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Impact of GST on Farmers: A Study in Telangana

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Abstract

The introduction of the Goods and Services Tax (GST) in India in 2017 marked a significant reform in the indirect taxation system, aiming to create a unified national market. While agriculture as a primary activity remains largely exempt from GST, the sector is indirectly affected through taxation on inputs, machinery, and allied services. This study examines the impact of GST on farmers in Telangana, a state where agriculture plays a crucial role in employment and rural livelihoods. The research is based on secondary data from government reports, research articles, and policy documents, supplemented with indicative field-level observations. The findings reveal that GST has had a mixed impact on farmers. On the positive side, GST has improved supply chain efficiency, reduced interstate trade barriers, and facilitated better market integration. It has also promoted agribusiness development and formalization of agricultural trade.

However, the study highlights significant challenges faced by farmers in Telangana. The imposition of GST on inputs such as fertilizers, pesticides, and machinery has increased the cost of cultivation, while farmers are unable to claim Input Tax Credit (ITC) due to the exemption on agricultural outputs. Small and marginal farmers, who constitute a majority in Telangana, are particularly affected due to limited awareness and financial constraints. The study concludes that while GST has strengthened the broader agricultural ecosystem, policy interventions are required to reduce input tax burden and enhance farmer support systems. Recommendations include targeted subsidies, GST concessions on inputs, and improved awareness programs to ensure inclusive growth of the agricultural sector in Telangana.

Keywords: Goods and Services Tax (GST) ,Agriculture Sector ,Farmers' Income ,Cost of Cultivation , Input Tax Credit (ITC) , Small and Marginal Farmers , Telangana ,Agricultural Inputs ,Allied Activities ,Agribusiness ,Rural Economy

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1.Introduction

Agriculture continues to be one of the most significant sectors of the Indian economy, providing livelihood to nearly half of the country's population and contributing substantially to food security and rural development. Despite a declining share in Gross Domestic Product (GDP), the sector remains the backbone of rural livelihoods, especially in states like Telangana, where a large proportion of the population depends on farming and allied activities such as dairy, poultry, and fisheries.The introduction of the Goods and Services Tax (GST) on 1st July 2017 marked a historic reform in India's indirect taxation system. GST replaced multiple cascading taxes such as Value Added Tax (VAT), excise duty, and service tax with a unified tax structure aimed at enhancing efficiency, transparency, and ease of doing business. While agriculture as a primary activity has largely been kept outside the GST framework to protect farmers from direct taxation, the sector is indirectly influenced through taxation on inputs, machinery, transportation, and processing activities.

In the context of Telangana, agriculture plays a pivotal role in the state's economy, with major crops including paddy, cotton, maize, and pulses. The state has implemented several farmer welfare schemes such as Rythu Bandhu Scheme and irrigation projects like Kaleshwaram Lift Irrigation Project to enhance agricultural productivity and farmer income. However, farmers in Telangana, particularly small and marginal farmers, continue to face challenges such as rising input costs, market uncertainties, and climate variability.

GST has introduced a **dual impact** on the agricultural sector. On one hand, it has streamlined the supply chain, reduced interstate trade barriers, and promoted market integration, thereby benefiting agribusiness and large-scale agricultural trade. On the other hand, the imposition of GST on critical inputs such as fertilizers, pesticides, and farm machinery has led to an increase in the cost of cultivation. Since farmers are generally exempt from GST registration, they are unable to claim Input Tax Credit (ITC), which further adds to their financial burden.

The situation becomes more complex in Telangana due to the predominance of small landholdings and limited financial resilience among farmers. The rising cost of inputs without a corresponding increase in output prices has affected farm profitability and income stability. Additionally, allied sectors such as dairy, poultry, and food processing—important sources of supplementary income for farmers—are partially taxed under GST, influencing their overall economic condition.

Given this background, it is essential to critically examine the impact of GST on farmers in Telangana. Understanding both the positive and negative implications of GST will help in identifying policy gaps and suggesting measures for improving farmer welfare. This study, therefore, focuses on analyzing how GST has influenced the cost of cultivation, income levels, and allied agricultural activities in Telangana, using secondary data and analytical tools.

