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Nell'ambito di: FIERAGRICOLA
116™ INTERNATIONAL AGRICULTURAL TECHNOLOGIES SHOW

Mercoledì 31 Gennaio 2024 • Ore 15.30–17.30
AREA FORUM del Padiglione 5

WORKSHOP

BIOLOGICO, STRATEGIE OPERATIVE PER UN RILANCIO VINCENTE

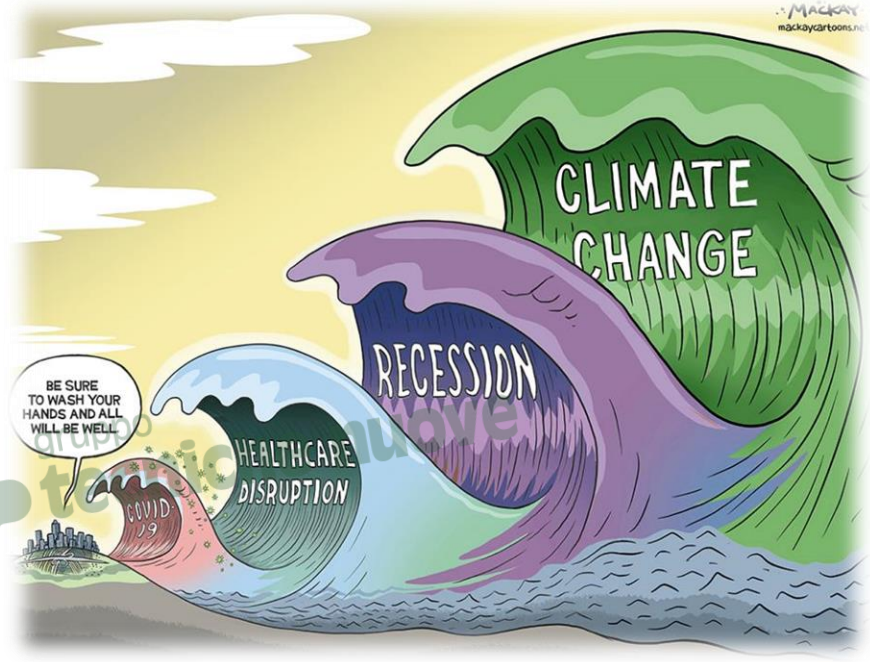
Per una *smart future farm* ad alto potenziale di adattamento e mitigazione dei Cambiamenti Climatici

Stefano Bocchi
Prof. Ord. presso Università degli Studi di Milano
Delegato del Rettore per la sostenibilità

1. Futuro
2. Innovazione
3. Dubbi e paure

1.Il futuro

- Volatilità dei prezzi (mercati agricoli e non solo)
- Aumento dei costi delle materie prime
- Mercati ed esigenze dei consumatori individuali e collettivi (GPP)
- Sicurezza Alimentare e qualità delle filiere
- CAMBIAMENTO CLIMATICO



1.Il futuro

Climate-smart agriculture (CSA) è una strategia di nuovo sviluppo del settore agro-alimentare che riorienta i sistemi produttivi agricoli per:

→ garantire la food security di fronte alla minaccia dell'emergenza climatica

COME ?

→ gettando le basi, teoriche e pratiche, per raggiungere più elevati livelli di resilienza e di adattamento (al CC) a scala aziendale e territoriale

→ rimuovendo le cause del Cambiamento Climatico (gas serra)

ARTICLE

https://doi.org/10.1038/s41586-018-0594-0

Options for keeping the food system within environmental limits

Marco Springmann[1,2]*, Michael Clark[3], Daniel Mason-D'Croz[4,5], Keith Wiebe[4], Benjamin Leon Bodirsky[6], Luis Lassaletta[7], Wim de Vries[8], Sonja J. Vermeulen[9,10], Mario Herrero[5], Kimberly M. Carlson[11], Malin Jonell[12], Max Troell[12,13], Fabrice DeClerck[14,15], Line J. Gordon[12], Rami Zurayk[16], Peter Scarborough[2], Mike Rayner[2], Brent Loken[12,14], Jess Fanzo[17,18], H. Charles J. Godfray[1,19], David Tilman[20,21], Johan Rockström[6,12] & Walter Willett[22]

«The agrofood system is the major driver of climante change, changes in land use, depletion of freshwater resources, and pollution of aquatic and terrestrial ecosystems through excessive nitrogen and phosphorus inputs»

