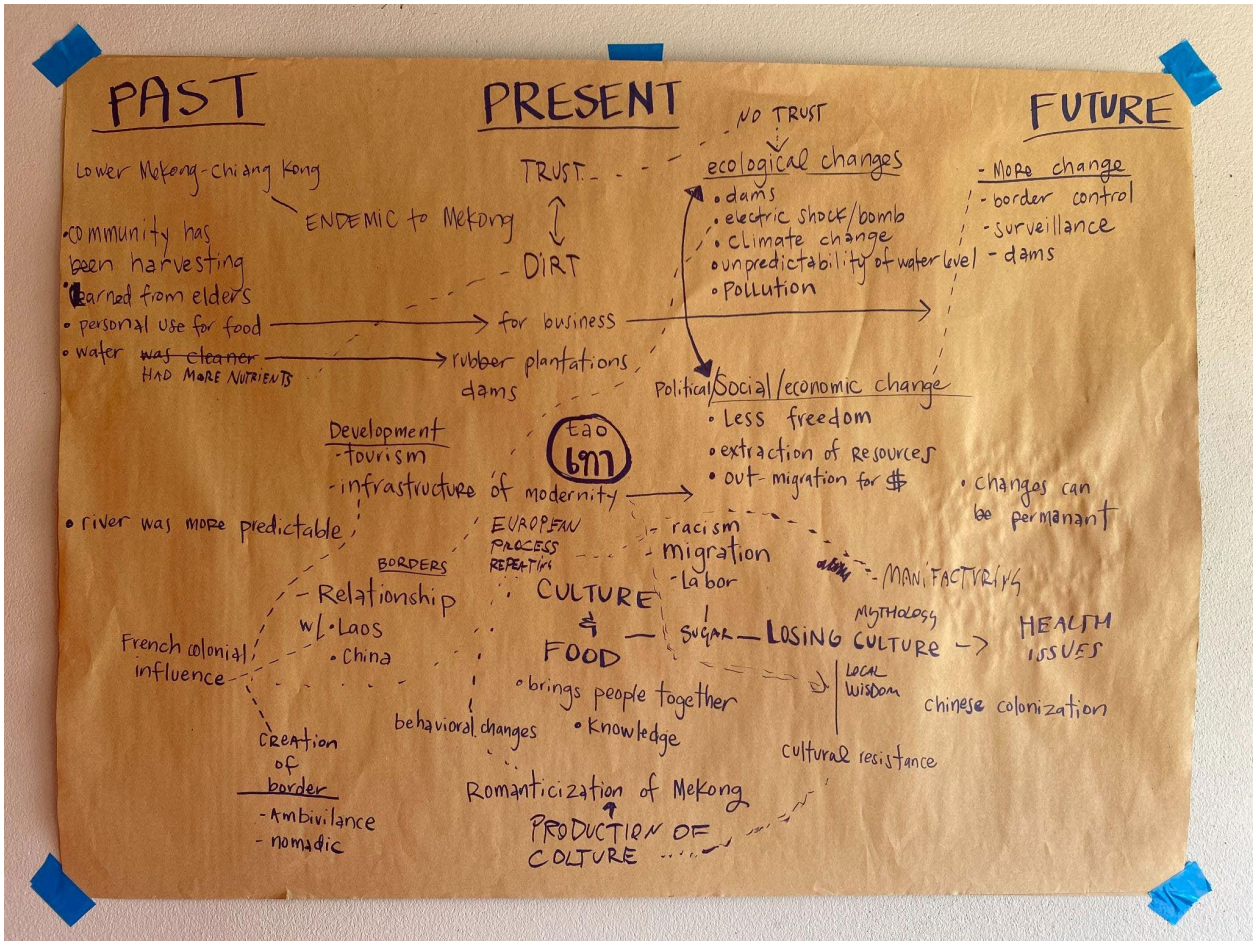

Figure 4. Collaborative Mapping, 2024 © Pietro Lo Casto

Before the end of the 19th century, the Mekong region in Southeast Asia was uncharted territory for Western cartographers, existing only in the realm of cartographic imagination. In the book "The Mekong: Turbulent Past, Uncertain Future" by Milton Osborne, the experiences of the first Mekong explorations by a French expedition group in the colonial era are detailed. The French exploration, starting in 1866 from Saigon in Vietnam downstream to Yunnan in China, lasted about two years and allowed for the mapping of geographic features of the river (Osborne, 2000). Through a combination of mapping techniques unsuitable for the situation, combined with deliberate errors, these maps were designed to increase colonial power and claims over what could be construed as land. Indeed, what is considered error in European cartography is often tied to the desire to own and exploit the complex and ever-changing land surface as property (Awan, 2023).