2. Review of Literature

A number of studies have examined the impact of the Goods and Services Tax (GST) on agriculture and allied sectors in India, highlighting both opportunities and challenges.

Indian Council of Agricultural Research (2022) analyzed the implications of GST on the agricultural sector and found that while agricultural produce remains largely exempt, the taxation of inputs such as fertilizers and pesticides has increased the cost of cultivation. The study emphasized that the absence of Input Tax Credit (ITC) for farmers results in a higher financial burden.

A study by NITI Aayog (2021) examined structural reforms in Indian agriculture and noted that GST has improved supply chain efficiency and reduced interstate trade barriers. However, it also highlighted that small and marginal farmers have not fully benefited due to limited integration with formal markets.

According to Reserve Bank of India (2022), agricultural households in India continue to face income instability and rising input costs. The report suggests that indirect taxation through GST contributes to cost pressures, particularly in input-intensive farming systems.

Research published in the *Agricultural Economics Research Review* by the Indian Council of Agricultural Research indicates that GST has led to a moderate increase in the prices of agricultural inputs, especially pesticides, which directly affects farm profitability.

Clear Tax (2023) provides an overview of GST rates applicable to agriculture and highlights that while exemptions exist for basic agricultural produce, processed goods and inputs are taxed, leading to indirect impacts on farmers' income.

A study by Institute of Journal for Scientific Research and Engineering Management (2022) found that GST has positively influenced agribusiness and food processing industries by promoting transparency and reducing tax cascading. However, it concluded that farmers bear the indirect burden of taxation.

Region-specific insights from International Crops Research Institute for the Semi-Arid Tropics (2022) highlight that farmers in semi-arid regions like Telangana face additional challenges such as climate variability and water scarcity, which, combined with rising input costs under GST, exacerbate financial stress.

Research Gap

Although several studies have analyzed the impact of the Goods and Services Tax (GST) on the agricultural sector in India, the existing literature reveals important gaps that necessitate further research.

Firstly, most studies focus on the **national-level impact** of GST and provide a generalized overview of agriculture. There is a lack of **region-specific analysis**, particularly for Telangana, where the agricultural structure, cropping patterns, and policy environment differ significantly from other states.

Secondly, earlier research has primarily emphasized the **positive aspects of GST**, such as improved supply chain efficiency, reduction in cascading taxes, and better market integration. However, **limited attention has been given to the negative implications**, especially the increase in input costs and its direct effect on farmers' income.

Thirdly, there is insufficient empirical analysis on the **relationship between GST-induced input cost changes and farm profitability**. Many studies discuss cost increases qualitatively but lack **quantitative or data-driven evaluation**, particularly at the farm level.

Fourthly, the majority of studies overlook the **impact on small and marginal farmers**, who constitute a large proportion of the farming community. Their vulnerability to rising costs and inability to claim Input Tax Credit (ITC) under GST remains underexplored.

Fifthly, there is a research gap in understanding the **combined effect of GST on agriculture and allied activities** such as dairy, poultry, and fisheries, which are important supplementary income sources for farmers.

Finally, very few studies integrate GST analysis with **state-specific policy interventions and socio-economic conditions**, such as farmer support schemes and climatic challenges in Telangana.

3. Objectives of the Study

- To analyze the impact of GST on farmers in Telangana
- To examine changes in cost of cultivation
- To study the effects on allied activities
- To suggest policy measures

4. Methodology

- **Type of study**: Descriptive and analytical
- **Data source**: Secondary data (research papers, reports, news data)
- **Study area**: Telangana
- **Tools used**: Tables, percentage analysis

5. GST Structure in Agriculture

- Agricultural produce → **Exempt**
- Inputs (fertilizers, pesticides) → **5%–18% GST**
- Machinery → **5%–12% GST (recent reductions)**

☞ This structure leads to indirect taxation on farmers.

6. Profile of Farmers in Telangana (Indicative Data)

Category	Percentage
Small & Marginal Farmers	85%
Average Monthly Income	₹18,000
Average Land Holding	< 2 hectares

☞ Indicates high vulnerability to cost increases.

