

Final meeting

Joint community research on Livelihood Adaptation for Thai (Mekong) communities

11 September 2025

Presented by SEI (Thanapon Piman, Dayoon Kim, and Parichat Pinsri)



Agenda

12:45 – 13:00	Registration
13:00 – 13:15	Introduction and photovoice
13:15 – 14:00	Presentation of key research results
14:00 – 14:20	Discussion
14:20 – 14:40	Feedback for evaluation and recommendations
14:40 – 15:00	Launching the white onion product and group photo
15:00-15:30	Health Break




Previous research activities



Research activity timeline

March- April 2025	<ul style="list-style-type: none"> Initial project meeting and coordination
May - June 2025	<ul style="list-style-type: none"> Literature review and data collection preparations
July 2025	<ul style="list-style-type: none"> Scoping workshop with Bung Khla community members Co-generation of final research questions
August 2025	<ul style="list-style-type: none"> Semi-structured interviews with purposeful sampling with GESI lens Photovoice as a participatory method
September 2025	<ul style="list-style-type: none"> Validation and final meeting Launch of white onion products

No	Activity	Year 2025									
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct		
1	Consultation meeting with MRC, TNMC, ONWR regional partners and Thai community leaders	X			X					X	
2	Co-create a draft research framework and methodology		X								
3	Pre-survey to select Thai (Mekong) communities to ensure buy-in and gather preliminary community insights			X							
4	Review research framework and methodology based on community engagement and feedback during reconnaissance survey and seek ethics approval			X							
5	Conduct field survey in selected communities to document adaptation strategies				X	X					
6	Synthesis and analysis of effectiveness of community's adaptation strategies to changing climate and river flow patterns						X	X	X	X	
7	Building capacity and knowledge exchange workshop with MRC, TNMC, ONWR, and water stakeholder groups in the Mekong region		X				X	X			



แบบแปลนความยินยอมให้สัมภาษณ์
การวิจัยของชุมชนและผู้ใช้ที่ดินในพื้นที่ลุ่มน้ำโขงภาคเหนือตอนบน

- ☞ อนุมัติจากชุมชนเกี่ยวกับโครงการ และวิธีการของงานวิจัยที่สอดคล้องกับบริบทพื้นที่
- ☞ อนุมัติให้เข้าร่วมการสัมภาษณ์ และแจ้งให้ชุมชนทราบถึงประโยชน์ที่ได้รับจากงานวิจัย
- ☞ อนุมัติขออนุญาตให้สัมภาษณ์และเผยแพร่ผลการดำเนินงานในพื้นที่วิจัย
- ☞ อนุมัติขออนุญาตให้ชุมชนร่วมวิจัยเกี่ยวกับข้อมูลได้แก่พื้นที่ใน 3 ภูมิภาควิจัยโครงการวิจัย
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- ☞ อนุมัติให้ใช้ข้อมูลในการศึกษาและการจัดการน้ำในพื้นที่ชุมชนที่ได้รับอนุญาต
- ☞ อนุมัติให้ใช้ภาพถ่ายจากโทรศัพท์มือถือในการจัดการน้ำในพื้นที่ชุมชนที่ได้รับอนุญาต
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หน้า



หลัง



Photo Credit: Parichat Pinsri, Dayoon Kim, SEI Asia

Co-generated research questions

คุณต้องการข้อมูลอะไรบ้างเพื่อให้ได้รับประโยชน์จากการปลูกหอมขาว - What types of information is needed for you to benefit from growing white onion?

Open text poll 21 responses 20 participants

Anonymous
อยากรู้ข้อมูลระยะเวลาการปลูกหอมขาว

Anonymous
สภาพแวดล้อมที่เหมาะสมในการปลูกหอมขาว สรรพคุณทางยาของหอมขาวมีหรือไม่ การขยายพันธุ์แบบเพาะเนื้อเยื่อได้หรือไม่ อย่างไร

Anonymous
ยากเห็นหอมขาวเต็มพื้นที่

Anonymous
ขั้นตอนการปลูก การดูแล

Anonymous
หอมล้นตลาด

Anonymous
หอมขาวเป็นหัวหอมเฉพาะ

Anonymous
ประโยชน์ของหอมขาว/สร

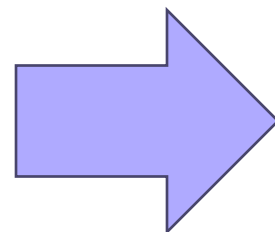
Anonymous
การให้หรือไม่เพียงพอ

“สภาพแวดล้อมที่เหมาะสมในการปลูกหอมขาว สรรพคุณทางยาของหอมขาวมีหรือไม่ การขยายพันธุ์แบบเพาะเนื้อเยื่อได้หรือไม่ อย่างไร”

“ต้องการรู้ว่าวิธีการปลูกอย่างไรจะได้ผลผลิตมากที่สุด”

“ขั้นตอนการปลูก การดูแลรักษา การเก็บเกี่ยว การตลาด”

Anonymous
ขั้นตอนการปลูก,การดูแลรักษา,สรรพคุณทางยา



- What's the **best way to grow** white onion in the Mekong riverbanks? How can we farm white onion so they **survive bad weather** like floods and droughts?
- What are **special properties of white onions** compared to red onions or garlic in terms of health, taste, and use?
- **Who will buy** these white onions, and how can we convince them to buy? How can farmers **make good money** growing white onions?

