STM JOURNALS

International Journal of
Rural and Regional Development

ISSN: 3048-6378
Volume 4, Issue 1, 2026
January–June
DOI (Journal): 10.37591/IJRRD

https://journals.stmjournals.com/ijrrd

Review IJRRD

An Analytical Study of Government Schemes for Farmers in Gujarat: Impact, Implementation Challenges, and Policy Implications

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Abstract

Gujarat's economy is mostly dependent on agriculture, which increases food security, rural employment, and state revenue. Despite the state's notable progress in irrigation infrastructure and agricultural commercialization, Gujarat farmers continue to face challenges, such as market volatility, water scarcity, unpredictable weather, and rising input costs. The governments of Gujarat and India have implemented several initiatives aimed at addressing these problems, including crop insurance, irrigation expansion, farm mechanization, income support, digital facilitation, and sustainable agricultural development This report critically evaluates the planning, execution, and results of significant government initiatives intended to assist Gujarat farmers. It assesses projects pertaining to risk reduction (crop insurance programs), financial inclusion (direct income assistance and credit facilities), irrigation (micro-irrigation and water conservation programs), and technology adoption (digital platforms and farm mechanization). The study also looks at how well these programs meet the various requirements of small and marginal farmers, who make up most parts of the agricultural sector. Key implementation problems are identified by the study, including farmer ignorance, administrative inefficiencies, benefit payout delays, and regional differences in program access. Additionally, it evaluates how institutional governance and coordination affect these projects' success. The research offers a thorough grasp of the advantages and disadvantages of current policies by examining current literature, government papers, and policy documents. This paper provides policy recommendations to improve the efficacy, inclusiveness, and sustainability of agricultural projects using a descriptive and analytical methodology based on secondary data sources. The results are intended to promote Gujarat's long-term agricultural growth and farmer welfare through better policy formulation and execution tactics.

Keywords: Agricultural policy, farmers welfare, government schemes, Gujarat agriculture, income support programs

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Received Date: March 17, 2026
Accepted Date: March 27, 2026
Published Date: April 05, 2026

Citation: Amitkumar Parsotambhai Thesiya, Dinesh C Dhoniya. An Analytical Study of Government Schemes for Farmers in Gujarat: Impact, Implementation Challenges, and Policy Implications. International Journal of Rural and Regional Development. 2026; 4(1): 38–44p.

INTRODUCTION

Gujarat's economy is still mostly based on agriculture, which also makes a substantial contribution to the creation of jobs, rural lives, and state revenue overall. In addition to a broad range of horticulture crops, the state is one of India's top producers of cotton, groundnuts, cumin, castor, wheat, and bajra. Gujarat has had remarkable agricultural growth over the last 20 years, aided by rural electrification programs, increased road connections, market-oriented regulatory reforms, and irrigation infrastructure expansion. Productivity has been further enhanced by initiatives such as micro-irrigation promotion and feeder separation in the electrical supply. Notwithstanding these

successes, structural inefficiencies and environmental issues that jeopardize long-term sustainability still pose a danger to the agricultural sector.

The Ministry of Agriculture and Farmers Welfare [1]. states that with consistent trends in crop output and productivity, Indian agriculture continues to play a vital role in the country's economy, greatly boosting employment, food security, and rural development. Reserve Bank of India [2]. emphasizes that financial inclusion and access to institutional credit are still crucial for helping farmers, especially small and marginal farmers who frequently struggle to obtain timely and reasonably priced financing.

To guarantee long-term agricultural production, the Food and Agriculture Organization (FAO) [3]. highlights the increasing significance of sustainable agricultural practices, such as soil conservation, effective water management, and environmentally friendly farming techniques. According to NITI Aayog [4]. Crop insurance programs are essential for mitigating risk and shielding farmers from unforeseen events, including crop failure, climate change, and unstable income.

In Gujarat, a sizable share of agricultural households comprises small and marginal farmers. These farmers frequently work on dispersed landholdings and encounter difficulties in terms of market connections, technology adoption, and loan availability. Risks, including heat stress, unseasonal rainfall, and droughts, have become more severe owing to climate change, which has a direct impact on crop output and farmer revenue.

Acknowledging these difficulties, the Gujarat government has integrated central government programs with state-specific initiatives to provide an all-encompassing support system for farmers. This study examines various strategies and assesses their socioeconomic effects.