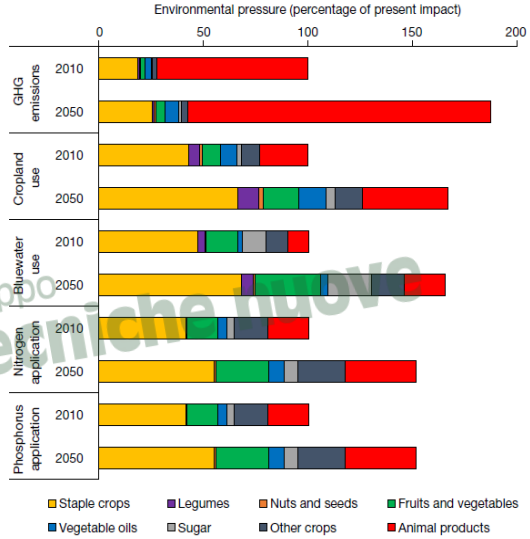
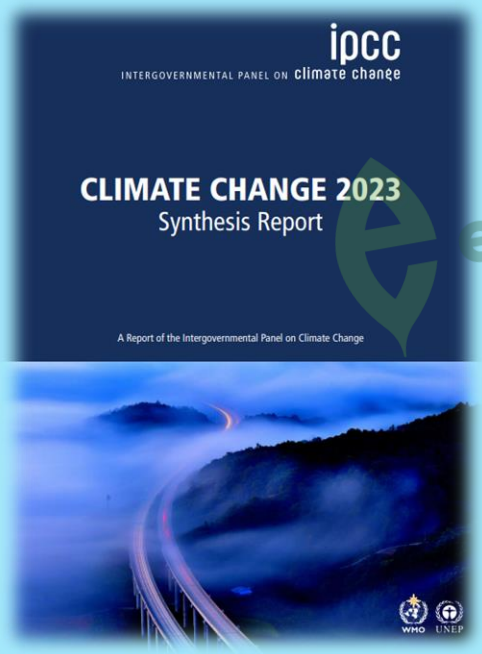


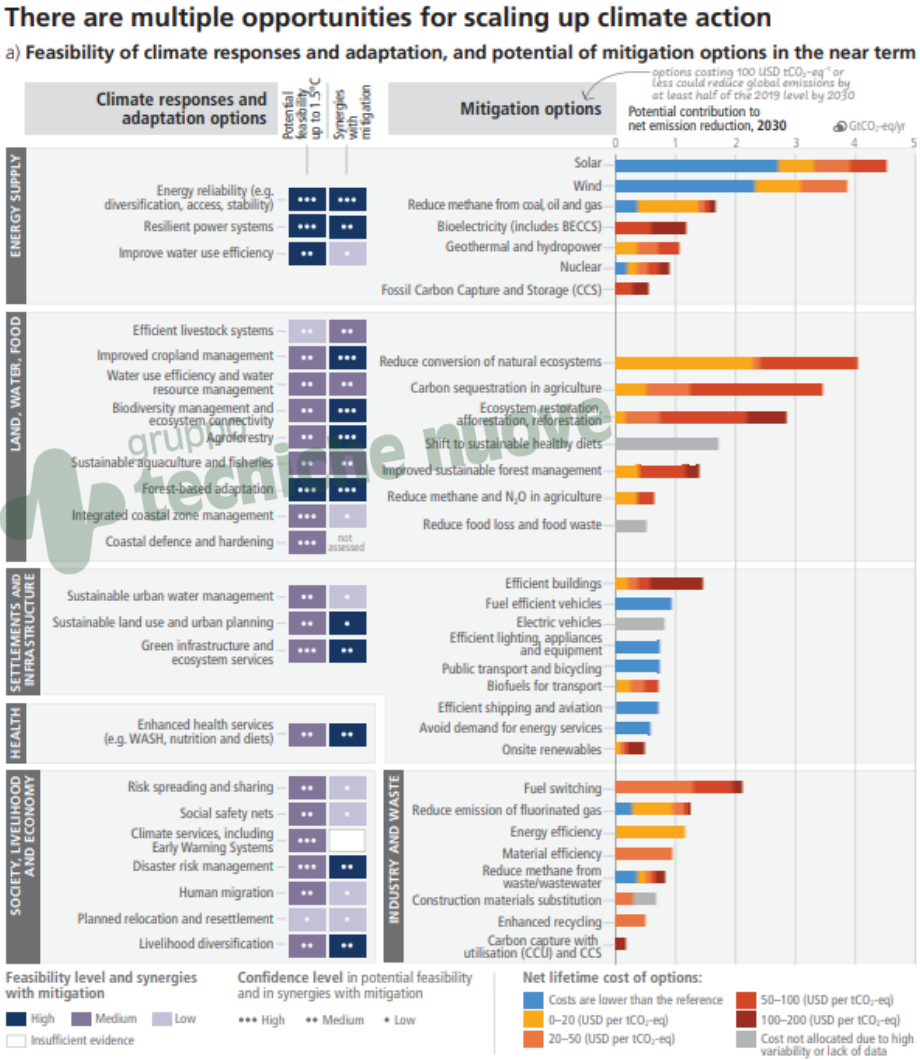
Fig. 1 | Present (2010) and projected (2050) environmental pressures on five environmental domains divided by food group. Environmental pressures are allocated to the final food product, accounting for the use and impacts of primary products in the production of vegetable oils and refined sugar, and for feed requirements in animal products. Impacts are shown as percentages of present impacts, given a baseline projection to 2050 without dedicated mitigation measures for a middle-of-the-road socioeconomic development pathway (SSP2). Absolute impacts for all socioeconomic pathways are provided in the main text and the data referred to in the 'Data availability' statement (see Methods).

