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Classification and Assessment of Measures Adopted to Reduce the Adverse Impact of the COVID-19 Pandemic on Agriculture*

Abstract

RESEARCH OBJECTIVE: The study aims to develop a catalogue of the primary instruments implemented to mitigate the effects of the COVID-19 pandemic in agriculture and assess their advantages and disadvantages.

THE RESEARCH PROBLEM AND METHODS: The research problem is the classification of primary instruments mitigating the effects of the pandemic in agriculture and their assessment. The study was conducted based on the literature review, data from the OECD, and incorporating authors' knowledge and experience.

THE PROCESS OF ARGUMENTATION: A review of existing literature on the instruments implemented to mitigate the effects of the pandemic in agriculture, presentation of the research methodology, identification and classification of public support instruments, the assessment of their advantages and disadvantages, and presentation of conclusions and recommendations.

RESEARCH RESULTS: We identify eight categories of instruments, i.e., financial support, supply chain and market support, labour support, policy

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support, technological support, tax relief, research and development support, and food safety measures. Financial aid offers crucial relief but carries risks of dependency and uneven allocation. Supply chain support promises market stability but could encounter operational hurdles. Labour support helps address workforce gaps, though it may result in long-term costs. Policy support ensures a swift response but can create regulatory instability. Technological support boosts efficiency while also raising concerns about accessibility and costs. Tax relief and research and development support bring immediate and future benefits, respectively, yet require careful planning. Food safety measures are vital for continuity but need sustainable strategies.

CONCLUSIONS, INNOVATIONS, AND RECOMMENDATIONS: Our analysis highlights the need for well-coordinated strategies, programs, and instruments to address the diverse challenges in the agricultural sector during pandemics. This paper adds to the discussion on crisis policy responses and their sector-specific applications. It provides insights for policymakers and stakeholders and may support future policy development.

Keywords:
COVID-19 pandemic, public support, support instrument, agriculture

1. INTRODUCTION AND LITERATURE REVIEW

The COVID-19 pandemic has disrupted various aspects of human life worldwide, leading to psychological, social, economic, and humanitarian consequences, posing a threat to global health, social welfare, and the economy (Baldwin & Tomiura, 2020; Czech et al., 2020). Moreover, its consequences have been a subject of ongoing uncertainty (Baker et al., 2020). The COVID-19 pandemic is widely recognised, not only among economists, as a big black swan phenomenon (Goodell, 2020). The pandemic has significantly impacted the global economy, leading to unprecedented volatility and uncertainty, with lockdowns, travel restrictions, and social distancing measures affecting businesses and commerce (Woc-Colburn, 2023). The rapidly increasing number of infections and deaths caused by COVID-19 has forced national governments worldwide to implement various restrictions and lockdowns to stop the spread of the novel coronavirus pandemic (Koh, 2020). Researchers and policymakers aimed to understand the economic impacts and emphasise the need

for transparent, collaborative, and evidence-based interventions to support recovery (Cypress, 2022).

The COVID-19 pandemic, an unprecedented global economic crisis, has substantially impacted various sectors, with agriculture no exception. This sector, vital for food security and economic stability, faced visible challenges during the pandemic (Siche, 2020). COVID-19 impacts the whole process from the field to the consumer (Daniłowska et al., 2024; Jędruchniewicz et al., 2024). In detail, it resulted in the movement restrictions of workers, changes in the demand of consumers, closure of food production facilities, restricted food trade policies, and financial pressures in the food supply chain (Aday & Aday, 2020). The COVID-19 pandemic led to major disruptions in the agri-food system, primarily due to a collapse in food demand and a shock to labour availability (Jędruchniewicz & Wielechowski, 2023). This pandemic also highlighted the vulnerability of industrial agriculture to crises, underscoring the need for more resilient farming practices (Altieri & Nicholls, 2020). The pandemic led to sales difficulties, disrupted the availability of workers and inputs, and increased the workload for farmers. Political measures showed limited effectiveness in mitigating these adverse effects (Meixner et al., 2022).

