

Parik Wohsae 2012: Land Use Impact on Flood Capacity for Rural and Agricultural Conservation area in Eastern Bangkok : A Study of the Area along Suwinthawong Road. Master of Urban and Environmental Planning, Major Field: Urban and Environmental Planning, Department of Urban and Environmental Planning. Thesis Advisor: Associate Professor Eggarin Anukulyudhathon, Doctorat d'Urban. 204 pages.

The purpose of this research is to identify strengths and weakness of rural and agricultural conservation area in Eastern Bangkok, study of land use pattern and their effects on water drainage system and to propose a land use guideline for maintaining catchment and drainage area by using the area along Suwintawong road as a case study.

The result shows that the area along Suwintawong road, Saen Saep Subdistrict, Minburi District, is a lowland area located between Chao Phraya and Bang Pakong River. The area has an average ground lever of 0.05 meter above sea level and has been identified as a catchment area. However, due to economic growth, the land use has changed from agricultural to residential, business and industrial, which decreased the number of catchment s and prevent the flow of water. The result from calculation by using Manning Formula shows that the area has capacity to contain 2,081,145.00 cubic meter of water and capacity to drain 427.68 cubic meter of water per second. When calculated runoff coefficient based on land use data in 2004 and land use data in 2007, found that the average value of runoff coefficient in 2007 has increased 0.006 percent and the catchment area has decrease 3 percent from the year 2004. The results from the questionnaire on the reason to buy a property and their satisfactory in the area show that 35 percent of the sample group choose to buy the property in the area because its low property value, 13 percent choose for its good environment and close to work and most of them are satisfied with their property and want to live in the same area even though there is a risk for flooding. Therefore, there should be a flood prevention systems for agricultural lands and a farmer income guarantee to promote agricultural land use and to protect catchment areas, a limitation on building construction to prevent water blockage, a reservoir to replace a catchment area that has been filled by buildings and landfills and a continuous buildings setback line with an appropriated distance along the canal to prevent narrowing channel and the government should establish the water retention to increase capacity to store water as to maintain the main character of the area by renting a land from private sector or use Land Compensation Act.

---

Student's signature

---

Thesis Advisor's signature