

Chapter 2

Floods and Culture



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Abstract This chapter aims at exploring the substantial impacts that floods could have on the society in different regions around the world from a cultural perspective. By looking at the historical and ongoing flood control efforts of human society, interesting findings could be obtained on the positive contributions to the formation of cultural prosperities in the selected countries in their fight against the floods.

The case studies chosen in these countries all have high frequency of floods occurrences either in the past or in present times. And the studies show that the cultural benefits may not manifest in a short time span, but in the long run in most of the cases, cultural values and assets in many dimensions have been gained through experiences of control and co-existing with floods, such as the creation of the distinctive social spirit and commercial prosperity in the regions in China, the considerable contributions to the ancient civilization in Egypt, the influences on the rethinking of the Buddhism doctrines towards nature and the promotion of eco-concept in the regions in Thailand, however, our modern world is still facing some kind of failures of preserving cultures related to floods like in the case of Italy.

This chapter points out the importance to carry out more researches and studies on the interactions between floods and culture, so as to help to find more insightful and sound solutions for floods management in the future.

Keywords Floods and culture · Interlink · Social prosperity · Ancient civilization · Buddhism · Social spirit · Cultural price · Ecotourism

When reviewing the records of floods in human history, floods were basically regarded as natural disasters, and the recognitions of floods in stories written by our ancestors were always about fears, painfulness and vulnerabilities of human beings against the floods.

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Ever since we realized the constant and destructive characteristics of floods, in order to reduce the life losses and damages to the living environment caused by natural disasters like floods, eventually we started to actively fight against floods and search for control solutions.

To our ancestors, usually floods were considered to be unavoidable and unbearable. However, our wisdoms, which have been inspired by the nature through centuries, make us to believe that floods as one of the natural phenomena should not only be deemed as evils. The goods of floods were also well recognized and appreciated by living with floods not just fighting against them in some of the human's history of civilization.

This chapter will explore and look at cases from different countries around the world: Egypt, China, Italy and Thailand. For the people living in flood frequent regions of these countries, they have been continuously experiencing and co-existing with floods and have gained benefits by forging their typical cultures that were strongly connected with floods and water.

The explorations on how the floods in a sense could bring cultural impacts to those regions and their people would, to some extent, provide us with different perspectives and thoughts on human's floods history.

2.1 EGYPT-The Importance of Annual Nile Flooding for the Ancient Egypt Civilization

The annual Nile floods have historically been the most important natural event in Egypt. The inundation happened yearly, the first signs of the inundation were seen at Aswan by the end of June, reaching its peak at Cairo by September, some weeks after, the river would begin to recede, leaving rich silt deposits and bringing fertile soils for crops (Bell 1970). It is acknowledged that Ancient Egypt could never have existed without the ever-flooding Nile river. The inundation also made the Ancient Egyptians calendar a unique one. The inundation was around the time when the Egyptians noticed the rising of the "dog star" Sirius. During the flooding season, the Sirius was clearly visible in the sky, this convinced the ancient Egyptians that Sirius is the bringer of new life, so instead of solar and lunar calculation, the Egyptians relied on the star as the herald of both new year and the yearly flood (Moret 1996).

One of the most important contributions of the floods to the Egyptian civilization is the invention of the device to measure the Nile floods: the Nileometer. The Nileometers were constructed in different shapes and forms, from vertical columns submerged in the Nile, to steps down to the river. These Nileometers in all different formats were calibrated using the same unit of measurement, the cubit. The Egyptians broke the cubit into smaller units, by which the crop yields could be predicted and the tax can be determined by monitoring these Nileometers. Nileometers could be found at the temples at Elephantine, Philae, Edfu, Esna, Kom Ombo and Dendera. There were built through pharaonic times up until Roman times. Records could show from these sites on how high the Nile would rise and the maximum

height of the inundation every year (Moret 1996). Despite being able to measure the flood, to Ancient Egyptians, the inundation was truly in the hands of gods.