The COVID-19 pandemic necessitated diverse public support instruments to mitigate its adverse effects on agriculture, focusing on immediate sector needs and long-term resilience. Governments globally implemented region-specific strategies to safeguard food security and support smallholder farmers. Measures taken to contain the COVID-19 pandemic, in addition to changes in consumer attitudes and behaviour, have impacted food supply chains globally (Meixner et al., 2022).

Financial support is a major factor for enterprise operations during the COVID-19 crisis (Sieradzka & Luft, 2023). Research has shown that government support during the COVID-19 crisis has positively impacted firms' productivity, particularly in maintaining jobs and preserving competitiveness (Gródek-Szostak et al., 2022; Zhemkova, 2023). Financial aid and subsidies have been the primary forms of support during the pandemic. Many governments have provided direct financial support to farmers to compensate for income losses and maintain their farming operations. This assistance has been crucial

in ensuring continued food production despite pandemic-related challenges (OECD, 2021a, 2021b). The U.S. government provided an estimated $35.1 billion in COVID-19-related assistance to the agriculture sector in 2020. Farm operations received $29.5 billion through programs like the Coronavirus Food Assistance Program, which provided $23.5 billion in direct payments to farmers and ranchers facing market disruptions, higher production costs, and lower prices (Giri et al., 2021). The EU reallocated €712 million from unused rural development funds to provide direct income support to farmers impacted by the pandemic. However, this support was insufficiently targeted, with some member states making it available to all farmers regardless of actual losses (European Court of Auditors, 2023).

Supply chain interventions ensured the movement of agricultural goods and worker safety. Investments in logistics and infrastructure were part of the response, with long-term effectiveness depending on continued investment in supply chain resilience (Jakfar & Halim, 2022; Trivedi et al., 2020). Governments issued guidelines and exemptions to ensure the free movement of agricultural goods, inputs, and workers across internal and international borders (European Court of Auditors, 2023; Mahmood et al., 2024). Financial support was provided to agri-food businesses to offset losses from supply chain disruptions, maintain operations, and adapt to the new conditions (Barman et al., 2021). Policies promoted local sourcing, urban agriculture, and community-supported agriculture models to shorten supply chains (Deconinck et al., 2020). Many countries promoted the use of e-commerce platforms and online sales channels to connect farmers directly with consumers and bypass disrupted traditional supply chains (Guo et al., 2022; Rifin et al., 2023). The EU guided member states in setting up logistics platforms and online sales channels to shorten supply chains (European Court of Auditors, 2023).

Moreover, governments implemented various labour support measures to ensure the safety of agricultural workers, facilitate the hiring of temporary foreign workers, and support the unemployed in finding jobs in agriculture during the COVID-19 pandemic. Labour support measures were essential, including providing personal protective equipment and implementing physical distancing and hygiene practices to safeguard agricultural workers (Bochtis et al., 2020). Some governments imposed mandatory safety protocols, while

others provided voluntary guidelines that were unevenly enforced (Quandt et al., 2022). Some regions implemented programs to match unemployed individuals, including those from other sectors, with available agricultural jobs. The unemployed workers, including unauthorised immigrants in the U.S., likely sought jobs in agriculture due to a lack of other employment opportunities. Analysis showed that a 1% increase in state unemployment rates was associated with a 5% decrease in demand for temporary agricultural workers, suggesting some substitution of local labour (Charlton & Castillo, 2021).

The pandemic accelerated the adoption of digital technologies, shifting from centralised to decentralised extension models and promoting the use of digital platforms and FinTech to maintain food supply (Haggag, 2021). Information and communication technology has been crucial in strengthening the resilience of agri-food systems during COVID-19 by supporting precise farm management, product marketing, and access to production inputs (Alam et al., 2023). The pandemic accelerated technology adoption in agriculture, with public support for digital solutions and precision agriculture technologies. However, the effectiveness of these innovations varied across regions and farming operations, with the digital divide posing a significant barrier (Dayioğlu & Turker, 2021).

