

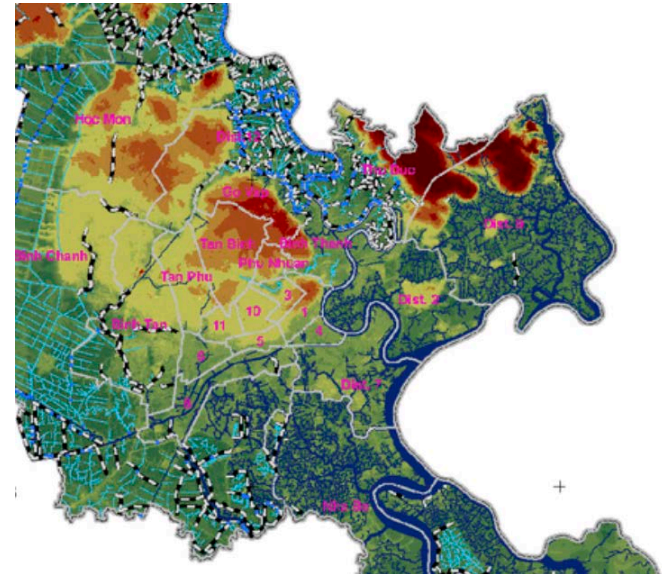


Foreign, Commonwealth
& Development Office

GLOBAL FUTURE CITIES PROGRAM

CITY-TO-CITY KNOWLEDGE EXCHANGE

Development of Geographical Information System for Drainage Network in Ho Chi Minh City, Vietnam



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Infrastructure Management Centre (IMC)

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Presentation outline

Project background and objectives

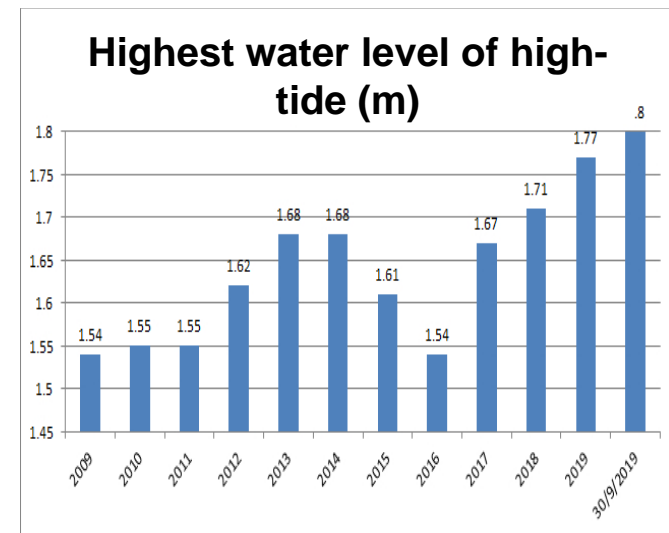
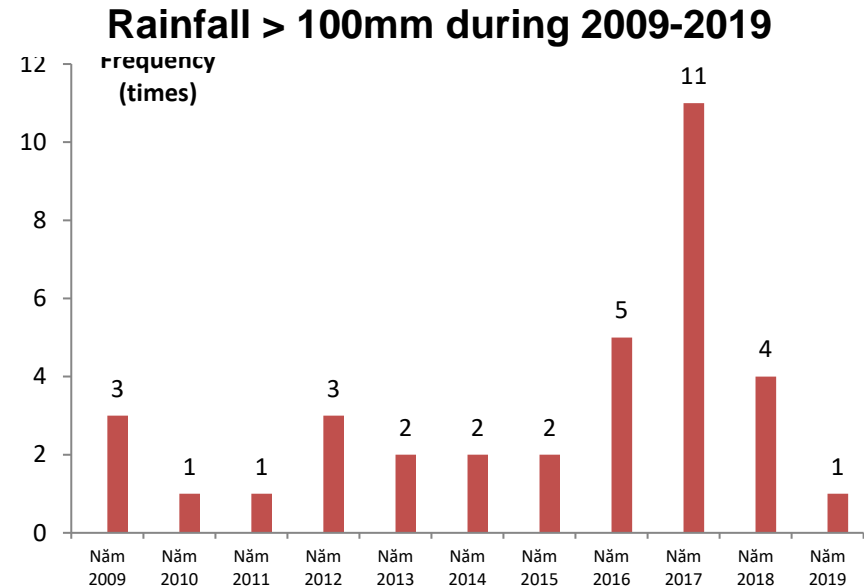
Desired outcomes and impacts

