Economics Studies and Banking Journal
Vol 2 (1) 2025 : 310-324

EVALUATION OF AGRICULTURAL SUBSIDY POLICIES AND THEIR IMPACT ON FARMERS' WELFARE

EVALUASI KEBIJAKAN SUBSIDI PERTANIAN DAN DAMPAKNYA TERHADAP KESEJAHTERAAN PETANI

Sulhan Manaf
Universitas Dayanu Ikhsanuddin
alwinasul@gmail.com

**Coresponding Author*

ABSTRACT
Agricultural subsidies play an important role in improving the welfare of small farmers in developing countries, but their effectiveness is still debated. This research aims to evaluate the impact of subsidy policies on the economic welfare of small farmers, considering the challenges faced by this group in the context of market uncertainty and climate risk. This research aims to measure the effectiveness of agricultural subsidy policies in increasing income, productivity and access to resources for small farmers in developing countries. The approach used is Systematic Literature Review (SLR), with data collection from the Scopus and Web of Science databases. Analysis was carried out using manual coding techniques and NVivo software to identify main themes from 36 relevant studies. The findings show that input subsidies, price subsidies, credit assistance subsidies significantly increase the productivity and income of small farmers, despite the risk of dependency and market distortion. The quality of governance and technology adoption moderate the positive impact of subsidies. This research highlights the importance of context-based and participatory subsidy policy design to maximize benefits for small farmers, and contributes to the development of theory and practice in agricultural policy.
Keywords: Agricultural subsidies, welfare of small farmers, policy evaluation, Systematic Literature Review, developing countries.

ABSTRAK
Subsidi pertanian memainkan peran penting dalam meningkatkan kesejahteraan petani kecil di negara berkembang, namun efektivitasnya masih diperdebatkan. Penelitian ini bertujuan untuk mengevaluasi dampak kebijakan subsidi terhadap kesejahteraan ekonomi petani kecil, mengingat tantangan yang dihadapi oleh kelompok ini dalam konteks ketidakpastian pasar dan risiko iklim. Penelitian ini bertujuan untuk mengukur efektivitas kebijakan subsidi pertanian dalam meningkatkan pendapatan, produktivitas, dan akses terhadap sumber daya bagi petani kecil di negara berkembang. Pendekatan yang digunakan adalah Systematic Literature Review (SLR), dengan pengumpulan data dari basis data Scopus dan Web of Science. Analisis dilakukan dengan menggunakan teknik koding manual dan perangkat lunak NVivo untuk mengidentifikasi tema-tema utama dari 36 studi yang relevan. Temuan menunjukkan bahwa subsidi input, subsidi harga, subsidi bantuan kredit secara signifikan meningkatkan produktivitas dan pendapatan petani kecil, meskipun terdapat risiko ketergantungan dan distorsi pasar. Kualitas tata kelola dan adopsi teknologi moderat dampak positif subsidi. Penelitian ini menyoroti pentingnya desain kebijakan subsidi yang berbasis konteks dan partisipatif untuk memaksimalkan manfaat bagi petani kecil, serta memberikan kontribusi terhadap pengembangan teori dan praktik dalam kebijakan pertanian.
Kata Kunci: Subsidi pertanian, kesejahteraan petani kecil, evaluasi kebijakan, Systematic Literature Review, negara berkembang.

1. INTRODUCTION

Agricultural subsidies play an essential role in the economic framework of developing countries, focusing on agricultural growth, food security, and alleviating rural poverty. These subsidies are instrumental in reducing production costs and ensuring farmers have access to necessary inputs such as seeds, fertilizers, and equipment, thereby acting as a crucial support

mechanism for smallholder farmers, who represent a significant portion of the farming community in many developing nations. The strategies are highly relevant, given the role of agriculture in national income and employment (Wang et al., 2019), (Dorward & Morrison, 2015). For instance, research indicates that governments implement agricultural input subsidies to enable farmers to acquire modern technologies, which can subsequently enhance agricultural productivity (Small, 2023).

Smallholder farmers, in particular, depend on these government policies to mitigate challenges such as market volatility, climate risks, and insufficient capital (Wang et al., 2019). Without such interventions, these farmers may struggle to meet economic demands, leading to severe consequences for their livelihoods and food production (Dorward & Morrison, 2015). Empirical evidence from various studies demonstrates that well-targeted subsidy programs can significantly enhance the economic position of these farmers, contributing to broader goals such as food security and rural development (Li et al., 2022; , Dorward et al., 2014).

Although the literature on agricultural subsidies is quite extensive, to date there is no strong consensus regarding their effectiveness in improving the economic welfare of small farmers, especially in developing countries. Some studies show a positive impact on farmer incomes and agricultural productivity, while others find that subsidies often do not reach the groups most in need or even create new inequalities. This research gap is accompanied by geographic and methodological fragmentation of previous studies. Most research is case studies in specific countries, using diverse approaches and indicators, making it difficult to produce comprehensive and comparative understanding across contexts. This creates an urgent need for a systematic synthesis of existing empirical evidence, in order to identify patterns, weaknesses and determining factors for the success of agricultural subsidies in improving the welfare of small farmers.

In response to this gap, this study raises key questions: **How effective are agricultural subsidy policies in improving the economic welfare of smallholder farmers in developing countries?** This question focuses on measuring the impact of subsidy policies on the economic well-being of smallholder farmers—which can include income, productivity, economic resilience, and increased access to agricultural resources. The focus on developing countries was chosen because of its unique socio-economic characteristics and policy challenges, which differentiate it from developed country contexts.

