

Smart Planning in Mixed Use Agricultural and Industrial Area – A case study in Changhua County, Taiwan

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While the concept of “smart city” has become widely spread in global, many cities have regarded “smart city” as a main goal of development. In Taiwan, the central government has encouraged local governments to develop their own “smart homeland” strategies. According to the definition made by the central government, “smart homeland” means using ICT technique to improve the information capabilities of the governments. The capabilities include a capability of awareness and resilience, a capability of responsiveness and analysis, and a capability of decision making and implementation. This presentation will introduce a case of Changhua County in Taiwan. Changhua government has subsidized by the central government and progressed a project called “Changhua Smart Homeland Planning” since 2016. The goal of the project is to give a plan of future intelligent development for Changhua.

Changhua has its own local particularity. It covers an area of 1,075 km² and most of the area is flat land. Changhua has a population of 1.28 million, which is the most intensive county in Taiwan. Under the advantage conditions of human resources and well location, agriculture industries and manufacturing industries are well-developed in Changhua. However, this has resulted in an appearance of mixed use agricultural and industrial area and has also lead to serious water and soil pollution problems. Changhua government have frustrated with this problem for over decades. Therefore, the problem of mixed use agricultural and industrial are and the serious pollution was selected as a case study in Changhua Smart Homeland Planning.

From the perspective of "smart homeland", the technique of ICT could possibly give an opportunity to Changhua government to find solutions for urgent issues, such as illegal factories located on agricultural land and serious environmental pollution. Therefore, three smart planning strategies are introduced in this project, including a strategy of a spatial planning for the issue of illegal factories, a strategy of an environmental warning system and a strategy of a location planning for long-term care facilities. A cross-sector cooperation is necessary for these three strategies. The cooperation could be more convenient if each sector takes well responsibility of their own system or data.

Although three smart strategies were developed in this project, the development of becoming “smart” in Changhua is still at the early stage. It is recommended that Changhua government take the priority in learning how to use the existing data to solve the faced problem, building a database warehouse for collecting data from different sectors, and improving the information knowledge of officers in the Changhua government.

In this presentation, we will first briefly introduce the results of the Changhua Smart Homeland Planning project. Then we will explain the issue of why the mixed use area problem has become so serious in Changhua. Finally, three strategies of smart planning in Changhua will be described.