HYDROLOGIC AND CLIMATIC STUDY OF CAMEROS COMMUNAL IRRIGATION SYSTEM, ANILAO, ILOILO

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by

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ABSTRACT OF THE THESIS

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The study was conducted from July to October 1984 in Cameros Communal Irrigation System which covered five barangays of Anilao, Iloilo. The objective of the study was to gather and consolidate hydrologic and climatic data which affect the amount and supply of irrigation water so as to serve as theoretical bases for water distribution and rotational plans, assessment of water used and wasted. The study also aimed to have a data on crop water requirement and water availability.

Results showed that irrigation water supplied during the months of August, September and July were 18.59, 16.8 and 15.02 cm, respectively. The peak precipitation occured in the month of September with 33.5 cm, followed by the months of August and July with 24.74 and 17.7 cm, respectively. Water requirements for the months of August, September and July were 18.85, 18.05 and 17.95 centimeters, respectively. The daily average water

requirement was 0.5984 cm or 5,984 liters/ha/day while rainfall was 0.869 cm or 86,900 liters/ha/day. This implies that on the average the amount of precipitation can meet the water requirement of crops with an excess of 0.27 cm/day on the ground surface. The total water supply (irrigation + rainfall) was 1.419 cm/day, which means that about 0.82 cm/day or 82,000 liters/ha/day was applied in excess of the crop water requirement.

The average daily water use efficiency was 42 percent, 30 percent or 0.4344 cm/day or 43,440 liters/day/ha was due to evapotranspiration and 12 percent or 0.169 cm per day or 164,000 liters/day/ha had seeped and percolated.

Water requirement was not significantly affected by irrigation water but affected significantly by precipitation. Regression coefficients indicate that for every 1 cm of water consumed, irrigation increased by 0.299 cm, and for every 1 cm increase in rainfall, water requirement increased by 0.097 cm. The irrigation water decreases significantly by 0.00672 cm for every 1 cm increase in rainfall.

Water supply was sufficient during the period of the study. Floods occured three weeks before and during harvesting. It was also observed that more than 50 percent of the water was lost and used unwisely.

Based on the results of the study, the following

are recommended to minimize water losses:

1. The irrigation association should make a cropping calendar using the data available which will serve as their guide for irrigation practices, that is, what sector or field must be irrigated first;

2. A small farm ditch must be provided to deliver irrigation water from the canal to the different field to eliminate paddy to paddy irrigation;

3. There must be a periodic cleaning and checking of irrigation canals and structures to minimize leakage; and

4. Further study is also recommended with a duration of at least one year to have a complete basis for cropping calendar, and will include drainage data.

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