Conference Agenda

13th AIEAA Conference

Date: Thursday, 20/June/2024

9:15am - 1:00pm	**Registration: Registration of the partecipants** Location: **Venue - area in front of the Aula Magna**
9:45am - 12:00pm	**Pre-conference: La transizione ecologica: sfide e opportunità per il comparto olivicolo-oleario** Location: **Aula Magna ex Facoltà di Agraria - As** Bari, 20 Giugno 2024 ore 09:45-12:00 Aula Magna ex-Facoltà di Agraria Via Giovanni Amendola 165/A
12:00pm - 1:00pm	**Light lunch** Location: **Venue - area in front of the Aula Magna**
1:00pm - 1:20pm	**Opening Ceremony: Opening Ceremony** Location: **Aula Magna ex Facoltà di Agraria - As** Session Chair: **Simone SEVERINI**
1:30pm - 2:20pm	**1st Plenary Session: Reconciling Productivity and Sustainability: Are agricultural policies in OECD countries changing compass?** Location: **Aula Magna ex Facoltà di Agraria - As** Session Chair: **Margherita Scoppola** Speaker Jesús Antón (OECD) Discussant: Roberto Henke (CREA PB)
2:30pm - 3:15pm	**P-1A: Agriculture and the Society** Location: **Aula VI - Ps** Session Chair: **Raffaele D'Annolfo**

The social role of the rural family in the conservation of the indigenous Rossa Mascarella goat population

Maria Pergola, Michele Cerrato
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Biodiversity is directly linked to the economic, social, and environmental spheres of sustainability. Its conservation is very important and represents a social imperative to allow future generations to satisfy their needs just as we are doing today. The aim of the paper was to understand the role played by pastoral families in the conservation of an autochthonous goat population of Campania region (*Rossa Mascarella*). After the identification of the breeding area and the verification of its historical presence in the study area, a specially structured questionnaire was administered to four farmers. Results showed that conservation of the *Rossa Mascarella* goat population is has been possible up to the present day thanks to a technique unchanged over time and to pastoral families who continue to pass down traditions. The breeders, and their family, are custodians of the territory and important for the conservation of native breeds at risk of extinction.

1905-The social role of the rural family in the conservation of the indigenous Rossa Mascarella goat.pdf

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RURAL DEVELOPMENT PROJECT IMPACT ASSESSMENT ON POVERTY AND FOOD SECURITY IN WEST GARO HILLS VILLAGES (MEGHALAYA)

Davide Reggi[1], Alessandro Varacca[2], Enrico Fabrizi[2], Giuseppe Bertoni[1], Vincenzo Tabaglio[3], Paolo Sckokai[4]
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The purpose of this study is to assess the impact of Project C3S' (Production of Appropriate Food: Sufficient, Safe, and Sustainable) ten-year activities on agricultural, nutritional, and socio-economic development of rural Garo villages around St. Alphonsa Church Parish (Darenchigre, Tikrikilla, West Garo Hills, Meghalaya, India). In particular, we evaluated the effect of participating to the project by estimating the Average Treatment Effect (ATE) with respect to two international indexes: the MultiDimensional Poverty Index and the Food Consumption Score, respectively useful for evaluating rural development in terms of poverty and food security. The sample consists of 186 households and the instrument used for data collection was a questionnaire. Our results show a significant project ATE for nutrition, while effect on multidimensional poverty is not meaningful, probably caused by lack of correspondence between project specific intervention and index composition.

1908-RURAL DEVELOPMENT PROJECT IMPACT ASSESSMENT ON POVERTY AND FOOD SECURITY-Reggi.docx

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Ranking Apulian ecomuseums using qualitative indicators of sustainability: social, economic and environmental

Carlo Sansiviero[1,3], Michel Frem[2], Gianluigi Cardone[3], Alessandro Petrontino[1], Federica Calderoni[1], Adele Annarita Campobasso[1], Emanuela Tria[1], Ludovica Nardelli[1,3], Francesco Bozzo[1], Vincenzo Fucilli[1]

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Ecomuseums promote responsible tourism practices and foster a sustainable development for the community and the territory. In this context, the present paper assesses the influence of the fifteen officially recognized ecomuseums in the Apulia region (southern Italy), on the socioeconomic development of its territory. For this purpose, we performed a specific survey based on the 3 components of the sustainability concept: social, economic, and environmental. The results depicted that Apulian ecomuseums seemed to be more active in the social component, and the "*Porto Museum of Tricase*" would be categorized as a reference in ecomuseology. Furthermore, the findings revealed that the: (i) continuous improvement of digitalisation, (ii) development of a strategic governance between local authorities and ecomuseums, and (iii) strengthens of the local network should be addressed by the private and public decision-makers to better enhance the performance of the studied ecomusems.

1940-Ranking Apulian ecomuseums using qualitative indicators-Sansiviero.docx

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Do Voluntary Sustainable Standards enhance smallholders' livelihoods? Evidence on food-agricultural commodities from Ghana and Vietnam

Raffaele D'Annolfo, Federica Demaria
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Under the Trade4Sustainable Development project funded by the EU, this research aims to investigate the effects of Voluntary Sustainability Standards (VSSs) on smallholder livelihoods within the cocoa and cashew value chains in Ghana, and the tea, dragon fruit, and rice value chains in Vietnam. Drawing upon the Sustainable Livelihood Framework, the study seeks to assess how VSS adoption may influence various dimensions of smallholder livelihoods. Utilizing data from 30 selected empirical studies from the Evidensia database, the analysis will explore economic, social, and environmental outcomes. It is expected that VSSs may enhance market access, increase yields, and promote sustainable resource management, although challenges such as certification costs and technical barriers may persist. The discussion will be focusing on the importance of tailored policy interventions to maximize the potential benefits of VSS adoption for smallholder farmers in light of the SDGs.

1932-Do Voluntary Sustainable Standards enhance smallholders' livelihoods Evidence-DAnnolfo.pdf

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Does the New Ecological Paradigm Help Understanding Preferences for Sustainability Attributes of Food Products? An Application to a European Citizens Sample

Riccardo Borgia[1], Yan Jin[2], Stefano Targetti[1], Bouali Guesmi[2], Djamel Rahmini[2,3], Noah Larvoe[2,3], José María Gil[2,3], Davide Viaggi[1]
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The measure of personal concern for the environment can help to comprehend a wide range of individual attitudes. Among the different ways to measure it, we focused on the New Environmental Paradigm (NEP). The NEP relies on the measure of personal level of endorsement of fifteen statements, then summed up to obtain a final score. The validity of this approach relies on an essential principle: all statements should be able to equally capture the environmental concern of the respondent. Analysing the answers of 3,508 European citizens we explored this aspect, to validate the robustness of this approach. Then, we also explored to what extent different respondent's traits (e.g., socioeconomic, attitudinal, beliefs) were associated with a greater endorsement of different NEP statements. Our preliminary results suggest a low correlation across the statements. The study of the respondent's characteristics, will help us to deepen the investigation of the robustness of this approach.

1691-Does the New Ecological Paradigm Help Understanding Preferences-Borgia.docx

2:30pm - 4:00pm

CP-1A: Assessing agricultural policies

Location: **Aula Magna ex Facoltà di Agraria - As**
Session Chair: **Stefano Targetti**

Understanding motivation of Agroforestry's adoption: a comparative analysis in Europe

Fabio Bartolini[1], Maria Raimondo[1], Daniele Vergamini[2]
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During the last few years, an ever-increasing emphasis on the balance between food security and environmental sustainability has emerged. Sustainable farming systems are considered strategic tools for managing trade-offs between productivity and environmental sustainability. Because of its mixedness of ecological and economic benefits, Agroforestry (AF) is a sustainable farming system promoted worldwide. However, numerous factors could hinder its adoption. In the current study, a Multiple Correspondence Analysis was conducted to generate four categories of farmers, based on the stated intention to maintain or adopt AF under different policy scenarios. Then, by implementing a multinomial logit model, the current study analyzes the effect of such factors (e.g. socio-demographics, structural, economic) on the probability of maintaining and adopting AF practices, across four EU countries (Germany, Italy, Greece and Serbian) and one non-EU country (United Kingdom). The findings of the study could be useful to encourage AF adoption in the future.

1944-Understanding motivation of Agroforestry's adoption-Bartolini.docx

Understanding the nature of and policy approaches to social issues in agriculture and rural areas in OECD countries

Masayasu Asai
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The well-being of farmers and their families and that of their communities in rural areas is a growing matter of concern for governments and policy makers in OECD countries. Despite its growing concern, defining and targeting social issues in agriculture have been challenging due to complexity of its nature, such as being often place- and context specific. This study has four objectives: (1) developing a framework for the analysis of social issues; (2) applying it to selected case studies to identify and define social issues in agriculture and rural areas of selected OECD countries; (3) understanding the rationale for policy intervention and of policy approaches in these case studies; and (4) identifying data gaps for indicators informing policy making. Results show that this systematic approach helps to define and analyze social issues in a comparable manner across countries, while at the same time keeping their specificities.

1904-Understanding the nature of and policy approaches-Asai.doc

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2023-2027 CAP and livestock sector: production and economic impacts on Italian specialized dairy cattle farms

Davide Dell'Unto, Raffaele Cortignani
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The present contribution aims to assess the production and economic impacts on Italian specialized dairy cattle farms of the 2023-2027 Reform of Common Agricultural Policy (CAP), by using an agroeconomic supply model. A simulation was performed grafting the architecture of the 2023-2027 CAP on a sample of farms recorded in 2021 Italian Farm Accountancy Data Network (FADN). The analysis focuses on the different components of first pillar payments of 2023-2027 CAP, highlighting the impacts on production and economic outcomes respect to 2014-2022 CAP.

1852-2023-2027 CAP and livestock sector-DellUnto.pdf

Cost-effectiveness Analysis of nutrient reduction measures: preliminary results from the Po River Basin District

Emilia Pellegrini, Elisa Belfiore, Nunzia Gabriella Fasolino, Monserrath Ximena Lascano Galarza, Emanuela Squarcia, Meri Raggi, Davide Viaggi
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Eutrophication is still a major problem for European waters. A recent EU assessment revealed high nutrient concentrations surpassing levels required for good ecological status (GES) under the Water Framework Directive. As matter of fact, Member States face challenges in identifying effective nutrient reduction measures in their Programmes of Measures (PoMs). The main purpose of this study is to identify a cost-effective combination of policy measures to reduce nutrient loads in the Po River Basin District (Northern Italy), an area that suffers from high nutrient concentration due to urbanization and intensive livestock and agricultural sectors. Using a cost-effectiveness analysis we analyzed two measures, namely livestock density reduction and integrated farming. Our preliminary results show that the GES can be achieved with a combination of the two measures but at disproportionate costs. However, this preliminary analysis will be improved in terms of cost evaluation and inclusion of other sectors/measures.

1693-Cost-effectiveness Analysis of nutrient reduction measures-Pellegrini.pdf

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Result-based schemes: a framework for the assessment of monitoring quality

Stefano Targetti[1], Matteo Zavalloni[2], Davide Viaggi[1]
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In this contribution, we present a theoretical model exploring the impact of enhanced information and in particular environmental monitoring on the efficiency and acceptability of AECP. The objective is to evaluate the effect of monitoring quality on the effectiveness of a result-based scheme in which the monetary incentive of farmers depends on the actual environmental result achieved.

the contribution aims to stimulate the discussion on the opportunity of result-based schemes for biodiversity and the requirement of monitoring programs fitting to agri-environmental schemes are the target of the discussion.

1707-Result-based schemes-Targetti.pdf

2:30pm - 4:00pm

CP-1B: Agricultural change 1

Location: **Aula X - Bs**
Session Chair: **Roberta Raffaelli**

Exploring Biochar Technology Adoption in a Circular Economy Perspective: A Technology Acceptance Model Approach

Mariavittoria Perrone[1], Chiara Mazzocchi[1], Alberto Tosca[2], Edoardo Verga[2], Giorgia Cavina[1]
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Biochar is a carbon-rich material derived from pyrolysis. In line with the principles of the circular economy, biochar technology transforms organic waste into resources for energy production and carbon sequestration. Due to its high carbon content and stable structure, its application as a soil conditioner benefits water retention, nutrient uptake, and cation exchange capacity of soil. Despite its potential for more sustainable agriculture, the technology still lacks large-scale deployment, necessitating research into acceptance factors for this technology. This study proposes the use of the Technology Acceptance Model (TAM-2) to analyze the factors of interest in the adoption of biochar technology. An extension of the TAM-2 model was proposed by introducing four new factors: Perception of External Control, Price Value, Climate Change Awareness, and willingness to Renewable Energy Production. The study involved agricultural entrepreneurs in Italy. Data collection was performed through telephonic interviews.

1906-Exploring Biochar Technology Adoption in a Circular Economy Perspective-Perrone.doc

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Towards Digital Farming: Exploring Technological Integration in Agricultural Practices of a sample of Italian livestock farmers

Selene Righi[1], Gianluca Brunori[1], Michele Moretti[1], Felicitas Ogochukwu Okoye[1], Colomba Lina Sermoneta[2]

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Digitisation is designated as the main driver of increased productivity, economic growth and improved competitiveness. It plays a crucial role in the transformation of the agricultural sector supporting farmers' livelihoods, well-being and resilience. It can lead to changes in livestock management, interactions in the value chain with the idea of optimizing the economic contribution per animal. This research aims to reveal the extent to which Italian livestock farms are digitised by understanding the existing structure and the factors influencing their decision to digitise. Here we describe adoption intensity as the number of digital technologies used by farms for different agricultural economic activities.

1789-Towards Digital Farming-Righi.docx

Drivers of digital innovation adoption in Italian viticulture

Olimpia Fontana, Linda Arata, Margherita Muzzillo, Paolo Sckokai

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In recent years there has been considerable development of precision farming technologies (PATs) for the viticulture sector, characterized by high intra-filed heterogeneity requiring specific management. The drivers of technology adoption in the vine sector in Italy has never been investigated according to two types of technologies: Decision Support System and Variable Rate. We carry out an analysis based on Trans Theoretical Model of Adoption to identify which phase of the adoption process a farmer belongs to and which are the drivers of being in a further stage. Furthermore, technology and environmental attitudes of viticulturers can influence the intention to adopt or the effective adoption of PATs. We developed a questionnaire submitted to Italian vine growers. The results inform policy makers about the leverage to be used to increase the adoption of technology and, in turn, promote a better input use in viticulture.

1864-Drivers of digital innovation adoption in Italian viticulture-Fontana.docx

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Intra-Firm and Network Antecedents of Blockchain Technology Adoption in Agri-Food Supply Chains: A Comparison between BCT Adopters and Non-Adopters in the Italian Coffee Industry

Mirta Casati, Federico Parmiggiani, Claudio Soregaroli, Paolo Sckokai

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This study aims to explore the antecedents of blockchain technology (BCT) adoption in the agri-food industry. Focusing on the Italian coffee sector, we conducted a case study, interviewed managers from an adopting and a non-adopting firm, and examined the intra-firm and network antecedents of BCT adoption based on a theoretical framework that integrates the Technological-Environmental-Organizational (TOE) model with Social Network Theory (SNT).

The results indicate that, in contrast to non-adopters, adopters identified perceived relative advantage, competitive pressure, shared capabilities, and government support, which helped adopters overcome the cost and complexity barriers faced by non-adopters, as drivers of adoption. These findings are contingent on firm size; adopters (i.e., a small to medium-sized company) found BCT to be an answer to the pressure to improve market relevance and network relationships, a pressure not felt by non-adopters (a large company), who ultimately decided not to adopt the technology.

1897-Intra-Firm and Network Antecedents of Blockchain Technology Adoption-Casati.pdf

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Heuristic Impact on Tomato Producers' Adoption of Innovative Drought Index Insurance: Experimental Evidence

Ruggiero Rippo[1], Roberta Raffaelli[1,2], Paolo Sckokai[3], Mirta Casati[3], Linda Arata[3], Simone Cerroni[1,2]

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The study seeks to determine the willingness to pay for an innovative risk management tool, specifically index insurance for drought events, among tomato producers in North of Italy. The experiment incorporates different tasks to elicit farmers' subjective beliefs about future precipitation, as well as their time and risk preferences. Through a contextualized experiment involving 150 tomato producers, randomly assigned to control, individual past (IP), or individual future (IF) treatments, participants reflect on past damage experiences or contemplate potential future damages from drought events. This approach helps ascertain whether anticipation of future harm or recollection of past adversity has a stronger influence on decision-making and willingness to pay for the insurance to hedge the risk against catastrophic events. Additionally, the study aims to understand farmers' preferences for different attributes of the innovative index insurance. Given the early stage of research, the methodology and expected outcomes are outlined.

1825-Heuristic Impact on Tomato Producers Adoption of Innovative Drought Index Insurance-Rippo.doc

2:30pm - 4:00pm

CP-1C: Agriculture and the environment 1

Location: **Aula XI - Cs**

Session Chair: **Sarah Stempfle**

Impacts and Adaptation to High Temperatures on Maize and Wheat in Italy

Paolo Nota, Giacomo Coughlan, Alessandro Olper

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In this paper we investigate the impacts of high temperatures on maize and wheat yield in Italy. On the top of that we try to detect and quantify the adaptation that the productive system may have taken to cope with changes in climatic conditions and warmer temperatures. We build a new dataset of province-level yield information for Italy in the period 1952-2023 and match it with fine scale and timely resolution weather variables. We employ panel data econometrics to estimate the relationship between crop yield and temperature and explore some of the approaches used to capture adaptation. We find significant harmful impacts on both maize and wheat yields. We also find some evidence of adaptation to changing climatic trends and acreage adjustments.