Monthly satellite images of the riverbank garden in 2023

The riverbank begins to emerge around September-October and will be submerged in July.

The shape will be different, unstable, and likely to move downstream.

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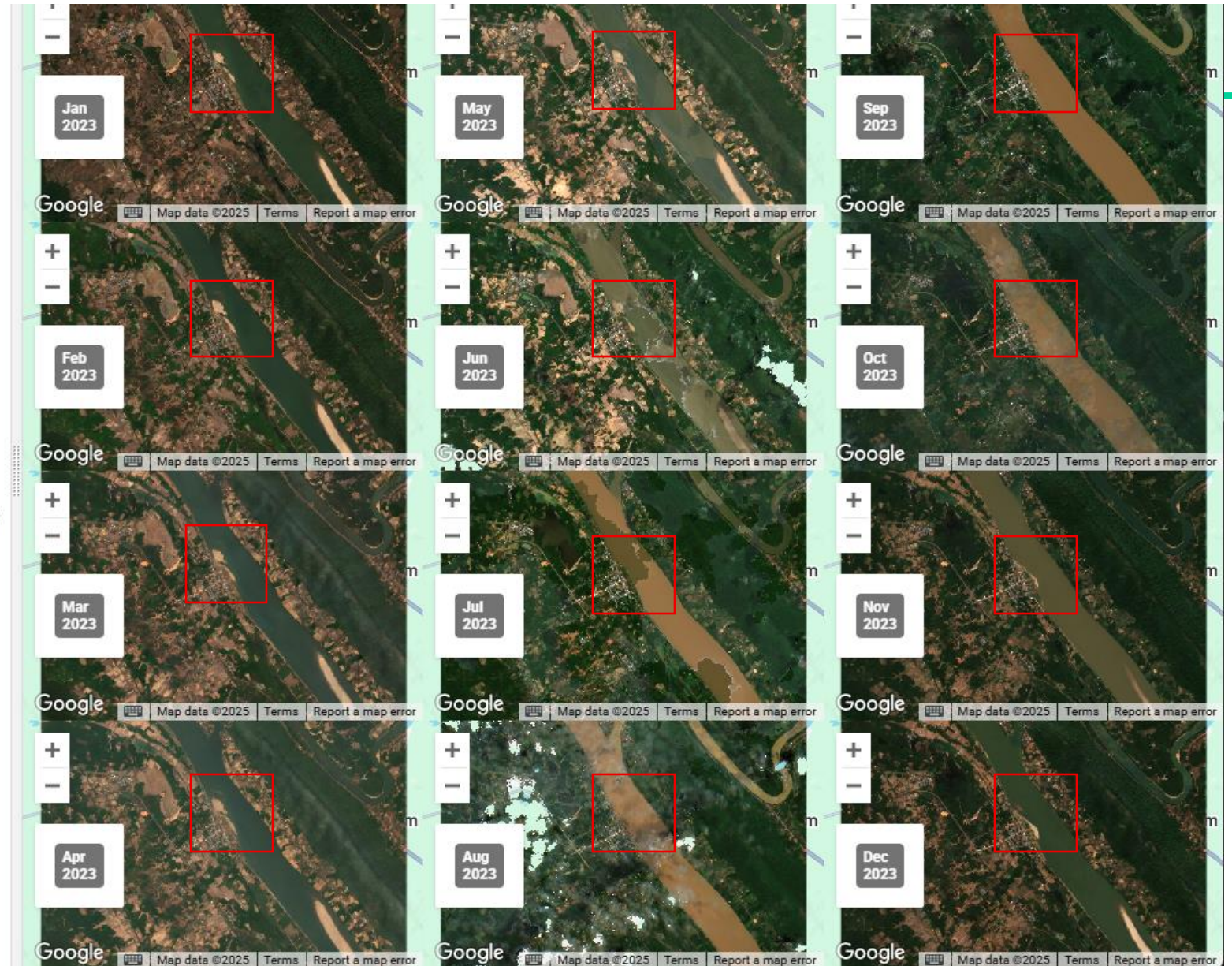
: stricter (fewer

clouds but less data); higher = looser (more data but more cloud risk).

• Start at 40. If too cloudy → lower to ~30. If too empty → raise to ~50-60.

4) Pan/zoom any map; all maps move together.

White tiles = no valid imagery that month after masking.



Final research questions

- **RQ1:** What is the current state of **climate adaptation and water and land resource management** in the Bung Khla community, considering variations across gender, age, socioeconomic status, and disability, in order to reduce impacts from climate and hydrological changes?
- **RQ2:** How do Bung Khla community members from **different social backgrounds** **perceive solutions for adaptive water, land, and agricultural management** in the community?
- **RQ3:** What are the entry points for **enhancing the sustainability and productivity of white onion cultivation** in Bung Khla, considering crop cycle, farming systems/locations, water supply, pest management, and soil conditions, compared to other crops?
- **RQ4:** What are the **potential pathways for enhancing markets and consumer basis** for white onions?





Presentation of key research results





RQ1: What is the current state of climate adaptation and water and land resource management in the Bung Khla community, considering variations across gender, age, socioeconomic status, and disability, in order to reduce impacts from climate and hydrological changes?

