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OPINIONS AND PERSPECTIVES IN CHAO PHRAYA DELTA'S 2040 DEVELOPMENT

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The Chao Phraya delta is in the central plain of Thailand, which is the most important region of the country. Bangkok, the capital of Thailand, is located in the Chao Phraya delta and is the centre of Thailand's government, economy, culture, education, and transportation. In the Chao Phraya delta, the people have established communities and developed the land from the prehistoric era to the present day (Hutangkura, 2014). Currently, there are more than 18 million people, approximately one-third of the total population of Thailand, living in the 19 provinces located in the Chao Phraya delta. Moreover, the total gross domestic product (GDP) of the 19 provinces is approximately 60 percent of the total GDP of Thailand. The historical irrigation development projects in the Chao Phraya delta are the canal system in the east bank area of the Chao Phraya River, from the King Chulalongkorn era, and the Greater Chao Phraya water control project of the 1950s. Nowadays, there are several challenges and problems, such as climate change, natural and man-made disasters, and technological disruptions, that hinder the development of the Chao Phraya delta. Thus, it is currently very important to establish long-term visions and development plans for the Chao Phraya delta. Therefore, the objective of the study was to find and summarise the challenges, development perspectives, and case studies of the delta and city development activities in the Chao Phraya delta for the next 20 years. This study conducted in-depth interviews with 11 people who are in the academic field, industrial sector, and government sector; in addition, four sessions of group discussions were held. According to the interviews and group discussions, the five main points for development can be summarised as follows.

First, floods are one of the significant natural hazards in the Chao Phraya delta where flows from the north region, tidal intrusions, and urban flooding are the most notable challenges for water disaster management during the rainy season. Every year, the Chao Phraya delta area experiences flooding, which results in economic damages and the loss of human life, in the case of the great flood of 2011, for example. One of the challenges of flood management is collaboration across the ministries and administrative districts. Currently, the Royal Thai Government has enforced the Water Resources Act 2018 and the strategic Plan on Thailand's Water Resources Management, which may increase the collaboration and coherence among the related agencies concerning flood management. Regarding issues across the administrative districts, experts have mentioned that the concept of *average happiness and suffering* in all areas may be the better solution to reduce conflict among people in the different administrative districts. At present, people only consider their own districts and try to protect them against floods by using flood walls or dikes. The consequence is that the floods spread to the neighbouring districts, leading to conflicts. For example, some people pressure the government officers to open the gate to decrease the flood levels in their village, but others also urge the officers to close the same gate to protect their village; this leads to conflicts between people in different villages.

Second, the flood walls in the Chao Phraya delta have been constructed by several agencies, such as the Bangkok Metropolitan Administration or Subdistrict Administrative Organisation. In some areas, the flood walls have not been designed by professional engineers or followed the standard code. Moreover, the flood walls are designed and constructed according to different assumptions regarding the return period of the floods. Notably, in the rural areas, the flood walls have been designed using a 25-year flood return period; in contrast, the flood walls in the urban areas have been designed using higher flood return periods. Thus, the dikes or flood walls in rural areas, which have not been professionally engineered, may be the weak points for flood defence in the Chao Phraya delta. If the dikes collapse, the main system of the central government may not be able to assist the local people in that area. Hence, the flood wall system, the maintenance of which is the most important aspect, should be inspected by a specialised agency.

Third, the multi-hazard model is, at present, the significant factor that is lacking in the infrastructure development in the country. The multi-hazard model is a powerful and effective tool in

understanding possible scenarios and will lead to pre-disaster management actions that are acceptable solutions to disaster management. Several forms of data, such as topographical information and data on populations, land use, or historical disaster cases, can be input in the multi-hazard model to simulate the affected areas and the efficiency of the disaster management plans, including their integration with other plans, such as economic and land use plans and plans regarding the settlement of people in future. The government or development planner can incorporate the results of the multi-hazard model to develop countermeasures for future disasters. In addition, the model can be made available to everyone in society to develop and take advantage of it. The current major obstacle in developing the multi-hazard model involves the data. Currently, the data are collected by several departments, even though the data are the same, because of the criteria associated with each department's mission. Notably, the collection and measurement methods are different for the same data. To achieve the goal of establishing the multi-hazard model, a single data platform should be built; this platform would collect and integrate the data from all departments and form a single standard of data. The data platform should be open access for everyone in the country.

Fourth, the issue of trust between people and the government is a main topic of concern in Thailand. Based on the group discussions, the people stated that the past development projects of the government sector have left the people of the area with a distrust of the government. People feel that the government sector does not act sincerely in public hearings. In addition, people feel that the government has a preconceived goal in mind before listening to their opinions – this leads to development based on a top-down approach, which may not consider the local culture and be contrary to the way of life of the local people. The representative of the group discussions stated that "We do not hinder development, but the government should be provide comprehensive information and sincerely listens to the people and finds solutions together in development".

Finally, the coherence of plans and policies should be considered in the present situation. Currently, the Royal Thai Government has enforced the National Strategy (2018–2037), which is the country's first national long-term strategy, and its vision is to have "a developed country with security, prosperity and sustainability in accordance with the Sufficiency Economy Philosophy". To achieve this vision, all the ministries have developed long-term strategic plans to serve the National Strategy (2018–2037), but these still lack connections and coherence within the same focus area.

In conclusion, this study presents an overview of opinions and perspectives on development in the Chao Phraya delta. Many points should be addressed, such as the coherence between agencies and departments, the infrastructure for flood defence in the delta, and the issue regarding the trust between the government and the people. The development of the areas of the Chao Phraya delta is a significant step in the country's development. The researchers hope that the final goal of the development is directed towards the local people, to ensure their prosperous future and make them resilient in the face of multiple disasters, and based on social equity.

Keywords: Chao Phraya delta, development, opinions, perspectives

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