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STUDIES ON AGRICULTURAL SYSTEMS PRACTICED WORLDWIDE

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Abstract: Studies on agricultural systems practiced worldwide highlight the diversity of agricultural production models and their impact on the environment and society. The authors of this paper analyze the main agricultural systems practiced worldwide, highlighting their characteristics in the context of sustainable development. Conventional agriculture, based on intensive mechanization, the use of chemicals, and monoculture, has contributed to increased production, however it has generated negative effects on soil, water, and biodiversity. In contrast, extensive agriculture, frequently practiced in subsistence farms, uses limited resources, with low productivity and reduced efficiency. Alternative systems, such as biological, organic, natural, and biodynamic agriculture, promote the use of natural resources, the reduction of chemical inputs, and the maintenance of ecological balance, while providing high-quality products. Precision agriculture represents a modern approach, based on advanced technologies, that enables the monitoring and optimization of production factors, contributing to increased efficiency and reduced environmental impact. In this context, sustainable agriculture emerges as an integrative model that aims to promote the responsible use of resources, environmental conservation, and the assurance of stable, long-term production. Therefore, the selection and combination of these systems depend on local conditions and on the economic and environmental objectives that are being pursued.

• Introduction

People have always depended on agriculture, as it provides them with the food, raw materials, and resources they need. **Agriculture** can be defined as the primary field of soil and plant cultivation, as well as animal husbandry. In this regard, a variety of agricultural systems have developed over time and are practiced internationally. Depending on the region and land, farmers use **various types of agricultural systems**, starting from traditional methods to the most advanced, such as integrated, precision, or organic agriculture.

Over the centuries, farm work – and, by extension, agriculture – has undergone significant evolution and development. This is due to progress made across all domains, particularly in the field of technology. In an effort to streamline and mechanize work as much as possible, society has always sought the most useful and efficient solutions to achieve the best and most productive results. This is also evident in the agricultural sector, where farm work can be carried out more easily using technology.

An important factor to consider is **each country's level of economic development**. Based on this, farmers choose which agricultural system to adopt. Developed countries will always opt for an advanced, precision-based agricultural system that utilizes high-quality technologies, leading to an efficient process of soil cultivation. Less developed countries opt for a more conventional, traditional agricultural system, in line with the level of economic development of the country and the region. Therefore, we must focus on **agricultural systems that are efficient but implemented in a sustainable, long-term manner and capable of standing the test of time**.



• Material and method

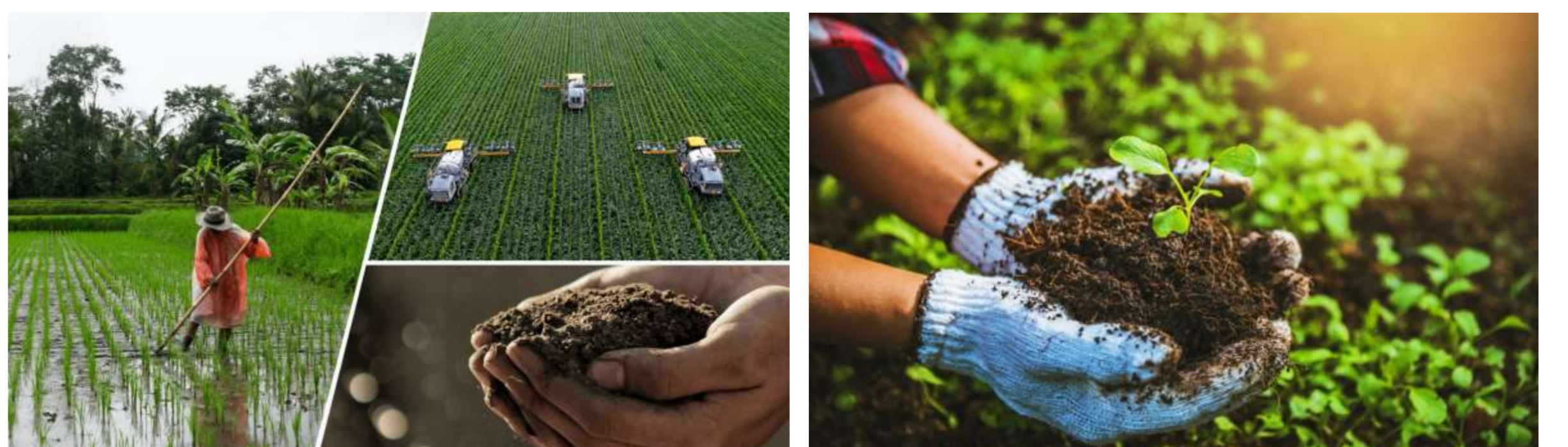
This paper aims to analyze the main agricultural systems practiced worldwide, starting from traditional methods to those based on advanced technologies. Furthermore, based on this analysis, the study offers recommendations regarding the best agricultural systems that should be promoted to ensure a clean, pollution-free environment and to support sustainable agriculture that takes future generations into account.

The primary method used in this paper is a bibliographic analysis of the specialized literature in this field of research, particularly scientific articles identified in international databases such as Google Scholar, Web of Science, and Scopus. Following this analysis of the specialized literature, the paper examines the main agricultural systems practiced worldwide, emphasizing and recommending those that are sustainable and environmentally friendly.

• Results and discussions

Agricultural systems serve as the direct link between climate and crops. All climatic conditions have a direct impact on soil and crops [7]. Therefore, a detailed and concise understanding of agricultural systems is necessary. There are many such systems. They are practiced around the globe and differ precisely because of variations among regions, countries, landforms, and the resources available to farmers. Agricultural systems worldwide range from the simplest (subsistence agriculture), which is the most widespread and common, to the most advanced, which rely on technology and mechanization and achieve much higher yields than traditional systems.

Subsistence agriculture, also known as traditional agriculture. It is practiced worldwide, as it represents the form of agriculture carried out on small family land, right in people's households. **Conventional agriculture** emerged with the aim of cultivating larger areas of land while relying on traditional farming methods. **Intensive agriculture's** goal is to meet the needs and desires of consumers by ensuring the availability of a wide range of products throughout the year. **Integrated agriculture** is a sustainable approach that involves a well-thought and rational process designed to minimize harm to the environment. **Organic agriculture** can be considered an agricultural system that aims to produce high-quality products, even if in smaller quantities. **The biodynamic agricultural system** aims for production that is as natural as possible, without pesticides or harmful fertilizers. **Precision agriculture** uses modern technologies to produce crops of the highest quality and greatest resilience, and with the help of these advanced technologies, farmers can analyze the entire cultivation process. **Sustainable agriculture** aims to restore crops in a rational and sustainable manner, ensuring continuity without destroying the soil, flora, and fauna, and taking future generations into account. In this regard, **sustainable agriculture is the approach that is both desirable and recommended for farmers to adopt, as it offers hope for the future**.



• Conclusions

Conclusively, we can clearly see how important the agricultural system used by farmers is. Although some agricultural systems are more efficient and meet the needs and desires of a growing population, they can be harmful to human health and the environment.

In order to protect the environment as much as possible, sustainable agriculture is the best approach farmers should adopt. It focuses on cultivating the soil in a responsible and mindful way, with the goal of producing crops that are as natural as possible.