Tax relief measures, such as tax breaks, deferrals, and reductions in tax advance payments, were implemented by various governments to assist farmers and agribusiness enterprises in coping with the financial burden caused by the COVID-19 pandemic. These instruments aimed to provide liquidity and financial support to the agricultural sector during the crisis (Jiménez & Saldarriaga-Isaza, 2022). According to the OECD report, several countries implemented tax relief measures to mitigate the impact of COVID-19 on agriculture. For example, Canada deferred tax payments for businesses and individuals until June 2020, Italy suspended tax payments and offered tax credits to affected businesses, and the United States allowed certain businesses to defer payroll tax payments. While these measures were not specifically designed for the agriculture sector, they provided broad financial relief that also benefited farmers and agribusinesses (OECD, 2021b).

The COVID-19 crisis also highlighted the importance of research and development in agriculture, leading to increased investment in

initiatives aimed at improving productivity and resilience. During the COVID-19 pandemic, various measures were taken globally to sustain agricultural production. These measures included adapting quickly to changing dynamics, demonstrating the resilience of farmers (Darnhofer, 2020). Measures were taken to facilitate the movement of agricultural inputs, such as seeds, fertilisers, and machinery, across borders and within countries (Chicas et al., 2022).

To ensure the safe production and distribution of food during the pandemic, various food safety measures were introduced along the supply chain. WHO and FAO issued guidelines on good hygiene practices, social distancing, and other preventive measures for food businesses and workers (WHO and FAO, 2020). Governments established guidelines on COVID-19 prevention at farms, including social distancing, providing personal protective equipment, handwashing facilities, and increased sanitation measures (European Court of Auditors, 2023). Testing and health screening programs for agricultural workers were implemented to detect and prevent the spread of COVID-19 among farmworkers (OECD, 2021b). E-commerce platforms and contactless delivery options were promoted to minimise physical contact during food distribution (WHO and FAO, 2020).

This paper contributes by developing a catalogue of primary categories of instruments used to mitigate the effects of the COVID-19 pandemic in the agricultural sector. Its novelty is combining a literature review with OECD data and the authors' expertise to create a comprehensive analysis. This combined approach bridges theoretical research with practical insights. Additionally, the paper's evaluation of the strengths and weaknesses of these instruments may be used for future policy development. The study adds to the ongoing discussion on policy responses to global crises and their sector-specific applications.

The paper is structured as follows. The next section outlines the study's aim and methodology. The following sections present the empirical findings and discussion. The final section provides the conclusions.

2. MATERIALS AND METHODS

The study aims to develop a catalogue of the primary categories of instruments implemented to mitigate the effects of the COVID-19 pandemic in agriculture and then evaluate their advantages and disadvantages. The study primarily relies on the literature review presented in the *Introduction and Literature Review* section of this paper, along with data from the OECD, specifically from the reports *Agricultural Policy Monitoring and Evaluation 2021: Addressing the Challenges Facing Food Systems* (OECD, 2021a) and *Keep Calm and Carry On Feeding: Agriculture and Food Policy Responses to the COVID-19 Crisis* (OECD, 2021b). Additionally, we incorporated our knowledge and experience in the subject matter. This approach ensured that the analysis was based on both existing research and practical insights. It is important to acknowledge that the assessment of the advantages and disadvantages of the analysed support instruments is, to some extent, subjective and reflects our own perspective.

3. RESULTS

As a result of the outbreak and spread of the COVID-19 pandemic and its associated restrictions, including lockdowns, the agriculture and food industry sectors also experienced significant disruptions. Measures introduced to prevent or slow the spread of COVID-19 disrupted the functioning of food supply chains (Deconinck et al., 2020). Governments worldwide responded to these challenges by implementing a wide range of agricultural and food policy actions to ensure continuous production and delivery of affordable food to consumers and meet the needs of an increasingly vulnerable population. However, the types of government policy responses varied significantly from country to country (Gruère & Brooks, 2021). They had to balance combating the spread of the virus with actions aimed at ensuring the availability and affordability of food supplies for their populations (FAO & OECD, 2021).