1717-Impacts and Adaptation to High Temperatures on Maize and Wheat-Nota.pdf

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EXPLORING THE AGROECOLOGICAL TRANSITION IN THE AXARQUIA REGION

Laura Sánchez-Mata, Melania Salazar-Ordóñez, Julio Berbel, Macario Rodríguez-Entrena

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Agricultural sector can generate adverse environmental effects, therefore, the challenge of adopting alternative approaches to reduce the impact of agricultural activities on natural resources is at the center of many global efforts. Agroecology is a new paradigm capable of transforming agri-food systems ensuring efficient use of natural resources and ecosystem services, basing on applying ecological and social principles to food system design and management. However, agroecological practices appear to have not been widely implemented on a large scale, and there is a scarcity of literature addressing this aspect. This study aims to analyse the level of agroecological development in the Axarquía area (Southern Spain), given that the wide variety of crops growing, in order to determine a base line. In order to do so, the Tool for Agroecology Performance Evaluation (TAPE) was applied, conducting 12 surveys of 2.5 hours with farms' owners recruited by the snowball sample method.

1936-EXPLORING THE AGROECOLOGICAL TRANSITION IN THE AXARQUIA REGION-Sánchez-Mata.pdf

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Assessing the sustainability of an innovative agroecological weed management practice: a cost-benefit analysis in a vineyard in Tuscany

Luciano Pagano, Lorenzo Gabriele Tramacere, Daniele Antichi, Daniele Vergamini

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Agroecology has gained attention for its potential to provide benefits to the environment and society. One of its main objectives is to phase out inputs in favour of ecological processes. This is particularly relevant in weed control, a key practice in agronomic management.

An agroecological approach to weeds is analysed in this article. It is a practice, tested from 2019 to 2023 in an organic vineyard in Tuscany, consisting of using a subterranean clover as under-row cover crop.

In order to give an assessment of the practice analysed, it was decided to conduct a cost-benefit analysis. Data was collected through a structured survey covering economic, social and environmental aspects.

The purpose of the paper is to investigate the gap in the literature that calls for more information on the costs and benefits associated with the implementation of agroecological practices. Moreover it aims to provide information to farmers and policy makers.

1878-Assessing the sustainability of an innovative agroecological weed management practice-Pagano.docx

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Does using non-conventional water sources lead to better performance of Water Users Associations? A benchmarking analysis of water-scarce regions

Sarah Stempfle[1], Mario Ballesteros-Olza[2], Irene Blanco-Gutiérrez[2,3], Almudena Gómez-Ramos[4], Giacomo Giannoccaro[1], Bernardo C. de Gennaro[1]

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To face a growing water demand in a context of water scarcity plus climate change, non-conventional sources (e.g. reclaimed water, desalinated seawater) emerge as promising supply alternatives. Given the major role of agriculture in water use, this study analyzes if using of non-conventional water sources leads to better performance of Water Users Associations (WUAs). To do so, the research includes WUAs from Murcia (Spain) and Apulia (Italy), namely drought-prone regions with structural water deficit, and different levels of experience regarding the use of non-conventional water. First, a comparative benchmarking analysis was carried out to assess WUAs performance. Second, a Principal Component Analysis and Clustering Analysis were applied, to explore dissimilarities between WUAs and their causes. Finally, a regression model was estimated to observe if the use of non-conventional water has any effects on WUAs' performance. The study contributes to increase knowledge about pros and cons of using non-conventional water sources.

1958-Does using non-conventional water sources lead to better performance-Stempfle.pdf

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Agrifood Pathways Linking Climate Change to Conflict: A Systematic Review of the Literature

Anna Balestra[1], Sara Balestri[1], Raul Caruso[1], Tulia Gattone[2], Donato Romano[2], Luca Tiberti[2]

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Climate change exacerbates conflicts through pathways such as resource scarcity, economic stress, displacement, weak governance, and indirect effects, escalating the risk of conflicts. This study explores these dynamics through a systematic literature review, employing the PRISMA-ScR methodology. Initial searches yielded 2619 records, with 135 studies meeting inclusion criteria. Results reveal climate change as a catalyst for conflicts, with intricate connections between climate variability and socio-political tensions. Key findings highlight the impact of climate anomalies on conflict through economic channels and the role of temperature fluctuations in amplifying conflict risk. Datasets from reputable sources like IPCC, UCDP, and LSMS-IZA are utilized, while methodologies include time-series regressions, instrimental variable panel regressions, quasi-experimental models such as DiD, and SEM. Future research should focus on enhancing predictive accuracy, utilizing longitudinal datasets, and fostering interdisciplinary collaboration to inform policy strategies aimed at mitigating the risks of climate-induced conflicts and promoting resilience in affected communities.

1035-Agrifood Pathways Linking Climate Change to Conflict-Balestra.pdf

2:30pm - 4:00pm

CP-1D: Assessing agricultural impacts

Location: **Aula XV - Ds**

Session Chair: **Alessandro Varacca**

Assessing social impacts of fruit and vegetable farming systems: A comparative study of in Spain utilizing Social Life Cycle Assessment

Carmen Capdevila Murillo[1], Nathalie Iofrida[2], Anna Irene de Luca[2], Elsa Varela[3]

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Farming encompasses numerous risks associated with the nature of agricultural work that challenge sustainability. However, there has been limited research on their social dimensions considering diversity of farm's development strategies (economies of scale and economies of scope). In the context of Social Life Cycle Assessment (S-LCA), the psychosocial risk factor (PRF) is a method for evaluating health risks stemming from the life cycle of products or services. This study compares social impacts in two distinct case studies: Bajo Cinca, an intensive fruit production area focused on export markets, and Baix Llobregat, a diversified periurban area producing fruit and vegetables for the local market. The PRF methodology establishes an impact pathway between agricultural tasks, working conditions, and potential social risks. The results highlight the significant impact of risks on the musculoskeletal and articulation systems in both systems, with noteworthy distinctions emerging by the type of risk and the unit of measure.

1915-Assessing social impacts of fruit and vegetable farming systems-Capdevila Murillo.pdf

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Co-creating visioning for socio-ecological innovations in rural areas: a case study in the Italian North-Eastern Alps.

Angela Moriggi[1], Laura Secco[2], Elena Pisani[3]

[1]Università degli Studi di Padova, Italy; [2]Università degli Studi di Padova, Italy; [3]Università degli Studi di Padova, Italy; angela.moriggi@unipd.it

This paper presents the theoretical and methodological approach, as well as preliminary empirical findings, related to a research project involving socio-ecological innovations in a rural-mountain area in the North-Eastern Alps. Using a participatory action-research approach, we involve selected initiatives operating in a remote valley of a rural mid-mountain area of Belluno province, in a process of reflection and capacity-building, through a co-creative visioning Lab. The topics we explore touch upon several of the conference' sub-themes, such as the theoretical understanding of social sustainability - through a focus on regeneration, the synergies between different dimensions of sustainability, the challenges faced by social innovations (operating also in the agri-food sector), and the search for a better quality of life in rural areas.

1957-Co-creating visioning for socio-ecological innovations-Moriggi.pdf

Analyzing efficient incentive mechanisms of carbon farming contracts through expert survey

Nidhi Raina[1], Kato Van Ruymbeke[2], Matteo Zavalloni[3], Erik Mathijs[2], Davide Viaggi[1]
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The study aims to evaluate different incentive mechanisms of carbon farming contracts, focusing on result-based, action-based, and hybrid models. It draws upon expert surveys to understand the effectiveness of these mechanisms for implementing carbon farming projects. Key contract design attributes and performance indicators specific to carbon farming were identified through literature. The expert survey is being done using semi-structured questionnaires. The findings of the survey pre-test with 1 expert was analyzed using multi-criteria decision tool called TOPSIS. The results showcase that expert deems farmer cooperation to be the most important design attribute and monetary incentives to be the least. Looking purely at the result-based, action-based, and hybrid payments, the expert ranked result-based payments better than action-based and hybrid payments. The underlying reasons of these results will be further analyzed qualitatively through the discussion with the experts, which is undergoing.

1674-Analyzing efficient incentive mechanisms of carbon farming contracts through expert survey-Raina.docx

The assessment of Ecosystem Services (ESs) under the lens of Life Cycle Methodologies

Cristian Soldati, Giacomo Falcone, Emanuele Spada, Giovanni Gulisano, Anna Irene De Luca
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Ecosystem Service are an important part of human well-being. ES can be assessed from both an environmental and economic perspective, aiming to highlight their importance and producing different policies for their protection. In this paper, three ES, i.e., Mechanical Filtration, Physicochemical Filtration, and Air purification, were measured using Life Cycle Methodologies, that allow the analysis of the entire life cycle, using the Geographic Information System. The methods were applied to two farms that differ in management practices, i.e. one considers agro-ecological practices while the other considers traditional agricultural practices. The results show that the agroecological system performs best in almost all values analysed, both environmental and economic. This result is of great interest as the STS is designed to align with the agro-ecological measures outlined in the Common Agricultural Policy (CAP) for the period 2023-2027. The proposed evaluation is of great interest for the scientific community and public policy makers.

1948-The assessment of Ecosystem Services-Soldati.pdf

Evaluating the impact of Organic farming in the EU: A Double Machine Learning, Staggered Difference in Difference approach

Paolo Libenzio Brignoli[1], Paolo Sckokai[2], Alessandro Varacca[2]
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Environmental objectives and measures have been part of the Common Agricultural Policy of the European Union (EU) since the 1992 MacSharry reform. More recently, the "Farm to Fork" (FTF) strategy aims to have 25% of EU agricultural land under organic farming by 2030, akthough the effects of these production practices on both the environment and farmers' profitability remain uncertain. In this study, we use Doubly Robust Machine Learning technques to extend the staggered difference-in-differences estimators in Callaway and Sant'Anna (2021) to investigate the impact of organic farming in the EU through the complete European Farm Accountancy Data Network. Our Initial findings suggest marginal impacts, with pesticide expenditure slightly decreasing and a small increase in net farm income increasing. Further analysis will explore heterogeneity across farm types and member states to inform policy implications, as well as additional outcome variables including fertilizers expenditure, farm productivity, crop diversity, and greenhouse gas emissions.

1863-Evaluating the impact of Organic farming in the EU-Brignoli.doc

2:30pm - 4:00pm

OS-1: Remote and marginal areas: Understanding the gap – first insights from Agritech

Location: **Aula V - OSs**
Session Chair: **Barbara Pancino**

Remote and marginal areas: Understanding the gap – first insights from Agritech

Francesca Gerini[1], Gianluca Stefani[1], Francesca Gerini[1], Gianluca Grilli[2], Angelo Martella[3], Laura Priscila Penate Lopez[4], Luciano Gutierrez[5], Barbara Pacino[3]
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3:15pm - 4:00pm

P-1B: Food Consumption

Location: **Aula VI - Ps**
Session Chair: **Giacomo Giannoccaro**

Consumers and their Food Environments: The case of Parma, Italy.

Marianna Guareschi, Oluwatosin Abigail Fagbohun, Filippo Arfini
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Food Environments (FE) are defined as the consumer interface with the food system that are influenced by the socio-cultural, political environment, and ecosystems within which they are embedded. They also encompass the community FE highligting the points of access to food and its distribution within the neighbourhood, along with the characteristics that influence consumers' dietary patterns and their health outcomes. This research aims to assess the socio-economic characteristics of the neighbourhood on consumer's dietary patterns through identifying the type and distribution of FE across the city of Parma and, price variations across the markets.A descriptive statistical methodology was employed to investigate the correspondence between the socio-economic conditions of neighbourhoods in Parma and the characteristics and distribution of FEs. This analysis underscores that a high residential purchasing power does not necessarily equate to higher food prices or diminished affordability, thereby highlighting the complex dynamics that define Parma's neighbourhood FE.

1655-Consumers and their Food Environments-Guareschi.pdf

What drives Italians to adhere to Mediterranean Diet? The role of interest in health, environment, and psychological distress.

Francesco Bimbo[1], Giulia Tiboldo[2], Veronica Vitali[2], Valentina Carfora[3], Daniele Moro[2], Elena Castellari[2]
[1]Università degli Studi di Foggia; [2]Università Cattolica del Sacro Cuore, Italy; [3]Università degli Studi Internazionali di Roma; giulia.tiboldo@unicatt.it

The European Commission's Farm to Fork strategy prioritizes promoting healthy and sustainable food choices across the EU. The traditional Mediterranean Diet (MD) is an example of a healthy and sustainable diet. Our analysis investigates MD adherence among Italian adults and its key drivers, especially focusing on individuals' level of engagement in health- and sustainable-related practices, environmental concern, and psychological well-being. The level of adherence to the MD is approximated by three indexes (i.e., Monteagudo et al. 2016, Trichopoulou et al. 2005 and Benedetti et al. 2018) constructed from the self-reported eating habits information reported in the Italian Multipurpose Household Survey (MHS) over the period 2019-2021.The results from the ordinal logistic regressions indicate a strong heterogeneity of adherence to MD among different socio-demographic groups. Moreover, MD indexes are found to be positively correlated to individuals' engagement in healthy and sustainable lifestyle, environmental concerns, and negatively correlated to mental distress.

1564-What drives Italians to adhere to Mediterranean Diet The role-Bimbo.doc

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Consumers' perception of environmentally friendly foods

Lucrezia Abruzzo, Daniele Asioli, Fabio Bartolini
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The comparative analysis of consumers' beliefs toward foods considered environmentally friendly is based on a common survey design. The survey adapts to environmental food choices the seminal work proposed by Lusk (2019) to understand natural foods. The survey was divided into 7 blocks: icebreaker question, food package information, food values, natural food, environmental-friendly food, politics and pro-environmental attitudes. To fit into the time frame, the total sample consisted of 536 respondents, of whom 253 were Italian and 283 English. After obtaining the responses, they were analyzed with univariate descriptive statistics. The results show that there is an increasing number of consumers recognising the importance of sustainability, which has evolved beyond mere environmental concerns to encompass economic and social dimensions. The present research confirms a growing public awareness for the environment. The study reveals a low level of awareness and information regarding the impact of food on the environment.

1922-Consumers' perception of environmentally friendly foods-Abruzzo.docx

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Promoting healthy and sustainable eating in primary schools: an overview of the interventions in Lombardy

Veronica Vitali, Giulia Tiboldo, Elena Castellari, Luca Leone, Giuditta Farina
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Introduction

Over 390 million children and adolescents aged 5–19 years were overweight in 2022 (WHO, 2024). Factors contributing to such conditions include increased consumption of high-calorie, low-nutrient foods and sugary beverages, sedentary lifestyles, socioeconomic factors, and environmental influences.

Efforts to address childhood obesity encompass nutrition education programs in schools as the latter can correct unfavorable eating and lifestyle behaviors, showing promising results. The present research focuses on primary schools, considering the variety of nutrition-related interventions and providing an overview of the heterogeneous situation in the Lombardy region of Italy.

Data and research methodology

A survey investigating food initiatives was designed and distributed via Qualtrics to schools in the Lombardy region between October 2023 and February 2024. The survey included questions about school food initiatives. One hundred twenty-nine responses from primary schools were collected.

Discussion of results

Results highlight emphasis on promoting healthy eating habits among students, with most initiatives aiming to educate students about healthy eating (66%). Many initiatives prioritize promoting the consumption of fruits and vegetables, indicating recognition of their importance in a healthy diet (59%). Provision of healthy food products

(39%), education concerning sustainable patterns (27%), and provision of sustainable food (11%) are also among the interventions' goals. Most of the time (63%), the food initiatives are mandatory for students.

Distribution of food products is usually conducted once a week (30%), two to four times a week (26%) or daily (25%). Most initiatives are implemented at the single school level (52%) or at the school complex (43%).

Promotion of the initiatives is held mainly at the national level (29%) or at the regional level (26%) and at the EU level (22%). Results highlight that in most cases, the initiative is promoted in the schools by an individual teacher (48%), or by the school principal (30%), while responsibility for conducting the initiative in the school is mainly held by the fiduciary teacher (54%).

Concerning the effectiveness of the interventions, 26% of respondents report that the initiative was extremely effective in achieving its goal, 55% found it effective, 16% were indifferent, only 4% found it not to be effective.

Main conclusions

The study reveals a multifaceted landscape of food initiatives within primary schools in the Lombardy region of Italy. Interventions often emphasize healthy eating habits, both by providing healthy foods and nutritional education. Along with health prioritization, a growing awareness of the topic of sustainability emerged, with initiatives targeted at educating children on sustainable eating patterns. The variability in implementation frequency and levels, ranging from individual schools to school complexes, reflects the diverse organizational structures and sizes of schools in the region. Despite this diversity, there is a cohesive effort to promote national, regional, and EU initiatives, with key stakeholders such as teachers and school principals playing paramount roles in implementation and promotion. Results highlight the potential for further investments and expansion of such programs to enhance the health and well-being of students.

Essential references

World Health Organization, WHO (2024). Obesity and overweight. Retrieved from: https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight#:~:text=In%202022%2C%2037%20million%20children,who%20were%20living%20with%20obesity.

1755-Promoting healthy and sustainable eating in primary schools-Vitali.doc

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Do consumers wish to be informed? A choice experiment framework over a system of food certification about the safe reusing of wastewater.

Eleonora Tauro[1], Francisco José Alcón Provencio[2], Bernardo Corrado de Gennaro[1], Giacomo Giannoccaro[1]

[1]Department of Soil, Plant and Food Science, Università degli Studi di Bari Aldo Moro, Bari, Italy; [2]Department of Business Economics, Universidad Politécnica de Cartagena, Spain; eleonora.tauro@uniba.it

Public perception and acceptance are crucial for the success of water reuse programs but often fail due to public attitudes. By reducing the information asymmetry existing between producers and consumers, certification programs assist in reducing concerns about contamination and guaranteeing food safety. Therefore, the research question is how to communicate food safety when wastewater is reused for irrigation. A choice modeling framework will be used to assess consumers' preference and willingness to pay for certification and traceability instruments on reclaimed wastewater reuse. Preliminary results of the ongoing study show that 40 test consumers prefer circular economy labels over traceability tools and wastewater reuse for produce certified by a public regulatory body. In conclusion, the traditional government model can be replaced with a more participatory governance framework that links producers, authorities, and end users through the use of digital solutions like certification and traceability programs, as well as the implementation of the Risk Management Plan (Reg. Eu 2020/741).

