AI4Agri

Developing green and digital skills towards AI use in agriculture

Project Number: 2023-1-PL01-KA220-VET-000160825

Erasmus+

KA220-VET - Cooperation partnerships in vocational education and training

WP2:

WP2: Connecting AI with Agricultural sector:

current status and needs assessment

A.2.2.: Needs Assessment Survey National Report Cyprus

Developed by

OMNIA

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Executive Summary

This report presents the findings of the needs assessment survey for Cyprus conducted with agricultural workers and existing and potential entrepreneurs in order to identify current skills need on AI applications and tools and potential ways for workforce engagement on the agricultural sector in utilizing these technologies. Additionally, the report includes a brief introduction and a section dedicated to conclusions and recommendations.

Introduction

The AI4Agri Project aims to enhance awareness, knowledge, and practical understanding of artificial intelligence (AI) within the agricultural sector. By promoting the adoption of digital technologies, the project supports sustainable farming practices and contributes to the European Union's broader goals of environmental protection and climate resilience.

Through targeted vocational education and training, AI4Agri seeks to equip agricultural workers and entrepreneurs with the necessary skills to integrate AI tools effectively into their daily operations. This approach fosters innovation, improves productivity, and encourages the development of data-driven solutions for modern agricultural challenges.

This report focuses on the perspectives of agricultural workers and potential entrepreneurs in Cyprus, presenting findings from a survey that explores their knowledge, experience, and training needs related to AI technologies. The results aim to identify existing gaps and provide guidance for future initiatives that advance digital transformation and sustainability within the agricultural sector.

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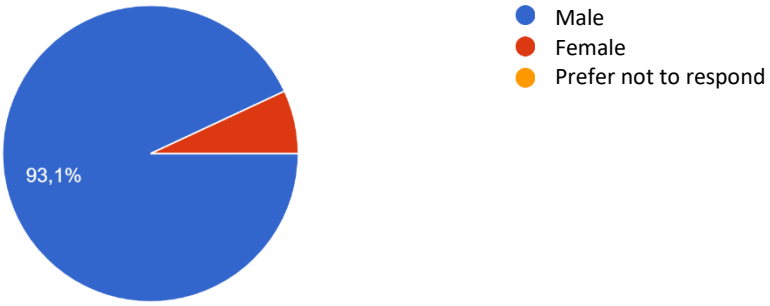
Results and Discussion

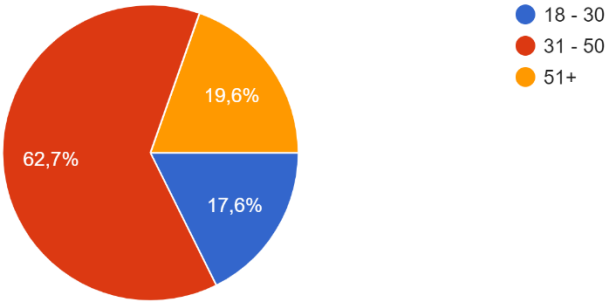
Demographics

The first part of the survey was only aimed at collecting information on participants' profiles. Here are the statistical data collected.