Traces of these pasts can still be found in the territory today. On some rocky islets, peculiar to the riverbed in the Pak Chom area, one can see imposing stone and concrete structures that, resembling stairs over 3 meters high, rise on top of boulders. They represent ancient navigation aids built under French orders more than a century ago. These artifacts served to signal direction to boats, allowing navigation of the river during the rainy season when water levels typically rise. Like gates to another temporal dimension, they reveal a past that still lives in the fabrics of the present. They narrate Western imperial ambitions, the transformation of the Mekong into a major trade route that would facilitate trade with China (Keay, 2005).

Throughout history, maps have been instrumentalized in colonization efforts, asserting specific worldviews and territorial claims as indisputable truths (Awan, 2023). However, what these colonial and capitalist perspective technologies constantly overlook in their simplified

representation of river ecosystems are the intricate and interconnected networks of relationships that cannot be reduced to Abstract data and that serve purposes beyond economic value production.



Figure 5. Ancient instruments of navigation, Pak Chom, 2024 © Pietro Lo Casto

This way of imagining the river continues to echo in the present, albeit in different forms, through the construction of modern dams. These projects, while claiming to pursue development goals, represent neo-colonial efforts of extraction that have widespread ecological impacts on the region's complex web of life (Sangkhamanee, 2009).

Thailand has so far been exempted from building dams on the Mekong, thanks to strong resistance from local communities and international NGOs. However, projects continue to be proposed, one of which involves building a dam near Pak Chom. Advanced visualization techniques, such as mapping and 3D representation of proposed new hydroelectric projects, support this process of commodifying the territory. However, what these colonial and capitalist

perspective technologies constantly overlook in their simplified representation of river ecosystems are the intricate and interconnected networks of relationships that cannot be reduced to Abstract data and that serve purposes beyond economic value production.

Material can allow you to see traces otherwise difficult to see. Riverweed in this sense can act as a witness to the territory, embodying the micro-stories, and the multiplicities of worlds – past, present, and future – that coexist and co-produce the river's reality. These are ways of understanding space that belong to relational, material, and more-than-human modes. These alternative views align with the cosmologies situated in these places, offering a perspective different from the Western way of thinking about the world, and that reveal the invisibilities of a system that seeks to frame this river as a place solely dedicated to resource extraction.

However, visibility and invisibility are matters of perspective and depend on the lens we equip ourselves with. Building my artistic practice in Southeast Asia over the past five years has put me in a position to initiate a process of disidentification from a predominantly Eurocentric view of the world and develop a critical perspective towards Western representation structures. In my artistic research, I am particularly interested in the role these visual techniques play in shaping our perception of the world, and how these power dynamics continue to manifest themselves between past, present, and future, changing shape but maintaining the same objectives.

As an artist, I began to be interested in the possibility of using Kai to subvert these power techniques, developing a way to counter-visualize the surface of the Mekong, a territory that is never a simple, flat, geometric, simplified, and exhaustive layer as maps want to represent.

So, I decided to lay the groundwork for the development of a counter-map. To create the surface, I followed a traditional paper making technique from northern Thailand. Traditional Thai paper is made from the bark of the Mulberry tree. Through a series of refining processes, the bark is transformed to produce a textured and delicate paper surface, called "Kaada saa". I had the opportunity to learn the production processes behind this ancient art at Farm Kaada Saa, a traditional paper factory based in Chiang Mai. To this ancient process, I added an additional layer of experimentation using a pulp made from a combination of Mekong algae and Mulberry tree bark, another natural element found in the riverine territory.



Figure 6. Artist’s studio experimentation, 2023 © Pietro Lo Casto

The result proposed a surface that resembles the reality of the Mekong River, in the sense that it cannot be easily pinpointed. The paper is layered, it is both clear and murky, soft but at the same time rough. It contains sediments and impurities; it incorporates the passing of time. It is moist, and like other natural elements, moisture eludes cartographic representation. At the same time, moisture destroys paper and electronic maps! (UNIDEE, 2023)

These characteristics allowed me to introduce an anomaly into the cartographic process. In the printing process, the machine encountered friction from a rough, moist, and porous surface, a resistance that technology could not calculate. In the process of creation, I was particularly interested in this moment of friction caused by the irregular materiality of the algae paper and the printer's inability to reproduce the desired image perfectly.