1813-Do consumers wish to be informed A choice experiment framework over a system-Tauro.doc

4:00pm - 4:30pm	**Coffee break** Location: **Venue - area in front of the Aula Magna**
4:30pm - 6:00pm	**AIEAA Assembly: AIEAA Assembly (Members Only)** Location: **Aula Magna ex Facoltà di Agraria - As** Session Chair: **Simone SEVERINI**
8:00pm - 11:59pm	**Social Dinner** Mercure Villa Romanazzi Carducci Via Giuseppe Capruzzi, 326, 70124 Bari BA https://maps.app.goo.gl/4oMnKd9uY2GSNHnG9

Date: Friday, 21/June/2024

8:30am - 9:15am

P-2A: Innovation in agriculture
Location: **Aula VI - Ps**
Session Chair: **Sandra NOTARO**

The role of Horizon projects for Knowledge and Innovation in the Italian bioeconomy - A Social Network Analysis

Giacomo Maria Rinaldi, Davide Viaggi
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The concept of Systems of Innovation, established in the last decade, emphasizes collaborative research as vital for fostering innovation dynamics. European Commission Framework Programmes incentivized multi-disciplinary collaboration, particularly in sectors like the bioeconomy, which is intersectoral by definition. Despite this, studies on the bioeconomy network's development remain limited, especially concerning national perspectives and involving all the sectors. This study focuses on Italy's bioeconomy network, analysing organizations involved in European projects through Social Network Analysis. Results show the dominance of research institutions, with private companies playing a significant role, while public bodies have a marginal role in this process. Dynamics within the network changed over time, reflecting increased connectivity and sector maturity. Based on that, policymakers might choose between strengthening existing connections, with positive effects on tacit knowledge and trust, or encouraging new entrants to stimulate competitiveness and innovation.

Innovation and economic performance in the Italian agricultural sector

Francesco Mazzulla, Meri Raggi
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We investigate the relationship between innovation and the economic performance of Italian agri-food firms, using a recently developed estimation strategy that is helpful when the policy is characterised by a staggered adoption.

Using Orbis data from 2013-2022, we exploit the EIP-AGRI policy encouraged by the 2014-2022 CAP to assess whether firms located in areas with the presence of OGs (treatment) relative to firms located in areas without OGs (control) experience changes in economic output.

Our results show that the average operating revenue (or total assets) of treated firms, aggregated by region and year, increases compared to the control group.

This finding is confirmed when we consider different types of subsamples (patenting and non-patenting firms), when we make different assumptions about parallel trends, and even when we use the intensity (number of OGs) as the treatment variable.

Designing innovative instruments to enhance farmland biodiversity: a case study analysis from the Showcase project

Monserrath Lascano[1], Fabrizio Ungaro[2], Stefano Targetti[1], Meri Raggi[3], Davide Viaggi[1]
[1]Department of Agricultural and Food Sciences, Universita di Bologna, Bologna, Italy; [2]National Research Council of Italy, Institute of BioEconomy (CNR – IBE), Florence, Italy; [3]Department of Statistical Sciences "Paolo Fortunati", Universita di Bologna, Bologna, Italy; monserrath.lascano2@unibo.it

This study aims to assess the impact of various incentives on biodiversity in targeted case study areas by employing a novel approach that combines spatial modeling and economic analysis, drawing upon biodiversity indicators from two distinct case studies within the H2020 SHOWCASE project. Data collection involved monitoring the abundance and richness of crucial biodiversity indicators - wild bees, spiders, and vascular plants - across two agricultural settings in southwest Spain and central Hungary during the 2022 and 2023 growing seasons. This multi-dimensional approach integrates advanced modeling strategies, utilizing machine learning and traditional statistical methods to map environmental variables across different scales. The contribution of this research lies in comparing the effects of action-based payments linked to the adoption of biodiversity-friendly practices against results-based incentives, which are contingent upon meeting specific biodiversity targets. The expected results include high-resolution spatial maps depicting the distribution of biodiversity indicators under various treatment and cost scenarios, facilitating a comprehensive understanding of the impact of different interventions on biodiversity and thereby offering valuable insights for policymaking.

A SWOT evaluation of the adoption of fungus-resistance grapevines in the Italian region of Veneto

Valentina Di Chiara, Eugenio Pomarici, Elena Maggio
Interdepartmental Center for Research in Viticulture and Oenology (CIRVE), University of Padua; elena.maggio@phd.unipd.it

The increasing focus on sustainability in agriculture, particularly in viticulture, calls for a transition towards sustainable wine production. Fungus-resistant vines (FRVs) offer potential solutions by reducing pesticide use and addressing climate change impacts. This study evaluates strengths, weaknesses, opportunities and threats for FRVs adoption using a SWOT analysis based on semi-structured interviews with 21 FRV wine producers in Veneto. Results show that the use of FRVs lead to numerous benefits such as reduction of

chemical inputs and production costs and their wider diffusion may be fostered by increasing attention of consumers and institutions on sustainability. However, these varieties also have weaknesses, related to both technical aspects (e.g., not fully resistant) and unfamiliarity of consumers and producers and some obstacles such as legislation barriers and consumer diffidence limit their diffusion. Overcoming these obstacles requires collaborative efforts to raise awareness, align regulations and incentivize research.

Reforming water abstraction charges to include environmental costs: an application to the Province of Trento (Italy)

Michael Bernardi[1], Sandra Notaro[2], Carlo Fezzi[2], Stefano Cappelletti[3], Marika Ferrari[3], Antonella Contrini[3]

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This paper addresses the pressing need to implement pricing policies to internalize the environmental costs of water withdrawals. It proposes potential methods for reforming water fees to recover the environmental costs arising from using water resources based on the EU Water Framework Directive, accounting for the ”polluters pay” principle and allowing for a weighted redistribution of the cost of countermeasures.

These methods are implemented in the Province of Trento, and the results formed the basis for reforming water abstraction charges.

The main findings are that small users, like small farmers, would benefit from such a system via a reduced fee, especially in sectors with little polluting impact. In contrast, users associated with more polluting activities or larger withdrawals will see a more heterogeneous change in abstraction charges, which would, however, diminish as the pressures are neutralized and countermeasures no longer needed.

8:30am - 10:00am

CP-2A: Farming and beyond 1

Location: **Aula Magna ex Facoltà di Agraria - As**

Session Chair: **Francesco Pagliacci**

Come together! Cooperation as a sustainable economic driver in Italian wine industry

Cristina Vaquero Pineiro[1], Luca Salvatici[1], Angelo Zago[2]

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What are the economic effects of wine cooperatives in a cooperative territory? This paper examines the Italian wine industry using a unique dataset (2012-2022) to assess cooperative performance vs. non-cooperatives. It explores the role of territorial inter-organizational relationships and argues that Geographical Indications territories serve as a proxy for cooperation and norms. Using a Propensity-Score-Matching strategy, the study suggests that cooperative management alone isn't sufficient, but a favorable territorial context (GIs presence) can mediate differences. Results emphasize the importance of considering both governance and location for cooperatives.

1000-Come together! Cooperation as a sustainable economic driver-Vaquero Pineiro.pdf

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Measuring the socio-economic impact of Short Food Supply Chains: An identification of indicators through a systematic literature review

Davide D'Ascoli[1], Rosalia Filippini[1,2], Filippo Arfini[1]

[1]University of Parma, Italy; [2]UMR Territoires, France; davide.dascoli@unipr.it

The emergence of Short Food Supply Chains (SFSCs) as alternatives to conventional food supply chains has gained prominence due to their ability to bridge social and geographical distances between producers and consumers. SFSCs are defined by limited economic operators fostering cooperation, local development, and close producer-consumer relationships. They represent social innovation responses to market challenges, offering economic and societal benefits while promoting sustainability. This study systematically identifies indicators for assessing the economic and social impacts of SFSCs through a Systematic Literature Review (SLR) process. Findings reveal 184 indicators clustered into economic and social categories, applied predominantly in urban settings. Notably, indicators vary based on SFSC type, with Farmers Markets, Community Supported Agriculture (CSA), direct sales, and cooperative initiatives analyzed extensively. This research contributes to understanding the multifaceted impacts of SFSCs on economic sustainability and social cohesion.

1763-Measuring the socio-economic impact of Short Food Supply Chains-DAscoli.docx

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A new integrated framework to assess the impact of social farming on sustainability and rural development: A case study in Lazio

francesco basset[1,2], francesca Giarè[2], Saverio Senni[1], Barbara Soriano[3]

[1]Università degli Studi della Tuscia, Italy; [2]CREA - Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria; [3]Research Centre for the Management of Agricultural and Environmental Risks (CEIGRAM), Universidad Politécnica de Madrid, Spain; francesco.basset@unitus.it

While the significance of Social Farming (SF) is well established in the literature, there remains a notable absence of suitable tools for evaluating and monitoring these practices. This study proposes a new integrated

framework to evaluate the impacts of social farming on sustainability and rural development. The results of this study mainly concern different aspects, both at methodological and operative level. The integrated methodological approach proposed facilitated the evaluation of social farming. The SWOT and BMC methods revealed differences across various projects, influencing the outcome of impact assessments. SROI enabled the quantification of social, environmental, and economic impacts, facilitating comparisons between them. AHP helped address specific limitations of SROI. Regarding the operative level the projects analyzed have a positive social return ranging from around €1.10 to €1.70 per euro invested. The importance of expressing this value in monetary terms lies in the implications in terms of welfare and agricultural policies.

1795-A new integrated framework to assess the impact of social farming-basset.doc

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Sustainable development and biodiversity protection in rural areas: a participatory approach to support policy-makers

Naomi di Santo[1], Alessandro Petrontino[1], Roberta Sisto[2], Rinaldo Grittani[1], Michel Frem[1], Francesco Bozzo[1]

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The European Union prioritizes biodiversity management, evident in the European Green Deal Agenda and the Biodiversity Strategy for 2030, which aims for green growth and conservation. However, issues like land-use changes and climate change persist. As defined by the Convention on Biological Diversity, sustainable hunting mixes biodiversity conservation and social aspects. In Europe, hunting management varies by country. Specifically, in Italy, it operates at national, regional, and local levels. Despite some standardization efforts, local plans need more participatory approaches, risking misalignment with scientific guidance. This study proposes a participatory strategy for crafting regional wildlife hunting plans, focusing on Apulia, Italy. Backcasting and content analysis methods were used, involving experts and stakeholders. SWOT analysis revealed strengths, weaknesses, opportunities, and threats. Inconsistencies and the need for participatory policymaking were evident, underlining the importance of inclusive approaches for effective biodiversity management.

1953-Sustainable development and biodiversity protection-di Santo.pdf

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One activity, many attractions. Determinants of multiple agritourism attractions in Italy

Francesco Pagliacci[1], Umidjon Matyakubov[2], Grilli Gianluca[1]

[1]Università di Padova, Italy; [2]Urgench State University, Uzbekistan; francesco.pagliacci@unipd.it

Agritourism is one of the main forms of farm diversification. However, over time agritourisms themselves have become more and more diversified, encompassing several attractions (ancillary activities) beyond traditional overnight accommodation and restaurant services (e.g., horseback riding, hiking, nature observation, educational farms). This study aims to investigate the main determinants driving agritourisms' holders to expand their attractions, including agricultural holdings' characteristics, owners' socio-demographics, as well as territorial features of the municipalities where the agritourism is located. A quantitative analysis is performed based on Italy as a case study. Using data provided by the official statistics (ISTAT) at micro level and by means of a Poisson model and a Negative Binomial model, we quantitatively analyze the main drivers explaining the number of different attractions conducted by agritourism farms. Results indicate both individuale and territorial-level characteristics matter. Thus, local and national policymakers should provide tailored incentives for the growth of multi-attraction agritourisms.

1021-One activity, many attractions Determinants of multiple agritourism attractions-Pagliacci.doc

8:30am - 10:00am

CP-2B: Consumers' preferences choice and WTP

Location: **Aula X - Bs**

Session Chair: **Stefanella Stranieri**

Assessing consumer willingness-to-pay for Italian geographic indication wine made with gene-edited grapevines

Paolo Sckokai[1], Vincenzina Caputo[2], Jutta Roosen[3], Mirta Casati[1]

[1]Università Cattolica del Sacro Cuore, Piacenza, Italy, Italy; [2]Michigan State University; [3]Technical University Munich; paolo.sckokai@unicatt.it

New genomic technologies (NGTs) - such as gene editing (GE) - could help farmers reduce pesticide use while maintaining crop yields. However, the EU regulatory framework treats NGTs in the same way as GMOs, raising the risk that consumers will be as averse to this technology as they were to GMOs. To understand whether informed consumers discriminate between NGTs and GMO products, we conducted a between-subjects discrete choice experiment on a random sample of 1,800 Italian participants to assess their willingness to pay for geographically labeled wines produced from GE grapevines, randomly assigning some participants with information about how NGTs actually work. Our results indicate that consumers have negative perceptions of GMOs and less negative perceptions of NGTs when provided with information about the technology. This highlights the need for a revised regulatory framework in the EU that makes a clear distinction between GM and NGT.

1705-Assessing consumer willingness-to-pay for Italian geographic indication wine made with gene-edited.doc

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Consumers' interest and knowledge for advanced genetic certification preventing seafood fraud

Giovanni Ottomano Palmisano[1], Anna Mottola[2], Angela Di Pinto[2], Roberta Piredda[2], Rocco Roma[1], Annalisa De Boni[1]
[1]University of Bari "Aldo Moro", Department of Soil, Plant and Food Sciences (Italy); [2]University of Bari "Aldo Moro", Department of Veterinary Medicine (Italy); anna.mottola@uniba.it

Species substitution is a widespread fraud in the fishery sector with several consequences for consumer safety, fisheries sustainability, and marine ecosystem conservation. Currently no certifications have been developed to protect the consumers against frauds related to fish species substitution. This research aims to evaluate to what extent Italian consumers are interested in a genetic certification scheme protecting from fish species substitution. Consumers' interest for this innovative certification was investigated through an online survey; then, collected data were analyzed with the decision tree, capable to analyze simultaneously the consumers' features and habits, thus providing the decisional flow about interest in the introduction of the genetic certification scheme for fish products. Results highlighted a strong overall interest, which was further confirmed by scarce ability to recognize fish species and by a willingness to pay a premium price of 10% or more for genetically certified fish with respect to same fish not certified.

1919-Consumers interest and knowledge for advanced genetic certification preventing seafood fraud-Ottomano.pdf

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Functional Biscuits, healthy addition to your coffee break! Evaluating Consumer acceptability and Willingness to Pay

Eleonora Sofia Rossi[1], Francesco Sestili[2], Samuela Palombieri[2], Emanuele Blasi[1]
[1]Department for Innovation in Biological, Agro-food and Forest systems (DIBAF), University of Tuscia, Italy; [2]Department of Agriculture and Forestry Sciences (DAFNE), University of Tuscia, Italy; e.s.rossi@unitus.it

During quick meals or breaks, workers and students often choose pre-packaged foods or snacks for convenience, but this can lead to health problems. The introduction of functional foods in vending machines could promote healthier eating habits. The research aims to evaluate workers' and students' acceptability and willingness to pay (WTP) for a snack pack of high-amylose Functional Biscuits (FB). This experimental flour blend is effective in preventing non-communicable diseases, e.g. obesity and cardiovascular disorders.Two phases of analysis were carried out on the 209 participants. Firstly, the blind investigation highlighted the acceptability of FB. Secondly, the Finite Mixture Model was employed to determine the factors that affect WTP among various groups of consumers. The design of a communication strategy and industry approach should aim to assist consumers in comprehending the health benefits and sensory aspects of novel functional foods available on the market.

1736-Functional Biscuits, healthy addition to your coffee break! Evaluating Consumer acceptability and.pdf

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Assessing the influence of Nutri-Score on consumer choices in Italy: Insights from a menu planning task

Alice Stiletto, Samuele Trestini, Leonardo Cei
Università degli Studi di Padova, Italy; alice.stiletto@unipd.it

The possible introduction of the Nutri-Score (NS) as a mandatory nutritional food label is a hot topic in the EU debate. To have a clearer view on the potential implications of its introduction, however, it is necessary to investigate multiple aspects of its use. In this contribution, we aim at estimating the propensity of consumers to change product categories in their food choices in response to the presence of the NS label. This is done setting a within-subject experiment where respondents are asked to select products to compose their meal. Data will be analysed using a Bayesian logit model, while the attitude of respondents to switch product category will be linked to their attitudes and characteristics through a multinomial logit model. Preliminary results show that while the NS promotes the switch between categories in some cases, for some categories a switch between products within the category is rather observed.

1340-Assessing the influence of Nutri-Score on consumer choices-Stiletto.pdf

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The effect of Nutriscore and Geographical Indication labels on consumer food purchase intention: a Bayesian mediation analysis

Claudio Soregaroli[1], Mirta Casati[1], Alessandro Varacca[1], Stefanella Stranieri[2]
[1]Università Cattolica del Sacro Cuore, Piacenza, Italy; [2]Università degli Studi di Milano, Milano, Italy; stefanella.stranieri@unimi.it

The Farm 2 Fork strategy aims to implement harmonized mandatory front-of-pack (FOP) nutrition labelling, but some EU countries, such as Italy, express concerns about potential negative spillover effects, particularly on the Mediterranean diet and traditional Italian products. Using an online survey of 1,373 participants from Italy and the Netherlands and Bayesian g-computation, we investigated the combined effects of PDO and Nutriscore labels on consumers' purchase intentions for hard cheese. Our results indicate that when consumers are familiar with either the PDO label or the product itself, the Nutriscore does not influence their purchase decisions. This suggests that PDO labels may act as a quality signal, protecting traditional products from the low Nutriscore grades. This suggests that geographical indications may actually serve as a protection for producers against Nutriscore, and thus they could gain a competitive advantage by joining a PDO/PGI consortium.

1705-The effect of Nutriscore and Geographical Indication labels-Soregaroli.doc

8:30am - 10:00am

CP-2C: Agricultural labor demography and working conditions

Location: **Aula XI - Cs**
Session Chair: **Francesco Mantino**

Why do farmers fail to comply with the employment standards of the Social Conditionality?