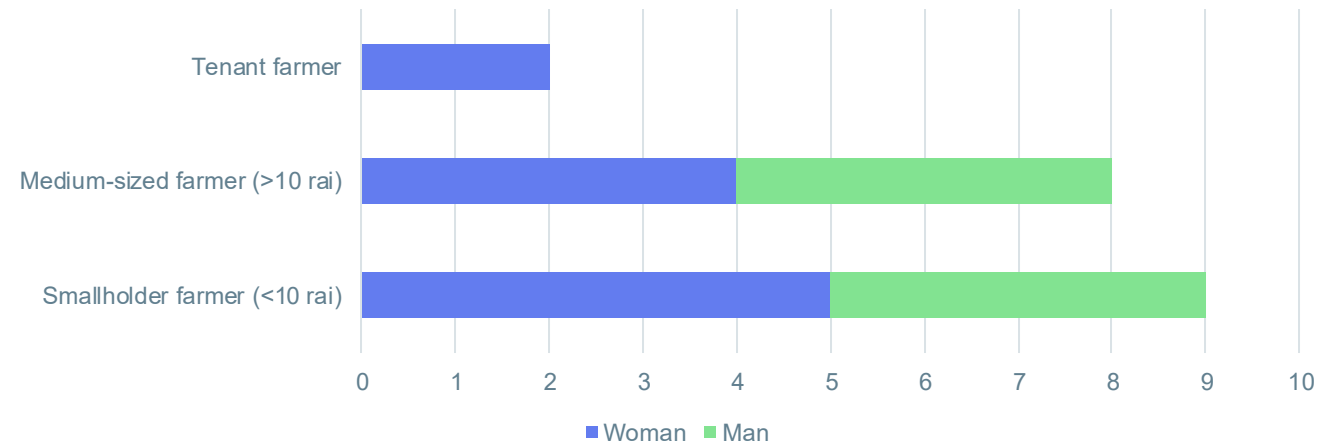


Overview of our sample

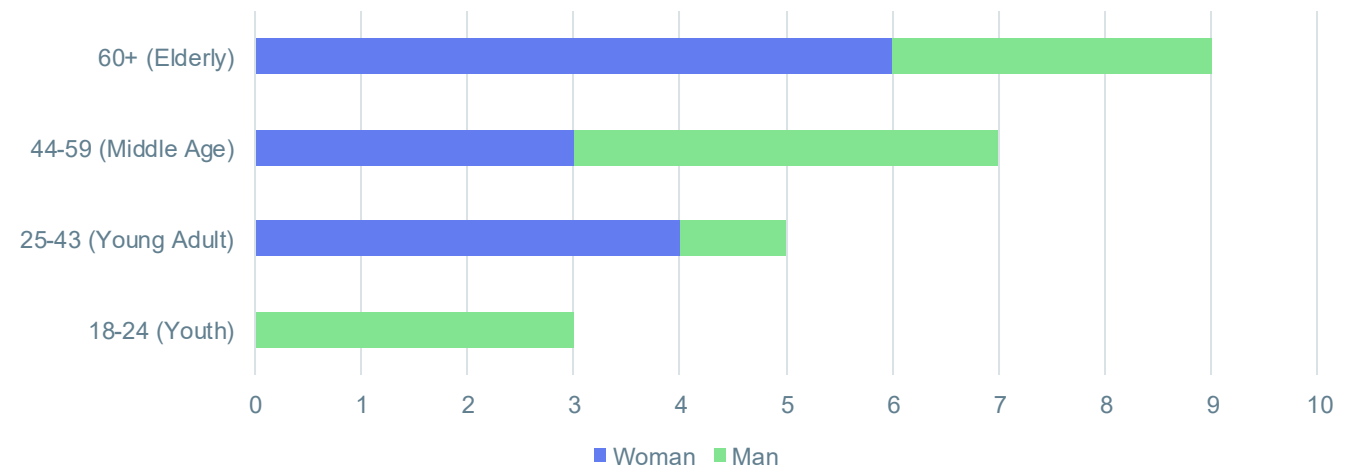
- 24 adults (13 women, 11 men)
- Majority (70%) farmers and natural resource-based livelihoods. Half of the farmers do **mixed farming (inland and riverbank)**, while the other half only does inland farming.
- **Tenant farmers** (2 out of 24 adults) are those who do not own land but does agricultural labor on rented land



Size of land owned (disaggregated by gender)