Climate Smart Agriculture Sourcebook

About the Sourcebook

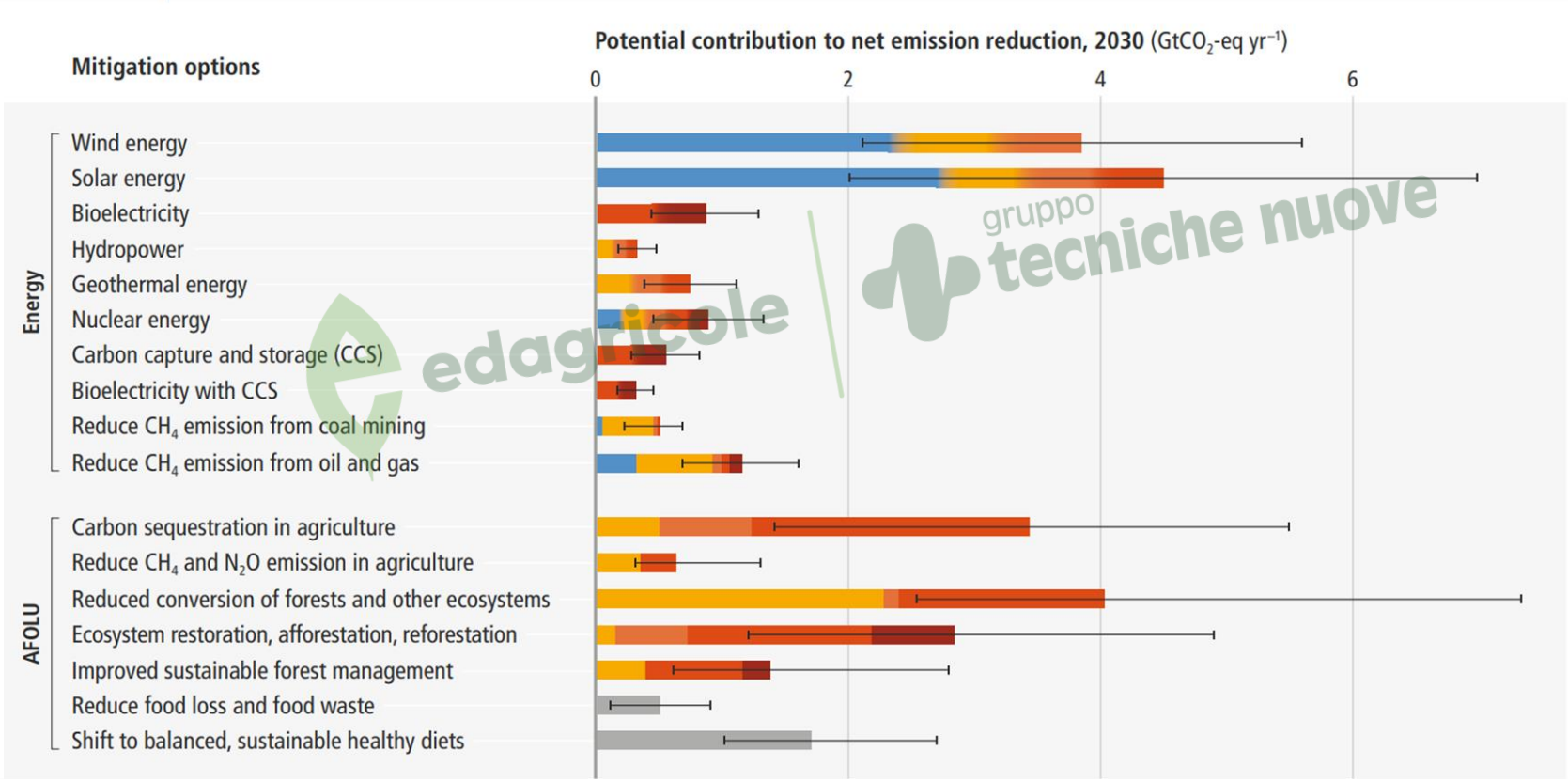
1.Il futuro





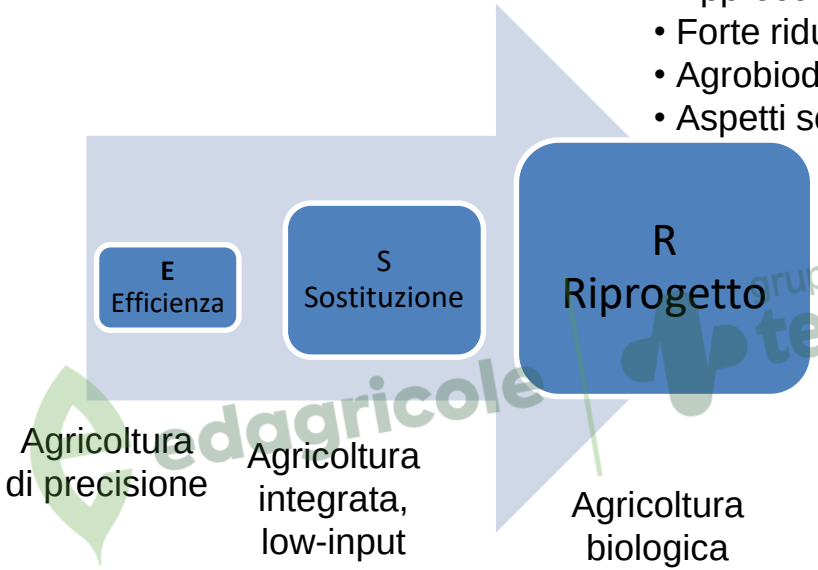
1.Il futuro

Margini importanti di riduzione di questi impatti sul nostro pianeta grazie a significativi interventi su opzioni diverse.
Le principali (in figura), che avrebbero anche risvolti di convenienza economica, sono quelle che riguardano