This research aims to provide significant scientific and practical contributions through this approach systematic literature review (SLR). The main contributions of this research include three important aspects. First, synthesis is systematic, namely by compiling and thoroughly analyzing various empirical findings related to the effectiveness of agricultural subsidy policies. This approach provides a comprehensive overview of the main trends, results and challenges found in the relevant literature, thereby enriching understanding of the subsidy issue in the context of smallholder farmers in developing countries. Second, this research is a productive evaluative conceptual framework which builds on key findings in the literature. This framework aims to be a tool in assessing the effectiveness of subsidy policies and can be used as a reference in formulating or revising public policies in the agricultural sector. Third, this contribution has direct relevance for policy and the academic world, namely providing a strong reference basis for policy makers in designing subsidies that are more targeted and have a real impact, as well as being a stepping stone for future researchers who want to explore similar topics with a more comparative and cross-country approach.

2. METHODS

2.1 Research Design

This research uses an approach Systematic Literature Review (SLR) in order to comprehensively and systematically synthesize various studies that have been carried out regarding the effectiveness of agricultural subsidies on the economic welfare of small farmers

in developing countries. The SLR approach was chosen because of its ability to collect, evaluate, and integrate findings from scattered literature, while avoiding selection bias and increasing the validity of conclusions. The SLR procedure in this study followed the guidelines Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) which is internationally recognized to ensure transparency and replicability in the literature search and selection process.

Through this approach, research seeks to not only answer research questions comprehensively, but also identify gaps in the literature, dominant thematic patterns, and relevant policy implications. Thus, SLR in this context is not just a secondary data collection method, but rather an in-depth scientific tool for understanding the complexity of agricultural subsidy policies across geographic and temporal contexts.

2.2 Inclusion and Exclusion Criteria

In order for the results of this study to be relevant and of high quality, strict inclusion and exclusion criteria were established in the literature selection process:

1. **Inclusion Criteria**:
   (1) Articles published in indexed scientific journals (Scopus and Web of Science),
   (2) Empirical or conceptual studies discussing agricultural subsidy policies,
   (3) Main focus on the relationship between subsidies and the economic welfare of small farmers,
   (4) The geographical context is in developing countries, as well
   (5) Publication period between years 2012 to 2024 to mastthe novelty and relevance of the policies analyzed.

2. **Exclusion Criteria**:
   Irrelevant articles, such as:
   (1) Studies that focus on the context of developed countries,
   (2) Studies that do not explicitly discuss the economic welfare of small farmers,
   (3) Articles in the form of opinions, editorials, or gray literature that have not gone through a peer-review process, as well
   (4) Duplication of the same study results in several publications.

These criteria are used consistently throughout the screening and selection process to maintain the integrity and focus of the research.

2.3 Data Sources

The analyzed literature was collected from three main academic databases that are broad in scope and high in quality:

- Scopus, which is one of the largest databases for multidisciplinary scientific publications and has strict quality controls.

- Web of Science, which is known for its citation index and metadata accuracy, making it easy to track studies that reference each other.

2.4 Search and Selection Process

The search process was carried out using a Boolean search strategy designed to capture relevant literature, with the following main keywords: **("agricultural subsidy" OR "farm subsidy") AND ("smallholder farmers" OR "rural welfare") AND ("developing countries")**

These keywords are tested first and adjusted based on each database to produce optimal results. After obtaining an initial list of articles, this research used a selection procedure in accordance with the PRISMA flow, which consists of four stages:

1. Identification: Mcollect all relevant articles from the initial search results.
2. Screening: Eliminate duplicate articles and perform initial screening based on title and abstract.
3. Qualifications: Assess the suitability of the article in full through reading the full text, based on inclusion and exclusion criteria.
4. Inclusion: Determine the final list of articles that will be analyzed further in this study.

The PRISMA diagram was used to transparently visualize and document the selection process, including the number of articles eliminated at each stage.

2.5 Data Analysis Techniques

Data analysis was carried out qualitatively by combining techniques coding manual and software assistance NVivo to improve process accuracy and efficiency. Articles that pass the selection are coded based on a number of predetermined analytical categories, such as:

- Types of subsidies discussed (input, output, price subsidies, etc.),
- Evaluation methods used (quantitative, qualitative, mixed),
- Economic welfare indicators (income, market access, poverty reduction, etc.),
- Key results and policy effectiveness,
- Geographical and institutional context.

The data that has been coded is then analyzed using the approach thematic analysis, namely by grouping findings into major themes that emerge from the data. This approach allows the identification of general patterns, significant differences between studies, as well as causal relationships relevant correlational knowledge. These thematic findings will later become the basis for preparing a narrative synthesis and conceptual framework in the results and discussion sections.