Other than creating measurement device with ancient wisdoms, during the inundation, there was nothing to do for the farmers, since usually the crops were harvested in early June before the returns of the floods. Therefore, the farmers who had nothing to do for the flooding season helped building pyramids. This is considered to be an important driving factor to the achievements of this pyramid project (Oglesby et al. 1972).

2.2 CHINA-Floods Bring Social Prosperity

2.2.1 *Floods, and the Flourishing of the Commercial Culture*

Hankou (also known as Hankow), is one of the three towns that compose the mega city of Wuhan in central part of China, lying in the estuary of Hanjiang River to Yangtze River. Hankou was once the second biggest city in China in the late 1800s and early 1900s being recognized as a metropolitan in far east by the westerners due to its economic prosperity. It then became of importance and was even titled “Oriental Chicago” by *Chicago Tribune* in the United States (Rowe 2015). Most importantly, Hankou is well known for its frequent exposures to floods in history.

According to Wuhan Local Chronicles, the first big flood was recorded in August 1390 (Ming Dynasty) caused by heavy rains, which took the lives of local residents and their poultries¹. Since then, the floods have been occurring after every 3 years. Prior to 1465, Hankou was an inhabited sandbar which later on emerged to be one of the towns of strategic importance in Wuhan between 1465 and 1487 due to a flood that occurred¹ resulting into a project that redirected Hanjiang water into Yangtze River. After the diversion of the Hanjiang waterways, the sandbar turned to be a perfect and safe port for vessels, and this was the time when flood-flushing land became a harbor for shipments and cargoes. In the following couple of years, the salt traders were the first group that recognized the convenience of this new emerging town as a salt distribution and sales center, and after salt business, the rice shipping took over. A prosperous business town was then officially born (Zeng Yanhong 2002).

To continuously prevent floods from invading, the first long dyke was constructed in 1635 by the local government, and Hankou fort was built in 1860s and the small town was then expanded to three times bigger than it was before. In 1905, three more dykes were added again for the purpose of avoiding inundations (Rowe 2015). This reinforcing movement provided huge opportunities of business development and eventually brought Hankou to walk on the path towards a metropolitan in the far east (Zhiguo Ye 2016).

¹The written record was not well kept as to when exactly this flood happened, according to the Wuhan Local Chronicles.



Map of Hankow, China. Hubei Hankou zhen jie dao tu/Hubei guan shu ju bian zhi. [Hubei]: Fang si kan, Qing Guangxu 3 nian. (Source of this map: Library of Congress, USA)

Floods and the developing of commercial culture in Hankou (Zeng Yanhong 2002)

Period of floods visiting	Major projects	Business activities
1465–1487	Hanjiang waterway redirection	Salt trading
1634	First dyke	Rice shipment, salt trade
1860	Hankou fort	Rice shipment, salt trade, silk, medicine
1905	Zhang Gong Dyke, Wu Feng Dyke, and Wutai Dyke	Rice, tea, salt, silk, banking...

2.2.2 The Forging of Social Spirits in Flood Prone Regions

Zhejiang, formerly romanized as Chekiang, is an eastern coastal province of China. The north of the province lies just south of the Yangtze Delta, and consists of plains around the cities of Hangzhou, Jiaxing, and Huzhou, where the Grand Canal of China enters from the northern border to end at Hangzhou. Major rivers include the Qiantang and Ou Rivers. Well-known lakes include the West Lake of Hangzhou and the South Lake of Jiaxing.

Since the ancient times, people's daily life in Zhejiang has always been strongly connected with floods and waters, the earliest culture related to floods could be dated back to as early as 5500 BC (the Hemudu Culture, as “河姆渡文化” in Chinese). Hemudu Culture is also recognized as one of the earliest cultures to cultivate rice (Baorong 1993).