Giorgia Giordani[1], Francesca Giarè[2], Simone Severini[1]
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The Social Conditionality (SC) of the Common Agricultural Policy reduces CAP payments if farmers to not comply with employment standards aimed at protecting workers' rights and working conditions.

This paper investigates the motivations behind farmers' behavior concerning the rules affected by the SC. For the purposes of the exploratory investigation, the literature on farmers' motivational levers and available statistics on labour standard violations were analysed.

A proposed framework is put forth which encompasses competing motivations, specifically, information, awareness, and normative, social, and computational motivations. The exploration of information and awareness is of paramount importance. In light of the sensitivity surrounding the topic, social and normative motivations are crucial. Additionally, the impact of the computational factor is likely to be more significant as the amount of payments received by farms increases. It is imperative to take into account the social desirability bias as it may encourage respondents to manipulate their responses.

1699-Why do farmers fail to comply with the employment standards-Giordani.docx

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Effects of Heat on Agricultural Workers: Adaptation Strategies and Economic Impacts

Andrea Miriana Ferro, Meri Raggi, Stefano Targetti, Davide Viaggi
Alma Mater Studiorum Università degli Studi di Bologna, Italy; andreamiriana.ferro2@unibo.it

Climate change intensifies global heat extremes, risking workers' health and productivity Iin agricolture. Despite growing awareness, lacking standardized methods hinder comprehensive assessments. WORKLIMATE 2.0 investigates heatwave impacts to enhance intervention strategies. A study at Cooperative Agricole Braccianti (CABs) in Ravenna province found productivity declines during peak heat, especially in orchards. Adjusting work hours and providing shade were effective interventions, despite economic and logistical challenges. Surveyed farms prioritize workers' health, aligning with European safety guidelines. Simple measures are crucial in mitigating heat stress amid climate change, emphasizing continued worker well-being.

1920-Effects of Heat on Agricultural Workers-Ferro.docx

Inclusive agricultural work and migrants reception: best practices for rural revitalization

Selene Righi[1], Eduardo Barberis[2], Fabio De Blasis[2], Elena Viganò[2]
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The paper addresses the issue of labor exploitation of migrants in Italy, with a specific focus on the agricultural sector. This work aims to identify and analyze, at the national level, good practices of socio-economic inclusion of migrants, asylum seekers and refugees through Social Farming, using the criteria proposed by the International Labor Organization (ILO) for the evaluation of actions to promote decent work and combat labor exploitation in the agricultural sector. The intent is to provide informative tools and guidelines to stakeholders in the agri-food system to facilitate the preparation and implementation of shared and replicable interventions for preventing exploitation, promoting decent work and enhancing production-exchange-consumption models that are socially, environmentally and economically sustainable. In particular, it will be interesting to analyze how this system interfaces with local communities and how this system of reception and inclusive work can drive the revitalization of rural areas.

1789-Inclusive agricultural work and migrants reception-Righi.docx

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Demographic resilience and migratory flows: analysis of immigrant preferences for a long-term vision of rural areas

Ruggiero Sardaro, Snour Ahmadi, Antonio Urbano, Piermichele La Sala
University of Foggia, Italy; snour.ahmadi@unifg.it

In recent years, immigration to the EU has been a central theme of political debate, which focuses on the management of migratory flows and reception policies. The actions promoted aim to encourage the integration of foreigners, but have mainly social aim, while the interactions between migratory flows and economic sectors are ignored. Immigration is a complex and relevant phenomenon both in social and economic terms for rural areas. Immigration could give new vitality to rural territories, especially if related to the characteristics of the population of these areas. The impacts on socioeconomic vitality are positive in terms of generational turnover and quality of social dynamics. Thus, the study aims to investigate the preferences of immigrants on living and working opportunities in the Apulian rural areas for planning policies aimed at boosting economic and social dynamics in these weak territories.

1963-Demographic resilience and migratory flows-Sardaro.pdf

Demographic disparities in Italian rural areas: the role rural policies in supporting different typologies of demographic change

Francesco Mantino, Giovanna De Fano, Gianluca Asaro
CREA-PB, Italy; francesco.mantino@crea.gov.it

This paper focuses on the analysis of Italian Rural Development Programs (RDPs) in the period 2014-2020 and aims to answer the following research questions:

a) To what extent does the EU rural development investment support address demographic differences between urban and rural areas, on the one hand, and rural areas with different demographic dynamics, on the other hand?

b) Is LEADER initiative more oriented toward social sustainability than the other set of RDP measures?

c) Which impacts has the demographic change on the demand for rural policies, under the assumption that the high rates of outmigration might lower the investment initiatives in agri-food sector in less developed rural areas?

1095-Demographic disparities in Italian rural areas-Mantino.doc

8:30am - 10:00am

CP-2D: Farms facing sustainability challanges

Location: **Aula XV - Ds**
Session Chair: **Luigi Biagini**

GRI Standards for sustainability assessment of SMEs in the agrifood sector

Marianna Guareschi, Teresa Tugliani, Rosalia Filippini, Filippo Arfini
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The sustainability report represents an enterprise social responsibility tool to engage businesses in more sustainable choices and communicate their sustainability performance to stakeholders. However, from literature review several research gaps emerge concerning the application of sustainability reporting especially for Small and Medium Enterprises (SMEs) in agrifood sector. Therefore, the aim of the research is a descriptive analysis of existing sustainability reports based on Global Reporting Initiative (GRI). The methodology use GRI as the benchmark standard, due to its adaptability to the context of SMEs to study a sample of 120 SMEs operating in the agrifood sector. Fourteen reports following the GRI standards were analysed. The main fundings show material themes choosen by the firms, GRI standards frequency of usage and the informative coverage of the reports. This preliminary research will be followed by a qualitative analysis to better define a simplified GRI models for agrifood SMEs.

1655-GRI Standards for sustainability assessment of SMEs-Guareschi.docx

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Sustainable Practices in Italian Wine Firms: A Comparative Analysis of Environmental, Social, and Economic Dimensions

Sonia Morandi, Elena Claire Ricci
Department of Managment, University of Verona, Italy; sonia.morandi@univr.it

The agriculture sector has seen the application of sustainable principles in recent years, involving also the wine firms. The study aims at evaluating the perspectives of wine companies regarding multidimensional sustainability, consumer perception, and sustainable practices in general, as well as the sustainable practices they have embraced. Data were collected through a survey of Italian wine firms. The results shed considerable light on the level of significance attributed to sustainable dimensions in relation to the practices that have been effectively put into action. Preliminary analysis indicates that companies predominantly associate sustainability with environmental aspects. However, although not explicitly linked to sustainability by the wine firms, the actions they take in the social dimension hold considerable significance. Our results may, therefore, suggest that providing more information about the multidimensionality of sustainability to companies could lead to greater awareness, which could also change their communication with consumers.

1831-Sustainable Practices in Italian Wine Firms-Morandi.pdf

Assessing sensitivity of global sustainability indicator to different composite index methods: application to the cereal farming in Catalonia

Mahdieh Khezri nejad gharaei[1,2], Bouali Guesmi[1], Jose Maria Gil Roig[1,2]
[1]Center for Agro-Food Economics and Development (CREDA-UPC-IRTA), Spain; [2]Polytechnic University of Catalonia, Spain; mahdieh.khezrinejadgharaei@upc.edu

Forward-thinking farming must be more efficient and sustainable to meet the multitude of challenges heading it way. This study aims to provide a comparison of different composite index methods to assess the sustainability of cereal farming in Catalonia. In response to the increasing importance of sustainable agriculture, the proposed index integrates key environmental, economic, and social indicators to provide a holistic assessment of the sustainability performance. Through a systematic review of relevant literature, 21 indicators are identified presetting three mentioned dimensions and almost all possible composite index methodologies are checked. The empirical analysis relies on Farm Accountancy Data Network (FADN) for farms specialized in cereal production from 2016 to 2021. Although the construction of a composite index involves three main stages, each small change in any stages would change final result significantly. By comparing their difference and validation through regressions equations, this research contributes to informed decision-making and collaborative efforts.

1930-Assessing sensitivity of global sustainability indicator-Khezri nejad gharaei.pdf

Characterizing the agroecological transition of Italian farming systems using FADN database

Vincenzo Fiore[1], Simone Russo[1], Sarah Stempfle[1], Ruggiero Sardaro[2], Piermichele La Sala[2], Luigi Roselli[1]

[1]University of Bari "Aldo Moro", Italy; [2]University of Foggia; vincenzo.fiore@uniba.it

The Common Agricultural Policy for the period 2023-2027 encourages the transition towards sustainable agriculture in line with the goals of the European Green Deal. Agroecology is gaining recognition as a valuable approach to enhance the sustainability of faming systems. However, there is limited knowledge of the *status quo* of the farming systems and their readiness for transition. This paper investigates the agroecological performances of the Italian farming systems and their structural and organizational determinants at farm level. The study is based on the adaptation of the Tool for Agroecology Performance Evaluation (TAPE) methodology to use FADN data. Also, an ordered logit model was estimated to identify the key determinants of the degree of transition. The preliminary results suggest that the agroecological approach has not yet been widely adopted by the Italian farms. The findings provide a knowledgebase for developing targeted policies and monitoring progress towards agroecological transition.

1003-Characterizing the agroecological transition of Italian farming systems using FADN database-Fiore.pdf

All that glitters is not green: energy consumption of eco-friendly farming practices in Italy

Luigi Biagini[1], Federico Antonioli[2], Simone Severini[1]

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This research offers a quasi-experimental study of the estimation of differences in energy use consumption linked to the shift from conventional to organic and agro-environmental climate (AEC) farms in Italian crop farms from 2014 to 2021. By employing staggered difference-in-differences, we examine the influence of environmentally friendly practices on energy use over various years. The results indicate that the switch to organic does not significantly alter energy per unit of land, revealing a rise in energy consumption when considered in terms of unit of total revenue; on the other hand, AEC methods do not show a significant difference in energy use in either case.These findings underscore that although the beneficial impact of environmentally friendly practices on biodiversity is unquestionable, the shift into these practices does not reduce energy consumption and, in the case of organic, increases energy consumption per unit of total revenue

1651-All that glitters is not green-Biagini.pdf

8:30am - 10:00am

OS-2: Assessing and modelling the trade and environmental policy impact in agriculture

Location: **Aula V - OSs**
Session Chair: **Daniele Curzi**

Assessing and Modelling the Trade and Environmental Policy Impact in Agriculture

Daniele Curzi[1], Luca Salvatici[2], Margherita Scoppola[3], Fabio Santeramo[4], Emilia Lamonaca[4]

[1]University of Milan, Italy; [2]Università degli Studi Roma Tre; [3]Università degli Studi di Macerata; [4]Università degli Studi di Foggia; emilia.lamonaca@unifg.it

1031-Assessing and Modelling the Trade and Environmental Policy Impact-Curzi.pdf

9:15am - 10:00am

P-2B: Social sustainability in agriculture

Location: **Aula VI - Ps**
Session Chair: **Letizia Forzoni**

Enhancing Sustainability Reporting: A Focus on Agri-food Companies' Quality

José Rios-Madrid, Melania Salazar-Ordóñez, Macario Rodríguez-Entrena

WEARE-EAARN, Universidad de Córdoba, Spain; msalazar@uco.es

The agri-food sector has undergone significant transformation in response to consumers' growing concerns about the social and environmental impacts of food production.Sustainability reports, referred to as non-financial reports (NFRs), emerge as an indispensable tool for disclosing social, environmental, and governance aspects, offering stakeholders a comprehensive insight into a company's sustainability performance.Despite the regulatory efforts by the European Union, such as Directive 2014/95/EU, many companies in the agri-food sector have yet to fully embrace this practice.This study aims to assess the quality of sustainability information disclosed by agri-food companies to understand their current status in Spain. To achieve this goal, data was collected and a content analysis was performed. A sample of 226 companies with NFRs in Spain was identified from a population of 3,698 companies in SABI database. The results showed a generally low level of disclosure, and low quality across both SMEs and large companies.

Developing social sustainability indicators for agriculture using Irish FADN data

Emma J Dillon[1], Mary Brennan[1], Thia Hennessy[2]

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In the pursuit of sustainable food systems, comprehensive assessments of farm sustainability encompass economic, environmental, and social dimensions. While economic and environmental indicators have received substantial attention, the social dimension is increasingly recognised as pivotal, as reflected in recent policy frameworks such as the EU CAP and the Farm to Fork strategy. However, the integration of social sustainability metrics remains underexplored. This paper examines the development of social sustainability indicators within the context of Irish agriculture, drawing on data collected through the Teagasc National Farm Survey (NFS). Special surveys conducted alongside the NFS have focused on issues like generational renewal, farm safety, wellbeing, and community engagement. Findings from the 2021 survey reveal significant stress among farmers, particularly in dairy farming, alongside variations in health and wellbeing across farm systems. The increasing digital connectivity of farmers, accelerated by the COVID-19 pandemic, is also noted, along with shifts in social engagement patterns.

The social sustainability of European agriculture facing old and new challenges. Issues, methods and policies

Antonella Labbate, Donato Boscia, Fabrizio Cillo, Livia Stavolone, Pierfederico La Notte
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Invasive alien species are organisms that, accidentally introduced by human activity and settled outside their natural distribution area, alter the ecosystems threatening biodiversity, causing serious damages to agriculture and fishing, with many socioeconomic consequences. In Europe and Mediterranean, Italy is one of the countries hardest hit by the biological invasions whose increase is certainly linked to globalization and global warming. In addition to studying these phenomena, the researchers aim to educate and raise awareness about sustainable phytosanitary protection, as well as the risks and impacts of biological invasions by alien pathogens, parasites, and plants/animals. It is also important to identify the limits and needs of research and innovation, and involve citizens in a network to improve synergistic interaction between research, stakeholders and consumers for sustainable plant production and environmental protection.

To meet these goals, in the Agritech project funded by the NextGenerationEU program, three activities were specifically planned by CNR (task 3.3.3):

1. Create a pilot online platform for citizen science that includes two interactive sections for describing/reporting alien organisms and to identify knowledge gaps, legislative constraints, research needs and opportunities for innovation.

2. Create training materials tailored to specific subjects and interest groups (e.g. students, teachers, farmers, nurseries).

3. Develop and provide questionnaires to interest groups to assess their level of knowledge and encourage learning, serving as a partial information/training activity.

The third more advanced activity consists of a generic questionnaire for the general public, not tailored to specific interest groups, written using the Google Modules tool (https://forms.gle/bRzyfmJrrFPJNg6P6) and composed of three sections: i) profiling respondents; ii) general questions about topic knowledge; iii) behaviors, and personal experiences. The questionnaire has already been handed out on a few occasions/events and it is intended to represent itself as a useful tool for sensitizing citizens through simple tips and small changes in behaviors. In fact, along with the questionnaire is provided a contact form, also for future training events, and a leaflet describing the topic, some examples, and a few "rules of behavior" to follow during personal trips, etc.

If the questionnaire itself can be considered a preliminary result, it is clear, from the limited number of data processed, that the majority (around 80%) of about 100 respondents are familiar with the concept of alien organisms, learned mainly through the web and media. The same percentage believes that these species are extremely harmful to biodiversity, ecosystems, and environment, that this is a community-wide issue and that action should be taken only in specific cases. The most commonly cited examples from respondents are Xylella fastidiosa, the blue crabs and the green/monk parakeets, with prevention, surveillance, and monitoring being mentioned as the most effective solutions to limit the problem. Finally, the majority of respondents travel 3-5 times per year by car and/or train and a sizable proportion have moved seeds, plants, parts of plants and animals, despite being partially aware that such action could have consequences on the territory; it suggests that more strict controls and informative campaigns are necessary and urgent.

Social justice issues concerning the clash between pastoral and agricultural patterns and the Wolf management program: the case of the Czech Republic

Barbora Nohlova[1,2]
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Nature protection strategies, primarily the rewilding and reintroduction of critically endangered species, have been widely used to preserve biodiversity. However, these strategies often drive stark conflicts in cultural and agricultural landscapes. The clash between pastoral patterns and the introduction of large carnivores in Europe has gained the growing attention of scholars. In the Czech Republic, the farmers need to protect their herds, and traditional pastoralism in the face of new state regulations promoting the wolf population presents a significant challenge for the current agriculture trajectories.

This study applies an environmental justice-based lens and focuses on the social justice claims and issues associated with maintaining pastoral and agricultural patterns clashing with wolf protection measures in the Beskids Mountains in the eastern part of the Czech Republic.

The study is grounded in social research and applied qualitative research methods. It is based on field research stays (6 months between 2022 and 2023), stakeholder analysis, semi-structured and informal interviews (n=34) with stakeholders from the expert, local government, and farmer sectors, and field observation. Thematic and empirical environmental justice analysis were used as analytical methods to process the data.

The research identified various social justice issues associated with the clash between pastoral and agricultural patterns and wolf protection: the lack of sufficient support for the psychological loss and trauma of farmers impacted by wolf attacks on their herds; a top-down implementation of compensations insufficiently and inappropriately addressing real farmers issues; lack of sufficient financial support for the extra costs; and finally, lack of participation and recognition of the farmers in the process of planning and implementing the wolf protection measures.

The research shows that the various justice claims concerning multiple stakeholders and their different perspectives and visions of future development trajectories create challenges in future land management. The main problem, however, is the lack of participation and recognition of the key stakeholders within the process of nature protection measures planning and implementation. This creates a great power imbalance and asymmetry.

This contribution discusses how the research findings can provide a tool for better landscape management while considering the visions and expectations of all the involved parties.

The socio-economic sustainability of the livestock value chain: from an assessment metric to the transformational capacity

Letizia Forzoni[1], Michele Moretti[1], Selene Righi[1], Sophie Van Schoubroeck[2]
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The present workpiece brings the novel contribution of enriching the more canonical assessment of livestock value chains' sustainability performances with the transformative thinking approach. This result will be reached through the application of an online two-round Delphi Study and from the subsequent analysis of the collected answers. Based on the multidisciplinary competencies of researchers and practitioners in the European context, the survey will guide policymakers to take action for the achievement of socially sustainable and economically viable livestock sector transformation, also considering the governance leverage.

