

Vullop Prombang, Group Captair 2010: Potential Surface Analysis for Urban Residential Expansion in Tumbol Khokmakok Municipality, Prachinburi Province. Master of Urban and Environmental Planning, Major Field: Urban and Environmental Planning, Department of Urban and Environmental Planning. Thesis Advisor: Associate Professor Suwattana Thadaniti, Ph.D. 302 pages.

The objective of this research is to study the development of the communities, the important roles of land use and future trend of land use, evaluate site potential and purpose guidelines for community residential expansion.

The result shows that the expansion of residential land use is located along the roads, which has special physical characteristics. From the estimation of the housing demand by estimating the total population growth in the area within five to twenty years (2009-2029), the results showed that the number of housing demand will increase. Therefore, there is a need to evaluate potential future residential growth in order to determine the appropriate vacant lands by using Potential Surface Analysis (PSA) techniques and Geography Information System (GIS) program. The analysis showed that the appropriate residential areas are divided into three levels, which are 1) the most appropriate location covers an area of 5.60 square kilometers, 2) the average location covers an area of 10.48 square kilometers and 3) the least appropriate location covers an area of 5.19 square kilometers. These appropriate lands should be developed as residential areas for the expansion of single family housings within 50-100 square-wa plot of lands pre household in order to decrease the number of housing unit pre land use. Also, this study can be applied on other factors for the potential surface analysis of the urban expansion.

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