

Growth potentials of Polgahawela Town as a service center

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Cities become the transit hubs in most of the countries due to the accumulation of many essential services around them. Polgahawela is identified as one of the transport hubs in Sri Lanka as it facilitates access through both railway and road transportation. Therefore, a study was carried out to identify the temporal and spatial growth of Polgahawela urban area selecting 12 Grama Niladhari Divisions (GNDs) which are under the administration of Urban Development Authority in Polgahawela. Land use maps (2003 – 2019) which were prepared using Google Earth and Arc GIS 10.1 software were used as secondary data. The results of the study depicted a decline in paddy cultivation from 17% to 14% in the urban zone and a slow growth of 0% -2% in built-up areas. The results of NDVI, NDBI and LST calculations done using Landsat 8 satellite images (2015 – 2019) and Arc GIS 10.1 software enabled to detect the fact that the city periphery has the maximum NDVI values and lowest NDBI values. The study observed that the service centers are spread parallel to A06 and A19 main roads leading through Polgahawela. Urban filtering process, development of the nearby towns, the division of polgahawela town into two segments, the unplanned urbanization, and political and social factors were identified as the main factors for the slow growth of Polgahawela town.

Keywords: *NDVI, NDBI, Polgahawela, growth potentials*