10:00am - 10:30am

Coffee break
Location: **Venue - area in front of the Aula Magna**

10:30am - 11:30am

2nd Plenary Session: Labor Policy and Social Sustainability in Food Systems
Location: **Aula Magna ex Facoltà di Agraria - As**
Session Chair: **Alessandro Olper**
Speaker: Eva-Marie Meemken (ETH Zürich)
Discussant: Benedetto Rocchi (University of Florence)

11:30am - 12:15pm

P-3A: Agriculture and the Society
Location: **Aula VI - Ps**
Session Chair: **Raffaele D'Annolfo**

Effect of Farmers-input Supplier Relationship on the Local Economy: The case of MercaTiAmo project.

Oluwatosin Abigail Fagbohun, Davide D'ascoli, Filippo Arfini
University of Parma, Italy; oluwatosinabigail.fagbohun@unipr.it

Bottom-up social innovation initiatives, particularly Short Food Supply Chains (SFSCs), aim not only to supply food but also to foster social interactions transforming the food system. By mobilizing local resources, these initiatives address market challenges and support local economies, carrying implications for economic, social, cultural, and environmental aspects. While research has often focused on producer-consumer dynamics, the role of input suppliers has been under-explored in SFSCs studies, despite their potential impact on the local economy and their potential influence on trust-based relationships between producers and consumers. This study seeks to examine the nature of relationships between farmers and input suppliers through Social Network Theory and the local multiplier tool, aiming to enhance local economic growth by identifying factors that strengthen these relationships. Employing a mixed-method approach, the research will contribute to debates on SFSCs' social and economic sustainability, potentially informing local economic development strategies and enhancing economic resilience in rural communities.

1923-Effect of Farmers-input Supplier Relationship on the Local Economy-Fagbohun.pdf

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Policy Coherence framework for Carbon Farming: a review of the literature

Silvia Coderoni, Paolo Sckokai, Francesca Pisaneschi
Università Cattolica del Sacro Cuore, Italy; scoderoni@unite.it

The European Commission aims for climate neutrality by 2050. The MARVIC project emerges in this context, with its ambition to develop and test a reliable framework for designing harmonized, context specific Measurement, Reporting, and Verification (MRV) frameworks for CF. The objective of this review is to identify the most appropriate framework to analyse policy coherence for CF systems in Europe, that could allow to let emerge eventual synergies and trade-offs that can hamper or facilitate the success of such policy tools.

1893-Policy Coherence framework for Carbon Farming-Coderoni.pdf

Olive cooperatives can do more to increase the sustainability and livelihood of small agricultural farms.

Sergio Colombo[1], Anastasio Villanueva-Rodríguez[1], Granado-Díaz Rubén[1], Ruz-Carmona Antonio[2]
[1]IFAPA, Spain; [2]University of Jaen; sergio.colombo@juntadeandalucia.es

Most olive farms are small and face unfavorable production conditions such as high labor costs, land fragmentation, and limited capital. These farms typically achieve profitability through family labor and subsidies from the Common Agricultural Policy (CAP). However, both sources of support are expected to diminish in the future due to the aging of olive farmers, a lack of generational renewal, and continued reductions in CAP funding. This could lead to a gradual exclusion of small farms from both domestic and international markets, resulting in land concentration at the local level or even farm abandonment and impoverishment of local communities. In this context, olive farm cooperatives can serve as bridging organizations to promote communication, collaboration, and the exchange of resources and information among different stakeholders, including small farmers, service enterprises, and financial institutions. This collaborative approach aims to enhance the sustainability and livelihoods of small farms. In this paper, we propose and compare the production costs and sustainability of two collaboration systems, assisted production, and intensification, led by olive cooperatives. We aim to offer possible solutions to the dilemma faced by small farms

2002-Olive cooperatives can do more to increase the sustainability and livelihood-Colombo.doc

Towards improved collaboration and stakeholder engagement in education and training system in bioeconomy: A governance framework

Yaprak Kurtsal, Rino Ghelfi, Paola Galletti, Davide Viaggi
University of Bologna, Italy; yaprak.kurtsal2@unibo.it

Introduction

While the importance of bioeconomy throughout Europe is generally recognized, there are gaps between the demand for adequate skills and the supply of education and training (ET). Hence, member states need to ensure that their ET systems are improved towards filling these gaps and build collaborative and participatory governance systems. The aim of this study is to first, propose a ET framework in bioeconomy, that can address the changing educational needs; and second, to identify which topics are considered the most crucial among participants, focusing on collaboration and stakeholder engagement; and whether there are differences among their perceptions regarding how much importance they place on these topics.

Data and research methodology

The data collection was conducted through an online survey, which was implemented to ET providers, civil society, policy-makers and bioeconomy professionals in eight member states. 188 responses were collected. The design of the questionnaire has been based on the governance model proposed in the submitted abstract. Then, a MANOVA test was conducted for the set of variables in the category of collaboration and stakeholder engagement of our governance model, to examine the relationships between our explanatory variables (gender, age, education, experience in bioeconomy and stakeholder type) and the ordinal dependent variables (Likert-scale) that seek to evaluate the perception of stakeholders in different topics. Besides, as a preliminary descriptive analysis, a relative importance index was calculated to identify topics seen as the most important by stakeholders.

Preliminary results

The MANOVA test yielded a statistically significant value (0.0004) for the Roy's largest root of the model, indicating that at least one linear combination of the dependent variables significantly differs across survey participants. Specific variables contributing to this effect will be evaluated further to provide insights into the underlying processes. In terms of descriptive statistics, overall, "strengthening the collaboration of ET institutions and other organizations" was rated as the most important topic; while stakeholders from Cultural and Creative Communities/Industries (CC), those that have experience in bioeconomy, and those between the ages of 31-40, almost always gave a higher rating to the topics related to collaboration. The stakeholder group that is considered the most crucial to be included in decision/curriculum-making processes was bioeconomy professionals, which received the highest rating by business organizations. Furthermore, stakeholders from CC and NGOs, and those based in Italy placed a higher importance to inclusion of marginalized groups in strategic decisions.

Preliminary conclusions

Introducing a collaborative and participatory governance framework proves to be important for improving the bioeconomy ET that can meet the needs of the sector. Meanwhile, focusing on including a wide range of stakeholders in decision-making and voicing their needs and priorities through feedback mechanisms and permanent platforms will be pivotal for the re-structuring of the current ET system in bioeconomy.

1716-Towards improved collaboration and stakeholder engagement-Kurtsal.pdf

The role of the food industry in rural development: two cases studies in Calabria region

Tatiana Castellotti, Gabriella Lo Feudo
CREA, Italy; tatiana.castellotti@crea.gov.it

The food and beverage industry is an important part of the Italian manufacturing sector and plays a leading role in the promotion of Made in Italy. However, while the economic-agrarian literature has placed much emphasis on the role played by agriculture in the paths of territorial development of rural areas, especially in those lagging behind in development, less attention has instead had the analysis of the role played, in these areas, by the food and beverage industry. The objective of the paper is to analyse two case study of successful food companies, located in a rural areas of Calabria region. In the first case study, we analyse a food company, the GIAS company, that manages to become a protagonist in the birth and success of the Italian tomato canning industry. In the second case study, we analyse the company Amarelli that is a manufacturer which operates in the licorice industry

1952-The role of the food industry in rural development-Castellotti.pdf

11:30am - 1:00pm

CP-3A: Global perspectives

Location: **Aula Magna ex Facoltà di Agraria - As**

Session Chair: **Valentina RAIMONDI**

The environmental bias of trade policy through the virtual water content of agri-food products

Valentina Raimondi[1], Chiara Falco[1], Clara Bellazetin[2]

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Considering the importance of virtual water trade in the sustainable transformation of the global agri-food industry and the critical importance of trade to face challenges on global food security, this paper aims to understand if trade barriers may drive or restrain the consumption of lower water intensive products in the agri-food sector. Using global data from years 2001, 2004, 2007 and 2010 it was found that the differences between trade policies for high water intensive products versus low water intensive products create an implicit subsidy benefiting the importation of agrifood products with high water footprint (green and blue).

1767-The environmental bias of trade policy through the virtual water content of agri-food products-Raimondi.pdf

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Resilience in Adversity. The Dynamics of Vietnamese SME Resilience During the COVID-19 Pandemic

Thi Nguyet Trang Ta[1,2], Biagini Luigi[1], Manh Hung Nguyen[2], Thi Hoai Anh Le[2], Simone Severini[1]

[1]Tuscia University, Italy; [2]Thai Nguyen University, Vietnam; l.biagini@unitus.it

This study explores the resilience of Vietnamese small and medium-sized enterprises (SMEs) during the COVID-19 pandemic, focusing on the role of financial innovation, government support, social capital, and technological adaptation. This study examines how resource-based and social capital theories affect the resilience and adaptability of 340 small businesses in Thai Nguyen province. This is done using a survey to determine what these theories say. The findings reveal that government support not only directly enhances SME resilience but also moderates the effect of financial innovation on resilience, suggesting that comprehensive policy frameworks are crucial for SME support. All proposed hypotheses were supported, except for the hypothesis regarding the moderating role of government support between technological adaptation and resilience capability. This research underscores the importance of a multi-faceted approach in fostering SME resilience, contributing valuable insights for policymakers, business leaders, and scholars aiming to support SME growth after the pandemic.

1954-Resilience in Adversity The Dynamics of Vietnamese SME Resilience During the COVID-19 Pandemic-Ta.pdf

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THREATS AND VULNERABILITIES OF THE CASSAVA VALUE CHAIN: THE CASE OF NIGERIA

Omobola Deborah Eko, Simone Severini

Universita Studi Degli Della Tuscia, Italy, Italy; omobola.eko@unitus.it

This study investigates threats and vulnerabilities of the value chain in Nigeria. Data were gathered through a questionnaire designed based on the current literature on this topic. The survey collected a total of 71 responses across the 6 geopolitical zones in Nigeria. Descriptive statistics was used to identify and characterize the threats. Majority of the stakeholders were producers of fresh cassava but other operators along the value chain have been interviewed. The study identified 286 threats, classified into 26 categories and were further aggregated into 6 groups. Based on two different risk indexes accounting for risk exposure and vulnerability, it is suggested that attention should be given to the supply chain performance categories of threats and that information and technology threats are becoming more prevalent. Room of maneuver exists to reduce the vulnerabilities of the value chain. Areas for implementing mitigation strategies are proposed.

1907-THREATS AND VULNERABILITIES OF THE CASSAVA VALUE CHAIN-Eko.pdf

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Multinational and domestic food firms' participation to global value chains: does institutional quality matter?

Valentina Raimondi[1], Margherita Scoppola[2]

[1]Università di Milano, Italy; [2]Università di Macerata, Italy; margherita.scoppola@unimc.it

This paper empirically investigates the relationship between institutional quality and the participation to Global Value Chains in the food, beverages, and tobacco industry, by distinguishing flows associated with the foreign affiliates of multinational firms from those due to domestic firms. A panel gravity framework is used to estimate

the impact of institutional quality on the GVC participation index and on its two components, backward and forward GVC. Findings show that, as expected, multinational firms participate more than domestic firms to GVC, and that better institutions do increase GVC participation. Further, institutional quality reduces the gap in GVC participation between multinational and domestic firms. Finally, results show that weak institutions strongly jeopardize the GVC participation and positioning of domestic firms in developing countries.

1160-Multinational and domestic food firms' participation-Raimondi.pdf

11:30am - 1:00pm

CP-3B: Farming and beyond 2

Location: **Aula X - Bs**

Session Chair: **Matteo ZAVALLONI**

A methodological framework to assess the contribution to human well-being of business models in City-Region food systems

Anna Niero[1], Laura Patricia Brenes Peralta[2], Bernd Pölling[3], Matteo Vittuari[1]

[1]Alma Mater studiorum Università di Bologna, Italy; [2]Tecnologico de Costa Rica, Cartago, Costa Rica; [3]Fachhochschule südwestfalen, Soest, Germany; anna.niero@unibo.it

City Region Food System initiatives (CRFSi) represent potential game-changers implementing innovative business models (BM) addressing human well-being as a core goal of sustainability. Building on learnings from the EU-H2020 project FoodE, an assessment framework is proposed to unveil social handprints on stakeholders' well-being in CRFSi BM.

The framework is grounded on the S-LCA combined with a multi-method approach, including the Business Model Canvas (BMC), the Millennium Ecosystem Assessment concepts and the Theory of change, to draw the impact pathway.

The assessment framework is applied to a case study to assess social handprints on well-being in terms of person-equivalents. Hotspots are interpreted in light of the BMC to identify the strengths, weaknesses, and potential improvements of the BM.

This ready-to-use framework provides business owners and decision-makers with an easily understandable measure of people directly benefiting from the CRFSi activities, and an ad hoc interpretation of the BM potentialities for social handprints.

1910-A methodological framework to assess the contribution to human well-being-Niero.docx

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Unveiling farmers' perspectives on urban food policies: the case of farmers' markets in Bologna (Italy)

Francesca Monticone, Antonella Samoggia

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Farmers' Markets (FMs) are increasingly recognised for their transformative potential in the food system, thus *ad hoc* urban policies to regulate them have been implemented by Italian municipalities. However, both policymakers and academia focus on consumers opinions, while farmers' perspectives on food policies at city level have often been overlooked. This research aims to fill this gap by delving into farmers' drivers for selling at FMs, as well as their perceptions on FMs Regulation in Bologna (Italy). The study adopts a mixed-methods approach, analysing 140 questionnaire answers with a combination of quantitative and qualitative methods to gather comprehensive insights from FMs farmers (Exploratory Factor Analysis and Multinomial Logistic regression). Key findings maintain that farmers' main driver for selling at FMs is the relationship with consumers, which allows for direct exchange. Overall, farmers are aligned with value proposition of Bologna's FMs Regulation, but they believe the Municipality could further support FMs.

1726-Unveiling farmers' perspectives on urban food policies-Monticone.doc

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Wine and Tourism: An Analysis of Synergies Through the Italian FADN

Roberta SARDONE[1], Cristina Vaquero Pineiro[2], Orlando Cimino[1], Roberto Henke[1]

[1]CREA, Italy; [2]Università di Roma Tre; roberta.sardone@crea.gov.it

Wine tourism is increasing all over the globe and in Italy. Literature analysed the role of wine tourism in terms of public or private goods and its contribution to the enhancement of farms and the agro-rural system. However, there is no evidence of the effects of wine farming in enhancing other on-farm activities (tourism). The aim of this contribution is to answer to the following questions:

- is wine business likely to result in an increase in agrotourism activities managed by farms?
- do tourism services influence sustainability of wine farms?

The analysis is conducted at the farm level by using 2017-2021 data collected from Italian FADN database. Methodologically, we exploit a Propensity Score Matching (PSM) model to compare the economic dynamics of farms. We disentangle the causal relation between outcomes and treatment variables providing insights on the role of wine specialisation in implementing agrotourism as well as its role for sustainability.

1005-Wine and Tourism-SARDONE.pdf

At the origin of pro-environment behavior. Chernobyl, 1986' May rainfall, and the Italian organic production

Francesco Pagliacci[1], Matteo Zavalloni[2], Riccardo D'Alberto[3]
[1]Università di Padova; [2]Università di Urbino Carlo Bo, Italy; [3]Università di Verona;
matteo.zavalloni@uniurb.it

The literature has highlighted the importance of farmer-intrinsic attitude toward the environment in explaining the adoption of agri-environmental practices. The question that emerges is where the environmental attitude comes from.

We evaluate the link between the perceived exposure to environmental disasters and the switch to organic production in Italian municipalities. Specifically, we investigate whether the rainfall level in the days following the Chernobyl disaster (1986) is associated with the area of organic production at the municipality level (as recorded in the 2010 Agricultural Census). Our hypothesis is that the perception of environmental risk exposure causes an increase in the concern for the environment that translates into pro-environment behaviors. We find that municipalities with higher rainfall in the short period in the aftermath of the disaster are characterized by a greater number of agricultural holdings allocating land to organic production. These results are robust to a set of covariates.

1052-At the origin of pro-environment behavior Chernobyl, 1986' May rainfall, and the Italian organic p.pdf

11:30am - 1:00pm

CP-3C: New challanges to agricultural activities

Location: **Aula XI - Cs**
Session Chair: **Ruggiero Rippo**

Disentangling the Impact of Size, Intensity and Natural Conditions on Productivity in Dairy Farming

Eva Scheichl, Klaus Salhofer, Ulrich Morawetz
University of Natural Resources and Life Sciencs, Vienna, Austria; klaus.salhofer@boku.ac.at

Three critical determinants of (dairy) farm performance are farm size, intensity of production and natural conditions. However, these three factors are not independent from each other. To disentangle the impact of these three determinants, we utilize a group- and chain-linked total factor productivity (TFP) index and coarsened exact matching (CEM). We apply these methods to a sample of Austrian dairy farms between 2003 and 2016.We find significant differences in productivity depending on farm size. These differences are particularly pronounced between very small farms and others but less pronounced between medium-sized and large farms. Similar patterns, though slightly less pronounced, are derived for intensity, measured in yield per cow. Natural disadvantages can be compensated to some extent but not if they become too severe. Very small farms, very extensive farms Farms, and farms with severe disadvantages are clearly lagging behind and these differences accelerated over time.

1913-Disentangling the Impact of Size, Intensity and Natural Conditions-Scheichl.pdf

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Do Irrigation Water Requirements Affect Crops' Economic Values?

Paolo Scatolini[1], Cristina Vaquero-Pineiro[1], Francesco Cavazza[2], Raffaella Zucaro[2]
[1]Roma Tre University, Italy; [2]Consorzio di Bonifica per il Canale Emiliano Romagnolo;
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The irrigation water requirements of different crops are becoming a pivotal driver for the governance strategies of water management. This paper estimates the impact of irrigation water requirements on economic value in terms of the yields and gross saleable production of 13 different crops cultivated in the Emilia-Romagna region over the 2010–2020 period by exploiting a generalized propensity score matching approach. Results show that the overall irrigation water requirements affect crops' economic value. There is a causal effect of water irrigation on economic value: positive only for high levels of water irrigation in the case of yields, while it reverses and assumes a concave shape for gross saleable production. The effect is mediated by the irrigation water requirements of different crops. In water scarcity conditions, the allocation of water to arboreal crops, given the effect of water irrigation on gross saleable production, is also positive for small quantities of water.