During Song Dynasty in Hangzhou, the capital city in Zhejiang, the West Lake dredging and Su Causeway Project were constructed between 1060 and 1080, and which was led by the Governor Su Shi (1037–1101), in an attempt to diverge the sea water and the floods from big rivers to inner water system (Yu-tang 2012). And this

was for the first time when the local people had engaged in this floods prevention project in the floods history in China.

Just a couple of years after the foundation of new China, the Xin Anjiang Hydropower Station Project, built between 1957–1971 in Jiande, Zhejiang, was recorded to be the first large size hydropower station in China which was designed, equipped and constructed by Chinese Government itself, to avoid threats by future big floods. The project therefore resulted in 291,500 villagers being reallocated.

In 2008, the Zhejiang Government made a very bold decision to start “Reinforcement Project” (as “强塘工程” in Chinese character) (Wang Xiaoyi 2008), this was a very innovative design of project, with a holistic approach to explore the most effective way to protect the whole region from floods and other natural disasters. All the local governments in the region were required to participate in this project.

Through thousands of years experiences in facing the natural harshness, the floods in return have been influencing and forging the distinct social cultures and thus made the spirits of the Zhejiang People very unique ones in China: smart and intelligent, open-minded and inclusive, constantly striving and innovative, adventurous and pragmatic (Luo Chang-zhi 2007).

2.3 ITALY- Floods, a Cultural Cheque to Pay

Venice has been known as “City of Water”, “City of Bridges”, “the Floating City” and “City of Canals”. It is also known for its several important artistic movements and its substantial contributions to Europe as well as to the entire world, especially during the [Renaissance period](#). Parts of Venice are renowned for the beauty of their settings, their [architecture](#), and artwork. The lagoon and a part of the city are listed as a [World Heritage Site](#).

However, due to the sea tides, each year Venice is being washed by over 100 floods, and every 15–20 years a huge flood would be expected. The worst flood which happened in 1966, made nearly 5000 Venice residents homeless (Nosengo 2003). Even though every year Venice attracts 15–20 million visitors from all over the world, the tourism and the preservation of the cultural treasuries in Venice are still heavily affected by the frequent floods.

2.3.1 *The Most Plan*

Since the giant flood that happened in 1966 and in order to save the precious cultures in Venice from washing away from the unavoidable yet frequent floods in the future after nearly 40 years’ debates, The Government of Italy in January 2003, launched a project called “Modulo Sperimentale ‘E’lettromeccanico”

(The Italian name for “the Mose Plan”).² The project aims at building up to 79 water gates in three of the waterways which connect the Venice lagoon and the Adriatic Sea (see below the picture). All those water gates or sluices will be deeply rooted in the seabed and could be easily operated to adjust the water flood flows coming from the Adriatic Sea (Pirazolli and Umgiesser 2006).

The construction officially began in April 2003 which was earlier than the expected date of 2012. The total cost was estimated about 4.5 billion euros, and most of which probably would have to be borne by the local government of Venice. To make up this huge deficit, the Venetian Government had no choice but to go for public auctions of 13 palaces and historic architectures from the Renaissance times. Unfortunately, this project has not yet finalized up to now due to a series of corruption scandals.



The three waterways connecting the lagoon and the Adriatic Sea

²“Modulo Sperimentale ‘E’lettromeccanico”, the Italian name for “Mose Plan”, in a wish that this plan could be saving Venice like the Mose from the Bible who once protected the civilians from the sea.

Can “Mose” be the ultimate solution for Venice? Is the culture really being protected? How should the Venetian people continue their bitter-sweet life with floods? These questions are not answered yet and perhaps will remain unanswered for a longer time.

2.4 THAILAND-Floods with Buddhism and Dams for Ecotourism

2.4.1 *Buddhism, in Harmony with Floods*

Thailand is a country that has a long record of being ravaged by floods and tsunamis. It is well known as a Buddhism country and according to the 2000 census, 96.4% of the country’s population is self-identified as Buddhists (GreenFaith Webinar, Dr. Stephanie Kaza 2012).