3. RESULTS

3.1 Characteristics of the Studies Reviewed

3.1.1. PrismA Diagram

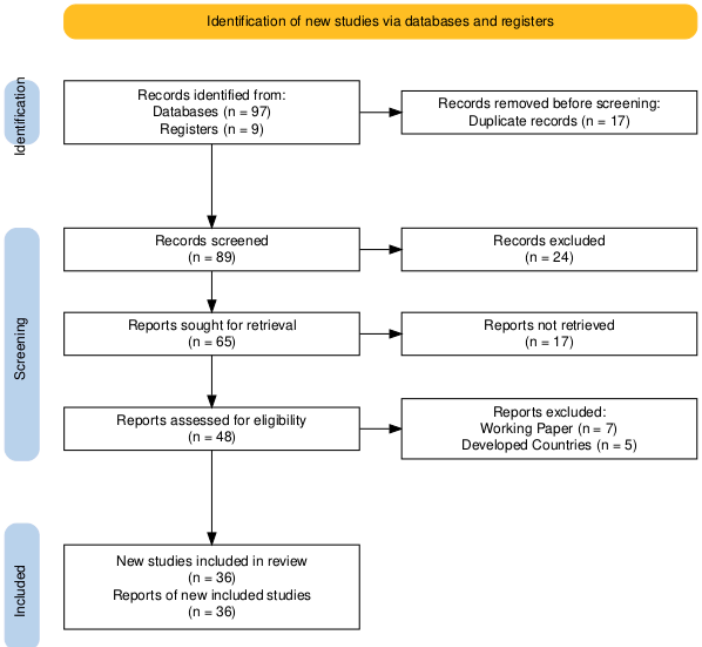

Figure 1. Prisma Diagram

Source: Processed Data, 2025

In-depth study search and selection process systematic literature review This follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow. At stage identification, a total of 106 documents were collected from two main sources, namely from the database (a total of 97 documents) and the registry (a total of 9 documents). A total of 17 duplicate documents were removed before the screening process was carried out. At the level filtering, 89 documents were screened based on title and abstract. Of these, 24 documents did not meet the initial criteria and were eliminated. A total of 65 reports were sought for full access, but 17 of them were not obtained. Next, on stage eligibility assessment, 48 reports were fully analyzed to determine their compliance with inclusion criteria. Of this number, 12 reports were eliminated because they consisted of 7 working papers and 5 studies originating from developed countries, which are beyond the scope of this study which focuses on developing countries. Finally, 36 studies met all selection criteria and were included in the systematic analysis. These studies became the main basis for compiling a synthesis of findings and developing a conceptual framework in this research.

3.1.2. Article Trending

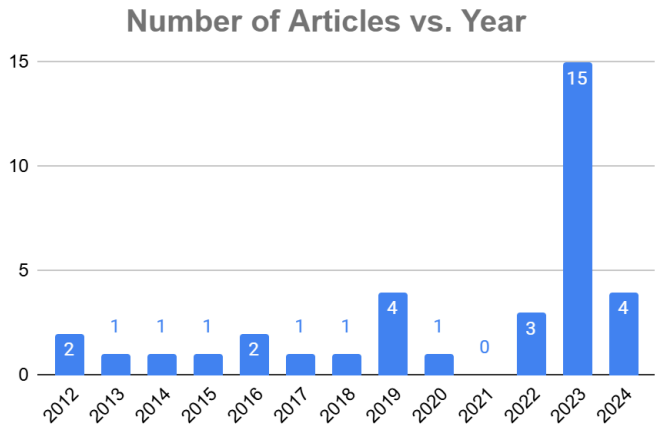

Figure 1. Article Trending
Source: Processed Data, 2025

This table illustrates the number of articles published each year from the provided references. The data indicates a notable increase in research output in recent years, particularly in 2023, which may reflect a growing interest in agricultural subsidies and their impacts. The spike in 2019 and 2023 suggests that these years were particularly fruitful for research in this area, possibly due to emerging global challenges and policy discussions surrounding agriculture.

3.1.3. Author's Country Affiliation

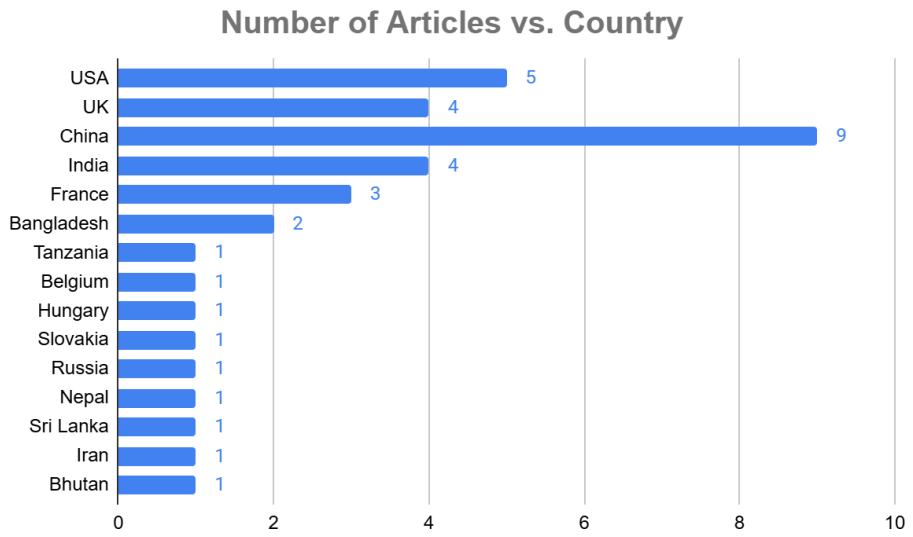

Figure 2. Affiliations of the authors by country
Source: Processed Data, 2025

This table summarizes the affiliations of the authors by country, highlighting the countries with the most contributions to the literature on agricultural subsidies. The USA and China are the most represented, indicating significant research activity in these countries. The diversity of countries involved suggests a global perspective on agricultural subsidy issues, reflecting various agricultural practices and policy environments.