LITERATURE REVIEW

Support for Income and Agricultural Policy

According to research on agricultural reforms in India, direct income transfers are essential for stabilizing farmer income and lowering financial stress [5]. Particularly during sowing seasons, when money is needed for seeds, fertilizer, and other inputs, regular financial support aids farmers in managing liquidity restrictions. These transfers promote improved agricultural planning, household stability, and decreased reliance on unofficial lending sources. In general, income support programs increase farmers' financial inclusion and economic resilience.

Scheme Accessibility and Awareness

According to Patel and Desai (2021) [6], the degree to which Gujarat farmers use government programs is largely determined by their awareness and knowledge. According to their research, farmers with more education are more likely to profit from subsidy programs because they are better able to comprehend eligibility rules, application processes, and paperwork requirements. By offering direction, technical assistance, and timely information about relevant programs, access to agricultural extension services further increases farmers' involvement. However, due to informational gaps or procedural challenges, farmers with low levels of education and limited access to extension networks are frequently excluded. The results indicate that to guarantee the inclusive and successful implementation of agricultural welfare programs, raising awareness and bolstering advising services are crucial.

Water and Irrigation Efficiency

According to Shah, Mehta, and Kumar (2019) [7], government incentives greatly encourage farmers to use drip and sprinkler irrigation technologies. analysis of the adoption of micro-irrigation systems in Western India. Financial aid makes water-efficient systems more affordable, especially for small and marginal farms, by lowering the initial investment burden. This study emphasizes how subsidy assistance boosts agricultural output and water-use efficiency, in addition to adoption rates. This is especially important in Gujarat, where water scarcity remains a persistent challenge because of erratic rainfall and groundwater depletion. By promoting micro-irrigation through targeted subsidies, the government contributes to sustainable water management and long-term agricultural resilience in the region.

Digital Governance and Agriculture

Digital governance measures have significantly enhanced the transparency and efficiency of agricultural subsidy and welfare benefit delivery [8]. Online platforms and Direct Benefit Transfer systems have simplified application procedures, reduced paperwork, accelerated financial transactions, and minimized corruption by transferring funds directly into farmers' bank accounts. These systems also improve accountability through digital record-keeping and real-time monitoring of the scheme's implementation. However, their full effectiveness in rural areas is constrained by infrastructural limitations, such as poor Internet connectivity, unreliable electricity supply, and limited access to digital devices. Moreover, low digital literacy among small and marginal farmers restricts the independent use of online portals, thereby limiting inclusive participation in digital governance systems.

Agricultural Development and Rural Electrification

Shah (2018) [9] examined rural electrification improvements in Gujarat, particularly the execution of feeder separation under the Jyotigram Initiative. The study found that separating home and agricultural electrical feeds significantly increased the quality and dependability of farmers' power supplies. Consequently, irrigation timing has become more predictable, improving crop planning and decreasing water stress. In addition to reducing reliance on diesel pumps, improved availability of electricity also reduced input prices and increased total agricultural output. In addition to increasing crop yields, these changes have improved the efficiency and stability of the rural agricultural economy.

According to the research, the real impact is determined by implementation efficiency, even when policy formulation is frequently solid.

RESEARCH GAP

Previous research has mostly concentrated on individual programs or certain elements, such as financial support or irrigation. Nevertheless, there is not much thorough research that combines several programs and assesses how they affect Gujarat's small and marginal farmers as a whole. By offering a comprehensive assessment of significant government initiatives, implementation difficulties, and policy consequences, this study aims to close this gap.

OBJECTIVE OF THE STUDY

- To examine major government schemes for farmers in Gujarat.
- To assess their impact on income and agricultural development.
- To identify implementation challenges faced by farmers.
- To suggest measures for improving scheme effectiveness and inclusiveness.

METHODOLOGY

This study adopts a descriptive and analytical research design based on secondary data. Data was collected from government reports, policy documents, journals, and institutional publications. I have observed and mentioned five selected government schemes for farmers in Gujarat.

MAJOR GOVERNMENT SCHEMES FOR FARMERS IN GUJARAT

This study focuses on a small number of significant and well-known agricultural initiatives that Gujarat has implemented to enhance farmer welfare and boost the rural economy. Throughout the state, there are also several other programs pertaining to cooperative assistance, horticultural development, soil health management, crop insurance, farm mechanization, and animal husbandry that are being implemented. However, the current study only focuses on a few important programs with substantial policy importance and quantifiable impact due to scope constraints. More extensive data coverage is necessary for a thorough assessment of all current programs, which may be the subject of future studies.