Age band disaggregated by gender

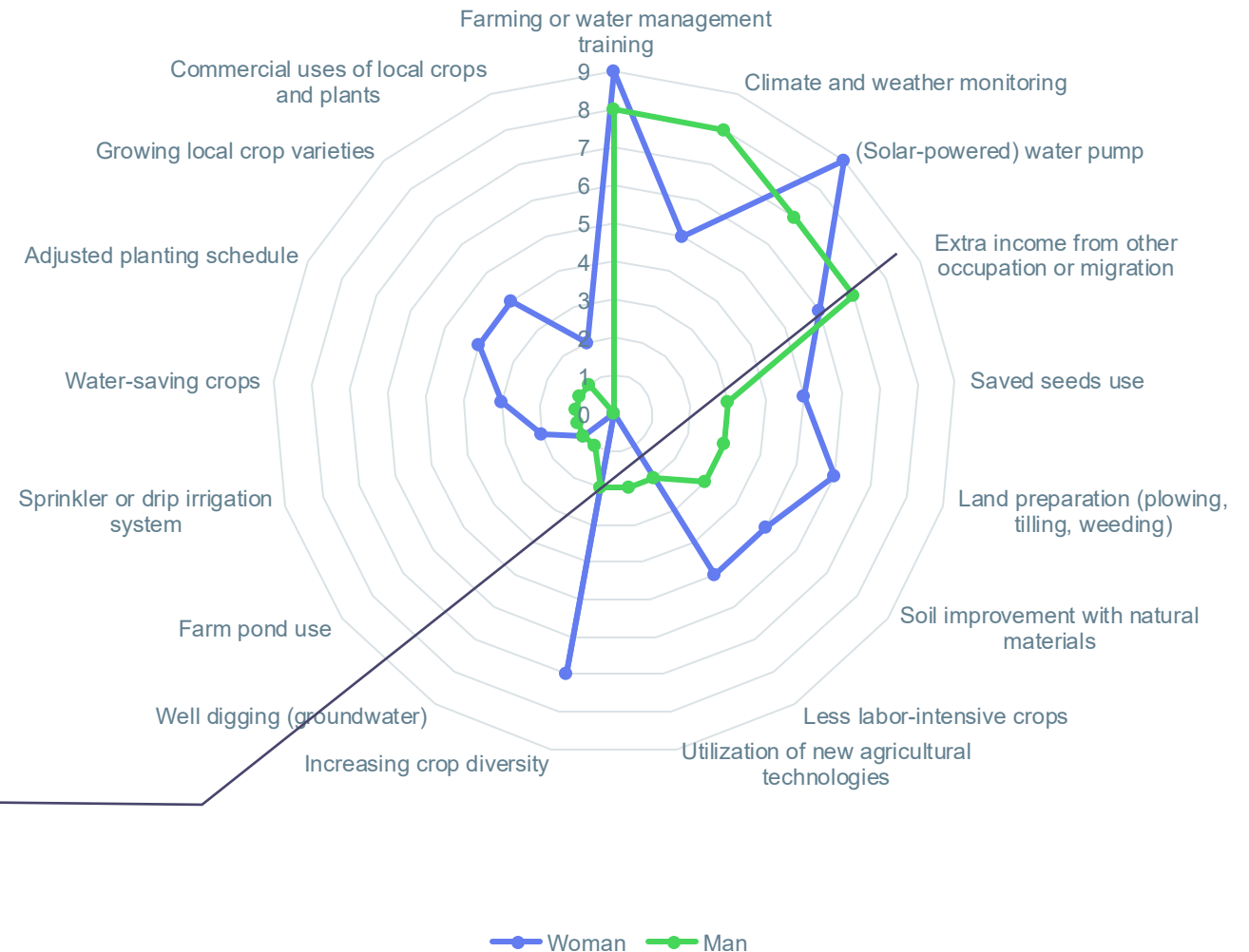


Q1 Answer: Climate adaptation and resource management (1)

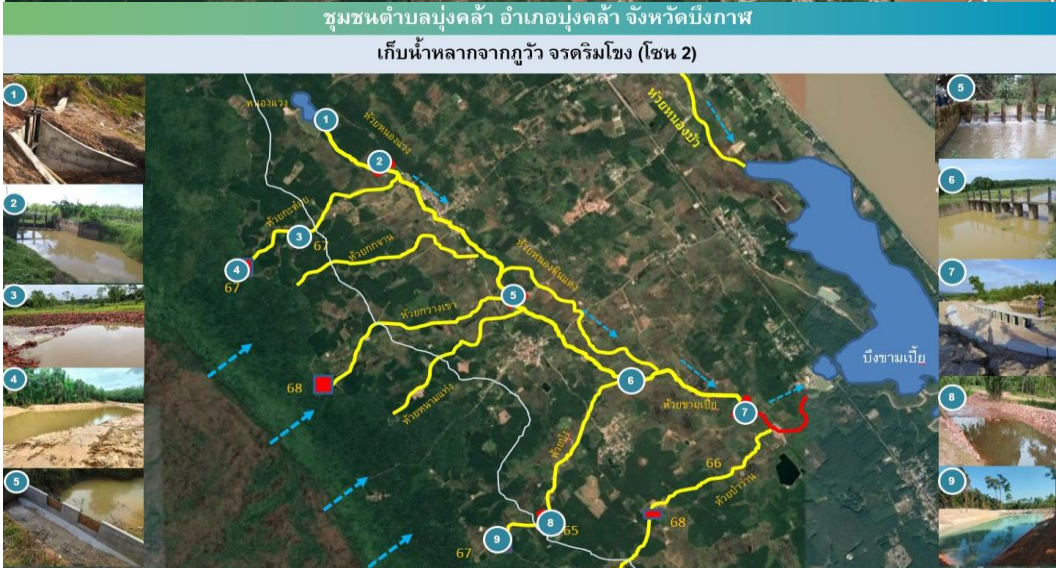
- Local community members are adopting **wide variety** of agricultural, water, and land management practices, based on **local and traditional knowledge** and **new technologies** through training and digital platforms.

