The objective of this research is to examine zoning of land use activities for agriculture and to study the agricultural evolution, crop selection in production, type of farmer and their practice of agriculture sustainable in this area. The purposed is to introduce land use alternatives and management for sustainable agricultural activities. Four tools are used for this research, namely an application of geographic information system (ARC/INFO program) for spatial data management and analysis, ALES program for crop selection with suitable land characteristics, agriculture evolution and farmer typology for distinguishing agricultural conditions and indicators for sustainable evaluation.

The results show that highly suitable area for agriculture is approximately 12,743.6 rai (21.9% of total land), moderately suitable land is 8463.8 rai (14.6%), marginally suitable land is 25,881.4 rai (44.5%) and unsuitable land is 11,100.8 rai (19.1% of total land). Most land characteristics compared with selected crops determined that lack of phosphorus, low in nutrient availability (CEC) and slope are limitation to the cropping system. For land use changes, it is found that The forests were convert to corn, vegetable, resort and vegetable over the past 40 years ago. Farmers can be classified in to 3 groups. Group A are self sustaining group B are commercial and group C are integrated farming (vegetable- fruit tree). Farmers in groups A and B are in conditional sustainable level, with scores of 247 and 232 respectively. Meanwhile, farmer group C is in sustainable level of 326 score.

Three catagories for agriculture development are proposed. In terms of conservation requirement, area zoning should classify in to 3 parts such as forest, agroforestry and agricultural zone. In terms of crop requirement, crop types should be matched with land characteristic to decrease limitations. In terms of management requirement for sustainable agriculture, attach marketing must be considered by farmer group A. Increasing of multiple economic crops should be consider by farmer group B and labor factor must be considered by farmer group C.

The result of this study might be useful to help farmers consider and decide to introduce suitable crops for their land. Also the results might be good to prevent land misused and improve environmental and natural resource protection. The data of this study may be useful and should be made available for other research applications