

English Summary

The thesis addresses the topic of "Spatial Analysis of Electoral Centres in Qalyubia Governorate: A Study in Political Geography Using Geographic Information Systems (GIS)." Qalyubia is one of the governorates of the Arab Republic of Egypt, administratively composed of 9 local units for centres and cities, 48 rural local units, with 197 villages, and 912 hamlets and estates. In terms of electoral districts, in 2020, the governorate was divided into 6 electoral districts, encompassing 542 polling centres and 674 sub-committees.

The study in the first chapter focused on analysing the electoral district map of 2020. It examined the nature of electoral districts, the criteria for their determination, the geographical distribution of the districts, and their characteristics in terms of area, administrative components, boundary lengths, shape index, population size, and number of voters. Additionally, it explored the geographical distribution of the districts according to their sizes.

The second chapter focused on the geographical distribution of polling centers at the level of electoral districts and urban settlements. It classified the polling centers according to the type of building. The chapter also analyzed the overall density of polling centers and their sub-committees, the distance between polling centers, and the degree of extremity in the sizes of polling centers and sub-committees.

The third chapter examined the rate of change in the sizes of polling centers between the parliamentary elections of 2015 and 2020. It analyzed the variation in the size of polling centers across rural and urban areas of the governorate and urban settlements, as well as determining the sizes of the sub-committees.

The fourth chapter focused on identifying the spatial influence of polling centers by applying several spatial analyses using the ArcGIS 10.8 software. These analyses included the Average Nearest Neighbor Distance, Buffer Zone, and Standard Distance.

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The fifth chapter aimed to assess the voting efficiency of the polling centers by analyzing voter turnout rates at the level of electoral districts, urban settlements, and polling centers. It also examined the geographical distribution of voting at the level of polling centers.

The sixth chapter focused on measuring the indicators and levels of voter satisfaction with polling centers in Qalyubia. This was done through several indicators, including the distance between the voter's residence and their assigned polling center, the time taken for voters to cast their votes, the means of transportation used to reach the polling center, and the time taken to reach the polling center. Additionally, the chapter measured the levels of voter satisfaction with the performance of the polling centers and proposed a model for the distribution of polling centers in Qalyubia Governorate.