As indicated above, the nature of government responses was diverse. Generally, they could be divided into three broad categories: support for farmers and other entities in the food chain through

both domestic and trade measures, initiatives to maintain the fluidity of food and agricultural product supply chains and support for vulnerable social groups (Daniłowska et al., 2024). More broadly, many countries responded to the dramatic economic slowdown with significant fiscal support, facilitated by low real interest rates. This broader policy response also directly and indirectly impacted the food and agricultural sector (OECD, 2021a, 2021b). The OECD categorised the support actions into seven categories, which characterised the range of authorities' responses. As shown in Table 1, each of the seven categories can be further divided, resulting in a total of twenty subcategories.

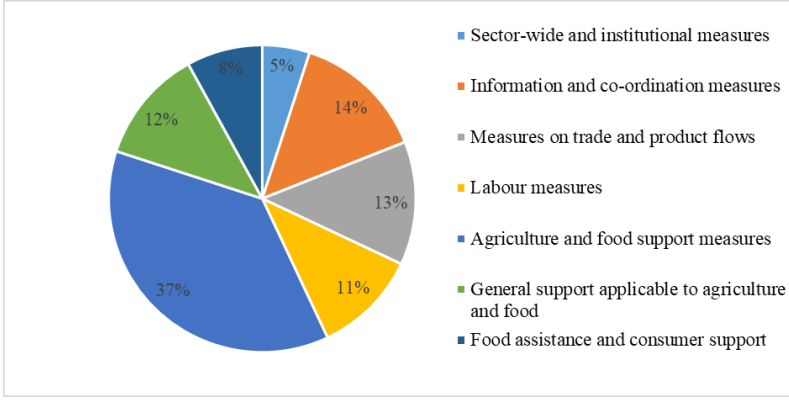
Table 1. Categories and subcategories of agribusiness support activities as a consequence of the COVID-19 pandemic: OECD classification.

Categories	Subcategories
1. Sector-wide and institutional measures	1.A. Declaration of essential sector 1.B. Measures related to the functioning of the government
2. Information and co-ordination measures	2.A. Websites, campaigns 2.B. Monitoring the agriculture market 2.C. Co-ordination with the private sector 2.D. International coordination
3. Measures on trade and product flows	3.A. Trade easing measures 3.B. Logistics and transport facilitation measures 3.C. Trade-restricting measures 3.D. Rechannelling product flows 3.E. Facilitating internal market integration
4. Labour measures	4.A. Measures to ensure the health of workers 4.B. Agriculture labour measures
5. Agriculture and food support measures	5.A. General financial support for the sector 5.B. Specific product support 5.C. Administrative and regulatory flexibility
6. General support applicable to agriculture and food	6.A. Overall economic measures 6.B. Social safety nets
7. Food assistance and consumer support	7.A. Food assistance

Source: Own elaboration based on OECD (OECD, 2021a, 2021b).

OECD divided government actions into these seven categories, with 37% of the 776 actions focusing on support for agriculture and the food industry, 5% on institutional actions, and 8% on food aid measures. The remaining four categories each comprised between 11% and 14% of the actions (Figure 1).

Figure 1. The share of individual agribusiness support activities as a consequence of the COVID-19 pandemic in 54 OECD and developing countries



Source: Own elaboration based on OECD (OECD, 2021a, 2021b).

