

YOUTH EMPOWERMENT WITH NATURE
Bridging Borders – Combating Climate Change 2024

Achieving Sustainable Development Goal 6 - Accessing clean water and sanitation in the Prek Toal Floating Village Community

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The YEP Academy program spans 13 days, allowing 24 participants to visit various regions in both Cambodia and Thailand to explore and understand climate issues. On the first day of our program, the organizers formed our team to do a small project to understand community issues and find better solutions to solve community challenges. Our team of five members with short names included Ms. Earn and Ms. Kitty from Thailand, as well as Ms. Liza, Mr. Rathana, and Ms. Theara from Cambodia. We named our team "L' Trek" starting from our first capital surname alphabet with the meaning "the leadership of the journey."



Figure 1: Our team members. Taken on 4th October 2024 at Tamui village, Ubon Ratchathani province, Thailand.

Our first group discussion focused on the issues at the Cheung Ek Group 3 community in Phnom Penh City, Cambodia, as it was our first site visit. We found that this community is facing poor living conditions and inequality, largely caused by climate change and inadequate management. Their lives are limited by inadequate land, which is worsened by population growth, while climate change continues to cause unpredictable flooding, severely impacting their farm and livestock. After the community leader shared their history and issues, the main challenge we identified was land tenure. As the community leader said, "If we have land tenure, we can do everything" highlighting the importance of land ownership. It not only provides easier access to basic utilities and greater stability in their lives but also ensures they are protected and eligible for compensation from the government in the event of natural disasters. Unfortunately, despite the community's efforts to get land tenure from the Cambodian government, and with the support of a local non-government organization (NGO) for over 10 years, they still can't access it. Therefore, we tried to rethink our approach to this community. We also discussed other challenges related to water access and sanitation in the community, but it was still unclear how to focus our project without the access of land tenure.





Figure 2: Cheung Ek Group 3 is community-based in Phnom Penh City, Cambodia. Taken on 23rd September 2024, Phnom Penh, Cambodia.

In our second discussion, after visiting the Prek Toal floating village at Tonle Sap Lake which shared a similar issue but has a better village structure system, we still wonder about the challenges faced by the Cheung Ek Group 3 community. We decided to focus on water access and sanitation issues in the Cheung Ek Group 3 community and compared it to the Prek Toal community. After sharing our ideas with other participants and organizers, we decided to shift our focus away from the Cheung Ek Group 3 community due to its various water access sources. For example, while many residents lack a proper drinking water system, some families can afford clean water through the Cambodian Water Supply Association (CWSA) or bottled drinking water. Meanwhile, other families depend on groundwater during the dry season and collect rainwater during the rainy season.

Given these challenges, we realized that we couldn't address them all. The community has a range of water access options, from relying on groundwater and rainwater to paid services, which made it difficult to identify a clear solution. Furthermore, the presence of the Cambodian Water Supply Association (CWSA) made the issue seem less urgent compared to other areas. However, for those who are unable to access the clean piped water, this shows as a financial inequality among villagers, which ties back to the unresolved issue of land tenure. Therefore, we decided to focus on water access and sanitation issues in the Prek Toal community, a floating village in Tonle Sap Lake, Cambodia, where the need for improved infrastructure is more pressing and where our efforts could have a greater impact.



Figure 3: Prek Toal community lifestyle and their available water treatment system, one of the floating villages in Tonle Sap Lake, Cambodia. Taken on 26th September 2024, Ek Phnom district, Battambang province, Cambodia.

Prek Toal floating village is one of the floating villages in Tonle Sap Lake surrounded by freshwater swamp forests where water levels rise and fall dramatically throughout the year. Approximately 800 people are living in this floating village which focuses on fishing and eco-tourism for their livelihoods. During the rainy season from May to October, the villagers live on floating houses that move with the rising water, while in the dry season from November to April, when the water recedes, they return to the land. During the rainy season, the residents of Prek Toal floating village conduct all daily activities on the water, including bathing, cooking, traveling, selling and even gardening. However, this water is also their primary source for consumption while multiple sources of pollution enter the lake, such as human waste from toilets, detergents from washing, oil spills from boats, raising fishes, and fertilizers from their floating gardens. Despite the presence of a few wastewater treatment tanks, they appear insufficient to handle the needs of the entire community, raising concerns about water quality and its impact on both public health and the lake's biodiversity.