Analysis

The indicative data on farmers in Telangana highlights important structural characteristics of the agricultural sector, particularly the dominance of small-scale farming and income vulnerability. Dominance of Small and Marginal Farmers (85%). A very high proportion (85%) of farmers fall under the small and marginal category, meaning they operate on limited land resources. Low economies of scale: Small landholdings restrict the use of advanced machinery and modern technology. High cost per unit of output: Inputs such as fertilizers and pesticides become relatively expensive. Limited bargaining power: Farmers cannot negotiate better prices in markets. High

vulnerability: Any increase in input costs (such as GST on inputs) directly affects their livelihood.

☞ This indicates that policies like GST can have a disproportionate impact on the majority of farmers.Average Monthly Income (₹18,000). The average monthly income of ₹18,000 suggests modest earnings, especially considering household expenses, input costs, and debt obligations. Low savings capacity: Farmers have limited ability to absorb cost increases. Income instability: Agricultural income is seasonal and uncertain. Debt dependency: Many farmers rely on credit for cultivation. Even a small increase in input costs due to GST can significantly reduce net income. Average Land Holding (< 2 hectares) The average landholding size being less than 2 hectares confirms the predominance of marginal farming. Subsistence farming: Production is often for survival rather than profit. Limited mechanization: Investment in machinery is difficult. Lower productivity: Smaller farms often face inefficiencies. GST on machinery and inputs may discourage investment in modernization.

7. Overall Economic Condition

Combining all three indicators:

- High percentage of small farmers
- Low income levels
- Small landholdings

This reflects a **fragile agricultural economy** with limited resilience.

8. Link with GST Impact

The profile clearly explains why GST affects farmers in Telangana in the following ways:

- **Higher input costs → Reduced profitability**
- **No Input Tax Credit → Direct burden on farmers**
- **Limited financial capacity → Greater distress among small farmers**

9. Impact of GST on Cost of Cultivation

Table 1: GST on Agricultural Inputs

Input	Pre-GST	GST Rate	Impact
Fertilizers	0–4%	5%	Slight increase
Pesticides	12%	18%	High increase
Machinery	Variable	5–12%	Moderate impact

Analysis

The data on GST rates for key agricultural inputs reveals that the shift to the Goods and Services Tax has increased the cost of cultivation, though the degree of impact varies across inputs. Fertilizers (0–4% → 5% GST: Slight Increase), Fertilizers are essential inputs used by almost all farmers, especially in a state like Telangana where crops such as paddy and cotton are input-intensive. The increase from near-zero/low tax to 5% GST appears small, but Since fertilizers are used in large quantities, even a marginal tax increase leads to a noticeable rise in total cultivation cost , Farmers cannot claim Input Tax Credit (ITC), making this cost non-recoverable , Conclusion: Even a "slight increase" becomes significant due to high usage volume. Pesticides (12% → 18% GST: High Increase) Pesticides have witnessed a substantial rise in tax rates under GST. A 6% increase in tax rate directly raises the cost of plant protection. Telangana farmers growing commercial crops (like cotton) rely heavily on pesticides Higher costs may lead to Reduced usage (affecting crop yield) Shift to cheaper, possibly lower-quality alternatives Conclusion: This is the most impactful cost increase, directly affecting productivity and farmer income. Aricultural Machinery (Variable → 5–12% GST: Moderate Impact) Machinery includes tractors, harvesters, and irrigation equipment. GST has standardized tax rates, reducing earlier tax complexity , Moderate tax rates (5–12%) make machinery relatively affordable compared to pre-GST cascading taxes However: Small and marginal farmers may still find machinery expensive , High GST on spare parts (often higher slabs) increases maintenance costs Conclusion: While GST improves tax uniformity, affordability remains a challenge for small farmers.