Research conducted by the OECD revealed that in 2020, the first year of COVID-19, the governments of 54 countries belonging to the OECD and developing countries decided to implement a total of 776 support programmes in response to the prevailing pandemic situation. Of these actions, as many as 496 were implemented within the first four months of the COVID-19 pandemic. Particular attention was paid to urgent needs, with about 20% of the adopted measures aimed at ensuring the continuity of supply chains in the agricultural and food sectors. Additionally, 70% of the measures were temporary reliefs intended to support specific sectors. The remaining 10% of the measures focused on policies with the potential to increase the long-term resilience of the agribusiness sector. However, it is worth noting that about 11% of the adopted measures could cause some market disruptions or negatively impact the environment. The initial analyses of budgetary expenditures related to the response to the COVID-19 crisis indicated that in 2020, global spending in this sector reached at least $ 157 billion. Of this sum, $ 75 billion was allocated by OECD countries, while $ 82 billion concerned developing countries (OECD, 2021a, 2021b).

Based on the literature review, OECD classification, and our knowledge and expertise in the subject matter, we identify the following catalogue of eight primary categories of instruments to mitigate the effects of the COVID-19 pandemic in agriculture:

- financial support (direct funding, loans, grants, and subsidies for farmers and agri-business enterprises; compensation for lost income due to supply chain disruptions);
- supply chain and market support (measures aimed at restoring and strengthening disrupted supply chains; creation and promotion of online platforms for the direct sale of agricultural products to consumers);
- labour support (measures to ensure the safety of agricultural workers; permits for temporary foreign workers to help alleviate labour shortages; support for the unemployed in seeking employment in agriculture);
- policy support (reduction of regulations and deadlines; temporary policy adjustments aimed at immediate relief of the sector);
- technological support (encouragement to adopt technology in agriculture and marketing; support for the development and implementation of digital solutions);
- tax relief (tax breaks or deferrals, reduction of tax advance payments to assist farmers and agribusiness enterprises in coping with the financial burden caused by the pandemic);
- research and development support (the crisis has highlighted the importance of resilience in the agricultural sector; investment in research and development initiatives aimed at improving productivity, sustainable development, and resilience in agriculture);
- food safety instruments (recognising the role of agriculture in ensuring food security, introducing measures to support continuous production and distribution of food, such as designating agricultural workers as essential, providing food aid, and creating food banks).

Then, considering the eight primary categories of instruments to mitigate the effects of the COVID-19 pandemic in agriculture, which we have distinguished, we would like to analyse them, focusing on their advantages and disadvantages.

Table 2. Potential advantages and disadvantages of various categories of instruments to mitigate the effects of the COVID-19 pandemic in agriculture

POTENTIAL ADVANTAGES	POTENTIAL DISADVANTAGES
Financial support	
• Immediate financial support can help farmers and agribusiness firms survive short-term financial liquidity issues. • It can secure operational continuity, covering operational costs. • Compensation for lost income can offset unexpected losses. • It can support investments in new technologies and modernisations, enhancing resilience against future crises. • It can lead to improved public perception of agriculture and farmers.	• Not all businesses or farmers may be adequately identified or have access to these funds, especially if they are small enterprises or households. • It could lead to the misuse of funds if not adequately monitored. • It may create a dependency on government aid, ultimately limiting the sector's ability to adapt independently.
Supply chain and market support	
• Helps maintain market stability, crucial for maintaining consumer and producer confidence. • Creating online platforms for selling agricultural products can open new distribution channels and markets. • Can support local economies and promote more sustainable production and consumption models. • Support for disrupted supply chains can aid in restoring normal market functioning. • Guaranteeing transportation and distribution of food, innovation strategies in the distribution of agricultural products, and the creation of an intelligent and accurate information system to maintain the national food security chain.	• Introduction of new technologies and platforms may require additional investments, not always accessible to small producers. • Coordinating and managing complex supply chains can be challenging. • Some market interventions may lead to unintended price consequences (inflation or deflation). • Dependence on single digital platforms or technologies can create risks of monopolisation and excessive concentration of power.
Labour support	
• Support for temporary foreign workers can help alleviate labour shortages. • Can increase employment opportunities for the unemployed and improve the stability of rural communities. • Can help farmers and agribusiness firms survive the crisis by maintaining a workforce. • Ensuring worker safety can improve morale and productivity.	• There is a risk that temporary measures could become permanent costs. • Balancing the need to protect workers with maintaining production can be challenging. • Coordinating and implementing large-scale labour-related measures can be difficult.

