

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

5.1.1 Step of data preparation

First, search satellite photograph data, satellite data Thaichote Pan – Sharpened, including search and collect Geographic informatics data, these data consist of roads, water routes, and boundary of administrative districts. Then, after accumulating data, adjust these data in geometry to be equal coordinates. After that, study features and patterns of abandoned areas in the studying areas and field survey, to study reflective value of using each type of land, to collect sampling plots in all types of land in the studying areas. Next, after collecting sampling plot coordinate scale via GPS, input these data in the pattern of Geographic informatics data. Finally, classify these data with objective classification to divide data into 8 types that are abandoned paddy field, scrub forest and grassland, swamp and marsh, outdoor, abandoned building and construction, agriculture region, community area and construction, and wetland.

5.1.2 Before classifying data, create image that the size depends on specifying parameters that are ratio scale, color or shape scale, and cohesive or smooth scale. After creating image, classifying image under conditions that specify features, wave reflection of using each type of land, Normalized Difference Vegetation Index (NDVI), and brightness, of image. For specify parameters to create image of satellite data, Thaichote, ratio scale is 30; shape scale is 0.1; color scale is 09; dense scale, the same scale of smooth scale, is 0.5. After finishing creating image, classify image. In determining the parameters for creating the image object. THEOS satellite data to determine the scale of 10, the shape is 0.3, the color was 0.7 and the compact flat fold is 0.5, then classify the object image. To create a spatial image data including water and roads helps to create image objects.

5.1.3 Classify data via Algorithm Classification

For classifying satellite photograph data, Thaichote, these data are divided into 8 types that are abandoned paddy field, scrub forest and grassland, swamp and marsh, outdoor, abandoned building and construction, agriculture region, community area and construction, and wetland. Moreover, the image has big pixels that details of roads and water routes are apparent so there is additional water and road classification.

5.1.4 Details of pixels in the image effect on classifying data. For classifying types of using land effectively, increase details of pixels that roads and water routes can be by classified by the method, Pan – sharpened. For properties in diversity of wave length, the difference of properties is not significant that means abandoned areas are divided in the same results because this study uses near Infrared the most. Utilizing near Infrared the most because most areas are soil and plants.

5.1.5 Description of the picture affects data classification. The classification of land use as well. Classified information by road and water. For a variety of properties of the wave can be considered not very different. Isolated areas abandoned as well. For this study, most of the near infrared spectrum, as most. Due mainly to soil and plants.

5.1.6 Results come from the process named Object – based classification of abandoned areas, light reflective scale (spectral analysis), satellite photograph data, Thaichote/THEOS). To specify various wave lengths makes results of data classification accurate in 84.51%

5.1.7 For classifying types of abandoned area via Object – based classification, accuracy of results coming from classification depends on criteria, created from properties of abandoned areas in each type. Accurate percent of classification is the most when type of abandoned areas is outdoor. Statistic of abandoned areas type outdoor calculating wave – based light reflective scale differs from other types of abandoned areas because wave – based light reflective scale of type outdoor is the reflection from soil more than plants. In contrast, other types of abandoned areas are the reflection from plants more than soil and most plants found in these areas is same so wave – based light reflective scale is similar. Accurate percent of scrub forest and grassland, swamp and marsh in classification are the least because

features of wave – based light reflective scale are much similar and it is necessary that the rough and smooth of image be used in classification.

5.1.8 Object – based classification has steps of the data process that are

First, separate image to objective image by determining data of wave length in each pixel and shape, color, cohesion, and smooth of object. Then, specify types of data levels and use wanted data levels for classifying. After that, select sampling areas and check features, reflection of each wave length, NDVI, NDWI, brightness, of sampling object. These features specify condition for objects in each data level. Finally, classify objective images and examine the flawless results of satellite data classification.

5.2 Recommendations

5.2.1 For data classification, the correct results depends on researcher who has knowledge and comprehension in the studying areas as much as he/she can and for sampling collection, researcher collects samples spreading in the entire of the studying areas.

5.2.2 For abandoned area classification in the studying areas, various conditions are used the classification. It is wondered that results are different or same if any conditions are used in the studying areas and these conditions are used in other abandoned areas in field areas, and change time collecting satellite data or pixel details of satellite data. These results are to summarize that when is the best time for collecting satellite data. and which variable is a permanent variable and which variable is a covariate specific in the area.

5.2.3 Results from the study, areas in Phuttamonthon district are appropriate for agriculture in rice fields and using land is always changeable. It is indicated that agricultural areas are mainly changeable, whereas, urban areas are unchangeable and trend of urban expansion increases. Because of factors about features of land possession, drainage system, agricultural vehicles, transformation of using land in area level, plot, can be predicted that most people using land are not possessive to these areas, therefore, they lack the authority to decide in using land. In the present time, areas are utilized to build constructions. The effects of these

transformation make people get trouble about the length of time in the flooding areas is more than the past and the frequency of flooding areas are also more than the past. These troubles come from having constructions such as roads and buildings to obstruct water routes. For this result, there are some suggestions for using land in proper ways along properties of areas that are

- 1) Specify district of using land

For example, agricultural conservative district is to obstruct urban expansion to areas still agricultural areas.

- 2) Operate about agricultural land reform in these areas and people are possessive in their own land.

- 3) Promote to study in other advantageous agricultural activities using water resource effectively or bearing to flood often happening and taking a long time. These advantageous agricultural activities create ways for farmers and are agricultural development.

- 4) Results of the study are in utilization, transformation, factors causing transformation, and effects coming from using land in unsuitable ways for these areas. Related organizations use these results to be fundamental information for solving problems and to be information for deciding to plan policy. For instance, plan area management and plan urban expansion.

- 5) In Amphoe Putthamonthon, there should be a national policy, main factor to cause transformation. This research is not scrupulous so the next research should study about a policy of using land in Amphoe Putthamonthon..

5.3 Expected advantages

- 5.3.1 Classify abandoned areas more quickly and accurately that decreases trouble about creating map data delay for checking with field survey. Create map data more quickly helps follow abandoned areas more quickly.

- 5.3.2 Total information in organizations including field survey information, secondary information, Geometric Informatics data and distant survey data, is used together for cooperating with analyzing and data classifying.

- 5.3.3 Utilizing data having high and low definition pixels.

5.4 Problems and obstacles

5.4.1 If collecting sampling plots of using land does not spread over the studying areas, reflective scale of using land cannot be a good representative.

5.4.2 Data using in analyzing are data in 2 periods, therefore, the accurate data are less than the accurate data in many periods.