

**AGROECOSYSTEM ANALYSIS OF BARANGAY BICAL, SCIENCE CITY OF
MUÑOZ, NUEVA ECIJA, PHILIPPINES**

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An Undergraduate Thesis Submitted to the Faculty of the Department of Environmental
Science, College of Arts and Sciences, Central Luzon State University,
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in Partial Fulfillment of the Requirements
for the Degree of

BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE


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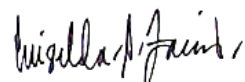
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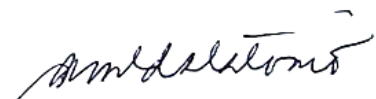

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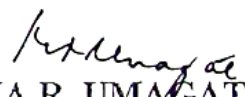

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AGROECOSYSTEM ANALYSIS OF BARANGAY BICAL, SCIENCE CITY OF MUÑOZ, NUEVA ECIJA, PHILIPPINES¹

ABEGAIL E. SANTIAGO

ABSTRACT

Background: Agroecosystem analysis (AEA) was used to find out the current situation of the farms, to evaluate soil fertility status of rice fields, and to determine the sustainability in Barangay Bical, Science City of Muñoz, Nueva Ecija. **Methods:** Secondary data were collected from the different local government offices of the municipality. For the primary data, a total of thirty-six (36) representative farmers were interviewed for LUTs description. Soil samples from each cluster were gathered and analyzed for soil pH, major nutrients (available nitrogen, available phosphorus and available potassium) following the Bureau of Soils and Water Management (BSWM) procedures. Soil texture and soil color of the samples were also determined using Bouyoucos Hydrometer Method and visual comparison using the Munsell Soil Color Chart, respectively. The land capability and crop suitability ratings were determined afterwards. The current land utilization types (LUTs) of the barangay were described. The sustainability was assessed using the three (3) indicators: the productivity, economic viability and ecological soundness. **Results:** The soil fertility status of the rice fields in terms of soil pH ranging from 5.5 to 7.0 correspond to strongly acidic to slightly acidic. The major nutrients such as nitrogen and phosphorus was found to be low to medium while the potassium is sufficient and the soil texture is clay. The land capability rating is IIw-9 and crop suitability rating is S3n. The sustainability indices of the rice farms were low (0.473). **Conclusions:** The overall mean results for soil pH, major nutrients (N, P and K) content of majority of the rice fields were favorable for lowland rice production. This study also found out that the farmers are facing a host of both farm and household-related issues which include limited water supply of Casecan irrigation, calamities, lack of technical farming knowledge, and high input cost.

Keywords: agroecosystem, agroecosystem analysis, sustainability

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