1)le tecniche di sequestro/stoccaggio del carbonio,
2)2) la riduzione/azzeramento della deforestazione,
3)3) azioni di rigenerazione degli ecosistemi e riforestazione.



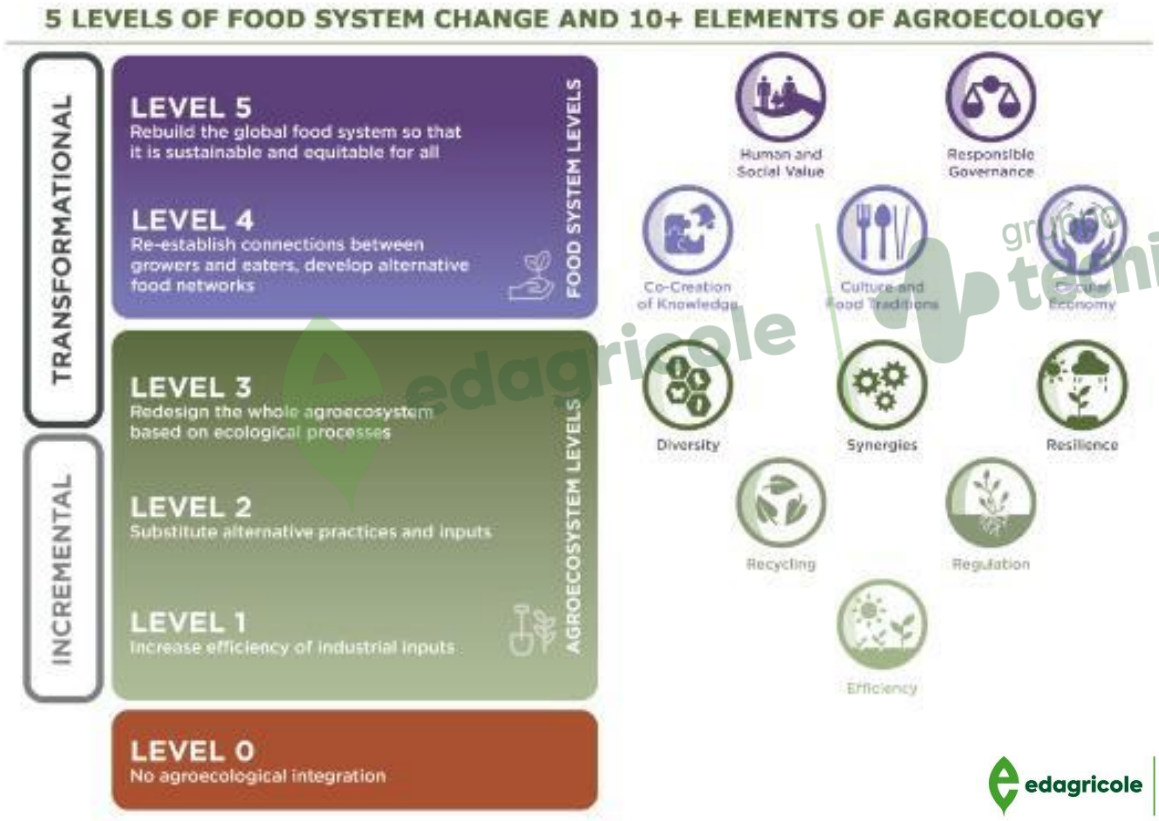
2.Innovazione

- Approccio di sistema
- Forte riduzione input esterni
- Agrobiodiversità
- Aspetti sociali



