

A preliminary assessment of sustainable agricultural practices in Cyprus

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Keywords: sustainability, circular economy, agriculture

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Introduction

The agriculture sector is liable for around 13.5% of the total global greenhouse gas (GHG) emissions (Balafoutis et al. 2017) and slightly more than 10% of GHG emission of EU28 (Heidorn et al. 2017). Adopting sustainable practices in agriculture is not only an important step to take towards turning into environmentally conscious societies but also, a step into confronting climate change and managing natural resources in a sustainable way, a key pillar of EU's common agricultural policy (CAP) (EC n.d.). Especially in Cyprus where the impacts of climate change are, already evident, given the rise of the average temperature and decreasing average annual rainfall observed over the last 100 years (Cyprus Ministry of Agriculture 2015), applying sustainable agricultural and products processing practices is of vital importance for the agricultural sector. Within the framework of an EU project with the acronym 'Balkan Road', a study was conducted in order to determine and assess the gaps in the adoption of such practices in Cyprus.

Material and methods

A questionnaire survey was conducted addressing to two key target groups in order to gauge their opinions, concerns and priorities regarding agri-business behavior to resources and waste management as well as future implementation of Environment friendly technologies in the Balkan agricultural sector.

The first target group consisted of policy makers and regional authorities such as leaders and heads of local authorities, representatives of the Ministries of Agriculture and Food, decision makers, state agencies and other stakeholders while the second target group was composed of managers/head of farmers' cooperatives/agronomists as persons/links between the government and the farmers. Finally, part of the second target group were also individual farmers/producers of different agricultural products.

The survey primarily consisted of multiple choice/check-box style questions, available online via a computer or mobile application, with opportunities to supply additional commentary. In order to maximize participation/response rate, the survey was designed to take 10 minutes or less to complete. Due to the lack of access to technologies of a number of farmers, personal interviews were conducted instead of e-questionnaires.

Results and Discussion

The questionnaire survey was conducted between March and May 2018. In total, 5 policy makers and more than 20 farmers participated to the survey; either by filling in the respective e-questionnaires or by personal interviews. Certain aspects of the questionnaire survey verify the results of the Census of Agriculture, which was conducted in 2010 (CyStat 2014), but also some new aspects arise. The questionnaire survey indicated a series of problems in the adoption of sustainable agricultural practices in Cyprus. The main problems lie in the lack of knowledge diffusion from policy makers to rural businesses, the aging of rural potential as well as the limited use of new and emerging technologies, while the lack of absorption of EU funds for the transformation of rural businesses into sustainable was evident. Cypriot farmers do not seem to comprehend fully the concepts of sustainable practices and circular economy although; they recognize the lack of knowledge as a significant factor for not adopting these practices. In addition, another key finding is that Cypriot farmers seem unable to comprehend the environmental side effects of agricultural activities and consider themselves free of any contribution to climate change.

Conclusions

Significant conclusions regarding the status of Cyprus were obtained from the questionnaire survey, which are anticipated to contribute to the definition of the appropriate strategies for boosting the adoption of sustainability best practices by the Cyprus agricultural sector. The most important aspect that arose from the survey was the need for efficient dissemination mechanisms that would help the transfer of knowledge from the policy makers' level to the farmers' level.

As argued by (Šūmane et al. 2018), the integration of various knowledge sources and learning forms is a key aspect in surviving, adapting, developing and prospering in modern agriculture farmers. Taking into consideration that informal knowledge makes a considerable contribution to promoting sustainable and resilient agriculture, links between informal knowledge and formal knowledge institutions need to be sought. Educating farmers regarding new and emerging technologies, especially ICTs could be a key aspect into keeping them up to date with new trends, practices, laws and regulations. The importance of ICT in agriculture was even stated in the G20 Agriculture Ministers' Action Plan 2017 (Preamble 2017) where the ministers renewed their commitment to advance ICT innovation to improve the efficiency and sustainability of the agricultural sector. Precision agriculture technologies and ICT can help towards decreasing the use of agricultural inputs (fertilizers, pesticides, energy and water), improve productivity resulting in higher crop yields with lower cost (Balafoutis et al. 2017), as well as, reducing environmental externalities (Lehmann et al. 2012).

Acknowledgements

The present work was compiled from data recorded within the framework of the project with title "Towards farms with zero carbon-, waste- and water-footprint. Roadmap for sustainable management strategies for Balkan agricultural sector", with the acronym BalkanROAD, funded by the European Union.

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