PM-KISAN, or Pradhan Mantri Kisan Samman Nidhi

Through the Direct Benefit Transfer (DBT) method, Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) provides qualified farmers ₹6,000 annually in three equal installments. The scheme's main

goal is to help farmers pay for home bills and agricultural inputs [10]. The program guarantees transparency, minimizes leaks, and encourages financial inclusion by sending money directly into recipients' bank accounts. The predictability of payments aids farmers in controlling seasonal expenditures, especially when input costs are high during the sowing and harvesting seasons.

Impact on Gujarat

PM-KISAN has decreased farmers' dependency on unofficial borrowing and improved short-term liquidity in the state of Gujarat. Paying on time contributes to the cost of inputs, such as fertilizer and seeds. However, the fixed ₹6,000 yearly subsidy is not a long-term solution to income volatility because it is insufficient to cover growing expenses.

Mukhyamantri Kisan Sahay Yojana

The Mukhyamantri Kisan Sahay Yojana, a Gujarat government effort, offers farmers monetary compensation for agricultural losses caused by unseasonal rains and droughts. Based on the estimated agricultural loss, aid is provided per acre [11]. The program helps stabilize agricultural revenue and lessen the financial hardship caused by climate change by providing timely compensation without insurance premiums.

Impact

By offering financial assistance following agricultural damage and promoting recovery for the next season, the program lessens farmers' susceptibility to climatic hazards. However, its overall efficacy can be constrained by compensation restrictions, evaluation, and distribution delays.

Portal iKhedut 2.0

The Gujarat government created the iKhedut Portal, a digital platform that allows farmers to apply online for various agricultural subsidies and support programs. Farmers can use this portal to register and apply for assistance with horticultural development, seed distribution, irrigation technologies, including sprinkler and drip systems, farm mechanization, and associated agricultural operations. By reducing paperwork and the requirement for in-person visits to government agencies, the platform streamlines the application process. By enabling farmers to monitor the progress of their applications and guaranteeing the immediate transfer of rewards, it also improves efficiency and transparency of the process. Overall, the iKhedut Portal is essential for advancing the digital government and expanding Gujarat's access to agricultural assistance services.

Significance

Through online tracking and direct transfers, the portal increases transparency, expedites benefit distribution, and reduces administrative barriers. However, small and marginal farmers face difficulties owing to inadequate Internet connectivity and low digital literacy.

Initiatives For Sustainable Agriculture and Natural Farming

Gujarat encourages natural farming methods under the direction of NITI Aayog (2022) [10] through initiatives to increase soil health, provide financial incentives, and organize training programs. Farmers are urged to use eco-friendly inputs instead of toxic pesticides and fertilizers. To aid in the shift to sustainable methods, the government has also planned field demonstrations and awareness campaigns. These initiatives seek to increase soil fertility, reduce input prices, and encourage ecologically sustainable agricultural growth in the state.

Advantages

- Decreased the reliance on synthetic fertilizers.
- Increased the fertility of the soil.
- Reduced long-term input costs.

However, because of transition concerns, adoption happens gradually.

Jyotigram Yojana

By segregating home and agricultural feeders, the Jyotigram Yojana guarantees a dependable rural electricity supply. This method maintains a steady supply of water for homes while supplying irrigation with timed, high-quality energy. Consequently, farmers may reduce their reliance on diesel pumps and schedule irrigation more effectively. Additionally, the plan reduces electricity waste and enhances load control. Overall, it has improved Gujarat's rural infrastructure and increased agricultural production.

Result

Reliable power supplies have greatly enhanced irrigation scheduling and agricultural management in water-intensive locations. To ensure that crops are watered on time, farmers can run irrigation pumps during set and predictable hours. This has increased yield levels and reduced agricultural stress caused by erratic water availability. Thus, consistent availability of power has helped these areas become more productive and make better use of their resources.

