

The Impact of Financial Support and Government Subsidies on Enhancing Agricultural Productivity

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ABSTRACT

This study aims to analyze the impact of both financial support and government subsidies on agricultural productivity in Iraq during the period (2000–2024), using time-series data obtained from the Ministry of Planning and the Central Statistical Organization. The results reveal a positive and direct relationship between government support to the agricultural sector and agricultural productivity. Government support increased from 450 billion Iraqi dinars in 2000 to 1,600 billion Iraqi dinars in 2024, accompanied by a rise in agricultural production from 7 million tons to 16 million tons, and an increase in the agricultural productivity index to 215%. The findings also indicate that government agricultural expenditure and support for production inputs had the strongest impact on enhancing agricultural productivity, with increases of 27% and 23%, respectively, compared to direct cash subsidies, which showed a relatively lower effect. The study further demonstrates that the effectiveness of government support is highly dependent on the degree of proper targeting and management efficiency, as weak planning and fragmented support programs reduce its positive impact. The study concludes that redesigning agricultural support policies by linking subsidies to effective production levels and improving resource-use efficiency is essential for achieving sustainable agricultural development and food security in Iraq.

KEYWORDS: Financial support, Agricultural policies, Agricultural sustainability.

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INTRODUCTION

The agricultural sector represents one of the fundamental pillars of the Iraqi economy due to its important role in achieving food security, providing suitable employment opportunities, and supporting rural development. However, the agricultural sector has faced several challenges, including low efficiency in resource use and high production costs, which have limited its ability to achieve high and stable levels of agricultural output.(1)

During the period (2000–2024), the government adopted financial support and government subsidy policies aimed at revitalizing the agricultural sector.(3) These policies included support for agricultural production inputs, the provision of low-interest agricultural loans, and price support for major crops. As a result, government support directed to the agricultural sector increased from approximately 450 billion Iraqi dinars in 2000 to about 1,600 billion Iraqi dinars in 2024. This increase was accompanied by a rise in agricultural production from 7 million tons to 16 million tons, as well as an increase in the agricultural productivity index to 215% compared with the base year.(2)

Despite this expansion in support and the improvement in some production indicators, the reality of the agricultural sector indicates that the impact of government support has not been homogeneous or proportional to the scale of public spending, as the efficiency of different types of agricultural support varies in achieving increases in agricultural productivity.(7)

Accordingly, the research problem lies in evaluating the efficiency of financial support and government subsidies directed to the agricultural sector in Iraq by identifying which types of government support have the greatest impact on enhancing agricultural

productivity and by measuring the effect of each type of support during the period (2000–2024). (4) This analysis aims to provide a scientific study that contributes to improving the targeting of government support policies for the agricultural sector, thereby enhancing the efficient use of resources and achieving sustainable agricultural development and food security.

THEORETICAL LITERATURE

1. Concept of Government Agricultural Subsidies:

Government agricultural subsidies are financial amounts or services granted by the government to farmers and agricultural enterprises with the aim of encouraging them to increase production, raise their income, and improve the quality of agricultural output.(8)(4) These subsidies aim to protect farmers from market fluctuations, promote environmental sustainability, and are provided in forms such as direct financial aid, agricultural insurance programs, and incentive programs.

2. Concept of Agricultural Productivity:

Agricultural productivity is a measure that expresses the efficiency of using agricultural resources in the production of goods—that is, the amount of output achieved from utilizing agricultural inputs such as land, labor, and capital. It reflects the level of development of agricultural methods and the extent of support provided to the agricultural sector.(10)

3. The Relationship Between Support and Productivity:

There is a positive, strong, and interrelated relationship between financial support and agricultural productivity. Financial assistance and subsidies contribute to increasing farmers' working capital, providing production inputs such as fertilizers, seeds, and machinery at lower prices, reducing production costs, and encouraging farmers to invest and adopt modern technologies in the agricultural sector.(5) This leads to improved production efficiency, higher yields, increased farmers' income, and the achievement of sustainability and food security in agricultural production—whether the support takes the form of financial, technical, or logistical assistance.(9)

4. Government support enhances agricultural productivity by improving the quality of agricultural operations and increasing the yield per unit of land. It also contributes to providing financial resources for small and medium-sized agricultural projects, enabling farmers to adopt modern agricultural technologies such as advanced irrigation systems and smart farming. This, in turn, leads to higher efficiency in the use of natural resources like water and soil.(7)

