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**DESIGN OF A GREENHOUSE APPROPRIATE
FOR TROPICAL CONDITION**

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**DESIGN OF A GREENHOUSE APPROPRIATE
FOR TROPICAL CONDITION**

An Undergraduate **DESIGN PROJECT**
Submitted to the Faculty of the
CAVITE STATE UNIVERSITY
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In partial fulfillment
of the requirements for the degree of
Bachelor of Science in Civil Engineering



*Design of a greenhouse appropriate for
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ABSTRACT

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The design project, DESIGN OF A GREENHOUSE APPROPRIATE FOR TROPICAL CONDITION, was conducted at the proponents' residence from October 2000 to March 2001 and was evaluated on February 12, 2001, 4:30 to 6:30 PM at the College of Engineering, Cavite State University.

The objectives of the study were to enhance the knowledge learned in design subject and to design a greenhouse with minimum structural members. It also provides specifications on the types and kind of materials to be used in the construction which are locally manufactured.

Ultimate Strength Design method was considered in the analysis of the design of the structural members of the greenhouse. A detailed structural design, architectural drawings, design specification and total project cost was included in the study. A miniature-scaled model of the proposed greenhouse was then provided after the completion of the design process.

Thorough analysis of the design guidelines, specifications and procedures, as well as the internal forces and moments was necessary in the design of a tropical greenhouse. The parameters used were carefully studied and determined to avoid waste of time and effort.

The project revealed the principles and considerations in designing a greenhouse.

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DESIGN OF A GREENHOUSE APPROPRIATE FOR TROPICAL CONDITION ^{1/}

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INTRODUCTION

The basic reason for building greenhouse structures is when the outside conditions are not suitable for growing plants. Plant growth and economics are the primary considerations in constructing greenhouses.

Greenhouses are used so that the flowers and plants can be produced continuously throughout the year. The basic function of a greenhouse is to provide a protective environment for crop production. For tropical countries, it serves as a protection from direct heat of sunlight and it provides the temperature necessary for plant growth.

As of now, there is no existing native design of greenhouse here in the Philippines. This is the main reason why importing of greenhouse design together with the materials for construction is needed. This will lead the importers to suffer on high