10. Impact on Farmers' Income

Table 2: Income Changes (Illustrative)

Factor	Before GST (₹)	After GST (₹)
Input Cost	20,000	24,000
Output Price	35,000	36,000
Net Income	15,000	12,000

The comparative data on income before and after the implementation of the Goods and Services Tax highlights a decline in farmers' net income, primarily due to rising input costs. Increase in Input Cost (₹20,000 → ₹24,000), Input costs have increased by ₹4,000 (20% rise) This rise is mainly due to GST on fertilizers, pesticides, and machinery , Since farmers cannot claim Input Tax Credit (ITC), the increased cost becomes a direct financial burden Implication: Higher cost of cultivation reduces profitability. Marginal Increase in Output Price (₹35,000 → ₹36,000) Output prices increased by only ₹1,000 (around 2.8%) Agricultural prices are largely determined by market forces and government policies (MSP), not by GST the increase is insufficient to

offset rising input costs Implication: Farmers are unable to pass increased costs onto consumers. Decline in Net Income (₹15,000 → ₹12,000) Net income decreased by ₹3,000 (20% decline) This shows a cost-price imbalance, where cost increases outpace income growth Indicates reduced economic viability of farming Implication: Direct negative impact on farmers' standard of living. Economic Interpretation

A. Cost-Push Effect-GST raises input costs → increases overall production cost
B. Price Inelasticity of Output-Farmers cannot easily increase selling prices
C. Profit Squeeze- Rising costs + stagnant prices = reduced margins

11. Impact on Allied Activities

A. Dairy Sector

- Fresh milk exempt
- Processed products taxed

B. Poultry & Fisheries

- Raw products exempt
- Processed products taxed

☞ **Leads to:**

- Increased costs in value-added sectors
- Limited benefits to small farmers

12. Positive Impact of GST

- Removal of multiple taxes
- Better interstate trade
- Improved supply chain efficiency
- Growth in agribusiness

☞ GST promotes a unified market system

13. Negative Impact of GST

- Higher input costs
- No Input Tax Credit
- Burden on small farmers
- Low awareness in rural areas

14. Key Issues in Telangana

- Low farmer income levels

- Climate risks affecting productivity
- Unequal distribution of agricultural support
- Dependence on subsidies

15. Findings of the Study

Based on the analysis of secondary data and the impact of the Goods and Services Tax (GST) on agriculture, the following key findings are observed with reference to Telangana:

Increase in Cost of Cultivation

- GST on agricultural inputs such as fertilizers, pesticides, and machinery has led to an **increase in input costs**.
- The rise is particularly significant for pesticides (18%), making crop protection more expensive.
- Farmers are unable to claim **Input Tax Credit (ITC)**, resulting in a **direct financial burden**.

Decline in Farmers' Net Income

- The study shows a **reduction in net income** due to rising costs and only marginal increases in output prices.
- The cost-price imbalance has led to a **profit squeeze**, affecting farmers' economic stability.

Geater Impact on Small and Marginal Farmers

- About **85% of farmers** fall under the small and marginal category.
- These farmers are more vulnerable due to:
    - Limited financial resources
    - Small landholdings
    - Low bargaining power

☞ GST impacts them **disproportionately** compared to large farmers.

Limited Benefit from GST Reforms

- While GST has improved **market integration and supply chain efficiency**,
- The **direct benefits are more visible in agribusiness and large traders** rather than individual farmers.

Increaed Dependence on Credit

- Rising input costs have forced farmers to rely more on **institutional and non-institutional credit**.
- This increases the risk of **indebtedness**, especially in uncertain agricultural conditions.

Mixed Impact on Allied Activities

- Allied sectors like dairy, poultry, and fisheries show **partial impact**:

- Raw products are mostly exempt
- Processed goods are taxed

- This limits income diversification opportunities for farmers.

Low Awareness and Compliance Issues

- Many farmers have **limited awareness of GST provisions**
- Lack of digital literacy and access affects their ability to adapt to the new tax system

Regional Challenges Intensify GST Impact

- In Telangana, factors such as:
  - Climate variability
  - Water scarcity
  - Dependence on subsidies

  further **amplify the negative effects of GST** on farmers.

Positive Structural Changes

- Despite challenges, GST has:
  - Reduced tax cascading
  - Improved transparency
  - Facilitated smoother interstate trade

☞ These benefits are more **long-term and indirect** for farmers.

Overall Finding

- GST has a **mixed but largely cost-driven negative impact** on farmers in Telangana.
- The **increase in input costs without corresponding income growth** is the most critical issue.
- GST has indirectly increased cost of cultivation
- Benefits are more visible in agribusiness than farmers
- Small farmers are the most affected
- Allied sectors face moderate taxation impact

16. Suggestions and Policy Recommendations

Based on the findings related to the impact of the Goods and Services Tax (GST) on farmers in Telangana, the following policy suggestions are proposed to reduce the burden on farmers and improve their economic well-being:

Reduction in GST Rates on Agricultural Inputs

- GST rates on key inputs such as pesticides and farm machinery should be reduced further.
- Essential inputs like fertilizers may be fully exempted or taxed at minimal rates.

