

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The results of this study could be concluded as the following.

5.1.1 The average total carbon storage in tree-planting area in Lumpini park was 66.10 t ha^{-1} , which consisted of the carbon storage in above-ground biomass, litter fall, grass litter and soil were 34.85 , 2.24 , 0.17 and 28.84 t ha^{-1} , respectively. The mixed plot of *Peltophorum pterocarpum* and *Samanea saman* (LN09) had the highest total carbon storage. The average total carbon storage in turf was 20.93 t ha^{-1} , which consisted of the carbon storage in grass litter and soil were 0.27 and 20.67 t ha^{-1} , respectively.

5.1.2 The average total carbon storage in tree-planting area in Vachirabenjatas park was 79.14 t ha^{-1} , which consisted of the carbon storage in above-ground biomass, litter fall, grass litter and soil were 58.48 , 0.94 , 0.22 and 19.44 t ha^{-1} , respectively. The plot of *Acacia auriculiformis* (VT09) had the highest total carbon storage. The average total carbon storage in turf was 19.44 t ha^{-1} , which consisted of the carbon storage in grass litter and soil were 0.32 and 19.12 t ha^{-1} , respectively.

5.1.3 The average total carbon storage in tree-planting area in the parks was 72.62 t ha^{-1} , which consisted of the carbon storage in above-ground biomass, litter fall, grass litter and soil were 48.48 , 1.49 , 0.20 and 23.53 t ha^{-1} , respectively. While the average total carbon storage in turf was 20.18 t ha^{-1} , which consisted of the carbon storage in grass litter and soil were 0.30 and 19.70 t ha^{-1} , respectively.

5.1.4 Total basal area and total nitrogen were vegetation and soil properties factors that had the highest effect on the total carbon storage in tree-planting area in Lumpini park. The vegetation effected on total carbon storage than soil properties. While carbon to nitrogen ratios was soil properties factor that had the highest effect on total carbon storage in turf.

5.1.5 Total basal area and total nitrogen were vegetation and soil properties factors that had the highest effect on total carbon storage in tree-planting area in Vachirabenjatas park. The vegetation effected on the total carbon storage than soil properties. While total nitrogen was soil properties factor that had the highest effect on total carbon storage in turf.

5.2 Recommendation

5.2.1 For the carbon estimation of the urban parks, they were estimated only for the above-ground biomass, litter fall, grass litter and soil; but not at all for the below-ground biomass of trees and grass, and above-ground biomass of grass. Because of the study will cause damage to the turf, It is not allowed to study in this section. Therefore, the total amount of carbon in the parks are incomplete.

5.2.2 The data collection in litter fall which is collected in a short period of time, not cover throughout the year. It may cause inaccuracies of carbon content in litter fall due to the seasonal factors.

5.2.3 This study was conducted in two urban parks; Lumpini park and Vachirabenjatas park, which is only part of the whole of main parks in Bangkok. Therefore, it should be studied in other parks to obtain more accurate information.

5.2.4 For the further studies, It should be done to estimate the total carbon storage from all carbon sinks in the park (above and below-ground biomass of tree and grass, litter fall and soil), to obtain the total amount of carbon combined with greater accuracy. The estimation of total carbon sequestration from the park should also be explored, in order to contribute to further evaluate the carbon credits.