Innovazione:
di prodotto -- di processo -- di sistema

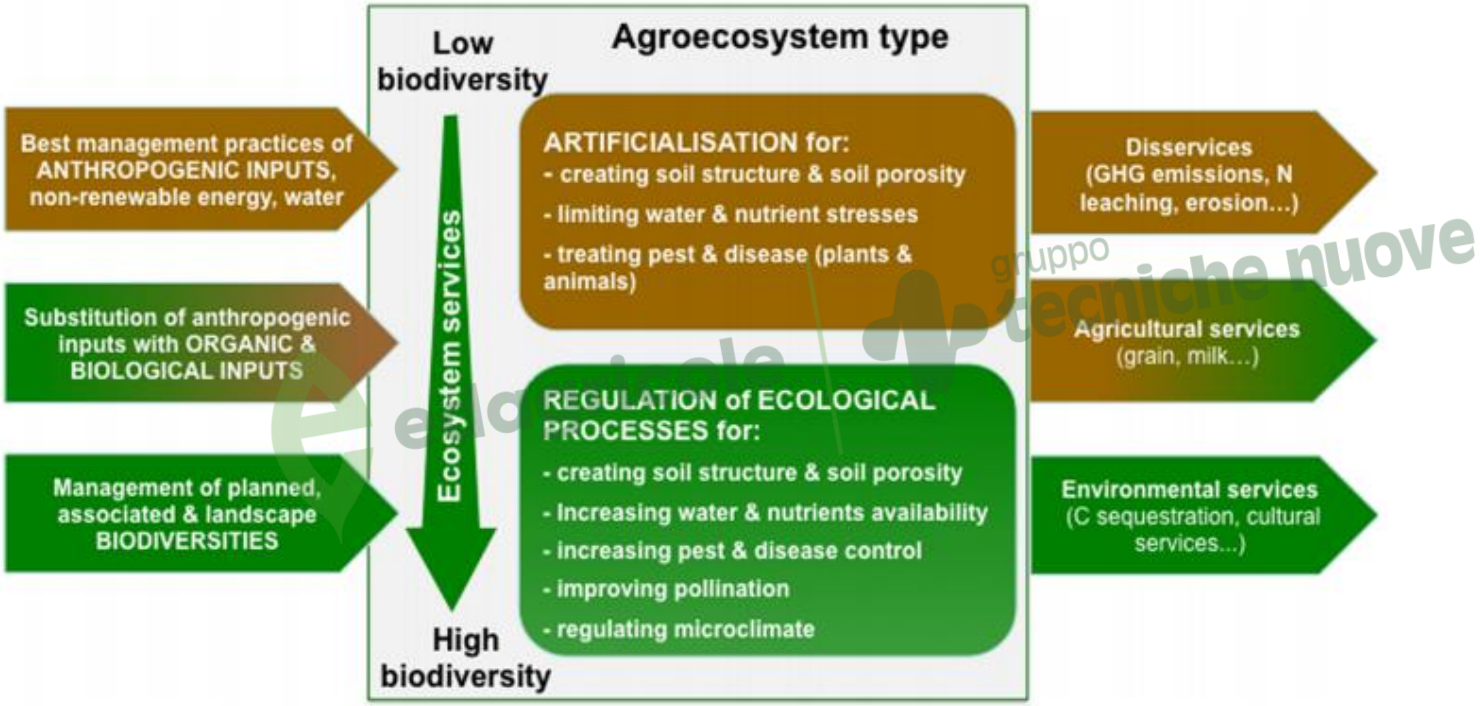
2.Innovazione … oltre il livello di azienda



2.Innovazione

2.Innovazione

Tipologie di agroecosistemi



Duru et al. 2015 How to implement biodiversity-based agriculture to enhance ecosystem services: a review. Agron. Sustain. Dev. (2015) 35:1259–1281 DOI 10.1007/s13593-015-0306-1