Project scope and current status

Challenges and opportunities

Project background: flooding in HCMC

- Frequent flooding caused by multiple factors including intense rainfall and high-tide level
- Flooding during rainy season spanning from July to November and high-tide level during September – December.
- Water level of high-tide increased during the last some years



Project background: drainage system

- The system has been established during multiple timeframes, starting from the French colonial era.
- Some parts have been downgraded but could not be replaced.
- Small dimension (600-800mm), serving for local streets only



Project background

- The current database is incomplete.
- Within the IMC, data is managed through a combined system of paper-based documents, Excel files and CAD drawings. This database is updated manually.
- In many cases, the task of updating the data is carried out without synchronising and cross-referencing between related data sets.
- The planning tasks for the drainage system, meanwhile, currently belong to the DOC and DPA.
- Hence, there is a limited understanding of the system, leading to a weak management of the whole network.



The development and implementation
of GIS project

Summary of project development and implementation

Time	Project phase
2017	First mission of UK FCDO for Global Future Cities Programme in HCMC
2018	Strategic Development Phase: project identification and TOR development
Jan 2019	MOU between UKFCDO and HCMC PC
Jan-Sep 2019	Bidding and selection of Delivery Partner. Project kick-off in Sep 2019
July 2019	MOU between FCDO and DOC
2020	Establishment of IMC (as the replacement of former SCFC)
Feb 2020	Establishment of GIS Technical Working Group
Dec 2019 – June 2022	Project implementation

Project objective

Overall objective of GIS project :

- Support HCMC in achieving the Sustainable Development Goal 11.5: *“By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations”*

TARGET

11.5

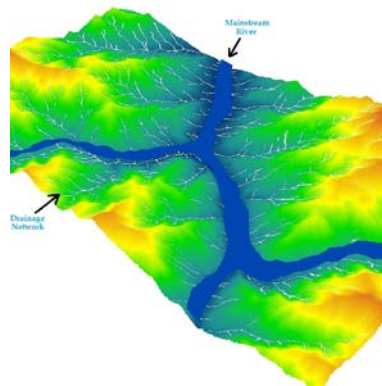


REDUCE THE ADVERSE EFFECTS OF NATURAL DISASTERS



Desired outcomes

- The main outcome of the Intervention is to develop a core GIS platform for the Drainage System in Ho Chi Minh City.
- The core system will be developed with a pilot project implementation in selected areas, capacity building and long-term development strategy and technical preparation to facilitate further integration of future city-wide GIS system
- The project will specifically contribute to a better management of the city's Drainage System and therefore mitigate the negative effects of flooding in HCMC



Expected impacts

The project is expected to have long-term impact on flooding management and control of Ho Chi Minh City, by:

- Improving the quality of the overall Drainage System Management
- Improving the capacity of city to adapt to, mitigate and control floods
- Improving understanding of flood-prone areas and indirectly reducing the number of people affected and economic losses caused by flooding
- Providing comprehensive data to support the decision-making and process of integrated planning
- Hence, transforming the urban management tasks of HCMC

- Overall, increasing the resilience of HCMC by providing the city with a framework for managing flooding through the shared database

Project scope and current status

Task	General description	Current status
Task 1	Review and assess the Drainage System and Flooding Data Management and Applications of GIS in Urban Management in HCMC	100%
Task 2	Define the scope and carry out surveys and measurement on the Drainage Network in HCMC	100%
Task 3	Develop the comprehensive GIS for the Drainage System of HCMC	100%
Task 4	Using the newly-established GIS, develop flood models at selected catchment areas	50%
Task 5	Develop a long-term strategy for GIS of the Drainage System in HCMC and propose an integration strategy with the GIS of the city	20%

Challenges and opportunities

Challenges

- Fragmented data management regarding urban infrastructure and flooding
- Institutional and legal barriers regarding urban management
- Technical capacity of city authorities in system O&M
- Impacts of Covid-19

Opportunities

- Working with international partners
- Integration of GIS dataset into the city-wide system
- Regulations regarding financing for system establishment and operation
- Asset management support
- Integrated planning approach

Thank you for your attention!



Contact

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