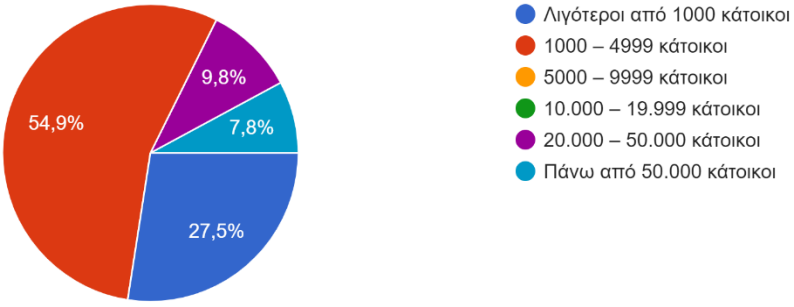
1. Gender



2. Age



3. Population of your town



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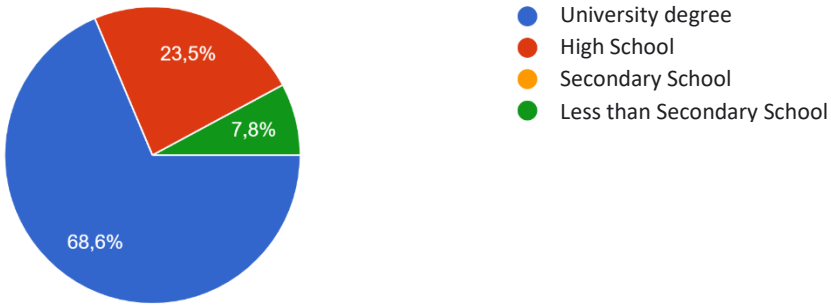
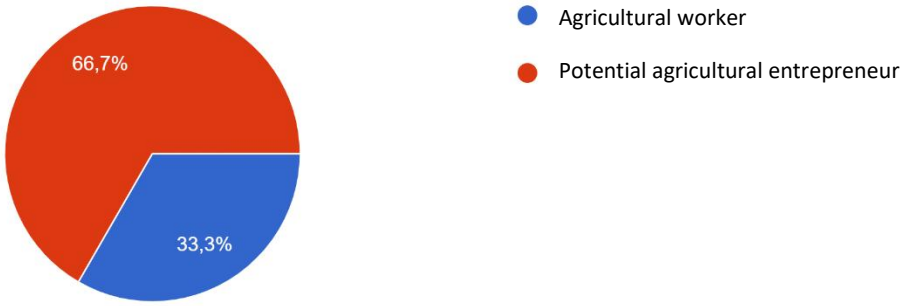
Specific Information

The second part of the survey was aimed at gaining insight on the agriculture representatives. Here is a graphical presentation of questions and answers received:

4. Education level



5. Field of work



6. What type of agricultural activities are you currently involved in or interested in pursuing as a potential entrepreneur?

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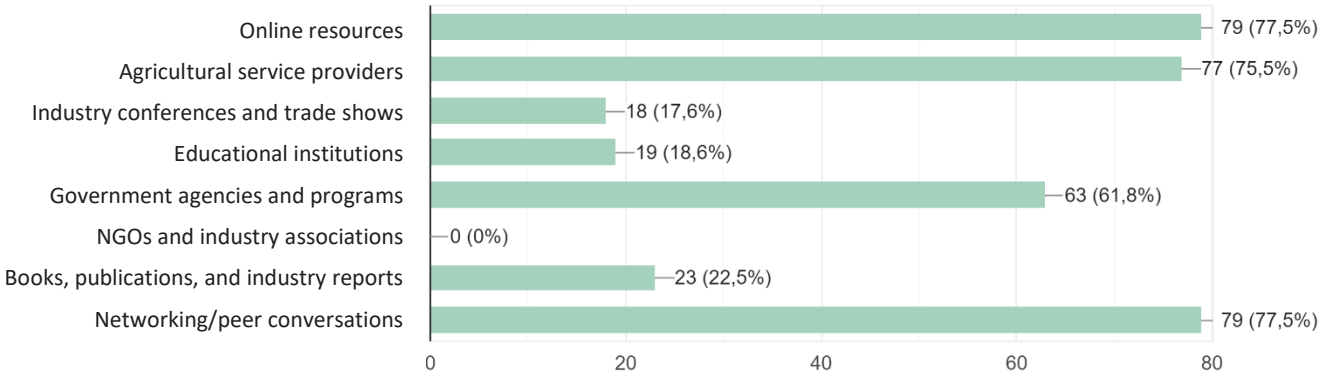
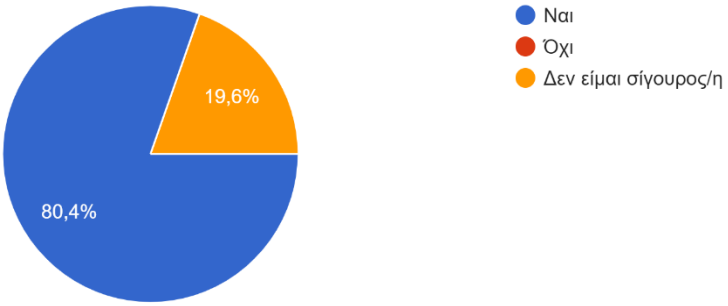
7. How do you access information and resources related to agriculture and entrepreneurship in your region?