1805-Do Irrigation Water Requirements Affect Crops' Economic Values-Scatolini.doc

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Quantification and economic impact of downgrading and loss carrots at a Producer Organisation

Roberta Pietrangeli[1], Clara Cicatiello[2], Marco Nasso[2], Emanuele Blasi[2]
[1]Department of Economics, Engineering, Society and Business Organization, University of Tuscia, via del Paradiso 47, 01100, Viterbo, Italy; [2]Department for Innovation in Biological, Agro-Food and Forest Systems, University of Tuscia, via san Camillo de Lellis snc, 01100, Viterbo, Italy; roberta.pietrangeli@unitus.it

Stricter private quality standards are typically applied by buyers and retailers to fruits and vegetable products, resulting in a flow of suboptimal products that cannot be sold for fresh market. This work examines the effects of private cosmetic quality standards at the postharvest stage of the carrot supply chain, specifically focusing on mass and economic value. Due to the applications of private cosmetic standards, 34.64% in mass of the handled carrots is downgraded, while 12.57% is a primary loss. 35.74% of the downgrading occurs due to cosmetic imperfection, while the rest is out of size; all the downgraded carrots are rehandled and reworked for industry, but an additional 15.27% is lost in this process. The economic loss linked to downgrading corresponds to the 22.05% of the potential turnover if no private cosmetic quality standards were applied

1692-Quantification and economic impact of downgrading and loss carrots-Pietrangeli.docx

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The Concept of a Circular Economy Applied to Agriculture. A Preliminary Step for the Assessment of EU Farms Circularity

Diana Lucia Escobar Jaramillo[1], Paolo Sckokai[1], Silvia Coderoni[2]
[1]Università Cattolica del Sacro Cuore, Italy; [2]Università degli Studi di Teramo, Italy;
diana.escobar@unicatt.it

The paper aims to identify a consensus concept of the circular economy applied to agriculture and its relationship with sustainability. The European Union (EU) prioritises the circular economy for optimal resource use and minimising waste. The study analysed 23 documents collected from academic and grey literature, using a coding framework that converts verbal data into numeric data and graphical representations. Circular agriculture principles are based on “Products,” “Waste,” and “System,” promoting closing the loop production patterns, reducing waste, effectively managing waste, and using waste as a resource. The most commonly employed principle is the “Rs framework,” and cascading is essential for efficient resource use. The results show that circular agriculture aims to protect or improve the environment, reduce carbon emissions, provide economic benefits, resilience and improve health and food security. A consensus concept of the circular economy in agriculture will enable effective implementation, monitoring, and assessment of circular practices.

1774-The Concept of a Circular Economy Applied to Agriculture A Preliminary Step-Escobar Jaramillo.docx

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Beyond Intuition: Experimental Analysis of Heuristic Influence on Apple Producers Risk Management

Ruggiero Rippo[1], Roberta Raffaelli[1,2], Samuele Trestini[3], Elisa Giampietri[3], Alice Stiletto[3], Simone Cerroni[1,2]
[1]Department of Economics and Management, University of Trento, Italy; [2]Center C3A - Agriculture Food Environment, University of Trento, Italy; [3]Department of Land, Environment, Agriculture and Forestry (TESAF), University of Padova, Padova, Italy; ruggiero.rippo@unitn.it

The study aims at eliciting apple producers' willingness to pay for an innovative risk managment tool (i.e. the income stabilzation tool). To this aim, we run a contexulized field experiment with a sample of 150 farmers in Trentino region, in Italy. We tested weather herusitics (e.g., availability heuristic) influence farmers WTP and choices in the experimental tasks. Moreover, we investigate how knownledge based information provided in different format may affect farmers strategies and stated preferences during the experiment. Given the preliminary stages of the work, we present the methodology and expected results.

1825-Beyond Intuition-Rippo.docx

11:30am - 1:00pm

CP-3D: Environmental friendly and sustainable food consumption

Location: **Aula XV - Ds**
Session Chair: **Giovanni Sogari**

Climate change experience and green food preferences

Matteo Zavalloni, Giacomo Salvarani, Elena Viganò
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We explore how long-term temperature rises influence consumers' preferences for environmentally friendly food products. By merging original survey data with municipal-level average temperature records over two decades (1961-1970 and 2009-2018), we test the impact of the variance between these time periods on today's individual green food preferences. Employing ordered logit models, we find a robust positive link between local temperature increases and the preference for green food, even when adjusting for a range of sociodemographic, attitudinal, and municipal-level controls. Investigating the link between environmental changes and consumer preferences, we provide insights into the literature about climate change effects on individual preferences as well as on green food preference predictors.

1914-Climate change experience and green food preferences-Zavalloni.pdf

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Healthy diets and sustainability: the road to the construction of a National Food Policy

Giampiero Mazzocchi[1], Annalisa Angeloni[1], Roberto Henke[1], Maria Luisa Scalvedi[2], Sabrina Giuca[1], Patrizia Borsotto[1]
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Our work moved from the assumption that the implementation of Healthy and Sustainable Diets (HSD) should be supported by a national policy capable of connecting the various elements of national and local food systems in a systematic and coordinated way. Moving from the theoretical background around HSD and the most widely recognized common definitions, the main goal of this study is to identify the major policy domains addressing the implementation of HDS. To this aim, we have analysed the documents which focus on HSD at international, European and national level and checked the relevance of policy domains that have gradients of connection with the promotion of HSD. The research is still going on and preliminary results are presented.

1802-Healthy diets and sustainability-Mazzocchi.pdf

Who Buys Sustainable Food? The role of trust and personal environmental concern in Italian consumers’ consumption behavior

Anwesha Chakrabarti[1], Claudia Stefania Gondos[2], Francesco Bimbo[3], Elena Castellari[2]
[1]SIAS, Krea University, Andhra Pradesh, India; [2]Department of Agricultural and Food Economics, Università Cattolica del Sacro Cuore, Piacenza, Italy; [3]Department of Agricultural, Food, Natural Resources and Engineering Sciences (DAFNE), University of Foggia, Foggia, Italy; anwesha.chakrabarti@krea.edu.in

Promoting sustainable consumption is one of the main targets of the Farm to Fork strategy. Literature shows that consumers perceive organic and local food as sustainable alternatives in food choices, even though the two attributes do not necessarily lead to the same environmental benefits. Our research aims to profile Italian consumers of organic and local food based on their trust in general and in the government, their environmental concerns, and their propensity to read food labels. We use data from the Italian Multipurpose Household Survey (MHS) for the years 2014, 2019-2021, and apply a Heckman two-step selection strategy. Reading labels, and trust in municipal government increases the probability of local products' consumption, whereas organic consumption requires trust in local as well as national and European governments. Results can help identify consumers with common consumption attitudes for developing effective communication strategies aiming at promoting sustainable food consumption.

1776-Who Buys Sustainable Food The role of trust and personal environmental concern-Chakrabarti.pdf

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Exploring Nutrition and Environmental Labeling: A Review on the Effects on Consumers' Behavior and Food Choices

Giulia Andreani, Giovanni Sogari, Rungsaran Wongprawmas, Davide Menozzi, Cristina Mora
Università di Parma, Italy; giulia.andreani@unipr.it

Given the need to shift toward healthier and more sustainable diets, national and international authorities are seeking strategies that could help consumers in their daily dietary decisions. Among the potential interventions that could support consumers' choices, the use of front-of-pack (FOP) labels is of high interest.

To provide a comprehensive overview of the current literature on this topic, the present study aims at systematically reviewing studies assessing the effectiveness of two FOP labels: the Nutriscore (NS) and the Ecoscore (ES).

The search was conducted in May 2023 and a total of 289 articles were retrieved. After removing duplicates and the title and abstract screening, 83 relevant studies were considered for full-text screening and data extraction. Data extraction is currently ongoing. Preliminary results on the NS showed that, for consumers' objective understanding, this label usually performs better than other FOP nutrition labels; however, results for subjective understanding are more heterogeneous.

1695-Exploring Nutrition and Environmental Labeling-Andreani.doc

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Unveiling Consumer Preferences for Plant-Based Burgers: A Means-End-Chain Analysis

Giovanni Sogari[1], Giulia Andreani[1], Florine Livat[2], Md Mofakkarul Islam[3]
[1]Department of Food and Drug, University of Parma, Parco Area delle Scienze 45, 43124, Parma, Italy; [2]Accounting, Finance & Economics Department, Kedge Business School, Bureau/Office: 18 680 cours de la Libération 33405 TALENCE Cedex, France; [3]Livelihoods and Institutions Department, University of Greenwich, Medway Campus, Central Avenue, Chatham Maritime, Kent ME4 4TB, UK; giovanni.sogari@unipr.it

Plant-based meat alternatives (PBMAs) are gaining increasing attention and the scientific literature on the topic has grown rapidly during the last decade. However, to promote their consumption and support a transition toward plant-based diets, it is critical to further explore consumers' perceptions of PBMAs.

To gather new valuable information on the topic, we employed the means-end chain approach. The means-end chain is a cognitive structure that links the consumer's knowledge of a product to specific personal consequences and values. This methodology has been already employed in consumer science to investigate consumers' motivation for buying certain foods.

In our research, we interviewed young adults using this technique to identify the attributes, consequences, and values that lead consumers to purchase (or not) PBMAs already available on the market.

The analysis of the interview is ongoing; nevertheless, we expect to obtain valuable insights into the main characteristics that influence consumers' choices.

1299-Unveiling Consumer Preferences for Plant-Based Burgers-Sogari.doc

11:30am - 1:00pm

OS-3: Economic and policy analysis for supporting technologies uptake for the smart management of agricultural systems: insights from the PNRR Agritech project

Location: **Aula V - OSs**
Session Chair: **Davide VIAGGI**

Economic and policy analysis for supporting technologies uptake for the smart management of agricultural systems: insights from the PNRR Agritech project

Davide Viaggi, Giulia Maesano
University of Bologna, Italy; davide.viaggi@unibo.it

1076-Economic and policy analysis for supporting technologies uptake for the smart management-Viaggi.doc

12:15pm - 1:00pm

P-3B: Agriculture sustainability and international perspectives

Location: **Aula VI - Ps**
Session Chair: **M. Rosaria PUPO D'ANDREA**

Does sustainability fit in a free trade agreement? The case of Tunisian olive oil exports towards EU

Federica Demaria[1], Fatiha Fort[2], Maria Rosaria Pupo D'Andrea[1], Raffaele D'Annolfo[1], Zouhair Bouhsina[2], Federica Morandi[1], Roberto Henke[1]

[1]CREA, Italy; [2]INRAE, France; federica.demaria@crea.gov.it

The ongoing negotiations between the European Union (EU) and Tunisia for a Deep and Comprehensive Free Trade Area (DCFTA) hold significant implications for agricultural trade. This study aims to investigate the potential impacts of the DCFTA on trade dynamics and sustainability, focusing on the olive oil sector. The Ecorys report shows how the DCFTA may bring positive and negative effects: increase in GDP for Tunisia driven by reductions in Non-Tariff Measures (NTMs) and agricultural tariffs is expected. However, concerns raise about asymmetrical competitions and environmental issues, such as CO2 emissions, land use intensity and water scarcity and quality. Interviews with stakeholders highlight the need for sustainable practices and market access improvements. Recommendations include expanding tariff quotas, promoting bottled and branded exports, and supporting smallholder farmers. Overall, the DCFTA presents opportunities for market access and sectoral upgrading, but careful consideration of sustainability and inclusivity is essential for realizing its potential benefits.

1900-Does sustainability fit in a free trade agreement The case-Demaria.pdf

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The cocoa Value Chain in Ghana: sustainability constraints and linkages to SDGs

Sara Romano[1], Federica Demaria[2], Anna Carbone[1]

[1]Università degli Studi della Tuscia, Italy; [2]CREA; sara.romano@unitus.it

Even though Ghanaian cocoa is worldwide recognised for its quality, the value chain is still facing some major social sustainability issues which are strictly linked to the wider social sustainability of the agricultural sector. Limited access to economic resources for women, unregular working contracts and the involvement of children in farm activities, are the main social challenges of the cocoa Value Chain (VC) in Ghana .

International trade plays an increasingly important role in stimulating economic growth and improving social welfare especially since, starting from 2014, all the EU's Free Trade Agreements systematically include specific chapters on Trade and Sustainable Development (TSD Chapters), which define labour and environmental provisions and commitments made by the trade partners with the aim to further sustainable development globally through trade. Despite this, trade relations between Eu and Ghana are regulated by a category of agreement which does not include TSD chapters.

In this perspective the objective of this contribution is to discuss the social sustainability issues of the VC and their linkages to the Sustainable Development Goals of the Agenda 2030, as preliminary stage of a wider project, TRADE4SD, which aims to foster positive linkages between sustainable development and trade.

1942-The cocoa Value Chain in Ghana-Romano.pdf

Closing the gap? Insights into the dynamics of GI registrations across the EU

Leonardo Cei

Università degli Studi di Padova, Italy; leonardo.cei@unipd.it

A new GI Regulation has been recently approved by the EU Parliament. In the preparing documents, it is highlighted the necessity to balance the use of the GI tool across the EU regions. In this spirit, we analyse the inequality in the spatial distribution of GI registrations. In contrast to what has been done so far, we do this in a systematic way, using the specific tools for the analysis of inequalities. Specifically, through several decompositions of the Gini index and a convergence analysis, we observe that the gap between GI-rich and GI-poor regions is shrinking at a very low pace. In addition, an impact analysis suggests that the last Regulation had no impact in fostering convergence.

1340-Closing the gap Insights into the dynamics of GI registrations across the EU-Cei.pdf

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Assessing the effect of extreme weather events on GI vs. non-GI Italian wine exports

Daniele Curzi[1], Cristina Vaquero Pineiro[2], Federico Zilia[1], Roberto Solazzo[3], Alessandro Olper[1]

[1]University of Milan, Italy; [2]Università degli Studi Roma Tre; [3]CREA PB; federico.zilia@unimi.it

This paper exploits regulatory differences in the EU Geographical Indications policy between Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI) to analyze whether stricter compliance rules expose the former group to the negative consequences of extreme weather events. For this purpose, we empirically analyze the effect of heat and cold waves on Italian wine exports, distinguishing the effect across PDO and PGI wines. We rely on a rich database covering about 7,000 Italian municipalities, providing information on wine exports over the 2004-2018 period, which we integrate with geospatial meteorological data. Using an event study approach, the results indicate that heat waves negatively affect PDO wine exports. In contrast, PGI wine exports are not significantly affected by heat waves. The study emphasizes the challenges faced by the former due to strict regulations limiting adaptive strategies.

1031-Assessing the effect of extreme weather events on GI vs non-GI Italian wine exports-Curzi.pdf

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Investigating links between trade and sustainability through STCs

Maria Rosaria PUPO D'ANDREA[1], Roberto Henke[1], Angelo Quarto[2], Federica Demaria[1]
[1]CREA Research Centre for Agricultural Policies and Bioeconomy, Italy; [2]Department of Legal and Economic Studies, Sapienza University of Rome, Italy; mrosaria.pupodandrea@crea.gov.it

The growing liberalisation of agricultural trade which followed the tariff reduction is accompanied by an increasing use of non-tariff measures (NTMs). Within the NMTs, Sanitary and Phytosanitary (SPS) measures directly address sustainable development issues. An extensive literature has analysed Specific Trade Concerns (STCs) as a good proxy for measuring trade effects of SPS, but to the best of our knowledge, no study has explored the sustainability issues behind STCs. This study aims to fill this gap by analysing three STCs representative of countries behaviours that can be considered cooperative, divergent and negotiable trade-off, with respect to the achievement of sustainability goals. The aim of the study is to add new evidence on the use of STCs to manage conflicts within WTO and how to improve this system following the theory of change, bearing in mind the objective of fostering positive linkages between trade and sustainable development goals.

1101-Investigating links between trade and sustainability through STCs-PUPO DANDREA.pdf

1:00pm - 2:00pm **Lunch**
Location: **Venue - area in front of the Aula Magna**

2:00pm - 3:00pm **Plenary Panel: Evaluating and monitoring the sustainability of EU farms: the new FSDN**
Location: **Aula Magna ex Facoltà di Agraria - As**
Session Chair: **Luca Cesaro**
Hans Vrolijk (WUR-NL)
Franziska Schweiger (EC-DG Agri)
Eugenio Pomarici (University of Padua)

3:00pm - 3:45pm **P-4A: Labor, land and other agricultural inputs**
Location: **Aula VI - Ps**
Session Chair: **Grazia Valentino**

Developing Circularity Indicators with Micro Data. An Application to the Italian Agriculture using the FADN dataset

Diana Lucia Escobar Jaramillo[1], Paolo Sckokai[1], Silvia Coderoni[2]
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diana.escobar@unicatt.it

The transition to a circular economy in agriculture holds promise for economic growth, nature regeneration, and social benefits. This paper addresses the absence of a standardized tool to measure circularity at the farm level, hindering the realization of expected benefits. Using the Farm Accountancy Data Network (FADN), this study develops circularity indicators to bridge knowledge gaps and align with consensus concepts of circularity in agriculture. We focus on nutrient circularity, essential for agricultural production, and construct Nitrogen, Phosphorus, and Carbon Balances. Circular economy indicators are then calculated to assess waste reduction, efficient resource utilization, and closing-the-loop production. Additionally, dynamic panel models evaluate the determinants of farms' circularity and its impact on profitability. Findings suggest that while FADN data enables circularity assessment, additional information is needed for comprehensive evaluation. Results shed light on the profitability of environmental and social benefits from circularity and facilitate informed policy decisions in agriculture.