2.Innovazione

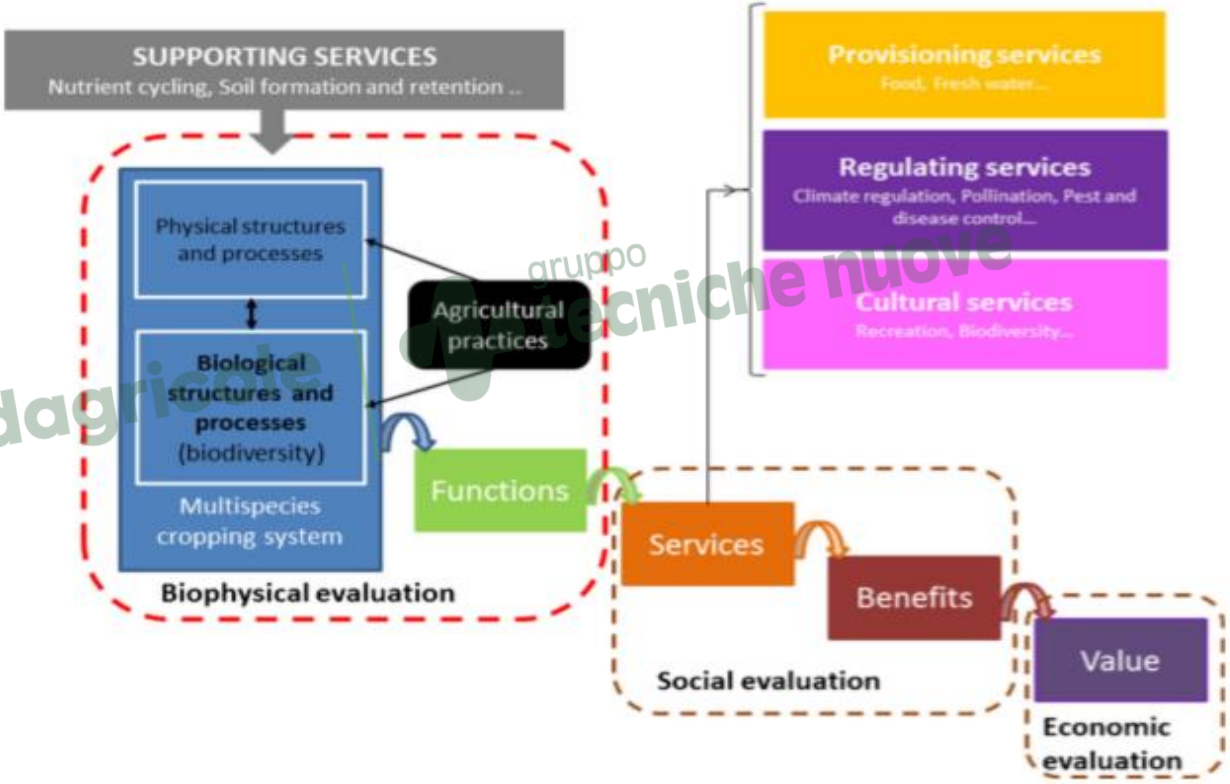
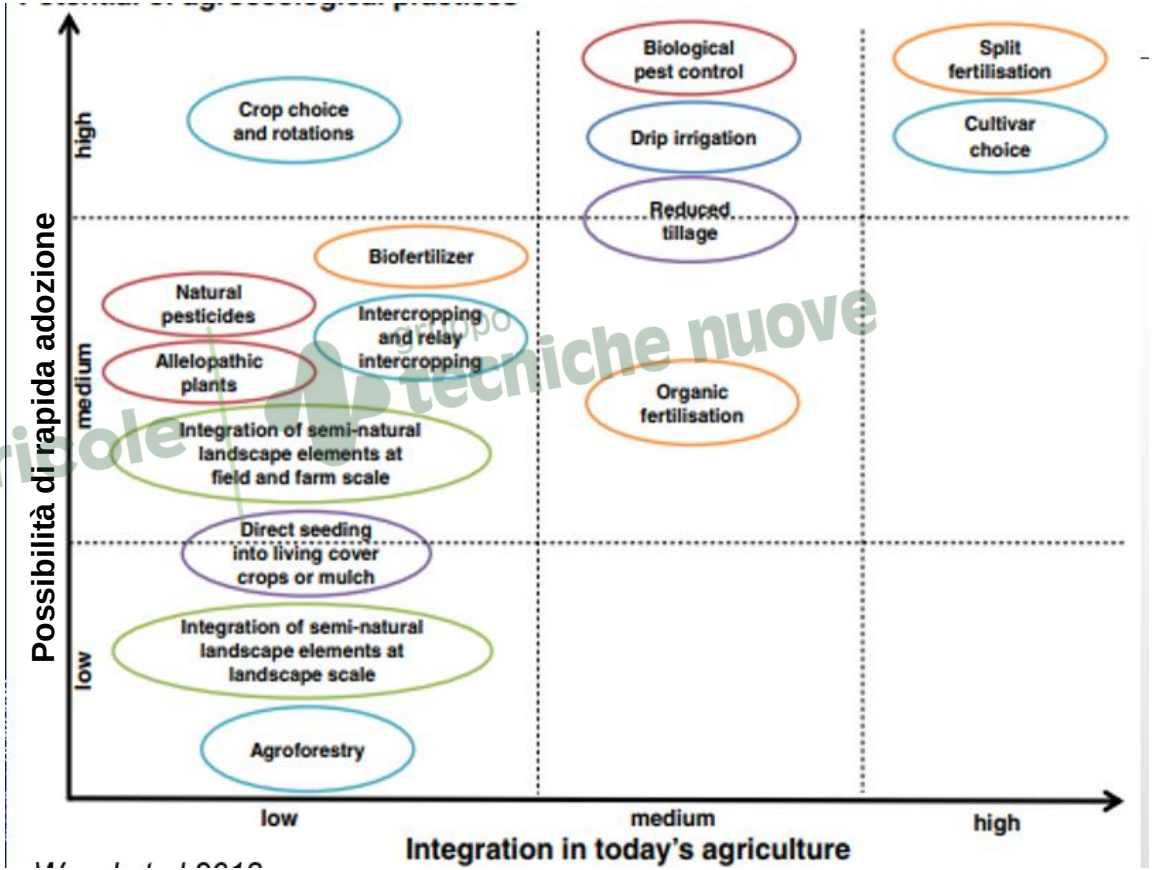