8. Would you say you stay updated on market trends, technological advancements, and best practices in agriculture?



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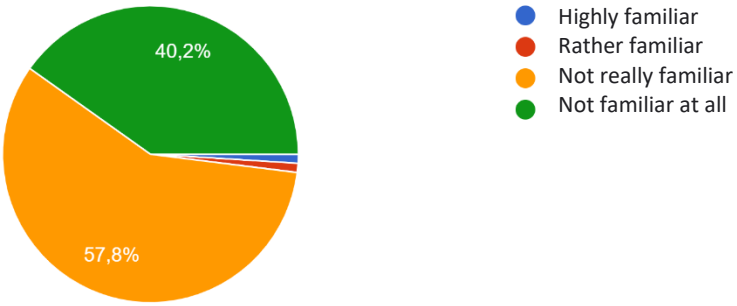
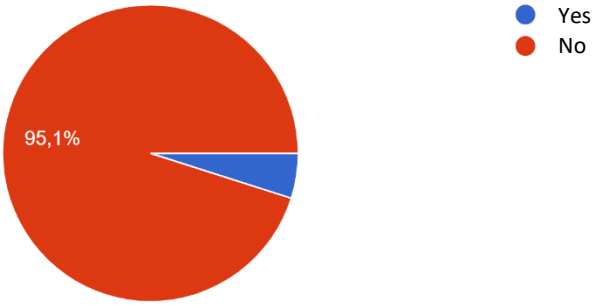
Digitalisation and AI use

The third part of the survey was aimed to access the knowledge of digitalisation and AI use in agriculture. Here is a graphical presentation of questions and answers received:

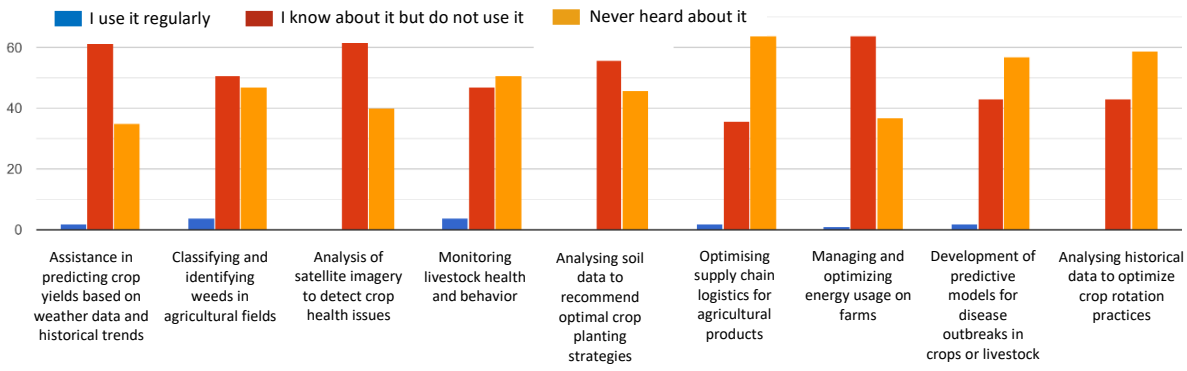
9. How familiar are you with the concept of artificial intelligence (AI) and its applications in agriculture.



10. Have you personally used any AI-powered tools or technologies in your agricultural activities?



11. AI use



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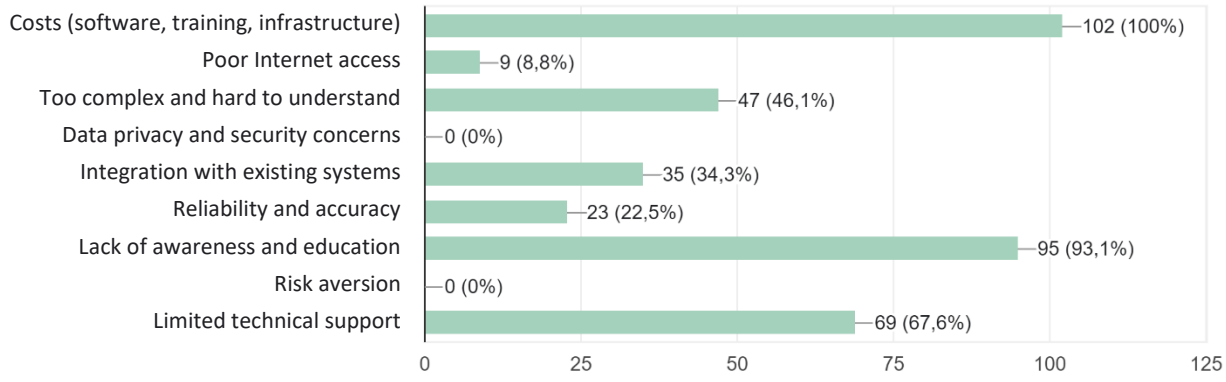
Regarding the use of AI, most of the participants responded with “I know about it but do not use it” or “Never heard about it”. Although in the previous question only 5 (4,9%) participants answered that they have used AI tools in their activities, in this question we had more answers in the “I use it regularly”.