1774-Developing Circularity Indicators with Micro Data An Application-Escobar Jaramillo.docx

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An economic eco-efficiency model to evaluate organic and conventional arable farms sustainability. Applying Data Envelopment Analysis to FADN data

Nicola Casolani, Emilio Chiodo, Maria Angela Perito, Silvia Coderoni
University of Teramo, Italy; ncasolani@unite.it

Modern agriculture faces a critical challenge: achieving both economic viability and environmental sustainability. On the economic side, indicators offer insights into a farm's economic viability. Evaluating economic and environmental performance is crucial for sustainability, necessitating farm performance monitoring. Efficiency frontiers in agriculture serve for assessing resource utilization within agricultural firms. Firms operating on this frontier achieve maximal production with available resources, while those below can improve efficiency. The Data Envelopment Analysis (DEA) method evaluates firms' efficiency, particularly useful in agricultural studies, by comparing inputs like land, labor, and capital with outputs such as yields and income. Utilizing data from the Emilia Romagna Region Farm Accountancy Data Network (FADN), this study introduces a methodological framework to analyze the economic eco-efficiency of both organic and conventional farms. It assesses input reduction efficiency, including Greenhouse Gas emissions and fertilizer use, aiming to integrate environmental and economic sustainability in agricultural practices.

1850-An economic eco-efficiency model to evaluate organic and conventional arable farms sustainability.pdf

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Crop diversification and labor productivity under climatic shocks

Andreas Eder, Klaus Salhofer
University of Natural Resources and Life Sciencs, Vienna, Austria; klaus.salhofer@boku.ac.at

Climate change poses a serious threat to the stability of national and global food systems. Agricultural productivity growth is needed to meet increasing global food demand and land use competition. Based on a 2009–2012 panel of 133 cereal farms in Austria, we evaluate if crop diversification can increase both farm labor productivity and resilience to adverse climatic conditions. To identify the productive implications of the

interaction between crop diversity and climatic conditions, we apply a partial correlated random effects model. Our results indicate that diversified farms are more resilient to reductions in growing season rainfall, but crop diversification comes at the cost of lower labor productivity levels when rainfall is sufficient. We find that projected climate change induced temperature increases are associated with a considerable productivity decline that cannot be attenuated by crop diversification.

1913-Crop diversification and labor productivity under climatic shocks-Eder.pdf

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Unveiling the economic profitability and risk of durum wheat production. A bibliometric map of factors affecting quality and yield.

Lamiaa Chab, Luigi Biagini, Simone Severini
Università degli Studi della Tuscia, Italy; lamiaa.chab@unitus.it

Durum wheat (DW) is pivotal in regions like North Africa, Southern Europe, and the Middle East and is integral to pasta and couscous production.

Quality and yield impact DW profitability, emphasising the need to understand the factors affecting them. These latter are many, diverse, and not equally important.

Our bibliometric mapping study analysed 5108 articles, revealing key factors that are also classified according to the degree of control farmers have over them. This classification is useful for understanding what is affecting the riskiness of production.

Results show that nitrogen, water availability, genetic traits, and pest management are critical for yield, while drought stress and nitrogen influence quality. Farmers' control varies, underscoring the complexity of DW production. The findings pave the way for further research into how to increase DW profitability and reduce producer risk, as well as the development of policies to achieve these objectives.

1955-Unveiling the economic profitability and risk of durum wheat production A bibliometric map of factors.pdf

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Factors influencing the farmland market and the farmland rental market: a qualitative analysis

Silvia Russo, Rino Ghelfi, Davide Viaggi
Department of Agricultural and Food Sciences,University of Bologna, Italy; rino.ghelfi@unibo.it

In recent years, European institutions have expressed growing concerns about the concentration of land in the hands of a few large farms. This research aims to identify factors linked to structural and socio-demographic farm characteristics, as well as agricultural policies and land regulation, that may have influenced the agricultural land market in Italy between 2014 and 2020. To achieve this goal, a qualitative analysis was conducted through interviews with land market experts. Additionally, interviews were conducted in France, an Old Member State that, like Italy, adopted the historical model for the transition to decoupled aids in 2003, but differs significantly in terms of land regulation. The research provides insight into how endogenous and exogenous factors may affect the agricultural land market, how different factors interact, and the dynamics they may trigger. Furthermore, preliminary results suggest that stringent land regulation does not always correspond to more transparent land markets.

1712-Factors influencing the farmland market and the farmland rental market-Russo.pdf

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Migrants and Agriculture: The Case of the Citrus Fruit Sector in the Municipality of Corigliano-Rossano in Calabria

Grazia Valentino[2], Catia Zumpano[1], Franco Gaudio[3]
[1]Council for Agricultural Research and Economics; [2]Council for Agricultural Research and Economics; [3]Council for Agricultural Research and Economics; grazia.valentino@crea.gov.it

The present work was developed within the framework of a cooperation agreement between CREA - Center for Policies and Bioeconomy (CREA - PB) and the Municipality of Corigliano-Rossano (Calabria) with the aim of providing innovative suggestions to the public administration to promote the economic and social inclusion of foreign agricultural labor in its territory. The agreement is part of the broader scenario of the Multisectoral Local Plan "For the Fight against Labor Exploitation of Non-EU Countries in Agriculture and Labor Intermediation", under measure M5C2 - Integrated Urban Plans for overcoming illegal settlements in agriculture of the PNRR.

This article investigates the relationship between migrants and agriculture, focusing on the citrus fruit sector in the municipality of Corigliano-Rossano in Calabria, located in the Plain of Sibari with a strong agricultural vocation and a significant presence of foreign labor.

Key results reveal a significant dependence on migrant labor in the citrus fruit sector, especially during peak harvesting seasons. However, it also highlights numerous challenges that equally affect both workers and employers.

The work suggests potential solutions to address these challenges and overall contributes to a better understanding of the complex interaction between migration and agriculture in the Calabrian context, providing insights into how policymakers and stakeholders can work towards a more inclusive and sustainable agriculture

This work was developed according to the Action Research model. The study utilizes a mixed-methods approach, combining quantitative analysis of official statistical data with qualitative information. The objective

is to shed light on the dynamics of migrant labor in agriculture, highlighting issues such as labor precarity, exploitation, and social inclusion.

Initially, the agricultural context of the area was delineated through the collection and analysis of structural data, referring to the 7th Agriculture Census of ISTAT and data contained in the contributory archives of INPS. Subsequently, the labor requirements were estimated starting from land use data (ISTAT), to which official coefficients of labor requirements (congruence indices established by the Regions to combat undeclared work) were applied. These results were compared with labor inputs from both ISTAT and INPS sources, resulting in a difference representing the quota of invisible workers, who are more vulnerable to exploitation and labor intermediation.

From the study, it emerges that in the municipality of Corigliano-Rossano during the peak demand period for agricultural labor, which spans from October to August, approximately 411,983 additional workdays would be needed to meet the labor demand required for harvesting operations of the main products (citrus fruits, olives, and stone fruits), compared to what is reported in official statistical sources (2020). These findings also explain the significant recruitment challenges faced by employers.

The work proposes the possibility of experimenting with pathways aimed at realigning the supply and demand of labor, identifying possible innovative tools within the framework of the Common Agricultural Policy (CAP).

One of these tools could be "Social Conditionality" but also the first pillar of the CAP, specifically within the architecture of direct payments, with the introduction of "Fair-schemes", that would be aid regimes aimed at supporting agricultural workers.

1941-Migrants and Agriculture-Valentino.doc

3:00pm - 4:30pm

CP-4A: Agricultural change 2

Location: **Aula Magna ex Facoltà di Agraria - As**

Session Chair: **Mara Lai**

Carbon offsetting programs and farmers' adoption of methane-reducing innovations: an economic experiment

Claudia Magnapera[1], Austėja Kažemekaitytė[1], Simone Cerroni[1], Roberta Raffaelli[1], Rodolfo M. Nayga[2]

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Dairy farming substantially contributes to greenhouse gas emissions (GHGEs), predominantly through methane (CH4) and nitrous oxide (N2O) emissions. Despite existing mitigation strategies, disparities in adoption persist across EU member states. This study explores possible transition paths from action-based subsidies to innovative result-based payments, directly tied to environmentally sustainable farming practices. We run an incentivized experiment in the Autonomous Province of Trento, Italy, in which we ask local dairy farmers to consider an adoption of specific essential oils to reduce ruminants' enteric methane. Participants are offered two compensation mechanisms - action-based subsidies and result-based instruments. We manipulate the types, amounts, and combinations of these mechanisms and investigate additional factors that could influence decision to adopt sustainable practices. The aim of this work is to address gaps in understanding farmers' preferences and behaviours in adopting methane mitigating practices, with potential implications for crafting more effective and widely accepted policies for sustainable agriculture.

1821-Carbon offsetting programs and farmers' adoption-Magnapera.doc

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Factor influencing land rental market participation: an application of multinomial logit model

Henry Adewale Adenuga, Claire Jack

Economics Research Branch, Agri-Food and Biosciences Institute, United Kingdom; adewale.adenuga@afbini.gov.uk

Agricultural land mobility through an efficient land rental market has been shown to contribute to the productive and sustainable utilisation of land as a resource by facilitating the transfer of land from less productive farmers to more productive farmers. However, this is not the case in Northern Ireland where the sale of agricultural land as in most countries in Europe is limited and with a limited tenanted sector. The objective of this study is to analyse the factors influencing participation in the land market in Northern Ireland. To achieve our objective, data from 1466 farmland owners was analysed using principal component analysis (PCA) and multinomial logistic regression model. The results show that land rental market participation is impacted by motivational and socioeconomic factors. The study recommends the development of schemes that support the early and comfortable retirement of older farmers to increase the access of young farmers to land.

1901-Factor influencing land rental market participation-Adenuga.pdf

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Identifying social justice barriers to more sustainable land use management in Tuscany and Czech Republic rural areas

Barbora Nohlová[1,2], Luciano Pagano[1], Daniele Vergamini[1], Zuzana Harmáčková[3,4]

[1]Università di Pisa, Italy; [2]Faculty of Humantities, Charles University Prague, Czech Republic; [3]Global Change Research Institute of the Czech Academy of Sciences, Brno, Czech Republic; [4]Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden; barbora.nohlova@agr.unipi.it

The combined impact of unsustainable land use and climate change on European rural landscapes have become increasingly noticeable over the last decade. Growing attention has been paid to promoting more

sustainable land use patterns. However, the transition towards greater sustainability can negatively impact the lives of local communities due to their economic dependence on the land and a different vision of the future landscape management trajectories. We mapped the barriers to transitioning towards greater sustainability using an environmental justice-based lens. We applied a multi-site case study approach and focused on Tuscany Elba Island and Czech Republic South and East Moravia rural areas. This included stakeholder analysis, several field stays, and semi-structured interviews. We identified a strong need to incorporate local conceptions of justice when planning and implementing future landscape trajectories. We also discuss various dimensions of justice claims that serve as barriers or drivers to promoting land use changes.

1937-Identifying social justice barriers to more sustainable land use management-Nohlová.doc

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Institutional quality and the agricultural land-use mix

Matteo Zavalloni[1], Riccardo D'Alberto[2]
[1]Università di Urbino Carlo Bo; [2]Università di Verona; riccardo.dalberto@univr.it

The quality of institutions have been indicated as a major driver of economic performance. Increasingly, the literature has assessed the impact of different institutions on agricultural outcomes. The objective of this article is to evaluate the impact of institutional quality on the agricultural land-use mix and in particular, on the area allocated to perennial crops. Allocating land to perennial crops is an investment decision, that, we argue, is affected by the potential uncertainty in the institutional environment. To do so, we created a country-level panel dataset merging land use data with proxies for the quality of political, legislative and economic institutions. We fit fixed-effects models and the within regression estimator to estimate the relationship between the area allocated to perennial crops and institutional quality. We find that institutional quality have a positive effect on the area allocated to permanent crops and that economic institutions have the strongest effect.

1052-Institutional quality and the agricultural land-use mix-Zavalloni.pdf

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The AKIS strategy in some regionalized EU countries: opportunities and risks for the system approach

Mara Lai, Anna Vagnozzi, Francesca Giare, Elisa Ascione, Rossella Ugati
CREA, Italy; mara.lai@crea.gov.it

The CAP regulation EU Reg. 2021/2115 obliged MS to envisages the definition of a detailed AKIS strategy to build stronger AKIS and, thus, to promote the adoption and diffusion of innovations.In this paper we analyse how 4 regionalised MS (FR, DE, IT, ES) plan to strengthen their AKIS with the aim to understand if different national administrative settings can influence the strategy and the tools designed to build a stronger AKIS. A qualitative approach was used in order to analyse the AKIS in the CAP NSPs of the four countries, articulated in a desk research complemented by semistructured interviews to key actors. The initial results point out that regionalised countries might experience specific issues to adopt a national systemic approach, reffering to: i) relationships between central and peripheral governments; ii) relationships among peripheral governments; ii) capacity of the AKIS actors to address relevant challenges by creating critical mass.

1956-The AKIS strategy in some regionalized EU countries-Lai.doc

3:00pm - 4:30pm

CP-4B: Agriculture and the environment 2

Location: **Aula X - Bs**
Session Chair: **Laura Mirra**

Assessing the Impacts of Chemicals Reduction on Arable Farms through an Integrated Agro-Economic Model

Rebecca Buttinelli, Gabriele Dono, Raffaele Cortignani
Tuscia University, Italy; buttinelli@unitus.it

The EU's Farm to Fork Strategy sets ambitious targets for reducing chemical inputs in agriculture, aiming for a 20% reduction in fertilizers and a 50% reduction in pesticides by 2030. These targets inevitably influence agricultural practices across Europe, shaping farmers' decision-making and production processes. Our analysis, leveraging a FADN sample of 395 Italian farms and employing an agro-economic supply model integrated with an econometrically estimated translog production function, examines the potential economic impacts of these targets on arable farms and maize grain production. The findings indicate significant reductions in maize output and land, particularly in Northwestern Italy and intensive farming areas, driven by decreased pesticide use, especially in smaller farms. This may lead to a greater dependency on foreign market and worsening socio-economic conditions. The recent withdrawal of the pesticide regulation proposal by the EU Commission presents an opportunity for new policies, emphasizing the relevance of such analyses.

1814-Assessing the Impacts of Chemicals Reduction on Arable Farms through an Integrated Agro-Economic.pdf

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Emerging Megatrends and Scenarios Impacting the Utilization of Fruit and Vegetable Production Waste Streams.

Federica Cisilino, Matteo Orlando, Annalisa Angeloni, Andrea Arzeni, Carla Abitabile
Crea, Italy; annalisa.angeloni@crea.gov.it

It is widely acknowledged that food losses and waste throughout the supply chain present significant challenges, encompassing social, environmental, and economic dimensions. Efforts to mitigate these challenges are gaining momentum globally, with policies aimed at reducing and eliminating losses and waste being implemented within international frameworks and at the national level. The paper considers the Rustica project (under H2020 R&I programme) which focus its research activity in this broad and actual field. Its general objective is to foster the technical validation, demonstration and implementation of bio-based fertiliser and soil improvement production techniques focusing on waste from the fruit and vegetable agri-food system to close nutrient cycles at a regional level. It is based on two pillars: the first evaluates the technological aspect in the synthesis of biofertilizers; The second analyses the socio-economic impact at regional level Part of the socio-economic analysis developed is the main core of this paper.

1802-Emerging Megatrends and Scenarios Impacting the Utilization-Cisilino.pdf

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Using reference alternative vs. opt-out to mitigate hypothetical bias in Discrete Choice Experiments

Fabio Cavenini[1], Sandra NOTARO[1], Silvia Ferrini[2,3], Fabio Grati[4]

[1]University of Trento, Italy; [2]University of Siena, Italy; [3]University of East Anglia; [4]National Research Council (CNR); sandra.notaro@unitn.it

In pivot-designed choice experiments, hypothetical alternatives are constructed using attribute levels derived from variations of a referenced alternative related to the real world. This study investigates respondents' inclination to select this reference alternative contingent upon a characteristic that we define as choice card distance. Distance in each choice task is delineated by the extent of variations in the hypothetical alternatives compared to the reference. We propose a model within the random utility framework to consider and address the potential effect of distance. We test this model using two different characterizations of the reference alternative. We use data from a choice experiment administered to 202 recreational fishers assessing preferences for bluefin Tuna trips. Results reveal that neglecting choice card distance may introduce significant bias in willingness-to-pay estimates. This paper contributes to a broader understanding of practitioners' challenges in conducting an effective pivot design DCE.

1049-Using reference alternative vs opt-out to mitigate hypothetical bias-Cavenini.doc

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Assessing the adoption process of a digital platform to prevent food waste using Duration Analysis

Marco Nasso[1], Emanuele Blasi[1], Roberta Pietrangeli[1], Clara Cicatiello[1], Francisco Alcon[2]

[1]Università degli Studi della Tuscia, Italy; [2]Universidad Politécnica de Cartagena, Spain; marco.nasso@unitus.it

This study evaluates the adoption of a digital platform by Producer Organizations (POs) and Associations of Producer Organizations (APOs) in the Emilia-Romagna region, Italy, aimed at preventing food waste by enhancing the market withdrawal mechanism. Employing Duration Analysis, this research assessed the adoption process in the period 2012-2022, considering various contextual factors. The study's findings revealed a high adoption rate (96.7%) among the sample. Factors influencing adoption include organizational characteristics, economic conditions, and institutional support, with the model indicating that cooperative structures, such as APOs, significantly increase the likelihood of adoption. The research contributes to the literature on agri-food supply chain management by demonstrating the effectiveness of digital innovations in enhancing sustainability and reducing food waste, offering insights for future policy development to encourage technological adoption within the sector.

1961-Assessing the adoption process of a digital platform-Nasso.docx

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Farmers' acceptance of reusing reclaimed wastewater. What makes the difference?

