

Research of Water Quality in Local Community

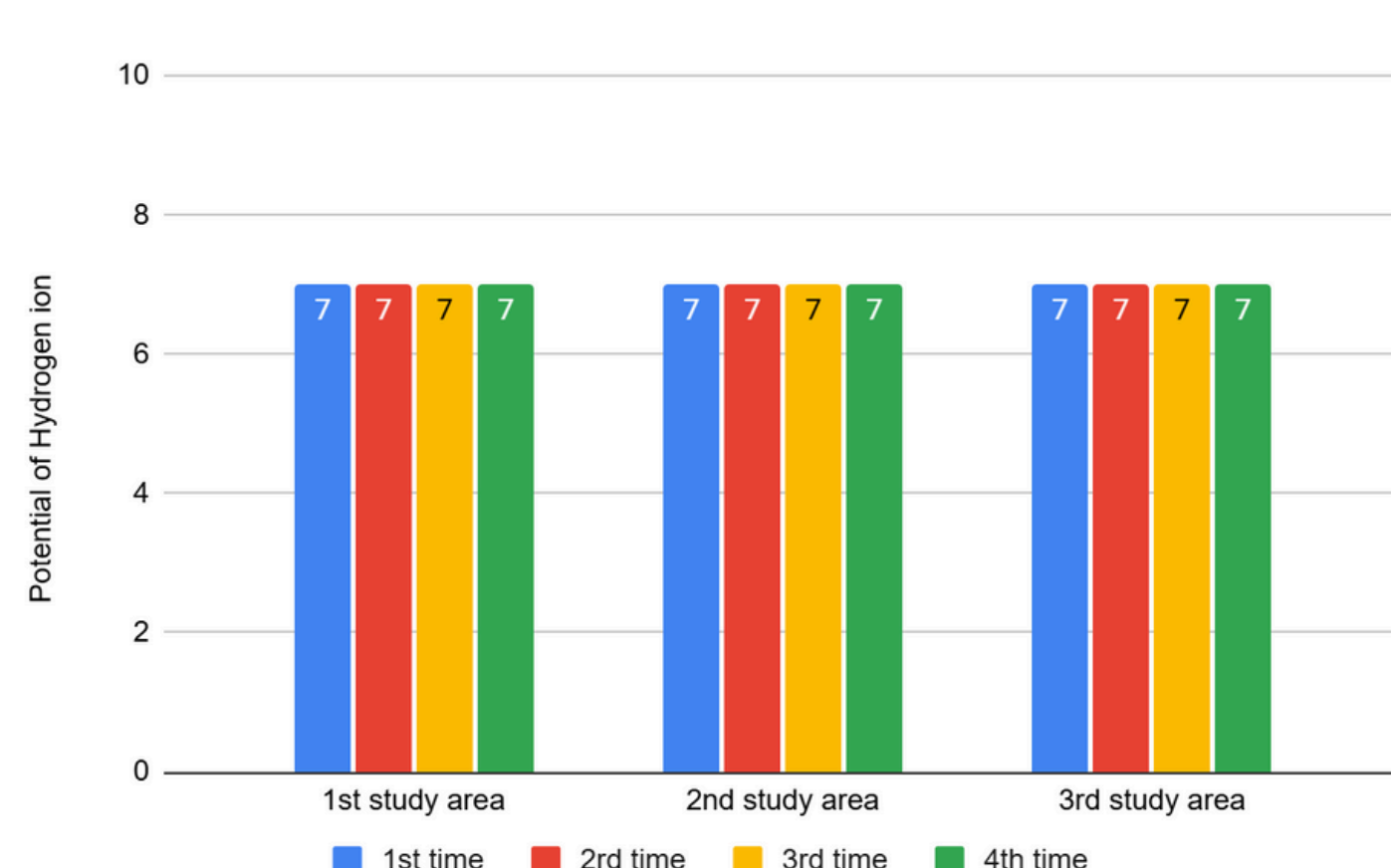