Assistance in predicting crop yields based on weather data and historical trends is used by 2 participants, 65 of them know it but do not use, and 35 do not know it at all. *Classifying and identifying weeds in agricultural fields* is used by 5 of our participants, 50 of them know it but do not use, and 47 do not know it at all. *Analysis of satellite imagery to detect crop health issues* is not used at all, 62 of them know it but do not use, and 40 do not know it at all. *Monitoring livestock health and behavior* is used by 4 participants, 47 of them know it but do not use, and 51 do not know it at all. *Analysing soil data to recommend optimal crop planting strategies* is not used by any participant, 56 of them know it but do not use, and 46 do not know it at all. *Optimising supply chain logistics for agricultural products* is used by 2 participants, 36 of them know it but do not use, and 64 do not know it at all. *Managing and optimizing energy usage on farms* is used only by 1 participant, 64 of them know it but do not use, and 37 do not know it at all. *Development of predictive models for disease outbreaks in crops or livestock* is used by 2 participants, 43 of them know it but do not use, and 57 do not know it at all. *Analysing historical data to optimize crop rotation practice* is not used by any participant, 43 of them know it but do not use, and 59 do not know it at all.

12. What are the main challenges you face in adopting digital technologies, including AI, in your agricultural operations?



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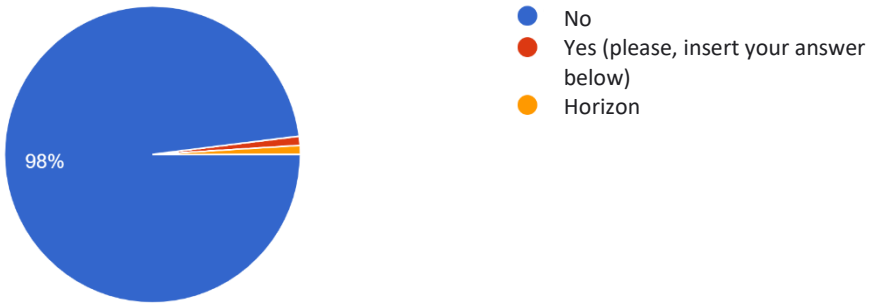
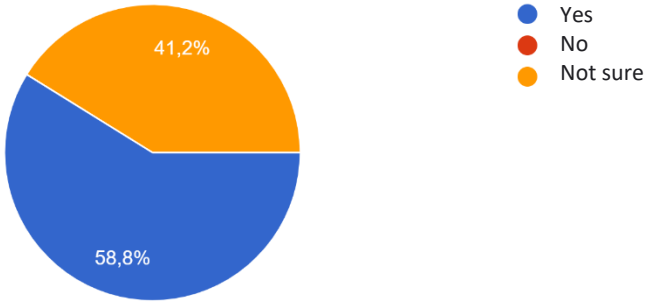
13. Are you aware of any government initiatives or programs aimed at promoting digitalization and AI adoption in agriculture?

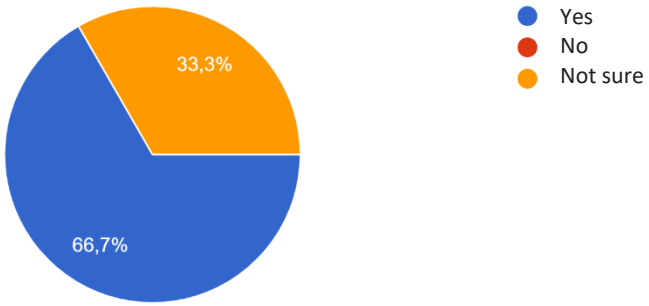


Only 2 people answer that they do know government initiatives or programs that promotes digitalization and AI adoption, one did not further elaborate, and the other one mentioned the Horizon funding program.

14. Do you believe that AI has the potential to improve efficiency and productivity in agricultural practices?



15. Do you think AI can help in addressing environmental challenges, such as climate change and resource depletion, in agriculture?