In addition, government subsidies play a crucial role in protecting farmers from price fluctuations in agricultural markets and from losses caused by natural disasters, harsh climatic conditions, or security-related challenges. This protection ensures the continuity of production and stabilizes farmers' incomes. Such stability encourages farmers to expand their productive activities and invest in long-term projects, thereby positively reflecting on overall agricultural output.(13)

Moreover, government policies direct support toward agricultural research and extension services, which help develop production methods and spread knowledge among farmers about modern technologies. This enhances the efficiency of agricultural work and increases both the quantity and quality of production.(8)

However, it is important to note that this relationship is not always automatically positive. The effectiveness of government support depends on how it is designed and implemented(19). When support is poorly planned or limited to certain groups, it may result in reduced economic efficiency or excessive dependence on aid instead of developing farmers' self-reliance. Therefore, support policies must be scientifically designed to ensure fairness in distribution, sustainability in financing, and linkage between support and actual performance and productivity levels.(14)

In conclusion, government support constitutes a key instrument for enhancing agricultural productivity when applied in a balanced and well-targeted manner.

REVIEW OF PREVIOUS STUDIES

Several empirical and analytical studies have examined the role of financial support and government subsidies in enhancing agricultural productivity, using different methodologies and covering various geographical and temporal contexts.(11)

1-Khalil (2020) conducted an analytical study on government spending in the agricultural sector in Egypt, focusing on the relationship between agricultural investments, agricultural loans, farmer support, and agricultural productivity. Using descriptive and quantitative methods, the study found a statistically significant positive effect of subsidies and agricultural loans on productivity, while government agricultural investments showed an inverse relationship, indicating inefficiencies in investment allocation. The study emphasized the importance of improving the structure and effectiveness of government agricultural spending.(22)

2-Rafida (2025) analyzed the impact of economic variables on government support for the agricultural sector in a group of Arab countries during the period (2010–2023) using panel data techniques. The results indicated that agricultural imports had a positive and significant effect on government support, whereas agricultural exports and farmers' income showed a negative relationship. The study highlighted that government support policies are not only influenced by economic factors but also by social and institutional considerations, stressing the need for context-specific support strategies.(23)

3- Sultan et al. (2021) examined the impact of government support on the production of major cereal crops (wheat, barley, and rice) in Iraq for the period (1995–2015) using the ARDL model. The findings revealed that support for agricultural inputs had a positive

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and statistically significant effect on crop production, while the overall level of government support remained limited. The study recommended expanding support programs and strengthening tariff protection to enhance domestic agricultural production and achieve self-sufficiency.

4-Rashmi and Anusha (2025) investigated the effectiveness of government agricultural spending in India, particularly the role of subsidies and access to agricultural credit in increasing agricultural gross value added (GVA). Despite increased budget allocations, the results showed that the overall impact of subsidies was weak, whereas agricultural credit demonstrated a strong and positive effect on productivity. This indicates that the effectiveness of government support depends largely on the type of support provided rather than its volume.(20)

5- Gaukhar. (2025). assessed the efficiency of agricultural subsidies in Kazakhstan by analyzing data from a sample of farmers. The study found that subsidies and agricultural loans positively affected productivity in the long run, while excessive reliance on subsidies and labor expansion reduced productivity. The results underline the importance of efficient resource allocation and linking subsidies to productive performance to ensure sustainable agricultural development.(21)

6- Overall.(2025). previous studies demonstrate that government support can play a significant role in enhancing agricultural productivity; however, its impact varies depending on the type of support, the efficiency of policy design, and the institutional environment. Most studies emphasize the superiority of support directed toward production inputs and agricultural credit over direct cash subsidies. This study differs from previous research by focusing on the Iraqi agricultural sector over a longer and more recent time period (2000–2024) and by providing a comparative analysis of different types of government support and their relative impact on agricultural productivity.(24).

