GREENHOUSE GAS INVENTORIES IN THAILAND

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ABSTRACT

Thailand is one country which has commitments under UNFCCC (United Nation Framework Convention on Climate Change) and Kyoto Protocol as non annex 1 categories. Then, GHG (Greenhouse Gas) inventories report is needed to submit for realizing the carbon equivalent status in Thailand. In this research, the status of carbon equivalent amount in Thailand, as carbon sink and carbon source, was to investigate for reporting in GHG inventory data. Geographically explicit land use data approach, base on IPCC 2006 guideline, using GIS data to analyze was selected to apply in this research. Land use data in 2002 and 2007 were classified into 6 categories as forest land, cropland, grassland, settlements, wetlands and other land. Then, the area of land use change in each category was analyzed. From land use change area, GHG emission was calculated by the new extension of ArcGIS 10 which was developed for this research to understand the location and amount of carbon source and carbon sink. The results reveal that whole Thailand in terms of land use change presented as the carbon source because the carbon absorption was lower than the carbon emission around 86.88 CO_2 equivalent million tones. Among all land use change area, forest area that was not be changed to others can absorb the largest amount of carbon approximately 16.96 CO_2 equivalent million tones, while the area changed to cropland released the largest amount of carbon approximately 63.01 CO_2 equivalent million tones.

Keywords: Greenhouse gas, Data inventory, GIS , CO_2 , IPCC