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Summary

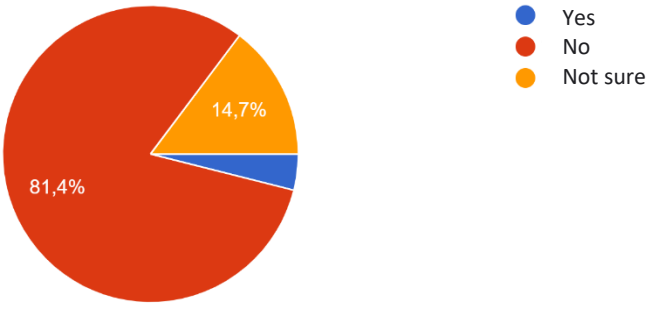
Last part was a summary of questions. Here are the statistical data collected.

16. Are there any challenges you face as an agricultural worker or aspiring entrepreneur in the agricultural sector?

There wasn't a no for an answer, all the answers were yes with few comments which are:

- All the problems a farmer can have, has them and will have them.
- Feed costs, drought, increase of fuel.
- The high cost of feed. Food needs to be imported. Also, the high price of fuel. Reduced rainfall.
- High cost of feed, high price of fuels, water shortage
- All the problems that a farmer has.
- Many.
- Drought, lack of resources due to high production costs

17. Do you think there is enough support available, such as funding and technical assistance, to help farmers and agricultural businesses adopt AI and digital technologies?



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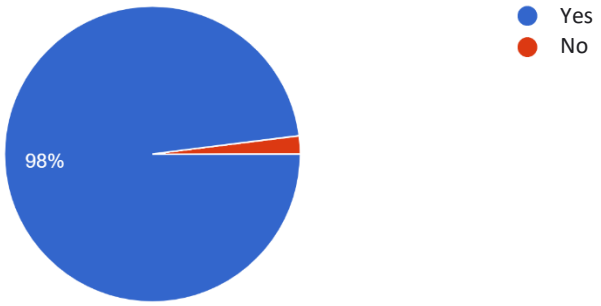
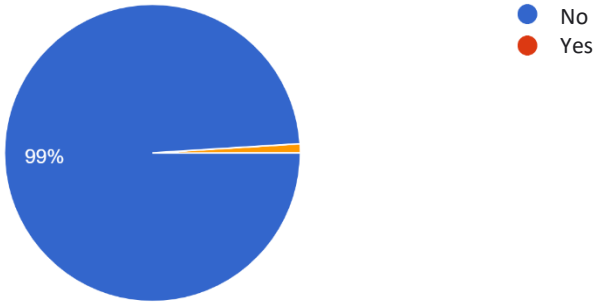
18. Would you be interested in participating in training programs or workshops focused on AI and digital technologies in agriculture?



19. Are there any additional comments or concerns you would like to share?



There was only one comment:

- In Cyprus we have not developed the tools yet, data-based, for decision making. Therefore, we should do this first and then use the artificial intelligence.

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Conclusions and Recommendations

The survey reveals a generally very low level of awareness, familiarity, and practical application of AI technologies within the agricultural sector in Cyprus. Most participants reported that they are not familiar or only somewhat familiar with AI and have not yet integrated AI tools into their agricultural practices. However, a considerable number demonstrated awareness of potential AI applications, such as crop prediction, soil analysis, and livestock monitoring. Despite this limited experience, there is a clear interest among agricultural workers and entrepreneurs in Cyprus to enhance their understanding and skills related to AI, with many expressing willingness to participate in relevant training programs and workshops.

The findings also highlight several barriers to AI adoption, including high costs associated with technology and training, limited internet access in rural areas, insufficient technical support, and a general lack of education and awareness regarding digital tools. Furthermore, respondents indicated that there is inadequate institutional or governmental support, both financially and technically, for integrating AI into agricultural practices, with only a few participants aware of existing initiatives like the Horizon funding program.

To address these challenges and foster digital transformation in agriculture, several key actions are recommended:

- There is a need to strengthen AI literacy through educational programs, workshops, and vocational training tailored to farmers and agricultural entrepreneurs.
- Increased government and institutional involvement is also crucial to provide funding, incentives, and technical guidance for AI adoption.
- Investment in digital infrastructure, particularly in improving internet connectivity in rural areas, will further support the effective use of AI tools.
- Awareness campaigns should be implemented to showcase the practical benefits of AI in improving productivity, sustainability, and resource efficiency.
- Finally, as noted by one respondent, developing localized, data-based decision-making tools should be prioritized to create a strong foundation for future AI integration in Cyprus' agricultural sector.

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AI4Agri Project website: https://www.ai-4-agri.eu/

AI4Agri Project e-Learning Platform: https://ai4agri-elearning.eu/

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