

Transition of Osaka in the right bank area of the old Yodo River

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The modern Japan had been planned quantitative improvement by rapid urbanization through a revival development in the post-war and the high economic growth. Therefore, characteristic culture and historical landscapes had been lost with urban development in the metropolitan area in Japan. However, in recent years after the quantitative development settled down in the city, the activity given attention to the city history such as a sightseeing policy and the history education has been carried out for the purpose of substantial and activation in city. Thus the interest in history is increasing in modern Japan. On the other hand, the utilization of GIS becomes more familiar to the public, because geospatial information technology has spread rapidly in recent years which are in the period of maturity as an information society. Especially, the utilization GIS is effective for the historical research, because it can process long-term and enormous information like transition analysis.

Osaka was prosperous as the Aqua Metropolis in Edo period, and has become the city crowded with public transport and high-rise buildings in Kansai area at present. Although Osaka was one of the three capitals with Edo and Kyoto in the Edo period, the study of urban transition in Osaka is not enough. In this study, the authors are trying to grasp the urban transition focusing on the old Yodo River in Osaka based on the collected historical materials by using GIS. And they are going to recognize again the existence of characteristic urban space around the old Yodo River which disappeared in the urban transition, and to aim at creating it again as historic value becoming attractive of Osaka.

It becomes necessary to arrange the long-term change efficiently in the study of urban transition. Therefore the authors decided to use the topographical map for six terms in this study every approximately 20 years from the middle of Meiji when the urbanization began. The expanded process of urbanization was expressed by extracting the streets around the old Yodo River from this topographical map. As a result, in the right bank area of the old Yodo River, the authors grasped urbanization progressed around the Osaka Station established in 1874 and along that river, and urban development is almost over in the early Showa period. While the urbanization was expanding, the new Yodo River was dug with repairing the Nakatsu River located in a northern part of Osaka City, and new canals could be found in the south of Osaka Station.

At the same time, the reconstruction of buildings in the built-up area was repeated in addition to the expansion of the urbanization by the long-term urban development. Then, the authors extracted the key buildings which were deciphered from a topographical map to catch changes in the built-up area, and they tried to grasp the land usage pattern. As a result, approximately 40 buildings were extracted at the Taisho period, and the most of them were historical buildings and factories. And the authors found that those extracted sites had been mostly changed into parks and residential quarters. Moreover, they tried to find the beginning time of urbanization and the changing time of land usage pattern. Buildings began to increase in the late Meiji period, and the land usage pattern started to change in the early Showa period.

Also, the authors try to compare the present cityscape with the old photo, because the change of the land usage pattern in the built-up area affects the landscape.

At the present stage of this study, the authors clarified the partial urban transition in the right bank area of the old Yodo River after the late Meiji period. In the near future, they are going to grasp the changes in each district in both sides of the old Yodo River in consideration of bridges which are the keys of cityscape and traffic in Osaka, and to simulate the cityscape in transition based on 3D urban model by using GIS and CAD/CG in integration.

Keywords: urban transition, the old Yodo River, urbanization