

**DESIGN, FABRICATION, INSTALLATION, OPERATION AND MAINTENANCE  
OF HYDRAULIC RAM PUMP FOR WATER RECOVERY PROJECT IN THE  
PROVINCE OF GUIMARAS (A TRAINING CUM PRODUCTION)**

**A Special Problem**

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**of the Requirements for the Degree**

**Master of Engineering**

**Joel Jereza Lopez**

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**ABSTRACT**

The establishment of Provincial Training and Enterprise Development Center (PTEDC) is one step in responding to the need for fabrication of pre/post harvest facilities for small producers. Among the major thrust of the Provincial Government is agricultural productivity. To improve agricultural productivity would require improvement of pre production and post harvest facilities that will eventually alleviate the income of poor farmers.

A hydraulic ram or water ram pump is a simple, motor less device for pumping water at low flow rates. It uses the energy of flowing water to lift water from a stream, pond, or spring to an elevated storage tank or to a discharge point. It is suitable for use where small quantities of water are required and power supplies are limited, such as for household, garden, or livestock water supply. A Hydraulic Ram Pump (HRP) is useful where the water source flows constantly and the usable fall from the water source to the pump location is at least three feet.

The simple fact that a ram uses no power opens up a world of possibilities for using water that would otherwise flow on downstream. Ram pumping will never be a major technology comparable with motorized pumping from rivers or hand pumping from boreholes. The expansion in micro-irrigation, and the introduction of locally made ram pump, and apparently first time in the province, will enhance agri-fishery productivity.