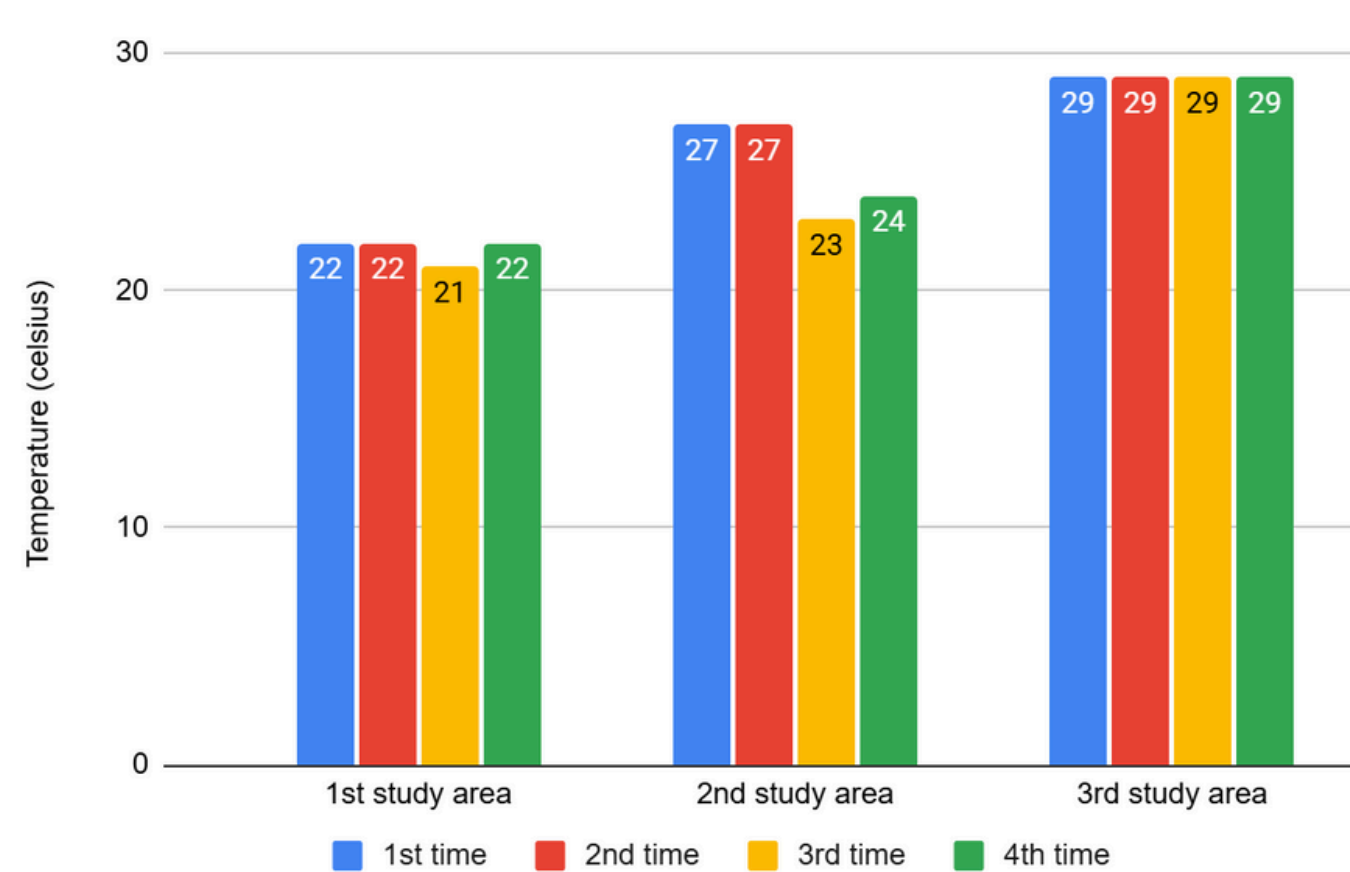
Water Sources and Its Environmental Implications