Figure 7. Moist Map, riverweed paper, archive material, laser cut print, 8x12 inches, Art Worms, KMITL University Gallery, Bangkok, 2024 © Pietro Lo Casto

We often understand technology when it doesn't work. Friction sometimes allows us to understand the structures and infrastructures present that often tend to be made invisible or arbitrary. This divergence turned into a strategy of resistance to dominant visualization techniques.

A wet, indefinable map—becomes a place of possibility, where one can begin to imagine alternative worlds beyond the totalizing view imposed by power systems on the environment.

Moist Maps: A Collaborative Map-Making Initiative

At this point, it became evident that any attempt at reimagining the Mekong River through the materiality of its river weed, must be collaborative, grounded in the knowledge of those who live in its presence. A relationship had formed between us—researchers and artists—and the community of Kai harvesters. There was a shared sense that more was possible.

Women who have collected Kai for generations carry an intimate understanding of its lifecycle, the shifting river currents, and the rhythms of the land. Yet, this traditional knowledge is at risk of disappearing. There is a need for intergenerational knowledge transfer to preserve the cultural and ecological significance of the Mekong River and Kai riverweed.

Moist Maps: A Collaborative Map-Making Initiativewas conceived in response to this urgency, drawing from artist collective Ala Plastica, which defines “initiatives”—not projects—those artistic practices that evolve through ongoing, context-driven exchanges rather than fixed plans (Kester, 2011). It brought together women from the Kai-harvesting community, local youth from Chiang Khong, artists, and activists to co-create a series of maps using locally sourced river weeds.

Collaborative map-making could allow us to envision the future as a shared present, amplifying the micro-stories and diverse perspectives that shape the river's reality, revealing a different ethic of mapping. As Nishant Awan notes, this approach neither aligns with the powerful and elite nor adopts an oppositional stance. Instead, it includes others in the mapping process, recognizes the mapmakers' positioning, and embraces the multiplicity of narratives within any space (Awan, 2023).

This initiative was made possible through the invaluable partnership with The Mekong School. For over 20 years, the school has nurtured a relationship with the community of Chiang Khong, serving as a platform to research environmental changes and the impacts of development in the Mekong River Basin. Their role was instrumental, both as co-facilitators and as bridges of trust within the community.



Figure 8. Group discussion at The Mekong School, 2025 © Kamonpan Tivawong

With their support, we assembled a participant group of six elderly women from the Kai harvesting community of Baan Had Krai and four high school students eager to learn about Kai and art.

The artist team was thoughtfully composed to expand my network of collaborators, bringing together Khetsin, a sound artist; Kamonpan, a photographer; Puvamin, a video maker; Anusorn, a sculptor; and Areeya, a geographer. These were both old and new collaborators whose ongoing research and practices I hoped would resonate with the fieldwork experience. I also envisioned this gathering sparking new lines of inquiry and possibilities for everyone involved.

The activities took place during the Chinese Lunar New Year—a deliberate choice. Pi Nop, who runs the Mekong School with his wife Max and a group of local and international activists, explained that dam operations upstream in Laos and China slow down during the holiday season, reducing the risk of sudden fluctuations in the Mekong's water level. There was also symbolic resonance in acting while the “system was sleeping”, as he exclaimed.

Moist Maps began in the early hours of a cool Saturday morning, as we got on a river boat to reach a mid-channel gravel bar or island called “Don”. Each Don has its name and has a different type of Kai. The women pointed out that, at Don, the water is cleaner and there is more Kai. Once they could simply walk to the edge by the river to collect it, but a newly built revetment made the riverbank too steep and too dangerous to stand.



Figure 9. Collaborative community research, Chiang Khong, 2025 © Kamonpan Tivawong

Guided by the expert hands of the women, we collected Kai, learning to distinguish the vibrant, fresh algae kept for community needs from the old, unusable strands we would repurpose for papermaking. As we moved along the river, human footprints pressed the muddy sediment along the edge where water meets land. Along the way, small footprints of at least three different types of birds were pressed on the same sediment. Were they also here to collect Kai?

We were shown how to clean the Kai using a method reminiscent of washing cloth—beating the river weed against the rocks. “Beat it harder and have fun with it,” one woman encouraged, laughing as she demonstrated. “Beating and picking Kai relaxes me. It helps me release tension,” she said with a smile. One artist asked the boat driver about Kai. He laughed and said he knew nothing about Kai. Ask the women. This points to kai's role as something that goes much deeper than being merely a consumable resource: It is women's knowledge, women's work, and an outlet to release stress.

