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**SATELLITE REMOTE SENSING FOREST MANAGEMENT IN SELANGOR RIVER BASIN AREA FROM 1990 TO 2020****1990年至2020年雪兰莪河流域地区的卫星遥感森林管理**Syed Muhammad Iqbal Sayad Romli <sup>a,\*</sup>, Illyani Ibrahim <sup>a</sup>, Azila Ahmad Sarkawi <sup>a</sup>, Kamal Solhaimi Fadzil <sup>b</sup>,  
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Jalan Gombak, Selangor 53100, Malaysia, [syediqbaliium@gmail.com](mailto:syediqbaliium@gmail.com), [illyani\\_i@iiu.edu.my](mailto:illyani_i@iiu.edu.my), [azila@iiu.edu.my](mailto:azila@iiu.edu.my)<sup>b</sup>Department of Anthropology and Sociology, University of MalayaJln Profesor Diraja Ungku Aziz, Kuala Lumpur 50603, Malaysia, [kamal@um.edu.my](mailto:kamal@um.edu.my)<sup>c</sup>Department of Geography, University of MalayaJln Profesor Diraja Ungku Aziz, Kuala Lumpur 50603, Malaysia, [adelineadura@um.edu.my](mailto:adelineadura@um.edu.my)<sup>d</sup>Institute of Ocean and Earth Sciences, University of MalayaJln Profesor Diraja Ungku Aziz, Kuala Lumpur 50603, Malaysia, [azizans@um.edu.my](mailto:azizans@um.edu.my)*Received: April 5, 2021 ▪ Review: June 11, 2021 ▪ Accepted: July 8, 2021 ▪ Published: August 30, 2021**This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>)***Abstract**

Forests are the primary ecosystem on earth that preserves natural resources. This paper aims to identify the forest loss percentage in the Selangor River Basin areas from 1990 to 2020. The objectives are to analyze (i) the pattern of forest loss in the Selangor River Basin area and (ii) the land-cover changes in the study area using a change detection analysis. Datasets of four clear cloud images were based upon to produce the land-cover map and identify the forest loss. Landsat images were employed to detect the land-cover changes. The Landsat images' methodology of land-cover classification was unsupervised pixel-based classification methods using maximum likelihoods. The specific land cover includes forest, built-up area, bare land, vegetation, water bodies, and cloud. The result showed that the forest areas decreased from 108546.93 hectares in 1990 to 70239.33 hectares in 2020, representing a class change of 17.05 percent. A drastic increase was also noted in the built-up area from 1407.51 hectares in 1990 to 43128.27 hectares in 2020, and this category of land cover increased by 18.56 percent over the 30-year timeline. The factors contributing to the forest loss include anthropogenic factors as the most important cause of land cover change. Urbanization, a lack of forest guards, and a failure to implement policies were all identified as human activities causing the loss of the forest and the rise of the built-up area. A DPSIR framework was produced to provide the relevant indicators and allow policymakers to contribute input on environmental concerns of the future impact in policy development. This framework act as a contribution in efforts to conserve natural resources through policy formulation.

**Keywords:** Forest, Land Cover Analysis, Remote Sensing