Prominent practices:

- Increasing crop diversity
- Saving seed use
- Soil improvement with natural materials
- Using water pumps, including solar cell pumps
- Regular monitoring of the weather information



Q1 Answer: Climate adaptation and resource management (2)



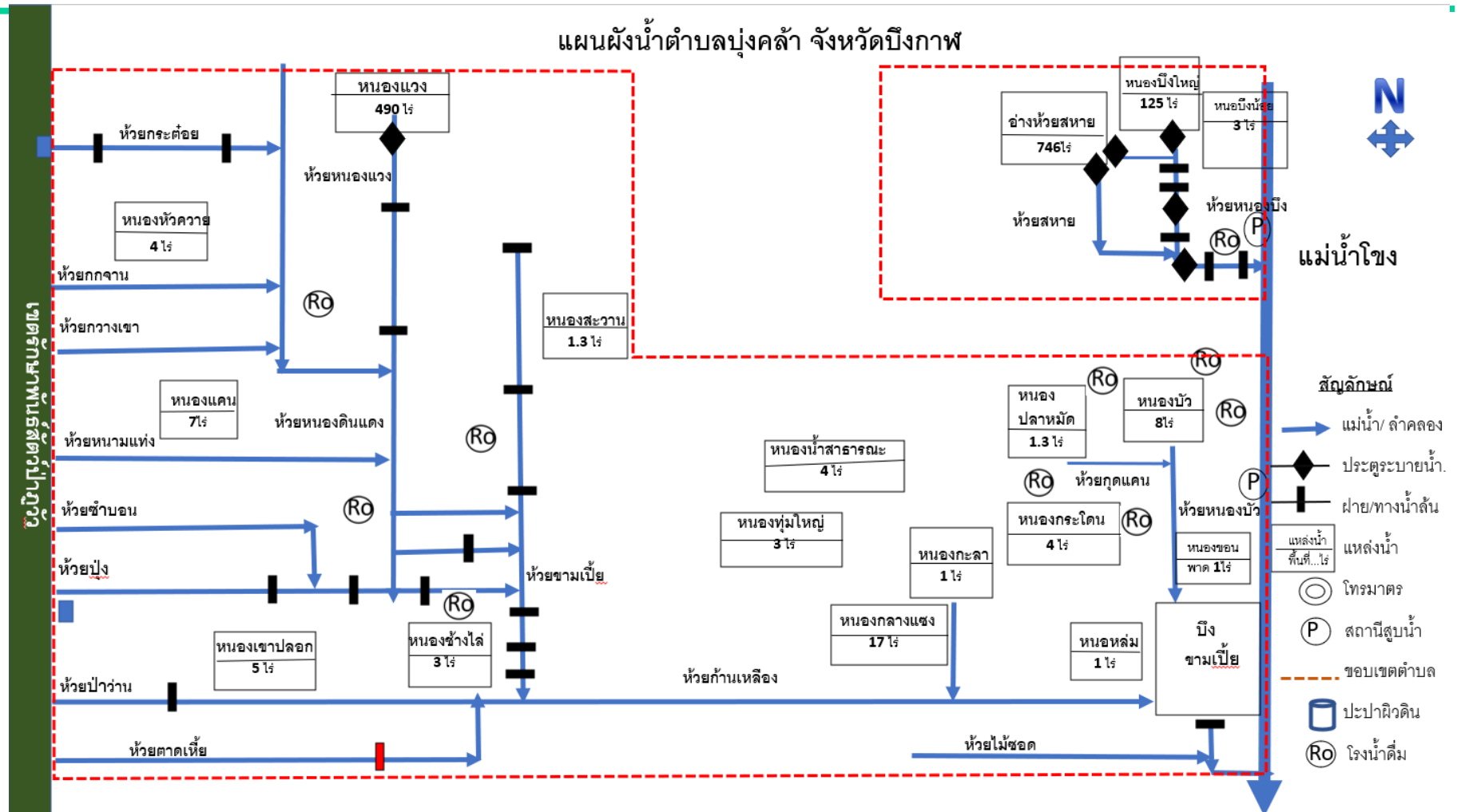
- Bung Khla community members rely on the water resources from the Mekong River, which flows into canals and streams (e.g., Huai Sahai). The streams are also connected to the community pond.
- Only a limited number of villagers utilize a groundwater system (Only one interviewee from our sample).
- The community water management committee engages in user-based water management practices and integrates advanced ICT (P-Link) in the water resource monitoring

Q1 Answer: Climate adaptation and resource management (3)

- Water management has been implemented.

- About 2 ngan (1/2 rai) of land along the riverbank has been allocated to landless people.

- Soil quality monitoring is lacking.



Q1 Answer : Climate adaptation and resource management (4)

- Bung Khla community members are under various challenges, such as **unpredictable climate conditions and dam discharges**.
- A majority of community members reported direct experiences with climate change impacts, notably **increased temperatures and irregular seasonal patterns**.
- Dam discharges have **adverse impacts on livelihoods**: changes in the ecosystem, decreased biodiversity, unpredictability and increased severity of floods, crop damage, and less number of tourists (MM2, WM9, ME12, MM15, WE19)



"Water level in the Mekong River was already high, and the dam released more water, flooding the agricultural produce planted in the riverbank. We couldn't harvest our sweet potatoes in time." An anonymous woman farmer