3.1.4. Research Methods Used

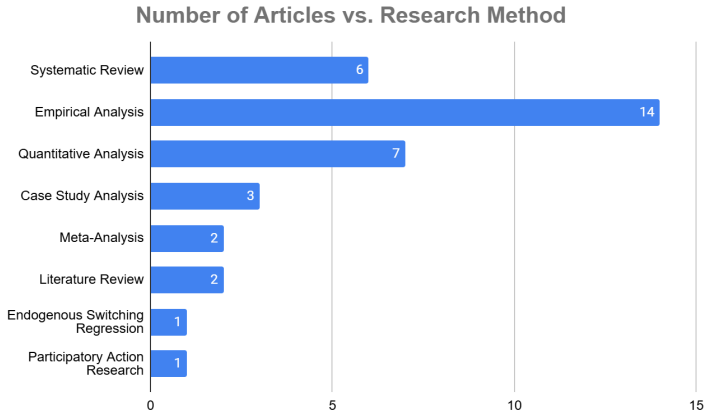

Figure 3. Research Methods Used
Source: Processed Data, 2025

This table categorizes the research methods employed in the articles. The most common methods are empirical analysis and Quantitative Analysis, indicating a strong reliance

on data-driven approaches to assess the impacts of agricultural subsidies. The variety of methods used reflects the complexity of the topic and the need for different analytical perspectives to understand the multifaceted effects of subsidies.

3.1.5. Journal Database Sources

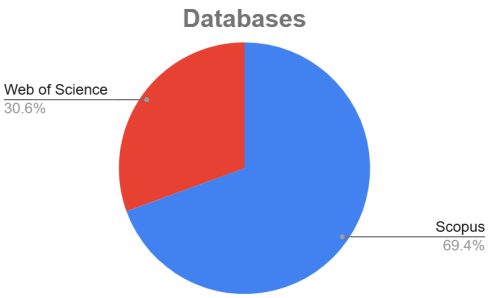

Figure 4. Journal Database Sources
Source: Processed Data, 2025

This table lists the journal databases where the articles are indexed. Scopus and Web of Science are the primary sources, indicating that the majority of the research is published in reputable, peer-reviewed journals. This suggests a high level of academic rigor and credibility in the studies conducted on agricultural subsidies.

3.1.6. Theories Used

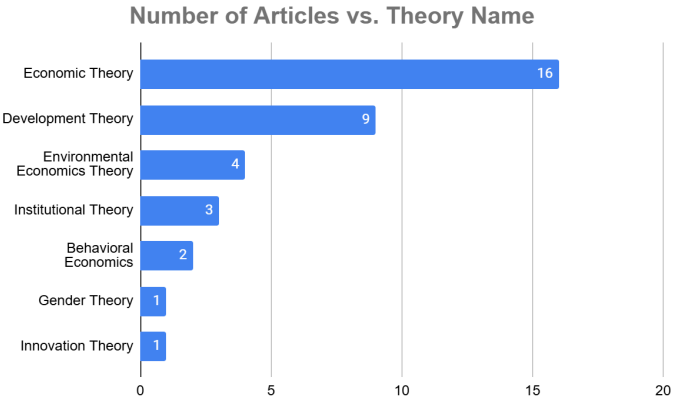

Figure 5. Theories Used
Source: Processed Data, 2025

This table summarizes the theoretical frameworks employed in the articles. Economic theory is the most frequently used, reflecting the financial implications of agricultural subsidies. Development and environmental economics theories are also prominent, indicating a focus on the broader impacts of subsidies on development and sustainability. The diversity of theories used highlights the interdisciplinary nature of research in this field, incorporating insights from economics, sociology, and environmental studies.

3.2 Main Findings

Thematic analysis of the reviewed literature produced a number of key findings which can be grouped into three main aspects:

a. Most Common Types of Subsidies

Subsidies play a critical role in shaping agricultural productivity and economic stability, particularly in developing regions. The literature typically categorizes these subsidies into three main forms: input subsidies, price subsidies, and credit subsidies, each having distinct implications for agricultural outcomes. Input subsidies are primarily focused on enhancing productivity through the provision of essential resources such as fertilizers, high-quality seeds, and agricultural equipment. Evidence suggests that these subsidies have been widely implemented across low- and middle-income countries due to their straightforward delivery mechanisms and direct correlation with productivity increases. For example, Dorward et al. affirm that agricultural input subsidies substantially enhance farm income, consumer welfare, and broader economic growth, highlighting that many studies show improved yields as a direct consequence of such subsidies (Dorward et al., 2018). The discussion around input subsidies has often centered on their effectiveness in countries like Malawi, which has become a case study for input subsidy programs, demonstrating both their potential and the controversies surrounding them (Ghins et al., 2017).

Price subsidies, on the other hand, include government mandates for minimum purchase prices of agricultural goods. These policies are implemented to stabilize farmers' incomes and to prevent market fluctuations from negatively impacting agricultural sectors. However, the efficacy of price subsidies remains contentious; while they have the potential to ensure farmer income security, they can also lead to market distortions and inefficiencies in resource allocation. For instance, Lal et al. indicate that when subsidies lower the market price of inputs, they encourage increased use among farmers, potentially leading to higher production (Lal et al., 2023). However, they also warn of the associated risks, including the entrenchment of dependency on government support and possible long-term inefficiencies in agricultural practices.

Credit subsidies, the third form of subsidies, are primarily represented by low-interest loans and government-backed microfinance schemes aimed at improving access to financing for farmers. They facilitate rural investments by reducing the cost of capital, thus encouraging farmers to adopt new technologies and expand their operations. Mamun discusses that widespread fiscal support to agricultural producers significantly influences productivity, demonstrating the importance of accessible financing in enhancing agricultural output (Mamun, 2024). The relationship between credit subsidies and productivity is also framed by the need for farmers to adopt modern agricultural techniques, which often require high upfront investments that can only be met through affordable credit options (Panahian et al., 2024).