In 2011, Thailand suffered the worst floods in more than a half century. The floods inundated more than 6 million hectares of land in 66 of the country’s 77 provinces, and affected more than 13 million people.

When the science is still insufficient to respond, the beliefs and the old wisdoms always could be appreciated to cope with natural disasters in a harmonious way. Some even argue that those who put in faith in technology alone to save the world are bowing to a false god. Although floods can be considered as apocalyptic, their annual occurrence made them part of life’s relationship with nature (Darlington SM 2003).



A monk walking in the floods in Ayutthaya, Thailand, 2011. (Source: http://www.fjnet.com/shxx/tj/201010/t20101026_170821.htm)

Based on the Buddha's teachings, living in contentment does not mean the elimination of desire of knowledge and truth, but to live in harmony with all beings and with nature including living with floods. As the floods in Thailand in the past never stopped, Buddhism through its teachings offers the people who have beliefs in them: to respect nature, to do no harm for nature, to seek green wisdoms, to be fearful of nature and natural disasters and to care for other as self (GreenFaith Webinar, Dr. Stephanie Kaza 2012).

However, following and encountering the series of events of natural disasters such as floods, Thai people and their beliefs are put to the test. There is a need to revive some of the principles coming from the Buddhist ideas on nature (Donald 2016).

2.4.2 Dams to Become New Ecotourism Attractions

According to Electricity Generating Authority of Thailand, there are 33 large dams, 367 medium-sized reservoirs and 4000 small reservoirs across the country (Sinthusiri et al. 2014). While those dams at different sizes functions as flood-adjusting projects and mostly are built for the purpose of agriculture irrigations, the government is recognizing their cultural values as new ecotourism destinations (Wongduy 2003). It is amazing to realize that dam areas could also support the country's economy by boosting ecotourism, given the importance of tourism to the Thai economy. Efforts have been made in the North-eastern region of the country, to attract tourists to visit the dam areas within the region and to learn about the local lifestyle and traditional knowledge (Jaroenpon et al. 2014).

Ecotourism could improve the livelihoods of the local residents who were once forced to move out of the dam areas, and by increasing the incomes of local community it will also provide incentives for the government and the local people to attach great importance to preserving their traditional cultures and beautiful natures which will bring the tourists both domestically and internationally.

2.5 Conclusions

Floods, as a natural disaster, have always been unexpected yet causing countless casualties, damages and deaths in human's history. Each human's civilization cultivated by the rivers usually carries unforgettable stories and memories with floods. Although we are in the modern times, with well-structured facilities, early warning systems, and flood control technologies, human beings are still vulnerable in face of the merciless floods. Dams, dykes and residential houses could still be easily washed down by flood waters, however there are some fortunes and legacies that have never been flooded away and have consistently been strengthened by what is referred to as culture.

Culture is created and developed in the process of confronting and unifying man with nature. It is an inevitable outcome. Nevertheless, due to occasional characteristics of floods, the distinctive cultures of regions, cities and towns frequented by floods were forged, and the identities of people who live by the flood prone areas were cultivated while they live with and combat against big or small but never-ending floods for centuries in the past. Although Floods could affect the living environment and our human society might suffer from economic and cultural losses due to the flooding, like in the Venice's case. But in the long run, through history to recent times, the new civilization and prosperity in many parts of the planet could also attribute to the influence of the floods, that is to say, the positive contributions of the floods and the cultural values which the floods have brought to the human society, should not be neglected, and furthermore should be appreciated. The history of flood controls is also a reflection of evolving path of human's civilization. Hence, for a better flood management solution without major compromising of human and nature assets, more studies are needed in identifying the interactions of floods and culture improvements, and vice versa, the researches on how the culture and people's mindset would proactively deal with floods and harmoniously live with floods should therefore be strengthened as well in the future.

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