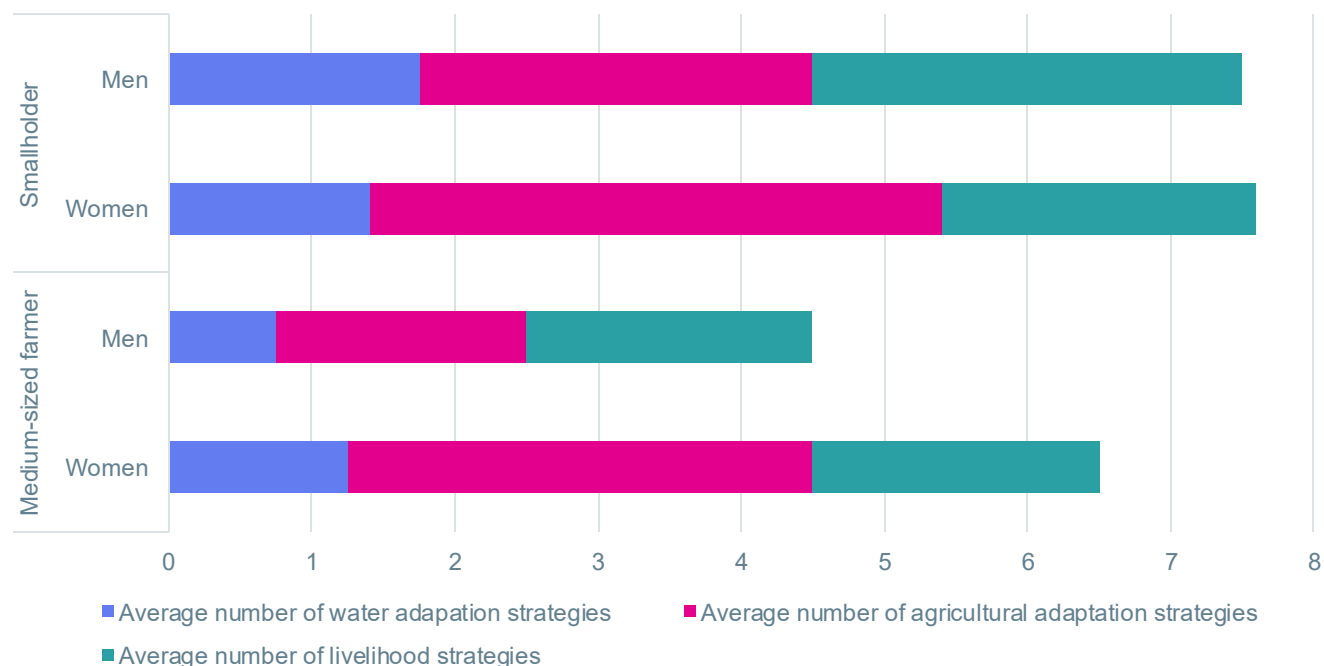
"Mekong's river level is dependent not only on climate conditions but also dam activities." A photovoice participant



RQ2: How do Bung Khla community members from different social backgrounds perceive solutions for adaptive water, land, and agricultural management in the community?

Q2 Answer: Different adaptation solutions by groups (1)

Average number of adaptation strategies by land size and by gender



Smallholder farmers, both women and men, reported more diverse adaptation strategies compared to those who own larger farmland.

Elderly people, especially men, highlighted that they are facing challenges in accessing markets. For both elderly women and men, labor limitations due to aging also restrict the cultivation of labor-intensive crops.

Riverbank farmers, both women and men, compared to those who only grow inland, were more likely to report adopting diverse agricultural adaptation strategies

Q2 Answer: Different adaptation solutions by groups (2)



- Current adaptation strategies (often implemented incrementally and in isolation) cannot be assured to address emerging challenges and changing conditions, requiring more **ecosystem-based adaptation**
- Although riverbank farming has multiple benefits of fertile soil, government support for land distribution, and community cohesion through a joint community enterprise, its sustainability must be further examined.



One young adult woman farmer shifted from fishing to diversified agriculture (palm, rubber, rice, potato, tomato) following declining fish stocks a several years ago. When palm prices later dropped, she utilized fertile riverbanks for cultivation. However, riverbank erosion now threatens this strategy, leaving her uncertain about future alternatives: "Now the land there is starting to disappear, and we still don't know what to do next" (WA5).

Q2 Answer: Different adaptation solutions by groups (3)

- Although the adaptation knowledge and practices in Bung Khla community is rich, some members of the communities may face **challenges in sharing the know-hows and knowledge** on effective adaptation solutions.

A middle-aged women note how in challenging times, she focuses on adding values to farm products: “We need to adjust with the nature. If we can't find fish during a time, we find other things, all kinds of trends. If we fish, but if we can't sell fish fresh in time, we process them, dry them, make fermented fish, things like that.” (WM9).

A youth farmer underlines that compared to other areas, agricultural yields fall short in the villages, due to a lack of knowledge exchange: “Because in our area, rice yields are half a ton per rai. But when I've been to other provinces, I can get a ton per rai. Just understanding fertilizers can double the yield. We don't really consult each other. If someone gets a lot, they probably won't tell me.” (MY23).

Younger generations of farmers may especially get discouraged of this lack of knowledge exchange in the community, despite their passions in agriculture: “When I talk about it (new techniques), people don't really believe me. Or maybe it's because I'm young, I don't know... but I want to learn how to fertilize land, maintain nutrients for soil, how to use solar cell pumps for water supply, and I want to grow avocado... Since I don't know much yet, I will learn by asking.” (MY6).



RQ3: What are the entry points for enhancing the sustainability and productivity of white onion cultivation in Bung Khla, considering crop cycle, farming systems/locations, water supply, pest management, and soil conditions, compared to other crops?

Q3 Answer: Sustainability and productivity of white onion (1)

- White onion has both **monetary value as well as cultural value**. A total of six farmers in our sample have experience in growing white onion, and three other farmers have grown shallots (red onion) and orange onion (another local species) with similar growth patterns and cycles.

	Prices per kilogram (in 2024)
White onion	150 THB
Red onion	80 THB
Peanut	40 THB
Sweet potato	30-40 THB
Rubber	14-110 THB (High fluctuation)
Rice	10 + THB (depends on species)

Elderly men and women farmers explained the cultural value of white onion and how local people like to consume them.

