CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Research results showed that 30 rectified photography average RMS Error equaled to 0.1675. After arranging mosaic into a big image and rectified again until reaching RMS Error at 0.9770 which was considered acceptable as RMS Error not exceeding 1.00.

The landscape which was classified from the satellite image totaled to 624,170.80 square meters and photos taken from the unmanned aerial vehicle totaled 618,915.13 square meters had similar calculation from adjacent areas after the application of Geometric correction. Therefore, in spatial areas, they are quite similar, however, the landscape in each category showed differences from GeoEye and unmanned aerial vehicles. For instance, buildings had the most spatial differences 25,556.06 square meters, followed by walking site 11,465.84 square meters and the least spatial difference is the bicycle lane with 184.40 square meters

Findings from the use of Overlay Technique to find the overlapped image showed that the landscape classification with 2 most overlapped were car park 20,143.17 square meters, sport 41,129.29 square meters, respectively and the least overlay was walk way 3,838.89 square meters. Total landscape classification with the overlapped was 46.56%.

In order to conduct Accuracy Assessment of landscape classification, random samplings were done in the studied areas assigned 75 points. Interpretation from GeoEye and unmanned aerial vehicles was assessed with overall accuracy 90.66 % and the overall accuracy of unmanned aerial vehicles 86.66%, so the accuracy was well over 80 % of the sampling area.

As for Kappa Index from GeoEye, it was 0.89 and Kappa Index of unmanned aerial vehicles equaled 0.84, both remained between 0.81–0.99 which considered as almost perfect agreement.

From the study on application of unmanned aerial vehicles for urgent landscape classification, the researcher discovered that the unmanned aerial vehicles could be applied for many uses. Judging from accuracy and agreeable scores, one could tell how accurate the photos from the unmanned aerial vehicle and the almost perfect agreement at 0.81–0.99. However, there are problems and adjustment to be corrected and the research would focus on the following recommendations:

5.2 Recommendations

From the study, the researcher recognized the existing problems and obstacles so recommendations to apply results of the study that may benefit the operation, thus reduce the difficulties as follows:

1. There should be the study on the limitations of equipment such as the airplane, different features of airplanes, the width and length of wingspan, the body length, weight and parts of equipment install payload. Therefore, the study should be focused on the operational advantages and disadvantages so each one can be chosen appropriate for the mission.

2. Construct the form for recording the mission with details such as date/time, location, flight, direction, series photo so the mosaic procedure can be done with better understanding.

3. Mosaic photo is the complicated procedures that required numerous pictures, often it creates confusion in the direction and large numbers of pictures. This process can be corrected by using the information above in the form when making judgment, including dividing photos into small subsets. Later, these sets of pictures must be categorized just to avoid being overwhelmed by so many data without knowledge of the origin of the photo, Moreover; these photos can be edited afterward.

4. Flight planning is crucial and must be followed carefully and diligently in every detail because this is the way to insure the success: “The better the plan, the more qualified results”. Besides, it should facilitate procedures and make mission accomplish better.