

Land use change of Hlaingthayar township, Yangon

HARUYAMA, Shigeo^{1*}

¹Mie University

This study is an attempt to highlight the land utilization development of Hlaingtharyar Township, one of the recently-built new towns in the suburbs of Yangon City and to check the drinking water quality condition for the new housing development area and industrial zones. Based on the assessment with relevant statistical methods and Geographic Information System, the resultant values are presented with diagrams and maps. The chief finding of this research work is the rapid development of the study area among the new towns of Yangon City because of its advantageous of geographic location and the presence of relatively larger industrial zones. The chief finding of this study is the rapid land use changes of the study area among the new towns of Yangon City because of its advantageous of geographic location and the presence of relatively larger industrial zones. When Hlaingtharyar Township was constituted in 1989, it had only 2,765 persons. After residential land plots were allotted, the population increased rapidly from 148,898 in 1994 to 391,765 in 2009, but slightly decreased to 374,698 due to the exclusion of people eligible for voting living outside the township. Comparatively the growth rate and the number of population of Hlaingtharyar Township are much greater than all the other newly built townships on account of locational advantage linking Yangon City and Ayeyarwady Division by the newly constructed bridges and roads. The rapid population growth implies to some extent, the improvement in the land use conditions of the study area. All the nine major types of land use including land use for primary production exist in this township. Unlike most other townships, the proportion of land use for industry is relatively high with 26.54 % due to the presence of industrial zones. Consequently 63.97 % of workers are engaged in the manufacturing sector, compared with 3.95 % in the government services sector and 10.47 percent in the trade and commerce sector. The average per capital income is Ks. 4,816 which is equivalent to a little over US \$ 5. With this indicator, it is well above the level of poverty measured by the UN's indicator of poverty. Although the township has more modern style multi-story residential buildings due to the presence of several housing projects, a greater proportion (43.63%) of houses are huts which appear slummy. Generally the pace of land used development is fairly high for a new township in the vicinity of Yangon City because of the presence of industrial zone which is the largest in Myanmar and due to its advantageous location as a gateway from Yangon City to the Ayeyarwady deltaic region. In this study, the large amount in calcium Ca²⁺ and sodium Na⁺ concentrations in the groundwater samples from the study may theoretically reflect local mineralogical changes in the sediments and in the carbon dioxide produced by biological processes in their surface layers. The high nitrate NO₃⁻ concentration in the water samples indicates that the shallow aquifer near industrial zone is already challenged by the problem of pollution. The high EC value is directly affected by tidal effect of river water from Panhlaing River.

Keywords: land use change, population growth, urbanization