In summary, while all three subsidy types have their roles and areas of impact, input subsidies are often highlighted in the literature for their immediate link to productivity gains, particularly in developing nations. Price and credit subsidies also contribute significantly to the agricultural sector but possess inherent challenges in their implementation and effects on market dynamics. Collectively, these subsidies are pivotal in shaping not only agricultural productivity but also the broader socio economic landscape of farming communities (Sarma & Rahman, 2020; Rizov et al., 2013; Mary, 2012).

b. The Impact of Subsidies on Welfare

The impact of subsidies on economic welfare has been extensively studied, with much of the literature reporting beneficial short-run outcomes for smallholder households and agricultural productivity. Subsidies have been linked to increased income for smallholder

farmers by improving productivity and enhancing input efficiency. For example, subsidized inputs help reduce production costs and enhance yield, thereby increasing farm income and improving livelihood security (Warr & Yusuf, 2014; , Dorward et al., 2014; , Mishra et al., 2024; . Similarly, easier access to primary inputs, such as fertilizers and seeds, promotes enhanced land productivity. This relationship has been observed across various regions where agricultural policies, including input subsidies, have led to improved soil fertility and crop performance, contributing to overall productivity gains Kato & Greeley, 2016; , (Warr & Yusuf, 2014; , Dorward et al., 2014; .

Despite these short-term benefits, the literature also documents several long-term negative effects. First, an over-reliance on subsidies may foster dependency, discouraging investments in innovation and efficiency improvements by reducing the incentive for farmers to seek cost-reducing and technology-enhancing practices Heutel & Kelly, 2013; , Minviel & Latruffe, 2016). Furthermore, subsidies can introduce distortions into both input and output markets. They may lead to market inefficiencies by artificially lowering input prices, disrupting normal price signals, and thereby potentially misallocating resources within the agricultural sector Heutel & Kelly, 2013; , Badiani et al., 2012). These distortions can also extend to output prices, where market interventions may cause imbalances and affect overall competitiveness in agricultural markets Mishra et al., 2024; . In addition, studies have pointed out that while subsidies can temporarily boost production and income, they may ultimately compromise the resilience and sustainability of the agricultural sector by inducing inefficiencies and environmental degradation Heutel & Kelly, 2013; , Minviel & Latruffe, 2016).

In summary, while the empirical evidence supports that subsidies have a positive impact on immediate welfare indicators such as increased income and improved land productivity, there is substantial concern regarding their long-term adverse effects. These include dependency on government support, the emergence of market inefficiencies, and distortions in both input and output price signals, which collectively undermine sustainable agricultural development (Warr & Yusuf, 2014; , Kato & Greeley, 2016; , Dorward et al., 2014; , Mishra et al., 2024; , Heutel & Kelly, 2013; , Minviel & Latruffe, 2016). Policymakers must, therefore, carefully consider these trade-offs and foster policies that mitigate the long-term risks while preserving the short-term welfare benefits (Warr & Yusuf, 2014; , Mishra et al., 2024; , Badiani et al., 2012).

c. Moderator Variables

The effectiveness of agricultural subsidies is notably influenced by moderator variables that condition their benefits across diverse contexts. Three key moderator variables in this domain are the level of agricultural technology adoption, the quality of subsidy governance, and gender inclusion in subsidy programs.

Regarding the level of agricultural technology adoption, empirical studies suggest that modern farming technologies and mechanization serve as crucial conduits for translating subsidies into productivity gains. For instance, He et al. He et al. (2022) demonstrate that farmers integrating modern machinery and mechanization practices benefit more from subsidies by optimizing inputs such as fertilizers. Similarly, Yi et al. Yi et al. (2023) show that agricultural mechanization mediates the effect of subsidies on food-producing households, amplifying the positive impact when modern technology is adopted. This indicates that enhanced technology adoption tends to improve the return on subsidy investments.

In the case of the quality of subsidy governance, transparency, efficiency, and accountability within distribution systems are pivotal for achieving desirable agricultural outcomes. Rudnev et al. Rudnev et al. (2024) provide evidence that well-governed subsidy programs—with clear guidelines and accountability mechanisms—yield more sustainable agricultural development and better economic and social performance in rural areas. Further supporting this, Wu et al. Wu et al. (2022) highlight that subsidy programs administered under

transparent governance structures are associated with improved distribution and more effective economic stimulation within the agri-food supply chain.

Gender inclusion significantly moderates the effectiveness of subsidies by ensuring that the unique challenges faced by female farmers are addressed. Fertő and Bojnec Fertő & Bojnec (2025) report that subsidy programs designed to account for gender disparities—such as providing support that considers the distinct needs of female-headed farms—can have comparable or even enhanced overall impact relative to male-headed farms when adjusted for resource availability. Moreover, Silva et al. Silva et al. (2024) emphasize the importance of incorporating a gender perspective into policy, as it can help bridge the underappreciation of women's contributions in agriculture and foster more inclusive and sustainable agricultural development.

In summary, maximizing the effectiveness of agricultural subsidies necessitates a multifaceted approach that addresses moderator variables. The level of agricultural technology adoption strengthens the link between subsidy allocation and productivity improvements, while the quality of subsidy governance ensures that the benefits reach their intended targets efficiently. Additionally, incorporating gender-sensitive policies makes subsidy programs more inclusive, thereby enhancing the overall impact on agricultural development.