Figure 4: Group discussion about water access and sanitation in two target areas. Taken on 2nd October 2024 at Mekong Nomad Farm, Si Mueang Mai District, Ubon Ratchathani province, Thailand.

Our new challenges after traveling by boat for half a day to visit the Prek Toal floating village, we identified three main challenges. First, there's a lack of a floating water treatment system to purify water, as shown in Figure 3. Second, the villagers use polluted lake water directly for drinking and daily household consumption, such as cooking, washing dishes, and laundry. Third, they rely on bottled drinking water for their daily consumption, which can be quite expensive. Some families can't afford it due to their low incomes. We also noticed that the Osmose organization had installed a drinking water system at their station, but it's only available for staff, homestay guests, and restaurant customers. As a result, there is an insufficient supply of clean water for the entire community.





Figure 5: Travelling by boat to visit Prek Toal floating village at the Tonle Sap Lake. Taken on 26th September 2024, Ek Phnom district, Battambang province, Cambodia.

SDG Goal 6: Clean Water and Sanitation guide our efforts to develop sustainable solutions in the Prek Toal community. Our goal is to create a floating water treatment system that can provide safe and adequate drinking water for all residents. Additionally, we aim to raise awareness about sustainability and implement a self-sustaining water operation system, where the maintenance costs are covered through user contributions. We hope to contribute to the long-term health and well-being of the community, while also addressing the broader environmental sustainability goals of the region.

6 CLEAN WATER AND SANITATION



Ensure availability and sustainable management of water and sanitation for all

Figure 6: SDG Goal 6 - Clean Water and Sanitation credit: <https://movetheworld.co/2020/07/07/understanding-the-sdgs-goal-6-clean-water-and-sanitation-israel-fugah/>





Figure 7: Prek Toal community, one of the floating villages in Tonle Sap Lake, Cambodia. Taken on 26th September 2024, Ek Phnom district, Battambang province, Cambodia.

Seeing this, our team came up with solutions to solve the issues as the following:

1. Installment of a floating water treatment system to support the whole Prek Toal community to access cleaning water for household use which is access to freshwater directly from the Tonle Sap Lake through the cleaning process.
2. Forming a local floating water treatment system to manage and maintain the system. "A good leader can manage the system".
3. Training the community leaders or villagers to think that they are the owners of the water system. The operation of the water treatment stations can enhance accountability and encourage people to pay water service fees for sustainability use. The water service fee can be charged 8,000 riels (equal to 2 USD dollars per month). This service is similar to adapt in the Tamui village, Ubon Ratchathani province as they collected a water service fee of 70 baht per household for daily consumption.
4. Provide education or training on water management, water hygiene, and maintenance to villagers and community leaders to avoid diseases and sickness.
5. Creating jobs in the location for maintenance and delivery of water to distribute to each household in the community.
6. We also suggest NGOs and the government provide garbage collection to use in the community to avoid water pollution. In addition, we train the villagers to separate waste and recycle waste, for instance: kitchen waste can be used as compost to grow floating gardens (as we saw several households growing floating gardens close to their houses).
7. If we can collaborate with the Osmose organization to work with the cleaning water in the flooding area, it will become more beneficial for the community and substantial access to clean water.
8. We also suggest having clean water and sanitation investment collaboration with NGOs, and private companies to improve more clean water for communities in the floating villages in Cambodia. With this support, it should collect water sampling to test in the laboratory to make sure the water is safe for community use.

After completing the discussion on challenges and solutions in the Prek Toal community, we had an idea to do a hand drawing to visualize the problem and possible ways. Even though it is not good-looking, we are trying our best to complete the task. We hope this hand-drawing is useful for the young generation to easily understand the real problems local people are facing and/or they can contribute to finding other solutions to help our people, communities, nations, and countries together. There are two sides of the hand drawing with only one paper. The left side describes the issues that local people are facing in the community (describe details above). The right side describes possible ways to solve the issues (describe details above).



Figure 8: Visualize hand drawing to understand the Prek Toal community issue and possible solutions.