

Unchalee Phengkhae 2013: Environmental Sustainability Assessment of Existing Buildings: Case Study of Public University Building. Master of Engineering (Civil Engineering), Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Assistant Professor Piyanut Wethyavivorn, D.Eng. 177 pages.

This research objective is to evaluate the status of existing building of public universities in Thailand by using 4 International standards and 2 Thai standards of environmental sustainability of existing building. The research had done by the data collection of 3 case studies of existing building of Kasetsart University and 4 more cases of existing building of another 4 public universities together with the interview of the people who in charge of building maintenance.

The study show that the 32 years old building which had been renovated to be energy conservation building has the best score in assessment while the 2 years newly constructed which no attention and aware of energy conservation maintenance has the lowest score in assessment. The average score of assessment from all case studies by every standard show low score in energy consume and pollution, similarly to the water usages, due to the efficiency of the utility and facility system which follow Thai standard cannot perform up to International standard. But the sustainable site, the indoor environmental quality and building management has high score in average due to the good building and ventilation design of hot climate in Thailand. Problems in building management of public university are that there are no qualified building maintenance person to perform building management, no document filing system, and no support from top management which there is no policy and no budget in building maintenance. It is possible that the renovated building as the energy conservation building with no budget for continuity of building maintenance may get the lower score in the future. The result of the study shall be the guideline in developing the proper building management for university and in addition to it will create awareness in how to develop existing building to have environmental sustainability as the prototype to the society.

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Thesis Advisor's signature