CRITICAL DISCUSSION

While government schemes have positively contributed to farmer welfare, their effectiveness remains uneven owing to implementation challenges, such as awareness gaps, the digital divide, and delays in benefit distribution. Fixed financial assistance under PM-KISAN is insufficient to address long-term income instability. Similarly, digital initiatives face accessibility issues for rural farmers. Therefore, despite strong policy design, execution efficiency significantly influences the actual outcomes.

FINDINGS

The following findings are drawn from the literature reviews and policy reviews.

Better Liquidity

By offering consistent financial assistance, PM-KISAN and other direct income-transfer programs have improved farmers' short-term financial stability. This support lessens the reliance on high-interest unofficial borrowing sources and helps cover input prices during the planting seasons.

Risk Mitigation

State compensation programs shield farmers from unseasonal rainfall, floods, and drought-related revenue shocks. These programs lessen risk and speed up farmers' recovery from climate disruption by providing prompt financial assistance.

Digital Governance Success

Online platforms have increased the timeliness, accountability, and transparency of subsidy deliveries. However, the availability of infrastructure, technical assistance for remote farmers, and digital literacy all affect their effectiveness.

Gains in Water Management

Irrigation systems and rural electrification reforms have improved water efficiency and guaranteed a steady supply of electricity for farming. Both crop yield and cropping intensity have increased as a result of these actions.

Sustainability Progress

Long-term soil health and environmental balance can be achieved by promoting natural farming and eco-friendly agricultural techniques. These programs promote sustainable agricultural growth and reduce reliance on chemicals.

CHALLENGES

- Small and marginal farmers' little awareness.
- Mismatches between land records and documentation.

- Payment delays for compensation.
- Rural areas' digital divide.
- Insufficient reimbursement in comparison to actual crop losses.
- One major obstacle to information access is still structural inequality.

SUGGESTIONS AND POLICY RECOMMENDATIONS

After reviewing the literature and government policies, the following suggestions and recommendations are made.

Make Extension Services Stronger

Regular village-level awareness campaigns, farmer camps, and hands-on demonstrations should be used to increase the availability of agricultural extension services. Farmers' comprehension and involvement in government programs will increase with improved outreach.

Improve Digital (Online) Inclusion

To help farmers with online applications and registrations, rural digital facilitation centers should be established. Training in digital literacy guarantees transparent and equitable access to program benefits.

Expand Coverage of Climate Risk

To guarantee on-time payouts and reflect actual crop losses, compensation procedures must be updated. The use of contemporary technologies can increase the accuracy of damage assessment.

Encourage the Management of Integrated Water Resources

Micro-irrigation techniques and groundwater conservation should be combined with irrigation support. Sustainable water management will guarantee long-term agricultural production.

Promote Diversification

Farmers should be urged to pursue related activities such as horticulture, dairy, and fishing. Diversification reduces reliance on a single crop and improves economic stability.

CONCLUSION

Gujarat's government programs have been instrumental in bolstering agricultural growth and raising farmers' socioeconomic status throughout the state. The government has established a multifaceted support system for the agricultural sector through a combination of income support programs, crop loss compensation systems, irrigation improvements, rural electrification efforts, and digital governance. While compensation plans have offered financial protection against crop failures caused by droughts, irregular rainfall, and other climate concerns, direct income transfers have improved short-term liquidity and decreased reliance on unofficial lending sources. Increased agricultural intensity and higher yields have been facilitated by expanded irrigation and a steady supply of energy. Digital platforms have also reduced bureaucratic delays, improved transparency, and expedited the distribution of benefits and subsidies.

Despite these successes, farmer knowledge, competent administrative execution, and fair resource access are critical to the overall efficacy of these programs. Lack of information, digital illiteracy, problems with paperwork, and delays in subsidy payments are common obstacles faced by small and marginal farmers. The most disadvantaged members of the agricultural community cannot fully benefit from the intended advantages if there are insufficient outreach and monitoring systems in place.

Going forward, Gujarat's agricultural policy must prioritize climate resilience by encouraging crop diversification techniques, effective water management, and sustainable farming methods. To guarantee equitable involvement in online governance systems, more focus should be placed on digital empowerment through training initiatives and rural digital infrastructure. To further increase the impact of policies, fair benefit distribution, prompt compensation payments, and improved coordination between federal and state programs are necessary measures. Gujarat can guarantee sustained

agricultural growth, better rural lives, and long-term economic stability in the agricultural sector by adopting a comprehensive and farmer-centric strategy.

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