“White onions are those that people who have just given birth can eat. While you're in labor, you can eat them without any allergies. These ancient onions have small cloves and are fragrant.” (WE17).

“We sell through acquaintances; they want to eat white onion even living in other provinces.” (WE20).

"White onions have good properties; their smell isn't too pungent." (ME12).

Q3 Answer: Sustainability and productivity of white onion (2)

- White onion cultivation requires **improved land, crop cycle, and water management systems**. Riverbank cultivation with harvest periods overlapping dam discharges results in crop submersion.
- Over half of riverbank farmers (5 of 9, all women) experienced **dam-induced crop losses** within two years, indicating improvements needed for the planting cycle and land management systems.
- Implementation of improved water management systems to increase water use efficiency and protect crops from waterlogging during periods of heavy flooding.

An elderly farmer underlined that although white onions are easy to grow, they need to be harvested before the dam discharge:

'They take about three months to grow. If you plant them in January, you'll harvest them in April. You have to harvest them quickly before the rain comes, or else they'll rot. (ME12).'

Similarly, women riverbank farmers highlighted inadequate water infrastructures: "Most farmers used to pump water from the Mekong River. We had to pay for the fuel ourselves, and the pipes we laid stretched too far across the wide riverbank. This year, we'll just have to wait and see. Every year is different. It all depends on how much the water level drops." (WM9)

"I would like the water system in the riverbank to be better, since the water in the water tank is not enough to water together with others" (WE19).

Q3 Answer: Sustainability and productivity of white onion (3)

- Existing knowledge gaps on crop cycle, optimal soil types, and effective planting methods for white onion.
- **Agroecological approach:** Polyculture systems—such as intercropping with tomato—and the use of legumes like peanuts as cover crops during fallow periods have been observed to contribute to soil fertility enhancement and erosion control.
- Collaboration with agricultural research institutions to test white onion's tolerance to both drought and waterlogging; analyse microclimates and soil compositions of the Mekong riverbank; and design ecosystem-based adaptation

There are mixed views on the soil quality and crop yield between riverbank farming to inland farming. A woman elderly farmer states that high sand/sediment contents are not ideal for crop growth in the riverbank: “The produce in the garden upland is better (compared to the riverbank). The riverbank is full of sand, with some soil mixed in. If there's a lot of sand, we can't grow them at all. ... Last year, the wind blew sand over the crop. We planted them, but they didn't grow at all. They died.” (WE10)

A male elderly farmer shared a contrasting view on riverbank soil quality: “The Mekong River, when we were planting in the riverbank, the soil was already full of fertilizer because when the flood comes, they also bring sediment where there are nutrients. It is nature, they bring fertilizer.” (ME12).



RQ4: What are the potential pathways for enhancing markets and consumer basis for white onions?



Q4 Answer: Markets and consumer basis for white onion (1)



Example of GI branding of red onion of Sisaket



- Data and knowledge gaps on nutritional properties of white onion. Species of the same family (Red onion) have anti-inflammatory, anti-oxidant properties suitable for therapeutic and pharmacological purposes
- The distinct, often **milder and sweeter flavor** of white onion should be a central part of the marketing strategy. Processing white onion into value-added products, such as **crispy fried onion, pickles, powders, and infused oils.**
- **Geographical Indication (GI) Branding** and Certification, such as red onion of Sisaket, Khao Hom Mali Thung Kula Rong-Hai (jasmine rice) and Siam Ruby Pomelo

Q4 Answer: Markets and consumer basis for white onion (2)

LEMON FARM Story

กระบวนการควบคุมคุณภาพ
LEMON FARM ORGANIC

ผลิตอินทรีย์ที่เลมอนฟาร์ม ผ่าน
ผลิตตั้งแต่เกษตรกรผู้ผลิตต้นทาง
Lemon Farm Organic PGS ตลอดจน
เพื่อความสด สะอาดปลอดภัย