4. DISCUSSION

4.1 Synthesis of Results

The results of the synthesis of Darthe 36 studies the analysis shows that Agricultural subsidies have the potential to serve as an effective policy tool if they are designed to be well-targeted, transparent, and supported by a strong institutional framework. Evidence from systematic reviews indicates that when subsidies are aligned with local agronomic and socio-economic needs, they can enhance agricultural productivity, improve farm income, and contribute to broader economic growth (Dorward et al., 2018; , Mamun, 2024; . For instance, systematic reviews reveal that subsidies based on local needs data promote more efficient input use and productivity gains, underscoring the importance of meticulous planning that integrates local empirical evidence (Dorward et al., 2018; , Li et al., 2022).

Local institutional capacities also play a pivotal role in the success of subsidy programs. Research demonstrates that the active involvement of local actors—such as farmer cooperatives and extension agencies—can greatly improve subsidy distribution and uptake Thapa et al., 2023). In several case studies, the presence of robust local implementation mechanisms has been shown to increase the accessibility of subsidies and enhance farmers' willingness to adopt improved practices Thapa et al., 2023), (Shames et al., 2016; . Moreover, participatory approaches that empower local stakeholders significantly reduce inefficiencies by ensuring that subsidy programs are both contextually relevant and responsive to local challenges (Shames et al., 2016; .

Nonetheless, the effectiveness of agricultural subsidies varies across different countries and regions. Several studies have documented instances where weak logistics, poor monitoring systems, or limited financial literacy among farmers impede the achievement of intended outcomes from subsidy programs (Wang et al., 2019; , Sarma & Rahman, 2020; . In some cases, when subsidies are not tailored to the local context, they risk reinforcing dependency and creating structural inefficiencies by favoring larger or more financially secure farmers over their smaller counterparts (Shames et al., 2016; , Yang et al., 2023). This heterogeneity in impact illustrates that well-targeted subsidies can drive productivity improvements only if complemented by local capacity-building and effective institutional design (Dorward et al., 2018; , Thapa et al., 2023).

In synthesis, the success of agricultural subsidies as an instrument for enhancing productivity and stabilizing farm incomes depends critically on how well the measures are tailored to local needs and delivered through capable, transparent institutions. Well-designed

subsidy programs that incorporate localized planning, stakeholder participation, and strong monitoring mechanisms are likely to yield positive outcomes, while programs that neglect local context may inadvertently exacerbate dependency and inefficiency (Dorward et al., 2018; , Mamun, 2024; , Sarma & Rahman, 2020; , Thapa et al., 2023).

4.2 Theoretical and Practical Implications

From a theoretical perspective, the findings of this study provide a significant contribution to the development of literature welfare economics And agrarian public policy. These findings reinforce the idea that economic incentives must be tailored to social and institutional conditions to produce optimal impact. Subsidies cannot be viewed only as a means of redistribution, but also as an instrument for encouraging changes in economic behavior and agricultural innovation.

The practical implications of this study are highly relevant for policy designers. A paradigm shift is needed from universal subsidies towards needs-based and long-term incentive-based subsidies. Subsidies designed to encourage technology adoption, environmental sustainability and women's empowerment have proven to be more impactful than consumer subsidies. Besides that, monitoring and evaluation based on micro data should be an integral part of the subsidy policy cycle.

4.3 Comparison with Previous Studies

The current study’s findings resonate with and also challenge aspects of the existing literature on the effectiveness of subsidy policies. On one hand, several studies underscore the significance of an enabling institutional and social environment for subsidies to foster innovative activities. For instance, Wang (Wang, 2023; emphasizes that institutional factors play a critical role in shaping how innovation subsidies influence entrepreneurial performance in emerging markets. Similarly, Yao and Qiao Yao & Qiao, 2023;demonstrate that the impact of subsidies is heterogeneous, depending on whether they come from central or local governments, reflecting the differentiated governance capacities and socio-economic contexts within a country. Furthermore, Shu et al. Shu et al., 2019; provide evidence that government institutional support can enhance entrepreneurial orientation and strategic renewal, underscoring the importance of aligning subsidy policies with the local institutional framework.

On the other hand, divergent evidence points to scenarios in which subsidies might create market distortions and undermine local innovation incentives. Shehabi Shehabi, 2019; illustrates that in the context of energy subsidies, such policies can lead to distortions by promoting wasteful consumption and inefficient resource allocation. In addition, Huergo and Martín Huergo & Martín, 2017; report that while subsidies can stimulate innovation, their effectiveness is often conditional on the interaction between different funding sources and local market conditions. Supporting this nuanced view, Wang et al. Wang et al., 2024) note that in emerging market firms, the influence of subsidy policies on innovation performance is mediated by factors such as market power and resource dependencies, indicating that a one-size-fits-all approach may not be appropriate.

Collectively, these studies highlight that while subsidies have the potential to drive innovation—provided they are implemented contextually—they can also engender unintended consequences if socio-economic conditions and governance capacities are not adequately considered. Thus, generalizations of subsidy policies across different countries are fraught with risk and should be approached with caution. The literature calls for a tailored policy design that takes into account the local institutional, social, and economic contexts, ensuring that subsidy programs foster innovation without precipitating market distortions (Wang, 2023; , Yao & Qiao, 2023;, Shu et al., 2019; , Shehabi, 2019; , Huergo & Martín, 2017; , Wang et al., 2024).

4.4 Study Limitations

This study has several methodological limitations that need to be acknowledged. First, there is potential selection bias due to limitations in the databases used (especially studies available on Scopus, Web of Science, and Google Scholar), as well as publication criteria between 2012–2024. Relevant studies published before 2010 or in non-English local languages may have been missed.

