

CONTROL OF SETTLEMENTS IN UNSUITABLE LANDS: WITH SPECIAL REFERENCE TO RATNAPURA DISTRICT

Sandhya Bambarand

GIS Division, Urban Development Authority, 7th Floor, Sethsiripaya, Battaramulla, Sri Lanka
Email: bambarands@gmail.com

Abstract:

The spread of settlement on land to suburban and rural areas *outside* of their associated urban centres is one of the most important characterizations of sprawl with identifiable multiple defining characteristics such as low density, increasing spread, pattern of settlement expansion, form and designs of buildings as well as four major combination factors in measuring sprawl: development density, land use mix, activity centring, and street network accessibility. The negative results are much heavier in settlement sprawl specially when it occurred in unsuitable lands such as flood inundation areas, land slide prone areas, steep slopes, environmentally sensitive areas etc.

Main objectives of this research study are to examine the vulnerability of existing settlements justifying the authorities in need of controlling the rate and trend of future sprawling impact to safeguard the potential losses settlement further expands as against sustainable urban development of the country.

The study area covered Rathnapura, Elapatha, Pelmadulla and Kuruwita DSDs of Rathnapura District covering 73246 ha.

Vulnerability Index Analysis method applied using geographic information system (GIS) techniques with associated software facilities to analyse the data collected from various sources and produced the key results.

According to the aggregate vulnerability levels about 30.0 percent of the total area of 73246 is having very low and low level of vulnerability for combined impact of the factors considered. About 58 percent of area is moderately vulnerable and 11.0 percent of the area is exposed to either very high or high vulnerability for the combined impact.

Out of the total population of 338,038 about 54.0 percent or 182,433 people were exposed to any of these disasters. Only about 28.0 percent population are living in more appropriate safer locations within the study area. Approximately 17.7 percent of population are exposed to high or very high vulnerability as per the aggregate values generated through the vulnerability index.

On the basis of the total number of buildings located within the area nearly about 54.0 percent or 46,744 buildings are exposed to moderate vulnerability within the study area and about 28 percent or 25,000 housing units are located in safer locations. About 15,000 buildings or 17.5 percent are highly vulnerable to unsuitable land forms according to the aggregate analysis made by the study.

Settlements/ Vulnerability/ Landslides/ Floods/ Environment Sensitivity