On the Don we encountered a few bushes of Khrai (Hormona Riparia), a local plant once used to make soap, its white milky sap remembered for washing clothes on stones—a history preserved in the village’s name. The tiny young leaves of Khrai are astringent and delicious, to be eaten with Laarb.

As we looked closely at where Kai grows, we discovered that the weed needs to hold on to the river’s stones to develop. Admired for their smooth surfaces and unique patterns, Mekong River gravels are now sold in markets as prized objects for residential landscaping, another example of commodification and extraction in this contested landscape.

In the afternoon, under the shade of the Mekong School, we began the papermaking process. We mixed the old Kai with other locally sourced materials, which included rice straw from nearby organic farms and bamboo leaves, traditionally used in fishing, but also down

papers from books and reports during the flood that hit northern Thailand last September 2024.The increasing water level along the Mekong River was also used to help imagine the potential impacts of proposed new dams.



Figure 10. Pulp making process, Chiang Khong, 2025, © Kamonpan Tivawong

An unexpected moment of improvisation occurred when our electric tools, overwhelmed by the humidity and continuous use, stopped working. In the face of this setback, we turned to the age-old practice of grape stomping. In a spontaneous, playful dance, we began tip-tapping on the pulp mixture with our feet. Laughter filled the air, breaking down barriers between artists and community members.

When the mixture was finally ready, we carried our paper making frames down to the shores of the great Mekong River. The descent was slow and deliberate, the rocks slick underfoot, demanding our attention and care. As we reached the water's edge, the river lapped at our ankles, cool and grounding. We formed a loose circle, leaning in as we mixed the pulp into the frames, hands brushing against water, fingers moving in unison. We were careful not to disturb a nearby fisherman tending to his nets. His presence anchored us to the place, a reminder of the river's continuity and the lives she sustains.

We left the paper to dry in the sun by the concrete banks of the Mekong River, its surface textured with traces of Kai and river sediment—a material map of the landscape itself.



Figure 11. Paper Making process in the Mekong River, Chiang Khong, 2025 © Puvamin Indee



Figure 12. Riverweed based paper drying in the sun by the banks of the Mekong River, Chiang Khong, 2025 © Kamonpan Tivawong

The first day ended with a sharing session where the women spoke in greater depth about Kai. It was during this exchange that the youth truly began to learn about Kai and its significance. The youth did not accompany us on the boat in the Mekong River or participate in the Kai harvesting. Their school had prohibited them from entering the river.

The following day, map-making began under the shade of the Mekong School. We opened with a conversation on the pitfalls of traditional maps and the potential of collaborative cartography. Activities began with small interactions and reluctance, however as participants became looser and gathered into different age groups around large sheets of Kai paper, there was more willingness to take the initiative to help.

Using drawing, writing, and collaging with photographs and found objects from our first day in the river, they work collaboratively to share their experiences, memories, and local knowledge of the river and Kai harvesting. Here, the process became as significant as the outcome—the act of mapping as vital as the maps themselves.



Figure 13. Collaborative Map Making workshop, Chiang Khong, 2025 © Kamonpan Tivawong

The resulting Moist Maps delve into the notion of moisture beyond its wet, porous, and rough materiality. They are imbued with layers of memory, identity, and intimacy, reflecting intricate and interconnected networks of relationships. Born from place-based, collaborative methods, these maps remind us that dominating "technologies of power" can be learned and localized by the dominated as a form of empowerment (Laungaramsri, 2000).

They reveal a lineage of knowledge passed down through generations, preserving tradition and intimacy through shared practices. As the eldest of the women and community leader recalled: “Kai brings me back to when I was a little child, following my mother as she

harvested it using a stick made of Khrai. She would prepare soup by mixing Kai with other local greens to share with the family. Sometimes, she would steam it inside banana leaves or grill it over the fire, adding pig fat to enhance the flavour. I learned all of this by watching my parents."

The maps also illuminate the role of women as custodians of Kai, responsible for its harvesting, preparation, and preservation. Yet, they also expose shifting social dynamics, reflecting desires to redefine gender roles and share responsibilities more equitably. "In the past, if the food wasn't good enough, husbands would scold," one woman shared. "Now we form management groups. We decide how to harvest, preserve, and sell the Kai. Men no longer have control over women's decisions." These words echo the voices of women who, through their stewardship of Kai, assert independence and authority, subtly transforming traditional power structures.