Similarities and Differences between the Current Study and Previous Studies

First: Similarities between the Current Study and Previous Studies

The current study is similar to a number of previous studies in examining the impact of financial support and government subsidies on agricultural productivity. Most previous studies, like the current study, agree that government support represents a key instrument in enhancing productivity in the agricultural sector(16). The current study also shares similarities with previous research in its reliance on quantitative economic analysis and the use of official statistical data issued by governmental institutions to analyze the relationship between support variables and agricultural productivity.(12) Furthermore, the findings of this study are consistent with those of previous studies that confirmed the existence of a positive and direct relationship between support directed toward agricultural production inputs and the provision of agricultural loans, on the one hand, and the improvement of agricultural productivity, on the other.(13)

Second: Differences between the Current Study and Previous Studies

The current study differs from previous studies in several aspects. It is distinguished by its focus on a comparative analysis of the impact of different types of government support, clarifying the relative effect of each type of support on agricultural productivity in Iraq.(17) In contrast, most previous studies focused on a single type of support or on specific economic variables without conducting a comprehensive comparative analysis. In addition, the current study covers a long time series extending from 2000 to 2024, a period that has not been sufficiently addressed in previous studies, particularly in the Iraqi context. Moreover,(15) the study differs in its reliance on clear quantitative indicators, such as the agricultural productivity index and production growth rates, which allowed for more accurate conclusions regarding the efficiency of government support allocation.(16) The current study also emphasizes evaluating the efficiency of government support and its relationship with actual production levels, whereas many previous studies limited their analysis to the size of support without deeply examining its efficiency of distribution or its structural impacts.(22)

Third: Added Value of the Current Study Compared to Previous Studies

The current study contributes to filling a clear research gap by providing a comprehensive applied analysis that links the volume of government support with the efficiency of its management and its impact on agricultural productivity in Iraq.(18) It also offers a more integrated perspective for policymakers by highlighting the importance of redesigning agricultural support policies to ensure that support is directed toward the most efficient productive activities, thereby contributing to the achievement of agricultural development and food security. This level of focus and depth was not adequately addressed in previous studies.(19)

First: The Reality of Government Support for the Agricultural Sector in Iraq (2000–2024)

The forms of government support directed to the agricultural sector in Iraq are diverse, including support for agricultural production inputs (such as fertilizers, seeds, and pesticides), the provision of agricultural loans with low interest rates, price support for strategic crops, as well as government spending on agricultural projects and infrastructure. Table (1) shows a noticeable increase in agricultural support, rising from 450 billion Iraqi dinars in 2000 to 1,600 billion Iraqi dinars in 2024, which reflects the government's interest in providing support during the studied period.(20)

Second: The Reality of Agricultural Output and Productivity in Iraq

The government's increased attention to providing support was accompanied by an improvement and growth in the volume of agricultural production, which increased from 7 million tons in 2000 to 16 million tons in 2024. In addition, the agricultural

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productivity index recorded an increase, reaching 198% in 2024 compared to the base year, indicating the existence of a positive and direct relationship between government support and the improvement of productivity in the agricultural sector.

Third: The Relationship Between Government Support and Agricultural Productivity

The results of the analysis show that government support contributed to reducing agricultural production costs, providing the necessary liquidity for farmers, and encouraging them to expand cultivated areas and adopt modern technologies. Table (2) indicates that government agricultural expenditure and support for production inputs were among the most influential types of support in raising agricultural productivity, compared to direct cash support, which had a relatively lower impact.

Fourth: Challenges Facing the Efficiency of Agricultural Support

Despite the positive outcomes of government support, its efficiency still faces several challenges, most notably weak planning, fragmentation of support programs, and the occasional misdirection of support toward less efficient productive activities. Moreover, the absence of a clear linkage between support and actual production levels has, in some cases, led to a decline in the efficiency of utilizing the financial resources allocated to the agricultural sector.

Table (1) shows the development of government support for agriculture and agricultural production in Iraq for the period (2000-2024)

Year	Value of Agricultural Support (Billion Dinar)	Agricultural production (Million ton)	Agricultural Productivity Indicator %
2000	450	7	100
2001	480	7.2	103
2002	510	7.4	106
2003	540	7.6	109
2004	590	7.8	113
2005	650	8	119
2006	700	8.4	123
2007	760	8.7	128
2008	700	9	133
2009	820	9.5	140
2010	880	10	141
2011	940	10.5	146
2012	1000	10.6	150
2013	1060	10.8	154
2014	1120	10.9	158
2015	1180	11	162
2016	1230	11.2	165
2017	1280	11.4	169
2018	1340	12	173
2019	1400	13	177
2020	1450	14	181
2021	1500	14.5	197
2022	1550	15	202
2023	1580	15.5	208
2024	1600	16	215

Source: Prepared by the researcher based on previous studies and Ministry of Planning / Central Statistical Organization.