ผักทุกต้น คุณรู้ว่าใครปลูก
TRUST & TRACEABILITY



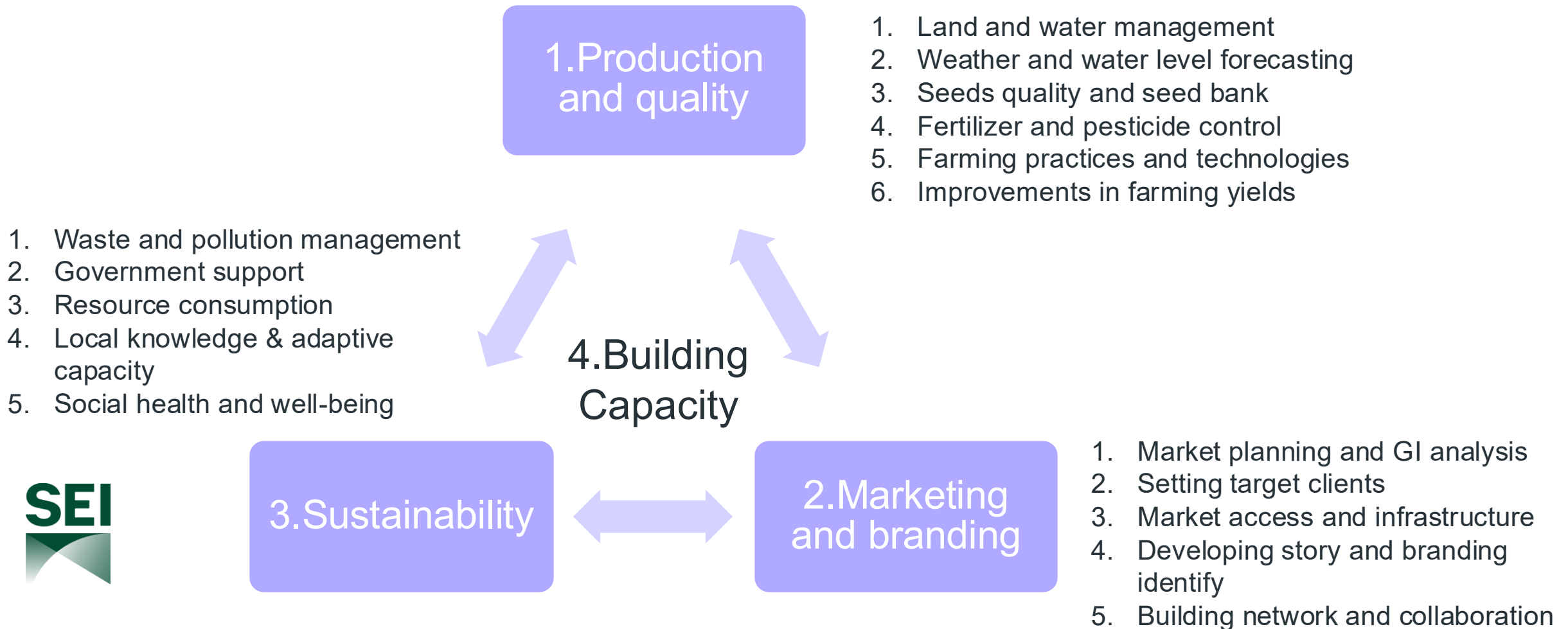
- Further investment in enhancing the community-supported agricultural schemes and online marketing.
- Building longer-term market streams: maintain relationships with **farmer cooperatives** in the province and neighboring provinces and **specialty food retailers** across Thailand can ensure good prices for farmers and provide consumers with fresh produce.
- Online and social media platforms can be a crucial channel for white onion marketing and expanding consumer basis. (e.g., cooking demonstrations, recipes, collaborations with food bloggers).



Conclusion and priorities for actions



Key components/elements to move forward to resilience



Priorities for actions in 1-2 years

- **Ensuring Optimal Soil Quality:** Assessing the riverbank soil of the Mekong to optimize conditions for white onion cultivation.
- **Building a Community River Monitoring System:** Developing a real-time warning system to inform farmers of rising and falling Mekong water levels.
- **Pioneering Year-Round Cultivation:** Testing greenhouse and off-riverbank cultivation to ensure a consistent, year-round supply of high-quality white onions.
- **Defining Product Identity:** Conducting a Geographical Indication (GI) analysis to define the unique properties and origin of the onions.
- **Creating Value-Added Products:** Investigating innovative processing methods to increase the market value of white onions.
- **Crafting a Compelling Brand:** Developing a unique brand identity and story to connect with consumers.
- **Championing Sustainable Farming:** Implementing eco-friendly practices by promoting organic fertilizers and minimizing plastic waste.
- **Empowering Local Farmers:** Supporting the growth and success of next-generation farmer cooperatives.

Next steps

- Demonstration of white onion product at boat rowing festival
- Photo exhibition at boat rowing festival
- Finalization of the research report (Eng)
- Pamphlet sharing key findings from the research (Thai)
- Update project website
- Support MRC for an audiovisual communication product
- Exploration of future research collaboration with Bung Khla community





Discussion





Feedback form





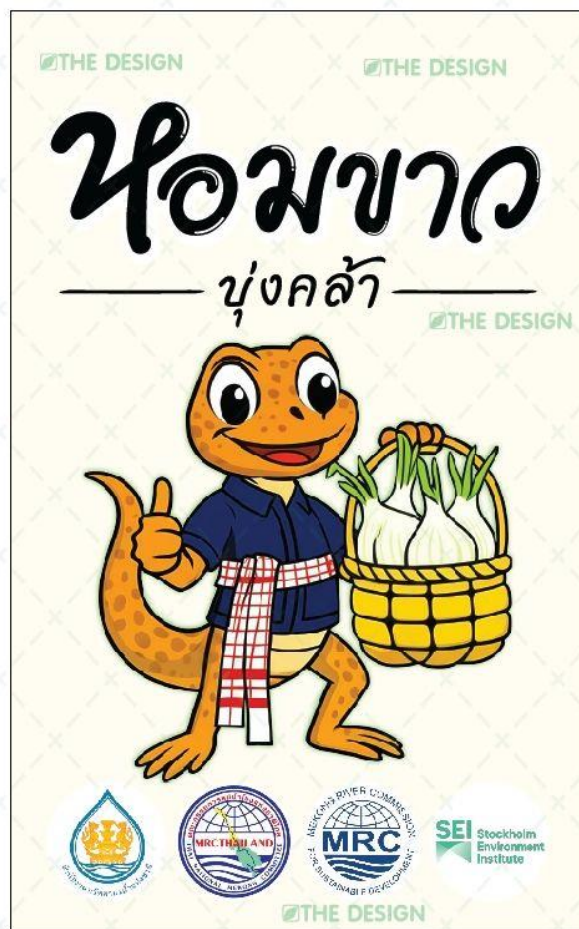
Launching of white onion product



White onion packaging and branding



หน้า



หลัง



Thank you