Spatial and Temporal Land Use Changes of Coastal Zone in Sri Lanka : A Study Along the Northwest Coast Belt

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This research describes the temporal and spatial changes in land use in the northwest coastal region of Sri Lanka. The main study problem is whether the land use of the coastal zone of Sri Lanka varies temporally and spatially. The main objective of the study is to identify the temporal and spatial variation of land use in the Northwest Coastal zone. This is an inductive research approach. For primary data collection, structured questionnaire method, quantitative and qualitative data collection through interviews and field survey and secondary data collection through secondary sources were used. As the study area, the 300-meter buffer zone from the shore towards the land of the ten Grama Niladari Divisions on the coastal border of Wennappuwa Divisional Secretariat has been selected. The total sample is 100 as per simple random sampling method. GIS, SPSS and spreadsheet softwares were used for data analysis. According to the data analysis, there have been temporal and spatial changes in land use in the Northwest Coast zone. Compared to 2008, the total area has increased by 7% in 2018 and by 12% in 2023. The time required for rapid land use change in this area is short. In the year 2023, instead of the abundant coconut plantation in the area, gardens have been created. Road density and building density have doubled compared to 2008. Thus, physical factors have a direct effect on land use change and human factors have a direct and circular effect. In the future, coastal areas near Maha Oya and Ging Oya may be submerged by sea water. Being a coastal area, this change cannot be completely stopped, but various sustainable strategies can be used to control it.

Key words: coast, land use, temporal, spatial, Northwest