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Abstract

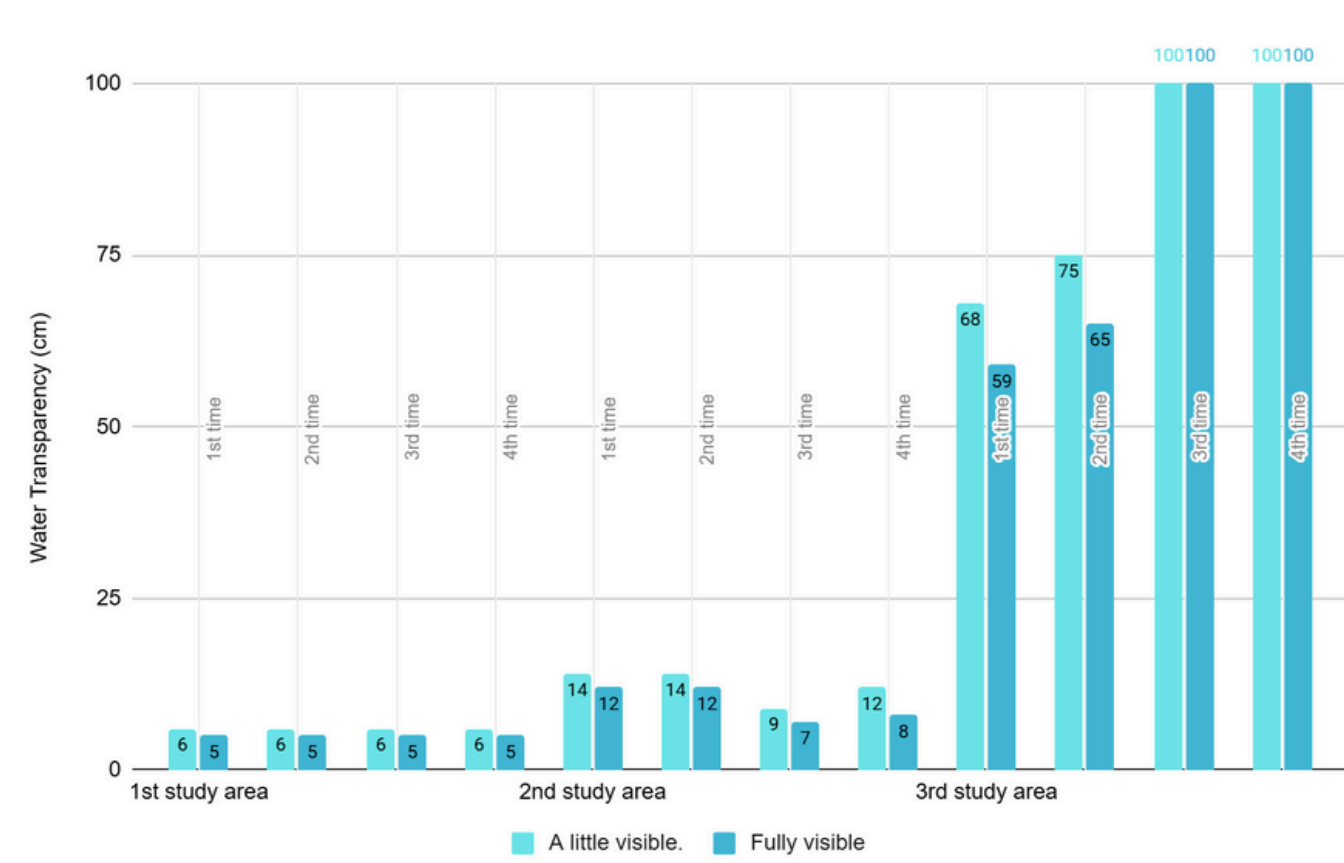
This research evaluated the physical and chemical water quality of three community sources in Chiang Mai, finding a consistent neutral pH of 7 while transparency and biodiversity varied according to human impact and site characteristics. The study concludes that anthropogenic activities significantly influence water conditions, necessitating conservation strategies such as waste reduction, wastewater treatment, erosion control, and community-led monitoring to ensure sustainable water resource management.

Results



Temperature differences across sites influenced dissolved oxygen and biodiversity, with stagnant conditions at Site 3 posing public health risks.

All study sites maintained a constant neutral pH of 7, indicating a suitable environment for aquatic life free from chemical waste.



Study areas	living things	Note
1st study area	Tilapia, guppies, yellow-brown algae	normal environmental conditions
2nd study area	red-bellied dragonfly, cherry clam, green algae	Found some garbage
3rd study area	Snakehead fish, larvae, green algae	normal environmental conditions

Transparency levels varied by site, reflecting the impacts of human activity, waste disposal, and natural sedimentation on water quality.

