This summer I returned to Cambodia to learn about Cambodia’s irrigation systems, and the importance of the largest freshwater lake in South-East Asia, Tonle Sap. The Tonle Sap Basin covers 75% of Cambodia and over 2 million Cambodians live around the lake, making it an important feature in the government water management and irrigation development.

I arrived in Phnom Penh on the 18th July where I was met by the Deputy Director of Irrigated Agriculture, Mr. Chann Sinath. Mr. Sinath has been a vital figure in changing the quality and role of water in irrigation sites, to improve agriculture development.

Phnom Penh is the capital of Cambodia, and has 4 rivers flowing through; the Tonle Sap, the Bassac and the Mekong (comprised of 2 separate rivers). These 4 rivers allow the Tonle Sap to reverse its currents in June when the water level in the Mekong at Phnom Penh is higher than that in the Tonle Sap Lake, the Tonle Sap River reverses and the water starts to flow upriver and into the lake, until late September. Late September the Mekong stops rising and water levels at Phnom Penh becomes lower than that in Tonle Sap Lake, the Tonle Sap river turns again and flows back out of the lake. This phenomenon creates the biodiversity of the lake and allows 700,000 tonnes of freshwater fish to be caught annually (Globally the 4th greatest after China, India and Bangladesh).

While in Phnom Penh, Mr. Sinath took me to the department of Agriculture to show how the government plan to restore and maintain current irrigation sites. Agriculture dominates 90% of employment for Cambodians and irrigation has been developed to only 16% of cultivated sites, poorly designed dam and irrigation systems during the Khmer Rouge era has only caused disruption in the development of irrigation schemes.

On the 23rd I went to Prey Veng (2 hrs away from Phnom Penh) to investigate the development of the Sdau Kaong Irrigation system. I was joined by a member of the International Fund for Agricultural Development who help poor rural people to overcome poverty. I was told the rehabilitation of the canal in 2004 has benefitted farmers with access to a pump; however further development was required to ensure that all farmers had the same access to the irrigation schemes.

I returned to Phnom Penh to prepare for my trip to Kampong Cham; again I was accompanied by Mr. Sinath to observe restored irrigation sites at the Koh Sotin district – looking into how the
The current Cambodian government have made improvements to irrigation facilities (this is currently at the first phase which is where the canals will be between 44 and 55 meters wide and between 18 and 25 meters deep). The following day I went to the local floating village to discover the importance of the river to Cambodians and Vietnamese people living on and alongside the river.

When I returned to Phnom Penh I was invited to visit the Environmental Department at Phnom Penh University. I was shown the various projects that the department are currently involved in, one of them being to provide full rural water supply by 2025. I was also encouraged by the development into water quality and the involvement of international companies such as the EU and the United Nations to develop the quality of life for Cambodians.

While in Phnom Penh (28th July) the general elections occurred, and I was delighted in seeing the amount of young people supporting their parties, it was a great atmosphere to be involved in. After the elections I made my way north to Kratie; Kratie is a small town situated along the Mekong River. Kratie is one of the few places where the Irrawaddy Freshwater dolphin can be spotted, and while along the river I learnt the importance of the Mekong not only for Cambodians, but also for a variety of habitats, such as the Irrawaddy dolphin. This was confirmed when I visited the Koh Pdao Community Development, an ecotourism company informing local Cambodians about the importance of the river for agricultural development.

From Kratie I moved West towards Siem Reap, home of Angkor Wat; during the Angkor Wat civilization moats, ponds and canals formed a ‘super’ irrigation system based on North-South, East-West orientation. This system was adopted by the Khmer Rouge; however designs were laid out on map co-ordinates not contour lines, which resulted in poorly constructed irrigation systems that were not beneficial to rice cultivation at all.

On the 2nd August I went to the Tonle Sap Lake, where I spoke to local fisherman and people that lived in the floating villages. I was told that big fish, such as the catfish used to be present in the river but now villages stay on the river all year round and continue to fish illegally, resulting in a lower biodiversity of big fish. Siem reap have 7 floating villages, where schools, churches and shops are present. Fishing is free around the lake, however due to a government project to increase fish diversity, fishing is closed for 3 months: July, Sept, Aug and police patrol during this time to stop illegal fishing; this means during this time tourism is the main source of income for people living in the villages.

I took a boat journey from Siem Reap to Battambang (7th July) which was a beautiful journey along the river and through the Cambodian countryside. During the boat ride I unfortunately saw a high amount of rubbish affecting the water quality of the river; due to the high amount of Cambodians (and tourists) using plastic instead of biodegradable products. I witnessed fisherman catching fish and saw irrigation facilities on how they trapped the water for the rice paddies. In Battambang I was told how the rice is cultivated, and that it is cropped twice a year (during a good season). During the wet season the rice is planted by hand in the countryside, and 8 months later cultivated; the 2nd crop can be produced by the Tonle Sap, if the water level of the Mekong is high enough. Rice accounts for 90% of rural income and like fishing is vital for the livelihoods of Cambodian families. This demonstrates the importance for water irrigation systems, and the water quality of the Tonle Sap.

On the 12th August I returned to Phnom Penh, where I awaited my flight back to the U.K. I would like to thank the Queen Mary Expedition Fund for contributing to my trip, and it was a great opportunity to learn about the importance of water management in Cambodia.