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**DESIGN AND DEVELOPMENT OF A PC - BASED DRIP LINE
IRRIGATION MONITORING SYSTEM**

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**DESIGN AND DEVELOPMENT OF A PC – BASED DRIP LINE
IRRIGATION MONITORING SYSTEM**

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**In partial fulfillment
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Bachelor of Science in Computer Engineering**



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*Design and development of a PC-based drip
line irrigation monitoring system
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ABSTRACT

CARAAN, JOSEPHINE MAGSINO and COSARE, MERCEDITHA ASISTIO. “Design and Development of A PC – Based Drip Line Irrigation Monitoring System”. Bachelor of Science in Computer Engineering. Cavite State University, Indang, Cavite. April 2001. Adviser: Marivic C. Gatan.

The PC - Based Drip Line Irrigation Monitoring System was constructed and developed at Patutong Malaki North Tagaytay City to help lessen the burden of checking the emitters one by one on whether they are clogged or unclogged. The project was composed of the sensors for emitters, sensor interface, interface card, and the computer software. These were integrated to assure that the system is working.

Due to the power failure that occurred at the Central Experiment Station (CES) from where the evaluation of the project was supposed to be conducted, the proponents conducted a preliminary evaluation at the Agricultural Machinery room of the Main Engineering building on the 5th of December 2000 at 8 o’ clock in the morning. A prototype lateral line was used instead.

The final evaluation of the design project took place at the dome – shaped greenhouse for vegetables of the CES on January 10, 2001 at 9:30 a.m. Several questions and comments arose during the evaluation.

In order to determine the efficiency of the project, questionnaires were given to the respondents for them to answer. The statistical analysis of the system suggested that the system had a great advantage over the conventional method of monitoring. The system had performed its function very well.

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DESIGN AND DEVELOPMENT OF A PC-BASED DRIP LINE IRRIGATION MONITORING SYSTEM ^{1/}

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INTRODUCTION

Man's dependence upon irrigation can be traced to earliest biblical references. Irrigation in very early times was practiced by the Egyptians, the Asians, and the Indians of North America. As years passed by, modern ways of irrigation have been developed (Barnes, K.K., et. al., 1981).

Drip irrigation, also referred to as trickle irrigation, is the newest method and the one that achieves the highest irrigation efficiency: about 90% of the applied water is available to the plants. High efficiency is achieved by supplying water to individual plants thru small plastic lines. Water is supplied either continuously or so frequently that the plant roots grow in constantly moist soil (Troch, F.R., et. al., 1980).

Drip irrigation system provides opportunity for efficient use of water because of minimum evaporation losses and only the root zone of the plant is supplied with water.