The presence of specific aquatic species across three sites indicates varying water conditions, ranging from oxygenated habitats to human-impacted areas and stagnant environments.

Conclusion

Based on the findings, the researchers propose the following guidelines for the maintenance and preservation of community water resources

1. Implement wastewater management before discharging into natural water sources. Community or household wastewater treatment systems should be established to prevent direct runoff of untreated water into the environment.
2. Avoid discharging waste and refuse into water bodies, additionally, reduce the use of household and agricultural chemicals to minimize water turbidity and contamination.
3. Maintain riparian zones by planting vegetation or perennial trees along water banks to mitigate soil erosion and provide natural filtration for sediment before it enters the water bodies.
4. Implement continuous water quality monitoring by periodically measuring fundamental parameters, such as pH, temperature, and transparency, to track changes and trends in water quality.
5. Foster community awareness and participation by providing environmental education on water resource management and encouraging local involvement in maintaining the cleanliness of the water sources.

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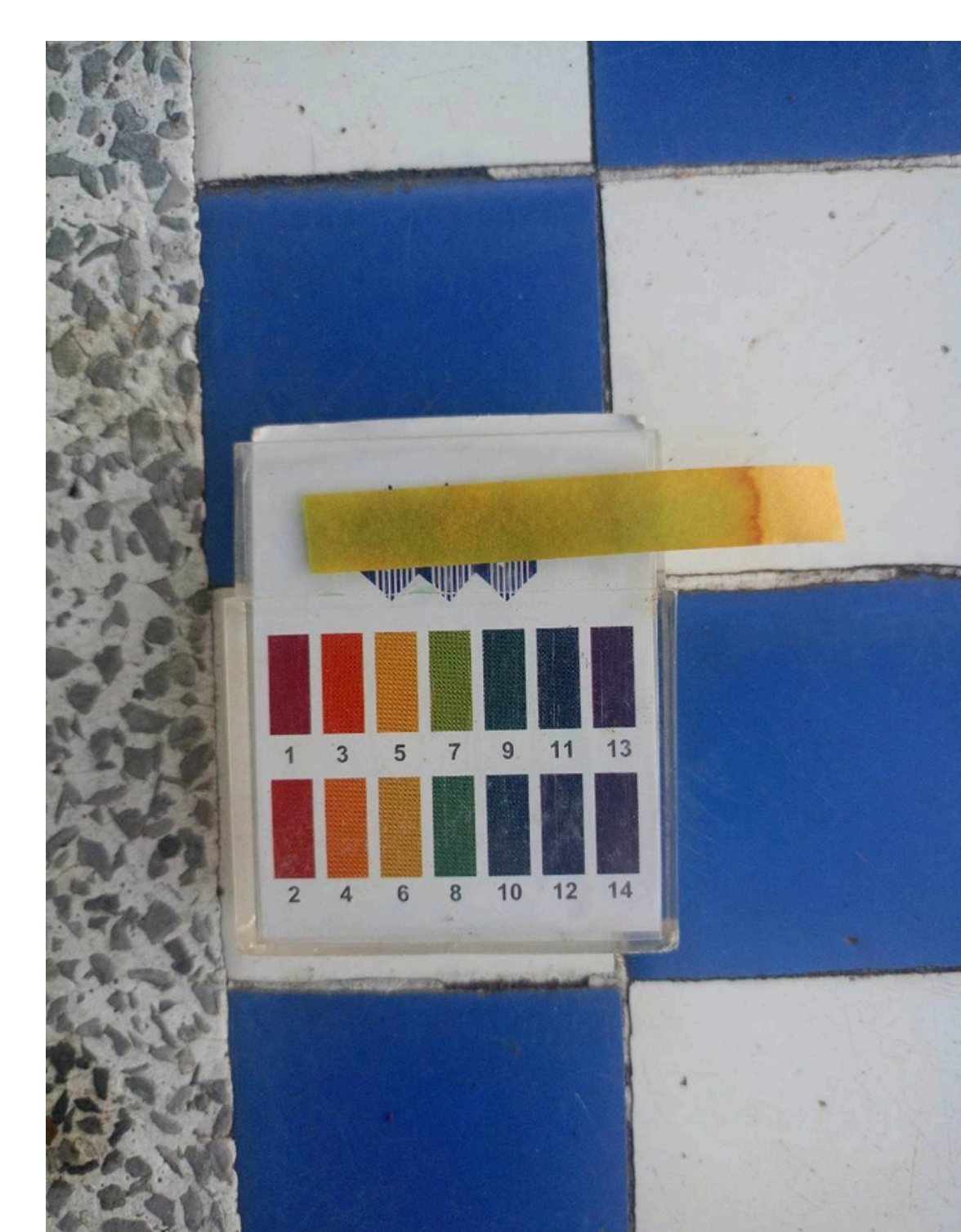
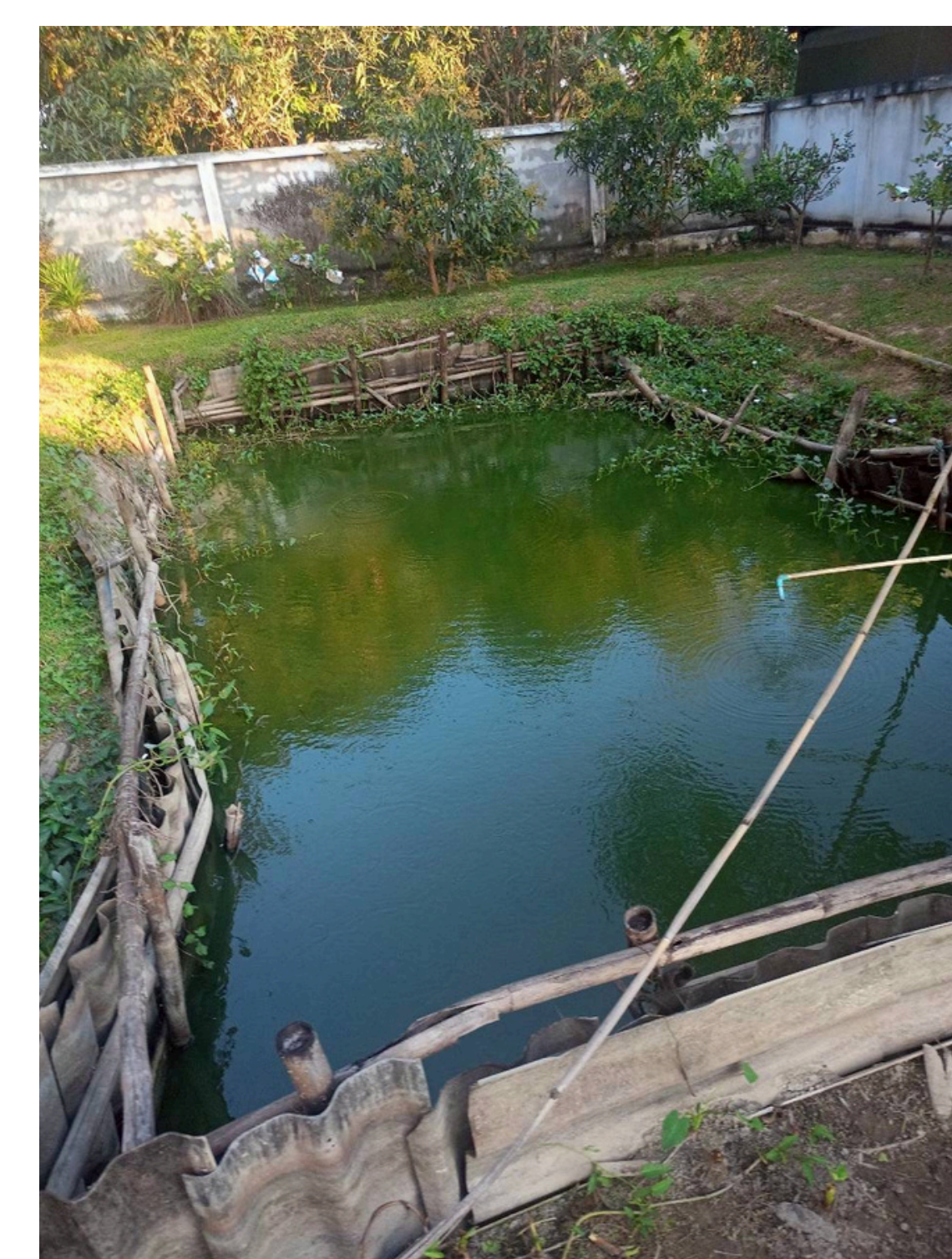
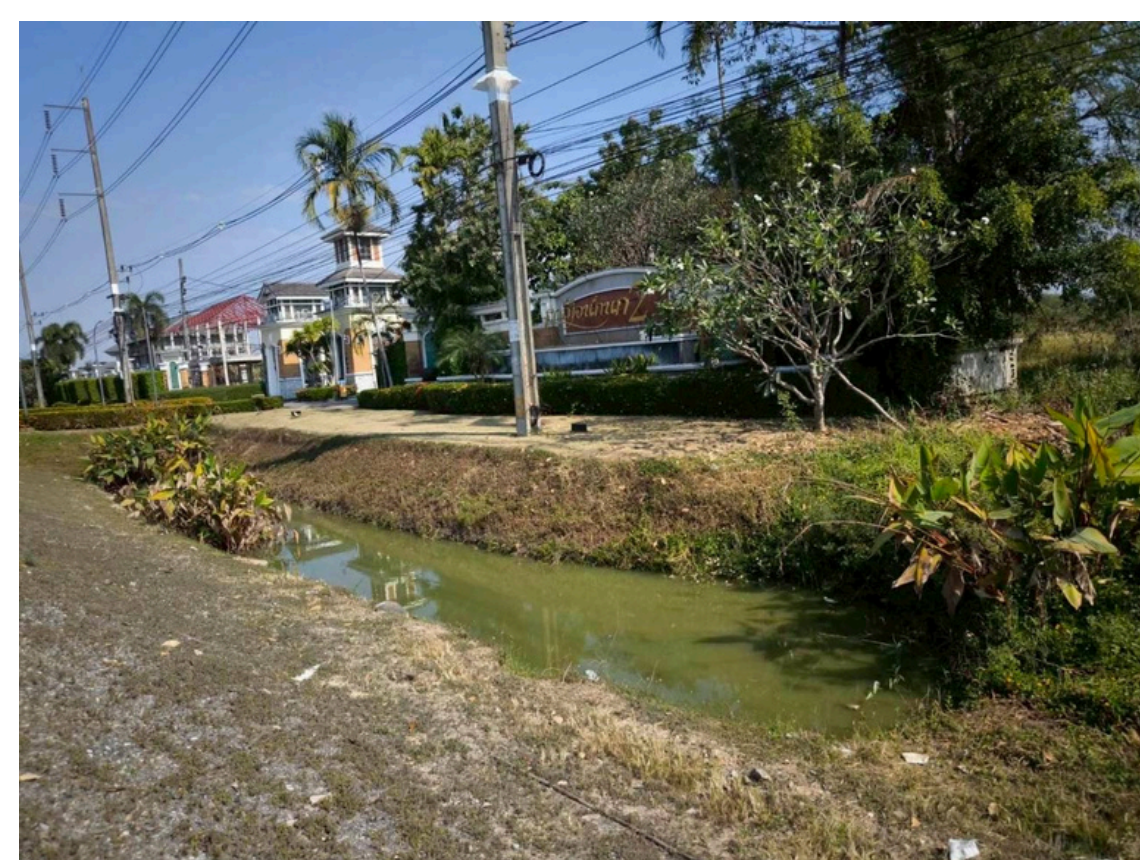
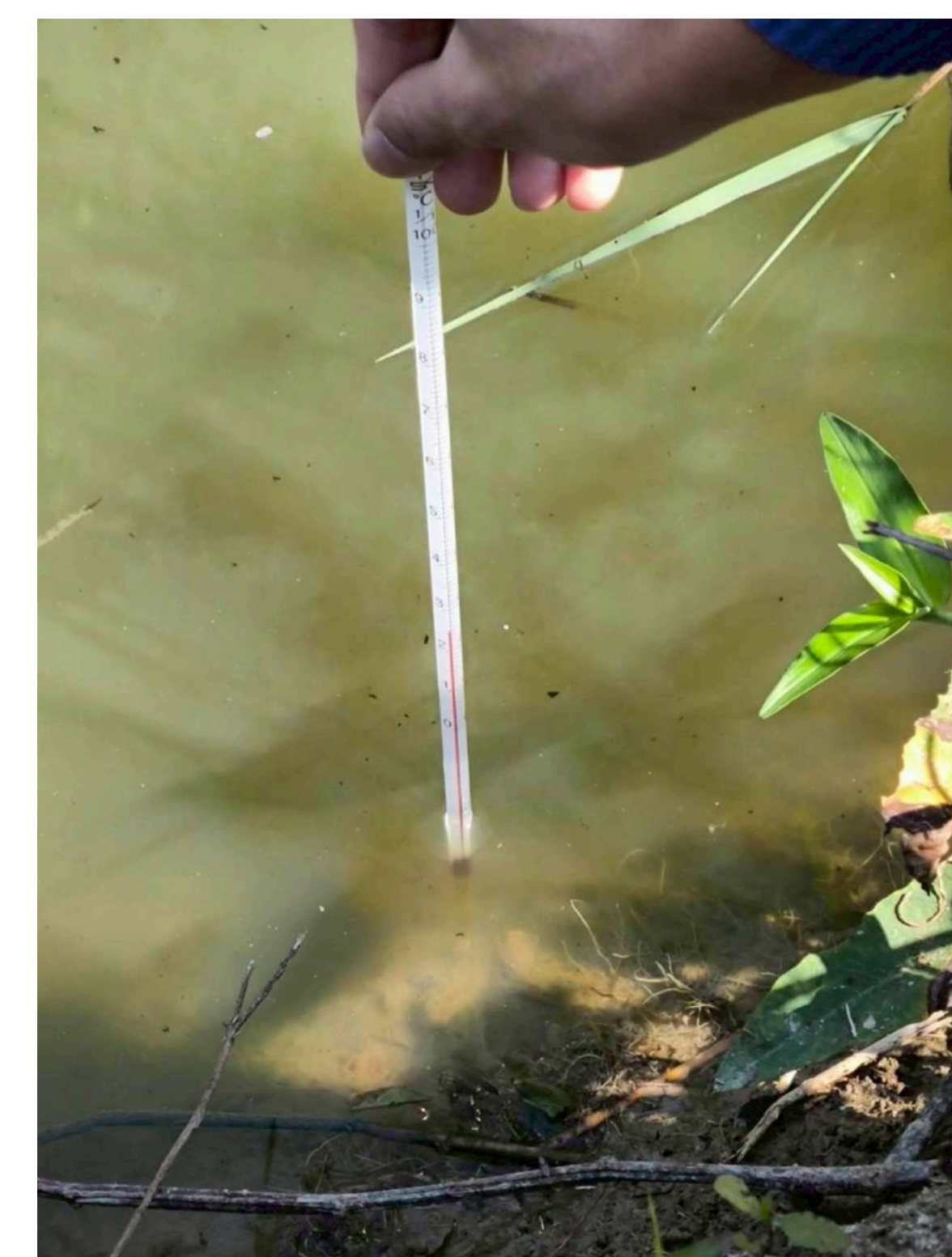
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Research Questions

1. How do the current condition and quality of community water sources affect the environment?
2. What are the effective maintenance strategies for these water sources to ensure environmental sustainability?

Research methods

Field surveys were conducted at selected community sampling points to measure temperature, pH, transparency, and environmental conditions. Water samples were collected at 10:00 AM using airtight containers and documented with photographic evidence to ensure data precision. Statistical and descriptive analyses were utilized to correlate water quality with the environment and propose sustainable conservation recommendations.



Study Area

1 Water source located at: 193 Soi 14, Moo 6, San Na Meng Sub-district, San Sai District, Chiang Mai, 50210.

2 Water source in front of: Karnkanok 2 Village, San Pu Loei Sub-district, Doi Saket District, Chiang Mai, 50220.

3 Water source in front of: Vararom Kaewnawarat Village, Moo 3, San Pu Loei Sub-district, Doi Saket District, Chiang Mai, 50220.