Policy support	
• Reducing regulations and deadlines can help businesses survive the crisis. • Can enable quick responses to unforeseen challenges. • Can promote and facilitate innovations and changes in the agricultural sector.	• There is a risk of weakening essential environmental protection and labour rights regulations. • Changes can be difficult to manage and monitor. • Frequent changes in regulations can create uncertainty and ambiguity. • There is a risk of politicisation of support for the agricultural sector.
Technological support	
• Technology can improve productivity and efficiency in agriculture. • Can enhance the sector's ability to adapt to changing conditions. • Can help farmers and agribusiness firms adjust to new business models and markets. • Can improve the quality and safety of agricultural products.	• Access to technology and the ability to utilise it may be uneven. • There is a risk of job loss due to automation. • Investments in technology can be costly, and their return may take longer than anticipated in crisis conditions.
Tax relief	
• Tax reliefs can provide immediate financial relief for farmers and agribusiness firms. • Can increase financial liquidity. • Can attract additional investments to the sector. • Can encourage larger investments in innovations and sustainable practices.	• Balancing the need for tax reliefs with maintaining adequate state revenue levels can be challenging. • Tax reliefs may not be fairly distributed or may not reach those who need them most. • There is a risk of abuse or using tax reliefs for tax avoidance.
Research and development support	
• Can contribute to improving technology and practices in the agricultural sector. • Can accelerate adaptation to changing conditions. • Can contribute to the sustainable development of the agricultural sector. • Can support innovations that may lead to market competitiveness.	• Research and development outcomes may not be immediate and may require long-term investments. • There is a risk that research and development funding may be improperly directed or utilised. • Not all farmers or agribusiness firms can access the latest research and development findings. • Depending on the sector's structure and resources, some areas may not receive adequate support.
Food safety measures	
• Can help ensure the continuity of food supplies and maintain food security. • Designating agricultural workers as essential can highlight their key role in society. • Providing food aid can bring immediate relief to those in need. • Creating food banks can improve food distribution and reduce food wastage.	• Coordinating and implementing large-scale food safety measures can be challenging. • There is a risk of excessive pressure on farmers and agricultural workers. • Measures may not be sufficient in the long-term food security plan. • There is a risk of uneven access to food, especially among the most disadvantaged communities.

Source: Own study.

The analysis of identified instruments designed to mitigate the effects of the COVID-19 pandemic in agribusiness highlights a complex landscape (Table 2). Financial support provides immediate relief and operational stability; however, it may lead to unequal distribution and dependency on government aid. Supply chain and market support contribute to market stability and new opportunities, yet their implementation can be challenging, with risks of market distortion. Labour support helps address workforce shortages, though it may generate long-term costs and administrative difficulties. Policy support enhances crisis response flexibility but can also result in regulatory instability and politicisation. Technological support improves productivity and adaptation, although accessibility issues and high costs remain significant barriers. Tax relief delivers short-term financial benefits, which must be weighed against government revenue needs and equitable distribution. Research and development foster innovation and sustainability; however, their impact may be delayed and unevenly accessible. Finally, food safety measures ensure essential food supply continuity but face challenges in long-term planning and equitable access. This analysis underscores the importance of well-coordinated policies and programs that effectively address the diverse challenges of the agricultural sector during pandemic crises.

The COVID-19 pandemic revealed weaknesses in the agricultural sector, emphasising its crucial but fragile role in global food security. Public support measures were essential, yet they created both opportunities and challenges for agricultural stakeholders. Examining and classifying these support instruments helped highlight their diverse effects and the challenges of implementing effective crisis responses in agriculture.

