



**De La Salle University - Dasmariñas**  
**COLLEGE OF SCIENCE AND COMPUTER STUDIES**



**FACTORS AFFECTING TECHNOLOGY ADOPTION OF FARMERS  
AND ITS EFFECTS ON SOIL FERTILITY AND RICE YIELD  
IN THE MUNICIPALITY OF SAN MIGUEL, BULACAN**

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## ABSTRACT

In the Philippines, rice is a staple food and enhancing its production is important to achieve food security and rice sufficiency. The country has various initiatives that provide recommendations to enhance agricultural productivity. However, not all these are deemed successful at farm level. This study aims to determine the factors affecting the farmers' decision on technology adoption and its effects on soil fertility and rice yield in San Miguel, Bulacan. The Fishers exact test results showed that among the socio-economic parameters, attendance to trainings is significantly associated with the adoption rate of the farmer respondents ( $p = 0.024$ ). However using T-test, the adoption rate is not significantly associated with 2019 yield ( $p = 0.571$ ). From the 2016 data, it was revealed by using Spearman Rho correlation that among N, P, K, and pH, only pH is significantly associated with yield ( $t = 0.342$ ,  $p = 0.041$ ,  $\text{sig} = 0.05$ ). None of these parameters are significantly associated with 2019 yield. The result of the T-test also showed significant difference between means of 2016 and 2019 yield ( $t=2.478$ ,  $p \text{ value} = 0.018$ ). The average yield is significantly reduced by 845.66 kg/ha from 2016 to 2019. This implies that farm productivity requires site specific good agricultural practices. Continuous application of fertilizers alone do not guarantee an increase in agricultural productivity. It should consider appropriate timing and methods of application, and soil health status. Inappropriate land management practices and socio-economic factors are contributors to land degradation.

*Key terms: technology adoption, agricultural productivity, soil chemical properties, socio economic parameters*



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