Figure 14. Collaborative Map Making workshop, Chiang Khong, 2025 © Kamonpan Tivawong

Women traced the curves of the river with sweeping lines of green and blue, overlaying them with rocks and fishing nets, narrating stories of seasons when river weed was abundant and times when it was scarce. As they drew, they spoke of fluctuating water levels and the uncertainty they now face.

"Before, we could always count on the river," one woman explained, her fingers moving slowly over the paper. "But now, the water goes up and down without warning. It comes quickly and leaves just as fast, and the Kai doesn't have time to grow."

These changes are not merely natural cycles but are intimately linked to upstream dam operations. "When China releases water, it floods the rocks where Kai grows," another woman shared.

Amidst narratives of change and loss, the maps carry hope. They reflect the elders' wish for the youth to reconnect with Kai, to see its cultural and economic significance, and to understand the intimacy of working with nature rather than against it.

Yet, the youth voiced a detachment from the tradition of Kai harvesting. "I didn't think much about Kai before today," admitted one student. "I see it sold in stores, but I didn't know people here still go to the river to pick it."



Figure 15. Moist Maps, river weed based paper, mixed media, 110x80 cm, 4 pieces, installation view The Mekong School, Chiang Khong, Thailand, 2025 © Kamonpan Tivawong



Figure 16. Moist Maps, river weed based paper, mixed media, detail, 110x80 cm, 2025, © Kamonpan Tivawong

Despite this detachment, the mapping activity sparked curiosity and a newfound appreciation for the immense cultural and economic value of Kai. One woman confidently shared that she could earn hundreds of thousands of baht each season—more than some university graduates. This revelation excited the youth.

“I didn’t realize Kai was so important to our community,” one student reflected. “It’s more than food—it’s history.”

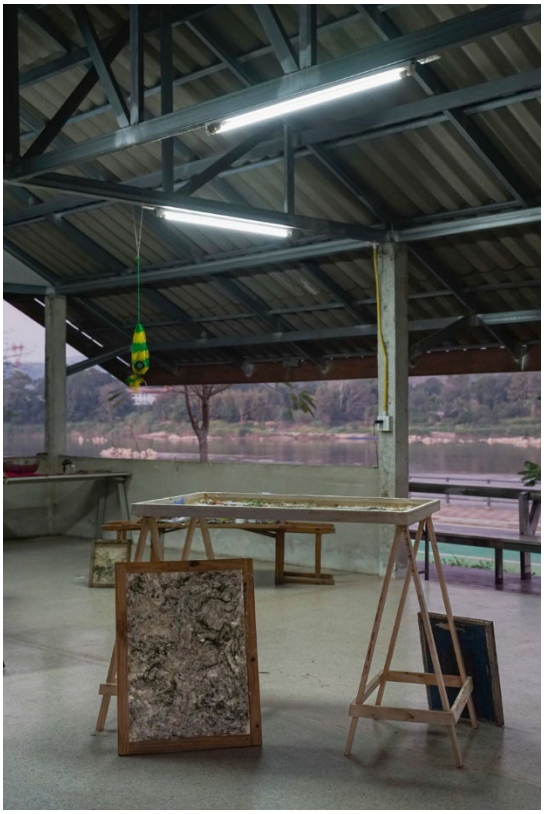

Figure 17. Moist Maps, river weed based paper, mixed media, 110x80 cm, 4 pieces, installation view The Mekong School, Chiang Khong, Thailand, 2025 © Kamonpan Tivawong

That evening, the maps were installed for exhibition at the Mekong School, accompanied by a sound piece by Khetsin that filled the room with layered sounds from our two days together. The public showcase welcomed villagers, local teachers, parents, and other family members. The participants had the opportunity to present their collaborative pieces once again, this time to a curious local audience.

Shortly after, a Kai-based dinner was served, prepared and delivered by the harvester community's restaurant. We shared dinner together, the atmosphere warm and intimate. A short film by Puvamin celebrated our time spent together, capturing the essence of the collaborative initiative.

The evening embodied the spirit of community, and the shared act of creating—reminding us of the possibilities of collaborative art practices. Through our time spent together we couldn't claim to provide specific solutions to the social, economic, and environmental dilemmas facing the Mekong River and the community of Baan Had Krai. But rather, what we sought was to give a chance to the specific potential that art has as a kind of knowledge: a way of perceiving, investigating and being in the world that counterbalances a world dominated by reason, as Ala Plastica suggests (Kester, 2011).

If culture is the product of relationships that are always changing according to what is taking place around it, then our communing on a shared site, our observations and our feelings, meant we became part of a new culture.

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