4.5 Recommendations for Further Research

To strengthen the understanding and validity of generalizations, it is recommended that future studies consider the following approaches:

- Cross-country longitudinal study which can track the long-term effects of subsidies on farmer welfare and market dynamics.
- Micro analysis based on household data, which enables a deeper understanding of how subsidies influence consumption, production, and savings behavior.
- Experimental or quasi-experimental evaluation, such as randomized control trials (RCTs) or difference-in-differences, to test the causal impact of certain types of subsidies on the welfare of small farmers.

5. CONCLUSIONS

5.1 Summary of Key Findings

This study shows that The effectiveness of agricultural subsidy policies on the welfare of small farmers in developing countries is highly dependent on policy design and the context of its implementation. Well-targeted subsidies, supported by good governance and involving local institutions, have been proven to have a positive impact in increasing the income and productivity of small farmers. However, subsidies that are not accompanied by adequate monitoring mechanisms can actually lead to dependency and market distortion.

5.2 Contribution to the Literature

This research provides an important contribution in the form of **systematic mapping of** geographically and methodologically dispersed literature, highlighting key patterns of findings as well as less explored areas. This finding emphasizes its importance context and evidence-based approach (evidence-based) in the formulation and evaluation of agricultural subsidy policies. In addition, this study expands the discourse in the welfare economics literature by showing how local dynamics influence the success of macroeconomic interventions.

5.3 Study Limitations

This research has several limitations. First, the analysis is limited to articles available in certain databases (Scopus, Web of Science, and Google Scholar), and only covers publications between 2010 and 2024. Second, the use of English-language literature may ignore important studies published in local languages in developing countries. These limitations potentially reduce the geographical and methodological representativeness of the synthesis results.

5.4 Suggestions for Future Research

Further research is recommended to explore this causal relationship between subsidies and welfare indicators through experimental or quasi-experimental designs. Additionally, it is important to conduct evaluative longitudinal studies of the long-term impact of subsidies on farmer independence, including its impact on the sustainable production capacity and economic resilience of smallholder farmers. Micro data-based research and cross-country studies are also urgently needed to enrich global understanding of the dynamics of agricultural subsidies.

6. REFERENCES

Anríquez, G., Foster, W., & Ortega, J. (2019). Rural and agricultural subsidies in latin america: development costs of misallocated public resources. Development Policy Review, 38(1), 140-158. https://doi.org/10.1111/dpr.12389

Badiani, R., Jessoe, K., & Plant, S. (2012). Development and the environment. The Journal of Environment & Development, 21(2), 244-262. https://doi.org/10.1177/1070496512442507

Dorward, A., Roberts, P., Finegold, C., Hemming, D., Chirwa, E., Wright, H., … & Parr, M. (2014). Protocol: agricultural input subsidies for improving productivity, farm income, consumer welfare and wider growth in low- and middle-income countries: a systematic review. Campbell Systematic Reviews, 10(1), 1-45. https://doi.org/10.1002/cl2.125

Dorward, A., Roberts, P., Finegold, C., Hemming, D., Chirwa, E., Wright, H., … & Parr, M. (2018). Agricultural input subsidies for improving productivity, farm income, consumer welfare and wider growth in low- and lower-middle-income countries: a systematic review. Campbell Systematic Reviews, 14(1), 1-153. https://doi.org/10.4073/csr.2018.4

Dorward, A. and Morrison, J. (2015). Heroes, villains and victims: agricultural subsidies and their impacts on food security and poverty reduction.. https://doi.org/10.4337/9780857939838.00016

Fertő, I. and Bojnec, Š. (2025). Gender equality and green entrepreneurship in farms. Sustainable Development. https://doi.org/10.1002/sd.3337

Ghins, L., Aparisi, A., & Balié, J. (2017). Myths and realities about input subsidies in sub-saharan africa. Development Policy Review, 35(S2). https://doi.org/10.1111/dpr.12258

He, G., Feng, J., & Xiao, T. (2022). Effect of agricultural subsidies on heterogeneous farmers' fertilizer application intensity and its mediating mechanism: based on china household finance survey database. Frontiers in Environmental Science, 10. https://doi.org/10.3389/fenvs.2022.1043434

Heutel, G. and Kelly, D. (2013). Incidence and environmental effects of distortionary subsidies.. https://doi.org/10.3386/w18924

Huergo, E. and Martín, L. (2017). Subsidies or loans? evaluating the impact of r&d support programmes. Research Policy, 46(7), 1198-1214. https://doi.org/10.1016/j.respol.2017.05.006

Kato, T. and Greeley, M. (2016). Agricultural input subsidies in sub-saharan africa. IDS Bulletin, 47(2). https://doi.org/10.19088/1968-2016.130

Lal, P., Chandel, B., Tiwari, R., El-Sheikh, M., Mansoor, S., Kumar, A., … & Kumar, R. (2023). Effects of agricultural subsidies on farm household decisions: a separable household model approach. Frontiers in Sustainable Food Systems, 7. https://doi.org/10.3389/fsufs.2023.1295704

Li, C., Sha, Z., Sun, X., & Yong, J. (2022). The effectiveness assessment of agricultural subsidy policies on food security: evidence from china's poverty-stricken villages. International Journal of Environmental Research and Public Health, 19(21), 13797. https://doi.org/10.3390/ijerph192113797

Li, Y. and Márquez, R. (2023). Can government subsidies and public mechanisms alleviate the physical and mental health vulnerability of china's urban and rural residents?. International Journal for Equity in Health, 22(1). https://doi.org/10.1186/s12939-022-01805-2

Malimi, K. (2023). Agricultural input subsidies, extension services, and farm labour productivity nexus: evidence from maize farmers in tanzania. Journal of Agricultural Economics, 74(3), 874-898. https://doi.org/10.1111/1477-9552.12537