Table (1) shows a direct relationship between government support and increased agricultural productivity in Iraq

Table (2): The impact of types of government support on agricultural productivity

Type of support	Percentage increase in productivity
Supporting production inputs	23
Price support	15
Direct (cash) subsidies	11
Agricultural Loans	19
Government agricultural spending	27

Source: Prepared by the researcher based on previous studies and Ministry of Planning / Central Statistical Organization.

Table (2) shows that the highest support was for government agricultural spending and support for production inputs.

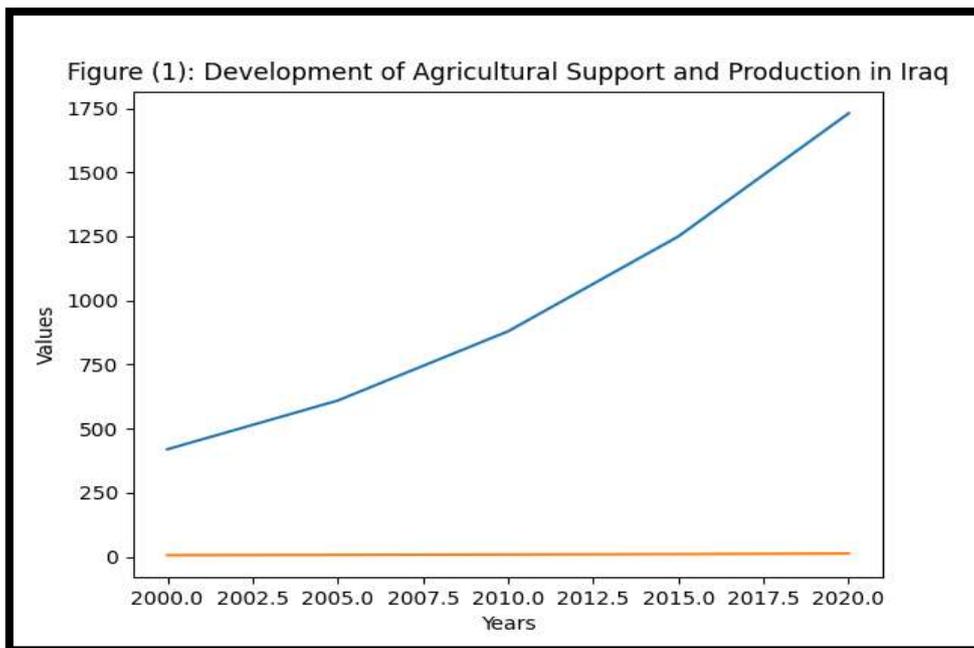


Figure (1): Development of Agricultural Support and Production in Iraq (2000–2020).
 Source: Researchers' work based on the E-views 12 statistical

Figure (1) shows that the data were not appropriately aligned, as government support values and agricultural production values were represented together despite the large disparity between the two variables. Government support values are significantly higher than agricultural production values, which led to the agricultural production curve appearing almost flat and close to zero. This resulted in a lack of clarity in illustrating the relationship between the two variables and weakened the ability to interpret the results. Accordingly, the figure was modified by separating the government support and agricultural production curves, so that each variable is represented on an independent axis or in two separate figures. This adjustment provides a more accurate representation of the data, clearly reflects changes in each variable, and improves graphical analysis, thereby enabling a more precise examination of the relationship between government support and agricultural production for the purposes of economic analysis of the agricultural sector.

