International Journal of Society Reviews (INJOSER) e-ISSN: 3030-802X
Vol. 2 No. 8, 2025, pages: 2935~2949

INNOVATION IN AGRICULTURAL ENVIRONMENTAL PROTECTION TECHNOLOGY, CONSERVATION OF PRODUCTION FACTORS, AND SUSTAINABLE AGRICULTURAL DEVELOPMENT

Murjani
Sekolah Tinggi Ilmu Pertanian Amuntai, Indonesia
Email: murjanibjb@gmail.com

Abstract

Technological innovation in the agricultural sector plays an important role in addressing environmental challenges, conservation of production factors, and sustainable agricultural development. This study discusses how modern technologies, such as smart irrigation, precision agriculture, and biopesticides, can protect the agricultural environment through efficient use of natural resources and reduced negative impacts on the ecosystem. In addition, conservation of production factors, including land, water, and energy, is a major focus in ensuring agricultural sustainability. These innovations enable more efficient use of resources, maintain productivity, while minimizing environmental damage. On the other hand, sustainable agricultural development integrates technological aspects with economic and social approaches to ensure farmer welfare and sustainable food production. Environmentally friendly technology plays a role in reducing dependence on chemicals and fossil fuels, and encouraging wise management of natural resources. Thus, technological innovation not only supports agricultural productivity, but also maintains ecosystem balance, ensures resource sustainability, and improves the quality of life of agricultural communities. This study confirms that through the application of appropriate technological innovation, the agricultural sector can become more efficient, productive, and sustainable, meeting global food needs without sacrificing environmental health and the welfare of future generations.

Keywords: Technological innovation, agricultural environmental protection, conservation of production factors, sustainable agricultural development

INTRODUCTION

In recent decades, agriculture has faced increasingly complex challenges. The need for increased global food production continues to increase along with rapid population growth (Yu, J., & Wu, 2018). However, on the other hand, intensive agricultural practices also often have negative impacts on the environment and natural resources. This raises concerns about the