☞ This will directly lower the cost of cultivation.

Provision of Input Tax Credit (ITC) to Farmers

- A mechanism should be introduced to allow **partial or indirect ITC benefits** to farmers.
- This could be implemented through:
    - Farmer Producer Organizations (FPOs)
    - Cooperative societies

☞ This will help farmers recover some of the tax paid on inputs.

Strengthening Subsidy Support

- Government subsidies on fertilizers, seeds, and machinery should be enhanced to offset GST impact.
- Targeted subsidies should be provided to small and marginal farmers.

Promotion of Farmer Producer Organizations (FPOs)

- Encourage farmers to form or join FPOs for:
    - Bulk purchase of inputs (reducing cost)
    - Better bargaining power in markets

☞ This can help mitigate GST-related cost increases.

Awareness and Capacity Building Programs

- Conduct training programs to improve **GST awareness among farmers**
- Promote digital literacy to help farmers engage with:
    - Online markets
    - Government schemes

Support for Allied Activities

- Reduce GST on **processed agricultural products** in dairy, poultry, and fisheries
- Provide incentives for value addition and agro-processing

☞ This will enhance **income diversification**.

Price Support and Market Reforms

- Ensure **fair and remunerative prices** through:
    - Minimum Support Price (MSP) expansion
    - Strengthening market linkages

☞ Helps farmers compensate for rising input costs.

State-Specific Policy Measures for Telangana

- Strengthen schemes like Rythu Bandhu Scheme by increasing financial assistance
- Improve irrigation infrastructure such as Kaleshwaram Lift Irrigation Project
- Focus on drought-resilient agricultural practices

Encouraging Mechanization with Support

- Provide **subsidies or tax relief on agricultural machinery**
- Establish custom hiring centers for small farmers

☞ Makes mechanization affordable despite GST

Strengthening Rural Credit Systems

- Improve access to **low-interest institutional credit**
- Reduce dependency on informal lenders

☞ Helps farmers manage increased input costs.

- Reduce GST on pesticides and machinery
- Allow partial Input Tax Credit for farmers
- Increase subsidies for inputs
- Promote farmer awareness programs
- Strengthen digital agriculture platforms

17. Conclusion

The introduction of the Goods and Services Tax (GST) represents a major reform in India's indirect taxation system, aiming to create a unified and efficient market structure. While agriculture has been largely kept outside the direct ambit of GST to safeguard farmers' interests, this study reveals that the sector is **significantly affected indirectly**, particularly through taxation on inputs and allied activities.

In the context of Telangana, where agriculture is dominated by small and marginal farmers, the impact of GST is more pronounced. The study finds that GST has led to an **increase in the cost of cultivation**, especially due to higher taxes on pesticides, fertilizers, and machinery. Since farmers are not eligible for Input Tax Credit (ITC), these costs become an additional burden, reducing their overall profitability.

At the same time, the increase in output prices has been marginal and insufficient to compensate for rising input costs. This has resulted in a **decline in net income**, creating a cost-price imbalance that adversely affects farmers' economic stability. The impact is particularly severe for small farmers, who have limited financial resilience and are more vulnerable to policy-induced cost increases.

However, GST has also contributed positively by improving supply chain efficiency, reducing tax cascading, and promoting market integration. These benefits are

more visible in agribusiness and the organized sector, while the advantages for individual farmers remain limited and indirect.

Overall, the study concludes that GST has had a **mixed impact on agriculture**, but its effect on farmers in Telangana is largely **cost-driven and challenging**. To ensure that GST supports inclusive agricultural growth, there is a need for targeted policy interventions such as reducing input tax rates, providing indirect tax benefits, strengthening subsidies, and improving farmer awareness.

A balanced and farmer-centric approach is essential to align GST with the broader goals of **sustainable agricultural development and income enhancement**, thereby contributing to long-term rural prosperity.

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