4. DISCUSSION

Our findings correspond with Daniłowska et al. (2024), who, based on an analysis of agricultural advisors' recommendations, proposed a set of instruments to mitigate the effects of the COVID-19 pandemic in Poland's agricultural sector. One of the most prominent responses to the pandemic was direct financial support, with numerous governments implementing subsidies, loans, and grants to sustain agricultural operations (Giri et al., 2021; OECD, 2021a). This financial

aid was vital in ensuring liquidity and helping farmers navigate immediate disruptions. However, as noted by Zhemkova (2023), the effectiveness of financial assistance is contingent on proper targeting and distribution mechanisms.

Supply chain disruptions were among the pandemic's most visible impacts, affecting everything from production to distribution. As Meixner et al. (2022) indicate, maintaining the fluidity of agricultural product flows became a priority for governments, with some focusing on local sourcing initiatives and e-commerce platforms (Rifin et al., 2023). These measures fostered market stability and expanded distribution channels, which have the potential to outlast the crisis and contribute to a more localised, resilient supply chain. However, challenges remain, as smaller producers may struggle to adopt new technologies without sustained support (Trivedi et al., 2020).

Labour shortages presented another critical obstacle. In response, policies facilitated the entry of temporary foreign workers and encouraged the redeployment of unemployed local workers into agriculture (Charlton & Castillo, 2021). These measures helped address immediate labour gaps but also underscored the need for longer-term strategies to stabilise the agricultural workforce. Ensuring worker safety through personal protective equipment and social distancing guidelines added operational complexity, revealing disparities in enforcement that impacted both worker morale and productivity (Quandt et al., 2022).

The acceleration of digital technologies in agriculture emerged as a silver lining, with FinTech and ICT solutions helping maintain continuity and resilience in agri-food systems (Alam et al., 2023; Haggag, 2021). However, Dayioğlu and Turker (2021) caution that the digital divide remains a barrier, particularly in regions with limited access to technology. The pandemic's push towards digital transformation presents a dual challenge: while technology offers efficiency gains and adaptive capacity, unequal access may exacerbate existing inequalities within the sector.

Tax relief and research investments were additional forms of support that provided relief and fostered innovation. As Jiménez and Saldarriaga-Isaza (2022) observed, tax measures offered immediate financial relief, though their broad application across sectors sometimes diluted their effectiveness for agriculture-specific needs.

Meanwhile, investments in research and development were crucial for enhancing agricultural productivity and resilience.

5. CONCLUSIONS AND RECOMMENDATIONS

The COVID-19 pandemic prompted the implementation of various public support measures aimed at mitigating its negative impacts on the agricultural sector, addressing both immediate needs and enhancing long-term resilience. Governments around the world adopted particular strategies to ensure food security and provide assistance to farmers.

The analysis of the advantages and disadvantages of instruments used to counter COVID-19's impact on agribusiness reveals a complex picture. Financial support provides essential relief but may lead to dependency and uneven distribution. Supply chain and market support enhance market stability but can face implementation challenges. Labour support helps address workforce shortages; however, it may generate long-term costs. Policy support enables quick responses but can cause regulatory instability. Technological support improves efficiency while also raising concerns about accessibility and costs. Tax relief and research and development support offer both immediate and long-term benefits, yet they require careful planning. Food safety measures are crucial for continuity, though they need sustainable strategies. Overall, a well-balanced approach is necessary to effectively manage the diverse challenges in the agricultural sector during crises.

This study could be useful because it provides a structured catalogue of the primary categories of instruments used to mitigate the effects of the COVID-19 pandemic in agriculture, offering insights for policymakers and stakeholders. The identification of advantages and disadvantages of various support instruments highlights areas for improvement and adaptation in future crisis responses, forming a foundation for future policy development both in developed (including OECD) and developing countries.

A limitation of this study is that the assessment of support instruments is partly subjective and may reflect our own perspectives. This could affect how their effectiveness is perceived. Future research

should examine how these instruments impact different stakeholders, such as small-scale farmers, large agribusinesses, and related industries, to ensure more equitable and targeted support.

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