



A study of how floods affect urban land use based on Akurana urban area

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Abstract

Flood is the most affecting natural disaster in Sri Lanka among the natural effects of seasonality. Therefore, in the face of the rapid urbanization in Sri Lanka, floods can be identified as a major disaster situation. The main objective of this study was to identify the urban land use pattern for flood effect. Akurana town which is located in Akurana divisional secretary division in Kandy district is the area which was selected as the study area of this case. Piga Oya, one of the main branches of the Mahaweli river flows through the Akurana town. Because of the river overflows several times per year, the day to day activities and economical activities of people who lives in Akurana urban area are collapsed in those periods. And also it stops completely the transportation in A9 road at that period. So Akurana, Waragashinna, and Kurudugahaela areas also should include as affected areas. Collected data using 30 residences and businesses in these four Grama Niladari Divisions as samples by giving questionnaires using random samples method. Interviews have done with Grama Niladhari and disaster management officers. Secondary sources were books, magazines, newspapers, annual reports related to this case and the internet to collect data. These data were then revised, coded, and sorted. Then analyzed and mapped in quantitative and qualitative methodology to detailed and simple statistical methods. Microsoft Office Excel, Geographic Information System was used. The main finding of this research was exposure to the soil and erosion of the soil due to constructions of both sides of the area, erosion of river banks due to irregular land use, clearing of forests in upper mountain areas and reclamation of banks of Piga oya, irregular construction of bridges, releasing the garbage to the river are the reasons for block of the river. Basically, because of the variabilities of urban land use, this situation has improved. So when the overflowing the river with the rain the Akurana town is flooding about 5-8 feet. The Muslim people who live in this area are don't follow any rule imposed by the government. Therefore, irregular land uses are high in this area.

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