Laura Mirra[1], Domenico Carlucci[1], Bernardo C. de Gennaro[1], Luigi Roselli[1], Luigi Cembalo[2], Alessia Lombardi[2], Antonio Paparella[2], Riccardo Vecchio[2], Giacomo Giannoccaro[1]

[1]Dept. of Soil, Plant and Food Science, University of Bari Aldo Moro - Via Amendola; [2]Dept. of Agricultural Sciences, AgEcon and Policy Group, University of Naples Federico II- Via Università 100, 80055 Portici, Italy; laura.mirra1@gmail.com

The acceptance of reclaimed wastewater for agricultural irrigation holds promise as a sustainable water resource, yet understanding the factors influencing farmers' decisions is critical for its successful implementation. This study investigates the role of intangible assets, such as trust in authorities, and individual characteristics in shaping farmers' acceptance of reclaimed wastewater in Apulia, Italy, a major olive oil-producing region. Data from 212 olive growers were gathered through face-to-face interviews, and an ordered probit model was used to analyze factors influencing farmers' willingness to adopt reclaimed wastewater.

Results indicate that trust in authorities significantly influences farmers' willingness to reuse reclaimed wastewater, with higher trust levels correlating with increased adoption probabilities. Overall, this research underscores the interplay of attitudes, socio-demographic factors, and institutional trust in shaping farmers' acceptance of reclaimed wastewater. Effective coordination among stakeholders and improved administrative services are essential for realizing the full potential of reclaimed wastewater reuse in agriculture.

1687-Farmers' acceptance of reusing reclaimed wastewater What makes the difference-Mirra.doc

3:00pm - 4:30pm

CP-4C: Assessing the Common Agricultural Policy

Location: **Aula XI - Cs**
Session Chair: **Fabio Pierangeli**

Assessing Compensatory Measures in Piedmont's Mountain Farming: A Critical Analysis

Francesca Moino[1], Alessandro Giacardi[2], Giovanbattista Califano[3], Roberto Cagliero[1]
[1]CREA; [2]Sapienza Università di Roma; [3]Università degli studi di Napoli Federico II;
francesca.moino@crea.gov.it

Mountainous regions, characterized by natural constraints, pose distinct challenges for agriculture, including limited arable land, labor-intensive farming, and high production costs, contributing to socio-economic issues like depopulation.

With over 50% of its territory located in mountainous terrain, Piedmont region in Italy exemplifies these challenges. To address these issues, compensatory indemnity (CI) within the Rural Development Program aims to bridge the income gap between mountainous and non-mountainous farms.

This study evaluates the effectiveness of CI measures for mountainous farms in Piedmont using data from the Farm Accounting Data Network database and finds that CI falls short in bridging the gap. The study estimates that the regional financial allocation for CI would need a nearly quintuple increase, to effectively eliminate the income disparity. This suggests a necessity for policy adjustments to ensure equitable support distribution.

Future research endeavors will explore redistribution strategies based on labor units to enhance effectiveness and economic feasibility.

1770-Assessing Compensatory Measures in Piedmonts Mountain Farming-Moino.pdf

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Assessing the EU-RDP start-up aid on innovations adopted by the young beneficiary farmers

Anna CARBONE[1], Felicetta CARILLO[2], Pavel CIAIAN[3], Roberta SARDONE[2], Federico ANTONIOLI[3], Juan TUR CARDONA[3]
[1]Universita' della Tuscia, Italy; [2]CREA - Centro Politiche e Bioeconomia; [3]European Commission, Joint Research Centre (JRC-Seville); acarbone@unitus.it

This work explores whether the start-up aid included in the Rural Development policy of the EU foster the adoption of innovations and networks .Data coming from a survey done in 2021 in Italy and Poland on 500 young farmers are used to estimate 5 Probit models in which different sets of innovations and networks are explained by the farmer's participation in the policy together with other variables.

Our findings show that the start-up aid to young farmers has a positive impact on their attitude towards innovation and networking. These farmers are more innovative particularly with respect to the introduction of new processes, new organizational routines and by including the farm in new chain relations and networks. The evidence of this impact is reinforced by the same positive effect associated to the use of other public policies –at EU or National level- granting different forms of financial aids to the newly installed farmers.

1059-Assessing the EU-RDP start-up aid on innovations adopted-CARBONE.pdf

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Assessing the trade-off between SO1 and SO5 policy intervention through an ex-ante PMP-AB model: the case of Emilia Romagna Region

LISA BALDI, FILIPPO ARFINI, SARA CALZOLAI, MICHELE DONATI
Università di Parma, Italy; lisa.baldi@unipr.it

The new CAP Delivery Model enables EU Member States to customise the application of agricultural policy interventions according to the specific needs of each Member State, but it also requires careful monitoring concerning the achievement of the 10 CAP Strategic Objectives (SO). This research aims to assess the trade-off, if existing, between SO1, aiming at supporting viable farm income, and SO5 intended to foster sustainable development. The trade-off is evaluated by conducting an ex-ante analysis assessing the impact of regional payments for organic conversion on both farm viability and environmental sustainability, more specifically in terms of water consumption, and use of fertilisers. The assessment utilises an Agent-Based Model based on a positive mathematical programming approach. Preliminary results show that organic farming payments increases farm income, especially amongst the smaller farms, generally considered being the most vulnerable ones, while farm Gross Margin per Agricultural Working Unit presents a lower inequality distribution.

1678-Assessing the trade-off between SO1 and SO5 policy intervention through an ex-ante PMP-AB model-BALDI.pdf

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Decisions under the 2023-2027 CAP: are olive growers willing to join a PO?

Camilla Tamborrino[1], Luca Cacchiarelli[1], Maria Rosaria Pupo D'Andrea[2], Roberto Henke[2], Francesco Caracciolo[3]
[1]Department of Economics, Engineering, Society and Business Organization, University of Tuscia, Via del Paradiso, 47, 01100 Viterbo, Italy; [2]CREA - Council of Research in Agriculture and Analysis of Agricultural Economics, Research Centre for Agricultural Policies and Bio-Economy, Via Barberini 36, 00187 Rome, Italy; [3]Department of Agricultural Sciences, University of Naples Federico II, Via Università, 96, 80055 Portici, Naples, Italy; camilla.tamborrino@unitus.it

In order to address inequalities in the agricultural and food value chain and achieve a more equitable distribution of power, various policies promote cooperative models among producers. An example of this is the European Union's support for farmers who wish to cooperate in Producer Organizations (POs). This is not a novel of the 2023-2027 CAP, but the olive oil sector is experimenting with new criteria for the granting and programming of POs. Therefore, understanding whether the new configuration of POs is attractive to potential or actual olive growers is crucial for policy implementation and improvement. To address this issue, the research uses a discrete choice experiment (DCE) to assess the willingness of Italian farmers to join an olive oil PO that offers services in line with the new CAP programming. The theory of hybrid institutions is used as a theoretical framework for the study.

1902-Decisions under the 2023-2027 CAP-Tamborrino.pdf

The CAP Direct Payments Reform 2023-2027 in Italy: A Path to Fairer Redistribution?

Fabio Pierangeli[1], Luigi Biagini[2], Maria Rosaria Pupo D'Andrea[1], Simone Severini[2], Alessandro Sorrentino[3]

[1]Council for Agricultural Research and Economics, Italy; [2]University of Tuscia (DAFNE), Italy; [3]University of Tuscia (DEIM), Italy; fabio.pierangeli@crea.gov.it

The paper evaluates the redistributive effect of direct payments (DP) in Italy, by comparing the status quo (2020) with a post-reform scenario (2026). The focus lies on analyzing the impact on the concentration of decoupled DP and farm income. The study leverages the integration of two databases: Italian Farm Accountancy Data Network (FADN) and National Entitlements Register. The latter undergoes processing through the development of an original Simulation tool (ST). The final dataset (9,700 farms) is utilised for estimating Inequality indexes (Gini index, Herfindahl-Hirschman index, 20-80 quintile ratio). The results indicate an improvement in the distribution of decoupled DP (Basic Income Support for Sustainability and Complementary Redistributive Income Support for Sustainability), with a reduction of their concentration. However, the impact on the concentration of farm income appears marginal.

1317-The CAP Direct Payments Reform 2023-2027 in Italy-Pierangeli.docx

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3:00pm - 4:30pm

CP-4D: Social issue in agriculture

Location: **Aula XV - Ds**

Session Chair: **Maurizio PROSPERI**

Are FMs places of social inclusion? A preliminary analysis of economic and social drivers affecting farmers participation in FMs

Rosalia Filippini[1,2], Davide D'Ascoli[1], Teresa Tugliani[1]

[1]University of Parma, Italy; [2]UMR Territoires, France; teresa.tugliani@unipr.it

The conventional food system (CFS) has been increasingly criticized for its environmental and social impacts, shedding light on alternative approaches such as Short Food Supply Chains (SFSCs). Among them Farmers' Markets (FMs) emerge to be the most prevalent and thus studied. Nevertheless, empirical studies on social and economic drivers and limitations of farmers' participation in FMs are scatterd and not comprehensive. This study examines the socio-economic drivers and limitations of farmer participation in FMs through a mixed methodology approach using Parma as case study. Interviews were conducted among 56 farmers of six FMs. Findings reveal that while FMs serve as platforms for social interaction, economic drivers like covering costs and profitability play a key role. In conclusion, the balance between economic and social factors is pivotal for FMs success. Thus, further research could focus on better understanding the correlation between drivers and limitations linked to socio-demographic factors.

1763-Are FMs places of social inclusion A preliminary analysis of economic and social drivers affecting.docx

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Xylella fastidiosa invasion: Exploring the Economic and Social Impacts Using Italian Farm Accountancy Network Data

Alessandro Petrontino[1], Federica Calderoni[1], Michel Frem[2], Adele Annarita Campobasso[1], Emanuela Tria[1], Carlo Sansiviero[1,3], Ludovica Nardelli[1,3], Francesco Bozzo[1], Vincenzo Fucilli[1]

[1]Department of Soil, Plant and Food Sciences, University of Bari Aldo Moro, Via Amendola 165/A, 70126 Bari, Italy; [2]SINAGRI s.r.l, Spin off of the University of Bari Aldo Moro, Via Amendola 165/A, 70126 Bari, Italy; [3]CIHEAM Bari, Via Ceglie, 9, 70010 Valenzano, Italy; federica.calderoni@uniba.it

Xylella fastidiosa (hereafter Xf), is known to cause many different diseases likequick decline of olive in Italy. In this context, this paper aims to assess the quantitative socio-economic impact of Xf outbreak on Italian olive growers' livelihoods and, to provide an update estimate of the private socio-economic effects due to this biological invasion.

For these purposes, we applied a statistical approach, the Propensity Score Matching (PSM) and the Difference in Difference (DiD) model. This approach estimates the difference between what is empirically observable after the spread of Xf in the study area and what would have been observed, in the same period and for the same subjects, in the absence of this biological invasion.

The comparison between the economic and social performances of the olive growing companies present in the Salento area (treated) and not present in the Salento area (untreated) was carried out using the estimator of the ATT.

1945-Xylella fastidiosa invasion-Petrontino.pdf

Assessing the social impacts of digital solutions in agriculture: the QuantiFarm project

Andrea Bianchi, Chiara Corbo, Francesco Parigi, Sandra Cesari de Maria, Filippo Maria Renga
Politecnico di Milano, Italy; andrea.bianchi@polimi.it

This work focuses on the development of a social questionnaire aimed at quantifying the impacts of digital technologies in agriculture on the social dimension. The development of the questionnaire was based on a literature review on the social sustainability of digital agriculture and was integrated with comments and suggestions from 30 pilot cases. The questionnaire included 37 questions with a Lycart-type scale and was administered to a total of 60 farms. The paper presents some preliminary evidence on the benefits of digital technologies in agriculture on the social dimension. Furthermore, the research seeks to demonstrate future developments of this type of approach to analysing the social sustainability of innovation in agriculture.

1962-Assessing the social impacts of digital solutions-Bianchi.pdf

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Cultivating diversity: the influence of foreign workers on Italian farms' outcomes

Lisa Capretti[1], Furio Camillo Rosati[1,2]
[1]CEIS - Tor Vergata University of Rome; [2]DEF - Tor Vergata University of Rome; lisa.capretti@uniroma1.it

This paper aims to examine how the presence of foreign workers affects farms' outcomes. Data used for the analysis comes from the Italian Farm Accountancy Data Network and we adopt an IV approach, and considering heterogeneity among geographical areas. We also perform a DiD analysis to understand the impact of the amnesty introduced by the Italian Government in 2020. Results do not show a significant effect of immigration on the number of native workers employed in the sector and on hourly wages. We observe a shift from corn's production towards wine and olive trees.The productivity follows a similar path. Furthermore, the use of foreign workers seems complementary to the use of capital and positively effect quality indicators.The DiD estimates reveal an increase in the expenditure for certifications. Productivity increases for corn and wheat while decreases for wine and olive trees. Lastly, an increase in the use of machinery was observed.

1809-Cultivating diversity-Capretti.pdf

Fostering the multi-stakeholders interplay to promote Social Farming initiatives

Marta Azzarone, Maurizio Prosperi, Biagia De Devitiis
Università degli Studi di Foggia, Italy; marta.azzarone@gmail.com

Social Farming (SF) represents an example of Social Innovation that involves actors of "Quadruple Helix": university, industry, government and "media and culture-based public". The potential of SF is well recognized by the professionals and experts operating in the social sector, but the debate at regional level is still discontinuous and ineffectual, due to the difficulty of engaging the real stakeholders in the regulatory process, which provides the clear orientation to all involved stakeholders. This study is referred to the Apulia Region and proposes a participatory approach, enabling the stakeholders to share their knowledge and allowing them to cooperate and to elaborate an original strategy which fits with their capacities, competences, and constraints. The outcome of the study is the shared agenda, containing roles and responsibilities of all stakeholders involved in SF.

1933-Fostering the multi-stakeholders interplay to promote Social Farming initiatives-Azzarone.pdf

3:00pm - 4:30pm

OS-4: Integrating Water and Ecosystem Services into Economic Models: insight from the RUEESnexus and MUST4water projects

Location: **Aula V - OSs**
Session Chair: **Mauro Viccaro**

Integrating Water and Ecosystem Services into Economic Models: insight from the RUEESnexus and MUST4water projects

Mauro Viccaro[1], Tiziano Distefano[2]
[1]University of Basilicata, Italy; [2]University of Florence, Italy; mauro.viccaro@unibas.it

3:45pm - 4:30pm

P-4B: Agriculture and natural resources

Location: **Aula VI - Ps**
Session Chair: **Greta Winkler**

Variable inputs use as a risk mitigation strategy. An empirical assessment on irrigated field crop farms in Italy

Luigi Biagini[1], Martina Bozzola[2], Simone Severini[1]
[1]Università della Tuscia, Italy; [2]Queen's University Belfast; severini@unitus.it

This study assesses risk mitigation through variable input use (irrigation, plant protection, fertilizers, labour) on Italian irrigated field crop farms (2014-2021) using Italian FADN data. It employs a method of moments to analyze input impacts on risk, addressing farm income's dynamic nature and estimation challenges. Findings reveal fertilizers and plant protection increase risk, labour decreases it, and irrigation raises income failure risk. CAP payments reduce risk exposure, while farm diversification's effect is negligible. The study highlights trade-offs between environmental goals and risk management under the EU's Farm-to-Fork Strategy, suggesting policy designs should balance environmental and economic sustainability. It contributes methodologically by incorporating income dynamics and offers insights for policy, emphasizing labour's role

in reducing risk and questioning diversification's effectiveness. Limitations include potential endogeneity and the need for further meteorological data investigation.

Elasticity of water demand for irrigation: the case of the Po River basin

Vito Frontuto, Silvana Dalmazzone
Department of Economics and Statistics, University of Torino, Italy; vito.frontuto@unito.it

The Po River basin is Italy's largest and most economically relevant basin. This area faces increasing vulnerability due to climate change. The paper study examines the potential of water pricing to address environmental goals while considering socioeconomic dynamics. We analyse the demand elasticity in agriculture across the basin's provinces, simulating the effects of water price increases using Positive Mathematical Programming (PMP). Preliminary results indicate that while water demand proves relatively elastic, responses vary nonlinearly across crops and provinces. Initial price increases lead to significant water savings, yet further increments yield diminishing water savings, particularly affecting less profitable crops. The study underscores the need for tailored pricing policies at regional and provincial levels to balance environmental conservation with economic viability. Policymakers can leverage these findings to design effective and sustainable strategies amidst the complex interplay of water resource management and agricultural sustainability, albeit acknowledging the simplifications inherent in modelling approaches.

Real Options in Cost-Benefit Analysis for Water Management: A Case Study in the Po River District

Elisa Belfiore
Università di Bologna, Italy; elisa.belfiore3@unibo.it

This study applies the real options model to assess investments in water resource management in the Po River District, aligning with the Water Framework Directive. Economic analysis, crucial for environmental policies, must address climatic uncertainty. The real options model offers a means to manage this uncertainty, aiding in better investment assessment for achieving water body status. Using a binomial decision tree, the study examines the value of delayed options, revealing potential benefits in delaying investments across climatic scenarios. However, accurately estimating project volatility remains a challenge. Nevertheless, this model offers promise for enhancing decision-making in water policy by providing insights into timing and investment strategies amidst uncertainty, fostering more rational and sustainable choices.

Sustainable business models for soil health: a System Innovation Approach to understand barriers and stakeholders.

Greta Winkler, Fabio Bartolini
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Increasing evidence of soil degradation has brought the topic of soil health to the EU policy arena, yet how to better regulate and incentivize soil health between public and private actors is still a contested matter. Business models with greater social sustainability should enable soil management that delivers ecosystem services, including e.g. biodiversity and cultural heritage. By applying a System Innovation Approach this study aims at identifying key barriers in the implementation of sustainable business models for soil health across 12 European case studies and in further mapping stakeholders' influence towards adoption. Results evidence government (e.g., a lacking regulative framework, and insufficient political commitment) and technology (e.g., missing tools for monitoring and mapping) as main barriers. Farmers, the supply chain, policy makers and advisory services emerged as key actors, reflecting a need for greater coordination between societal sectors to guarantee that soil health is pursued as a policy objective.

4:30pm - 5:00pm

Concluding ceremony

Location: **Aula Magna ex Facoltà di Agraria - As**
Session Chair: **Simone SEVERINI**