

**SITE SUITABILITY FOR NEW PARK AREA:
PLAYGROUND**

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ABSTRACT

Green spaces play a crucial role in regulating global temperature. Without these areas, Earth's temperature would become increasingly difficult to manage. Over time, uncontrolled development has led to a reduction in green spaces. Today, countries worldwide face the challenge of stabilizing Earth's temperature to prevent rapid increases, as global warming poses significant threats not only to ecosystems but also to human populations. Elevated temperatures can lead to accelerated melting of icebergs, resulting in various natural disasters such as forest fires, floods, and potentially catastrophic inundation of land areas. To address these issues, it is essential to expand green spaces, such as new park areas. These additions not only help mitigate temperature rise but also offer substantial benefits to residents. Green spaces contribute to physical health, enhance mental well-being, and provide a revitalizing environment. The presence of plants improves air quality by increasing oxygen levels and reducing pollutants. Geospatial technology facilitates the identification of suitable locations for new green spaces by offering a range of analytical tools. These tools simplify the process of determining optimal areas for park development, thereby supporting efforts to improve environmental and public health.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

Development is becoming more rapid day by day, whether in urban or rural areas, in developed countries, or in developing countries. This development is also in line with economic development and the increase in the human population around the world. There is a lot of demand for development, such as for industrial construction, housing, infrastructure, and learning. In parallel with that, the demand for labor also increases, which causes those who are outside the city to come to the city to improve their family's lives. In addition, this development will also cause rural areas to develop, and it will cause a percent decrease in green areas. When green areas decrease, it will cause greenhouse gases to increase and increase the temperature of an area, especially urban areas, due to poor air circulation due to rocky and high areas (Rendana et al., 2023). The lack of green areas in the city also causes a lack of gas exchange rates from greenhouses to oxygen gas. transportation and industrial activities will release a lot of greenhouse gases (GHG), such as carbon dioxide (CO₂), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and carbon monoxide (CO). These polluted gases will fill the world and urban areas, then increase the land surface temperature (LST), leading to the urban heat island phenomenon (UHI) (Rendana et al., 2023).