DISTRIBUTION OPTIMIZATION OF ELEMENTARY SCHOOL EDUCATION (SD/MI) BASED ON SPREAD PATTERN OF SETTLEMENT IN NGAWI DISTRICT

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Abstract

The fundamental problem of the distribution of elementary school education in Ngawi district lies on the uneven provision among regions. In addition, the fact that many schools serve students from outside the normative territory indicated to cause the distribution of elementary school education (SD/MI) not in accordance with the needs and characteristics of the settlements in the region.

Nearest neighbor analysis was used to determine the characteristics of the distribution pattern of settlement, quantitative descriptive analysis to determine the balance of the provision of educational facilities, multiple linear regression analysis to determine the factors that influence the distribution of elementary school education, and qualitative descriptive analysis with triangulation techniques to formulate the concept of optimizing the distribution of elementary school education in Ngawi district.

The results showed there are two patterns of settlement distribution in Ngawi district; analysis of needs and availability in some regions showed excessive conditions on 10-year projection period. Factors that influence include accessibility level measured through the length of the street in the settlement are in each sub-district and demographic factors measured through settlement population density in education area. The concept of optimizing the distribution of elementary school education in Ngawi district is as follows: 1) settlement distribution patterns as the basis for distribution of educational facilities services which can reach each area by forming a concept based on the demographics and accessibility of settlements 2) adjustment of the availability of facilities of elementary school education based on needs, optimization of capacity of elementary school education based on the
condition of the facilities and the needs of the surrounding area, and optimization of distribution of educators in Ngawi district. In particular, the concept of optimization in clustered settlement pattern in Ngawi district can be done by regrouping the nearest schools and optimizing of the prioritized study groups. Meanwhile, the concept of optimization in random settlement pattern can be done by regrouping or still by imposing operation with some tolerance. Regrouping the nearest schools in Ngawi district is the ideal choice because, through regrouping, operational costs can be minimized resulting in operational cost efficiencies.

**Keywords:** distribution, elementary school, distribution pattern of settlement