

ABSTRACT

The purpose of this research aims to study the bamboo construction techniques relating to agricultural buildings for organic glasshouses as a simple non-toxic and economical development. The research improves traditional knowledge in terms of constructing wisdom of a bamboo as a foundation for economic development and community self-reliance by strengthening the agricultural community, which has many resources, for instance, a bamboo. In the research area, community district development projects which are located in Nong Bua and Plar Ba sub-districts, Phu Rua district in Loei Province that were analyzed by bamboo construction techniques from the past to the present.

The bamboo construction in Phu Rua and its characteristic of agricultural building that appropriate to the environment were studied in applying related to Bamboo building design for agriculture. The intellectual and cultural heritages were used in the design as well as organic crops in the construction. The buildings have been devised in 6 types, first, Houseplants or flowers has 3 types. 1) Semicircular arches roof 2) Double arch roofs 3) Mushroom house like gables overlap which is separated in 3 types are (1) Greenhouse Mushroom Large (Option 1) (2) Greenhouse mushroom size (Option 2) (3) Greenhouse Mushroom Small (household consumption) with a price estimate of construction per square meter, 207 THB for the construction of the first week. In this case, farmers were constructing by themselves compare to a builder; the constructing price was increased up to 419.50 THB per square meter by 3 days construction (6 workers).

Technology transfer or research goals have been provided by training and practice building organic bamboo construction for 2 days of training session. Lecture and demonstration as well as practice with a mushroom house, 30 people participating built 4 x10 meters. The building is located in the central area of the training in order to share advantage of agricultural groups together.