Fig. 4 Cascade of ecosystem services in agricultural systems. Adapted from Haines-Young and Potschin (2010). The classification of services is taken from the Millennium Ecosystem Assessment (2005). "Physical structures and processes" also encompass physical and chemical structures and processes

3. Dubbi e paure



(modificato da Wezel, 2018)

3. Dubbi e paure

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Soil Use and Management

WILEY

REVIEW PAPER

Do organic farming practices improve soil physical properties?

Humberto Blanco-Canqui[1] | Sabrina J. Ruis[2] | Charles A. Francis[1]

[1]Department of Agronomy and Horticulture, University of Nebraska-Lincoln, Lincoln, Nebraska, USA

[2]USDA-ARS National Laboratory for Agriculture and the Environment, Ames, Iowa, USA

Correspondence
Humberto Blanco-Canqui, Department of Agronomy and Horticulture, University of Nebraska-Lincoln, Lincoln, NE 68583, USA.

Abstract

Organic farming (OF) is a reemerging system that could address food security and adverse environmental footprints of conventional farming (CF). However, how OF affects the soil physical environment, an essential pillar for soil ecosystem service delivery, is not well understood. This paper (1) reviews published global literature up to 13 July 2023 regarding the impacts of OF on soil physical properties compared with CF and (2) underlines research needs. Literature indicates OF improves some soil physical properties relative to CF although studies on some properties were few. Specifically, OF increased wet aggregate stability,

3. Dubbi e paure

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Can agroecology improve food security and nutrition? A review

Rachel Bezner Kerr [a,*], Sidney Madsen [a], Moritz Stüber [b], Jeffrey Liebert [c], Stephanie Enloe [a], Noélie Borghino [b], Phoebe Parros [b], Daniel Munyao Mutyambai [c], Marie Prudhon [b], Alexander Wezel [b]

[a] Department of Global Development, Cornell University, Ithaca, NY, United States
[b] Isara, AgroSchool for Life, Agroecology and Environment research unit, Lyon, France
[c] Soil & Crop Sciences Section, School of Integrative Plant Science, Cornell University, Ithaca, NY, USA

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Nutrition
Dietary diversity
Crop diversity
Sustainable agriculture

ABSTRACT

Agroecology increasingly has gained scientific and policy recognition as having potential to address environmental and social issues within food production, but concerns have been raised about its implications for food security and nutrition, particularly in low-income countries. This review paper examines recent evidence (1998–2019) for whether agroecological practices can improve human food security and nutrition. A total of 11,771 articles were screened by abstract and title, 275 articles included for full review, with 56 articles (55 cases) selected. A majority of studies (78%) found evidence of positive outcomes in the use of agroecological practices on food security and nutrition of households in low and middle-income countries. Agroecological practices included crop diversification, intercropping, agroforestry, integrating crop and livestock, and soil management measures. More complex agroecological systems, that included multiple components (e.g., crop diversification, mixed crop-livestock systems and farmer-to-farmer networks) were more likely to have positive food security and nutrition outcomes.

3. Dubbi e paure

economies

MDPI

Review

Comparative Economics of Conventional, Organic, and Alternative Agricultural Production Systems

Timothy C. Durham [1,*] and Tamás Mizik [2]

[1] Agriculture and Biology Programs, School of Arts and Sciences, Ferrum College, Ferrum, VA 24088, USA
[2] Department of Agribusiness, Corvinus University of Budapest, 1093 Budapest, Hungary; tamas.mizik@uni-corvinus.hu
* Correspondence: tdurham@ferrum.edu