Mamun, A. (2024). Impact of farm subsidies on global agricultural productivity. Agricultural Economics, 55(2), 346-364. https://doi.org/10.1111/agec.12823

Mary, S. (2012). Assessing the impacts of pillar 1 and 2 subsidies on tfp in french crop farms. Journal of Agricultural Economics, 64(1), 133-144. https://doi.org/10.1111/j.1477-9552.2012.00365.x

Minviel, J. and Latruffe, L. (2016). Effect of public subsidies on farm technical efficiency: a meta-analysis of empirical results. Applied Economics, 49(2), 213-226. https://doi.org/10.1080/00036846.2016.1194963

Mishra, N., Tiwari, A., Joshi, M., Gaurav, G., Kumar, D., & Misra, V. (2024). Assessing the impact of agricultural subsidies on farm profitability and sustainability. Journal of Experimental Agriculture International, 46(8), 323-336. https://doi.org/10.9734/jeai/2024/v46i82711

Panahian, p., Borimnejad, V., Samari, D., & Nozari, N. (2024). Agricultural input subsidies and the marketing of agricultural products.. https://doi.org/10.21203/rs.3.rs-4615995/v1

Rizov, M., Pokrivčák, J., & Ciaian, P. (2013). cap subsidies and productivity of the eu farms. Journal of Agricultural Economics, 64(3), 537-557. https://doi.org/10.1111/1477-9552.12030

Rudnev, S., Zolkin, A., Garbuzova, T., & Urusova, A. (2024). The role of government subsidies in supporting sustainable agriculture. Ekonomika I Upravlenie Problemy Resheniya, 10/5(151), 120-128. https://doi.org/10.36871/ek.up.p.r.2024.10.05.018

Sarma, P. and Rahman, M. (2020). Impact of government agricultural input subsidy card on rice productivity in rajbari district of bangladesh: application of endogenous switching regression model. Universal Journal of Agricultural Research, 8(5), 131-145. https://doi.org/10.13189/ujar.2020.080501

Shames, S., Heiner, K., Kapukha, M., Kiguli, L., Masiga, M., Kalunda, P., … & Wekesa, A. (2016). Building local institutional capacity to implement agricultural carbon projects: participatory action research with vi agroforestry in kenya and ecotrust in uganda. Agriculture & Food Security, 5(1). https://doi.org/10.1186/s40066-016-0060-x

Shehabi, M. (2019). Is energy subsidy reform in an oil-exporting small economy beneficial to trade?.. https://doi.org/10.26889/9781784671273

Shu, C., Clercq, D., Zhou, Y., & Liu, C. (2019). Government institutional support, entrepreneurial orientation, strategic renewal, and firm performance in transitional china. International Journal of Entrepreneurial Behaviour & Research, 25(3), 433-456. https://doi.org/10.1108/ijebr-07-2018-0465

Silva, O., Jayatilleke, Y., & Withanachchi, R. (2024). Women's role in sri lankan agriculture: a comprehensive study on socioeconomic contributions, challenges, and opportunities for gender-inclusive agricultural development. PUMITHIRI, 1(01). https://doi.org/10.31357/pumithiri.v1i01.7801

Thapa, S., Panta, H., Poudel, S., GC, A., Regmi, K., & Basnet, M. (2023). Factors affecting farmers' access to agricultural subsidy in makwanpur and dhading districts of nepal. Saarc Journal of Agriculture, 21(2), 263-276. https://doi.org/10.3329/sja.v21i2.68550

Wang, C. (2023). Innovation subsidies and entrepreneurial activity in an emerging market. International Journal of Emerging Markets, 19(10), 3353-3373. https://doi.org/10.1108/ijoem-02-2022-0242

Wang, S., Manjur, B., Kim, J., & Lee, W. (2019). Assessing socio-economic impacts of agricultural subsidies: a case study from bhutan. Sustainability, 11(12), 3266. https://doi.org/10.3390/su11123266

Wang, S., Manjur, B., Kim, J., & Lee, W. (2019). Assessing socio-economic impacts of agricultural subsidies: a case study from bhutan. Sustainability, 11(12), 3266. https://doi.org/10.3390/su11123266

Wang, Y., Xu, W., & Guo, B. (2024). Untangling the duality of emerging market firms' response to outward foreign direct investment policies on their innovation performance: a

resource dependence perspective. Journal of International Marketing, 33(1), 71-91. https://doi.org/10.1177/1069031x241272446

Warr, P. and Yusuf, A. (2014). Fertilizer subsidies and food self-sufficiency in indonesia. Agricultural Economics, 45(5), 571-588. https://doi.org/10.1111/agec.12107

Wu, F., Soto, A., & Guan, Z. (2022). Government support in mexican agriculture: the program of agri-food productivity and competitiveness. Edis, 2021(6). https://doi.org/10.32473/edis-fe1107-2021

Yang, T., Chandio, A., Zhang, A., & Liu, Y. (2023). Do farm subsidies effectively increase grain production? evidence from major grain-producing regions of china. Foods, 12(7), 1435. https://doi.org/10.3390/foods12071435

Yao, B. and Qiao, F. (2023). The heterogeneous effects of central and local subsidies on firms' innovation. Sustainability, 15(2), 1049. https://doi.org/10.3390/su15021049

Yi, H., Guo, D., Wang, H., Min, L., & Yi, G. (2023). How do agricultural subsidies affect the income of food- producing household: a mediated moderation model.. https://doi.org/10.21203/rs.3.rs-3653119/v1