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THE IMPACT OF EDUCATION ON THE SUSTAINABLE DEVELOPMENT OF AGRICULTURE

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Abstract: Considering the increasing need for a sustainable approach to agriculture, this paper explores how education can contribute to improving practices in agriculture to achieve economic, environmental, and social sustainability. Through the analysis of relevant literature and collected data, various aspects of this complex issue have been examined. Based on the collected data, it is concluded that education plays a crucial role in promoting sustainable development in agriculture. Further research and implementation of effective educational programs are essential to support the transformation of the agricultural sector towards more sustainable practices. This paper provides a basis for the development of policies and support programs for education in agriculture, as well as for identifying areas for further research and interventions to enhance the sustainability of the agricultural system

• Introduction

At the global level, achieving sustainable development is a key priority that requires aligning economic, environmental, and social development goals, with the support of appropriate institutions. Understanding new agricultural techniques, using digital tools for crop monitoring, implementing precision agriculture, and applying agrotechnological innovations can significantly improve the productivity and profitability of farming operations. Additionally, farmer education fosters critical thinking and analytical skills necessary for decision-making in changing market conditions. Farmers who continually educate themselves have greater flexibility and can more easily adapt to the challenges of modern agricultural business. It is important to emphasize that education should not be a privilege reserved for a few but should be accessible to all farmers, regardless of their socioeconomic status or geographic distribution. Investing in farmer education can have long-term benefits for the entire agri-food and agri-input industries, contributing to global food security. Education plays a crucial role in transforming the agricultural sector into a more sustainable and efficient production model. Through continuous learning, farmers can enhance their skills, apply the latest advancements in agriculture, and contribute to the long-term sustainability of this vital sector.

• Material and method

This study employs a combination of descriptive literature analysis, review of existing research, and collection of new data through surveys to explore the impact of education on sustainable development in agriculture. The research methodology is structured in three basic steps.

Descriptive literature analysis: The first step in methodological framework of this research was a descriptive analysis of relevant literature related to the role of education in sustainable agricultural development. Through this analysis, various aspects of education in agriculture were explored, including educational programs, training approaches, the effects of education on farmers' practices, and the findings of existing research. This literature analysis enabled the identification of key themes and the formulation of questions for the survey and data collection.

Review of existing research: Following the descriptive literature analysis, a review of existing research addressing the impact of education on sustainable development in agriculture was conducted. Through this step, the results of previous research were analyzed to identify trends, gaps, and open questions in the existing literature. This review provided an understanding of the existing knowledge and identified gaps in the literature that were further explored through data collection and research question formulation.

Collection of new data: The survey questionnaire was designed based on the literature review and previous research. The study was organized to allow deeper analysis of themes identified through the surveys, as well as the collection of qualitative data on farmers' perceptions, motivations, and perspectives. These new data were analyzed using both quantitative and qualitative methods to identify key findings and conclusions that support the research objectives.

The study involved 89 respondents (farmers) from the territory of the Republic of Serbia, including 56 males and 33 females, of various educational backgrounds and ages.

• Results and discussions

The analysis of literature and review of existing research provided insight into the key factors and effects of education on sustainable development in agriculture. The review of existing research offered a glimpse into diverse results and findings regarding the effects of education on the knowledge, attitudes, perceptions, and practices of farmers in various contexts and geographical areas. Survey results indicated that the majority of farmers recognize the importance of education in agriculture and believe that education can contribute to improving their practices. Specifically, 73% of respondents agreed that education plays a crucial role in enhancing agricultural practices to achieve economic, environmental, and social sustainability. Additionally, 68% of respondents expressed willingness to participate in educational programs and activities to enhance their knowledge and skills.

Moreover, 85% of respondents expressed the need to tailor educational programs and activities to the specific needs of farmers in their local communities. Furthermore, 72% of respondents support the idea of strengthening collaboration among governments, educational and research institutions, and agricultural associations to support the implementation of tailored educational programs and promote sustainability in agricultural production.

• Conclusions

This study has explored the role of education in improving practices in agriculture to achieve economic, environmental, and social sustainability. Through literature analysis, review of existing research, and collection of new data via survey questionnaires, various aspects of this complex issue have been investigated.

Based on the data collected and literature analysis, we conclude that education plays a crucial role in promoting sustainable development in agriculture. Research results show that the majority of farmers recognize the importance of education in agriculture and express willingness to participate in educational programs and activities to enhance their knowledge and skills.

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