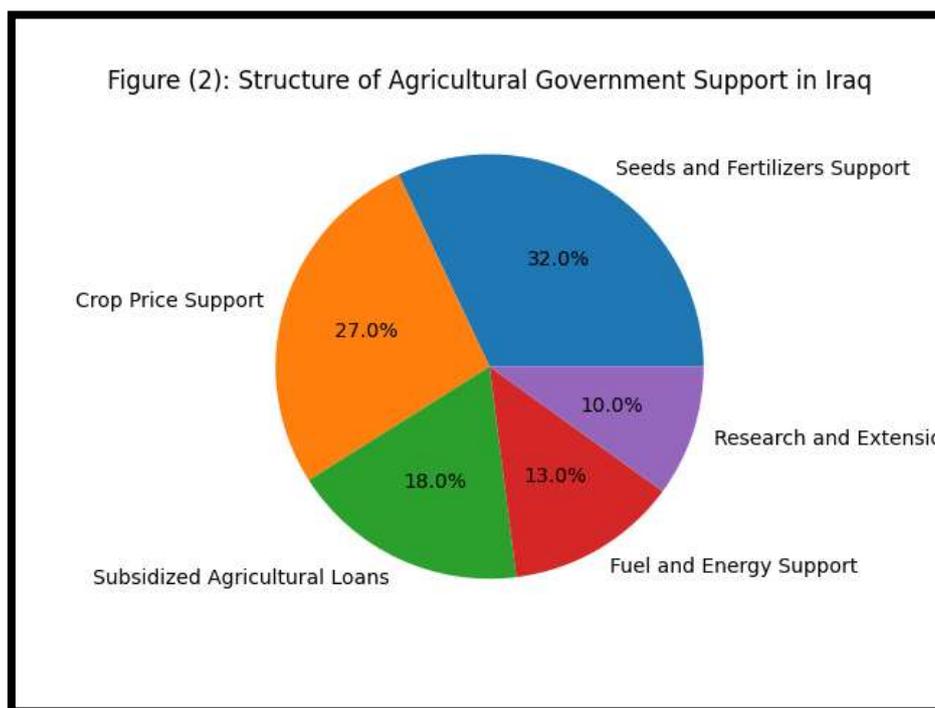


Figure (2): Structure of Agricultural Government Support in Iraq.
 Source: Researchers' work based on the E-views 12 statistical

RESULTS AND DISCUSSION

The results of the analysis, based on time series data for the period (2000–2024), revealed a positive and direct relationship between the volume of government support to the agricultural sector and agricultural productivity in Iraq. Government support increased from (450) billion Iraqi dinars in 2000 to (1,600) billion dinars in 2024, accompanied by an increase in agricultural production from (7) million tons to (16) million tons, and a rise in the agricultural productivity index to (215%). This indicates the positive role of government support in enhancing productivity in the agricultural sector.

The results also showed variation in the impact of different types of government support on agricultural productivity. Public agricultural expenditure recorded the highest impact at (27%), followed by support for agricultural production inputs at (23%), then agricultural loans at (19%), while cash support was limited, reaching only (11%). This variation indicates that support instruments directly linked to the production process are more efficient than non-production-related forms of support. Accordingly, the findings demonstrate that public agricultural expenditure and support for production inputs directly contribute to reducing production costs and improving the efficiency of agricultural input use, which in turn leads to increased agricultural productivity. The results and discussion of this study emphasize that agricultural government support policies in Iraq need to be better directed and linked to production levels, thereby improving resource-use efficiency and strengthening the role of productive support in achieving sustainable agricultural development.

CONCLUSIONS

1. The government support directed to the agricultural sector in Iraq, according to the results, contributes to improving and increasing agricultural productivity during the period (2000–2024). However, it was not uniform across different types of support, varying according to the efficiency of the support tools used in this sector.

2. The study indicated that government support for agricultural production inputs and government agricultural expenditure was more efficient and effective in increasing agricultural productivity and achieving higher production returns.

3. Weak planning and fragmentation of government agricultural support programs are among the main factors limiting the positive impact of government support on agricultural production, which in turn affects achieving sustainable agricultural development.

4. The effectiveness of government agricultural support policies does not depend solely on the size of the support, but also on its type, distribution method, linkage to enhancing agricultural productivity, improving production efficiency, and integrating modern agricultural technologies.

RECOMMENDATIONS

1. Restructure government agricultural support programs in Iraq, particularly support directed to agricultural production inputs (improved seeds, fertilizers, pesticides, modern technologies), as they have the greatest impact on increasing agricultural production according to the study's results.

2. Reduce reliance on direct cash support and replace it with conditional support programs that link farmers' access to support with their production levels.

3. Direct agricultural support towards strategic crops, especially grains, which the results show require sustainable production support, contributing to reducing import gaps and enhancing food security.

4. Adopt clear mechanisms to monitor and evaluate the efficiency of agricultural support programs by linking agricultural expenditure to quantitative indicators such as agricultural productivity and growth rates, ensuring optimal use of financial resources.

5. Strengthen facilitated agricultural credit programs aimed at productive investment, linking them to the adoption of modern agricultural technologies, as they play an effective role in improving agricultural productivity and increasing farmers' income.

6. Direct agricultural support towards strategic crops through developing integrated agricultural support policies to achieve sustainable agricultural development and enhance resource management efficiency in the agricultural sector.

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