Abstract: Agricultural production systems are a composite of philosophy, adoptability, and careful analysis of risks and rewards. The two dominant typologies include conventional and organics, while biotechnology (GM) and Integrated Pest Management (IPM) represent situational modifiers. We conducted a systematic review to weigh the economic merits—as well as intangibles through an economic lens—of each standalone system and system plus modifier, where applicable. Overall, 17,485 articles were found between ScienceDirect and Google Scholar, with 213 initially screened based on putative relevance. Of those, 82 were selected for an in-depth analysis, with 63 ultimately used. Economically, organic generally outperformed conventional systems. This is largely due to their lower production costs and higher market price. However, organic farms face lower yields, especially in the fruit, vegetable, and animal husbandry sectors. With that said, organic farming can provide significant local environmental benefits. Integrated pest management (IPM) is a potentiator of either core system. As a risk reduction and decision-making framework, it is labor intensive. However, this can be offset by input reductions without yield penalty compared to a conventional baseline. Biotechnology is a rapidly emerging production system, notably in developing countries. The use of GM crops results in lower production cost and higher yields. As a conventional modifier, its major advantage is scale-neutrality. Thus, smaller and lower income farmers may achieve higher

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Xiang P A, Lin Z F, Lin S J, Zhang Z Q. Impacts of farmers engaging in organic farming on their well-being. Acta Ecologica Sinica, 2021, 41(8): 3296-3305.

从事有机农业对农民福祉的影响

向平安,林智芬*,林芍君,张子权
湖南农业大学商学院,长沙 410128

摘要:从事有机农业的农民福祉得到改善是有机农业发展的前提条件。采用 Narayan 等提出的福祉框架,回顾了有关有机农业行为和支持性行为的公共部门措施对农民福祉影响研究的文献,以厘清从事有机农业与农民福祉间的关系。研究表明,农民有机农业行为对其收入、健康、社会关系、安全和自由与选择等福祉要素产生影响。收入是农民福祉的首要构成要素,但农民有机农业行为究竟是增加还是降低其收入,需要考察具体情境中产量、成本和价格的综合作用,没有一致性结论。农民有机农业行为对其社会关系的影响具有双向性,但它对他们的健康、安全和选择机会的影响是积极的。公共部门通过财政支付、支持合作、建立与完善有机认证制度和采购绿色化等措施支持有机农业,有助于改善有机农民的福祉。其中,财政支付是最重要的支持措施。研究认为不同情境的农民有机农业行为对其福祉影响的综合评价、农民有机农业行为与其福祉间因果关系的检验和公共部门有机农业政策对有机农民福祉贡献的检验,是今后研究的重要选题。

关键词:有机农业;农民;福祉;公共政策

Impacts of farmers engaging in organic farming on their well-being

XIANG Pingan, LIN Zhifen*, LIN Shaojun, ZHANG Ziquan
School of Business, Hunan Agricultural University, Changsha 410128, China

Abstract: Improving the well-being of farmers is a prerequisite for the development of organic farming. Although some studies have discussed the relationship between farmers engaging in organic farming and their well-being in specific situations, the overall outline of their relationship is not clear. Based on the well-being framework proposed by Narayan et al., this article reviews the relevant literature on the impact of engaging in organic farming and public sector measures supporting it on the well-being of organic farmers, to clarify the existing acknowledge of the relationship between engaging in organic farming and farmers' well-being. This research indicates that engaging in organic farming has an impact on farmers' income, health, social relations, security, freedom and choice. Income is the primary component of farmers' well-being, whereas whether engaging in organic farming increases or decreases their income needs to be examined by the comprehensive effects of yield, cost, and price. Thereby, there is no consistent conclusion. The impact of engaging in organic farming on farmers' social relations is bi-directional, but its impact on their health, safety and choice is positive. The public sector supports organic agriculture through financial payment, supporting cooperation, establishment and improvement of organic certification systems and green procurement, which helps to improve organic farmers' well-being. Among them, financial payment is the most critical support measure. Finally, the comprehensive evaluation of farmers engaging in organic farming in different situations on their well-being, the inspection of the causal relationship between farmers' organic farming behaviors and their well-being, and the test of the contribution of public sector organic farming policies to the well-being of

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* 通讯作者 Corresponding author. E-mail: lzf1210@126.com

3. Dubbi e paure

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The potential of organic agriculture, soil structure and farmers income for inclusive agriculture sustainability: a review

Rahmaniah HM[1], R. Darma[2], L. Asrul[3], and Taufik. DK[4]

[1]Study program of Agribusiness, Faculty of Agriculture and Forestry Universitas Sulawesi Barat
[2]Department of Agricultural Sosio - economics, Faculty of Agriculture, Universitas Hasanuddin Makassar
[3]Department of Agronomy, Faculty of Agriculture, Universitas Hasanuddin Makassar

3. Dubbi e paure

1) PAC/PSR riusciremo a utilizzare bene tutte le risorse per sviluppare e diffondere strategie veramente innovative (AKIS) ?
2) Stiamo partecipando attivamente alla costruzione di un futuro campagna/città sostenibile ?