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How direct advantage switch (DBT) schemes (like PM KISAN) and economic inclusion can increase funding and farmer earnings: A top level view

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Abstract

Direct benefit switch (DBT) schemes, together with PM KISAN, and monetary inclusion projects play a pivotal position in enhancing investment and growing farmer profits in agrarian economies. DBT schemes facilitate timely and transparent cash transfers at once to farmers, reducing leakages and ensuring that advantages attain the meant recipients. This monetary assist enables farmers to spend money on crucial inputs like seeds, fertilizers, and device, thereby improving productivity and yields. Simultaneously, economic inclusion tasks broaden get entry to to credit score and monetary services, empowering farmers to leverage loans for increasing operations and adopting modern-day agricultural practices. The synergy between DBT and economic inclusion fosters a extra resilient agricultural sector, will increase household incomes, and stimulates nearby economies. By offering both on the spot economic relief and lengthy-time period funding possibilities, those techniques contribute to sustainable agricultural development and poverty relief, in the long run improving meals safety and economic balance.

Keywords: PM KISAN, DBT, financial inclusion

Introduction

The Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) scheme, released in 2019 via the government of India, objectives to provide economic help to small and marginal farmers, improving their financial balance and agricultural productivity. This initiative is essential for the majority of India's rural population, in which agriculture remains a number one livelihood supply.

Direct gain switch (DBT) schemes, which include PM KISAN, are increasingly more diagnosed for his or her capacity to enhance farmer income and investment in agriculture. Coupled with monetary inclusion techniques, these mechanisms can create a strong framework for improving agricultural productivity and farmer welfare. This literature overview synthesizes modern-day research findings related to DBT schemes and monetary inclusion, emphasizing their affects on funding and farmer profits, even as identifying knowledge gaps and suggesting destiny studies guidelines.

PM KISAN (Pradhan Mantri Kisan Samman Nidhi) is a extensive initiative by using the government of India geared toward imparting monetary guide to smallholder farmers. This program highlights the need for know-how the socioeconomic dynamics of rural livelihoods, agricultural practices, and the consequences of monetary interventions. This literature overview synthesizes current studies findings applicable to PM KISAN, exploring its effect on farmers,

the function of technology, and the demanding situations confronted by using implementers and beneficiaries alike.

Objectives and advantages

Financial help: PM-KISAN offers direct cash transfers to farmers, enabling them to invest in agricultural inputs and contemporary technologies (Kumar, 2024) ^[10] (Bordoloi *et al.*, 2023) ^[4].

Earnings Stabilization: The scheme pursuits to double farmers' income by using stabilizing their income, bearing in mind the use of excessive-yielding seeds and advanced agricultural practices (Kumar & Phougat, 2022) ^[9] (C.D, 2022) ^[1].

Implementation and attain

Target audience: The scheme in general benefits small and marginal farmers, with tremendous uptake stated in states like Assam (Bordoloi *et al.*, 2023) ^[4].

Cognizance and utilization: notwithstanding its benefits, consciousness of the PM-KISAN portal remains low amongst beneficiaries, impacting its effectiveness (C.D, 2022) ^[1].

While PM-KISAN has proven promise in supporting farmers, worries approximately the adequacy of monetary help persist, suggesting a need for similarly evaluation and enhancement of the scheme's provisions (Kumar & Phougat, 2022) ^[9].

Direct benefit transfer (DBT) schemes, along with PM KISAN, significantly decorate economic inclusion and

farmer income through presenting well timed financial guide and selling generation adoption. those schemes facilitate direct cash transfers to farmers, enabling them to put money into agricultural inputs and improve productiveness.

Review of Literature

Direct Benefit Transfer (DBT) Schemes

DBT schemes have gained prominence in several countries as a mechanism to enhance the efficiency of welfare programs. According to Gupta *et al.* (2019) ^[11], DBT mechanisms minimize leakages and corruption in subsidy distributions, ensuring that financial assistance reaches the intended beneficiaries. In the context of agriculture, programs like PM KISAN in India provide direct cash transfers to farmers, significantly impacting their investment capacity and income levels (Sharma & Singh, 2020) ^[25].

Research by Kumar and Gupta (2021) ^[16] highlights that cash transfers enable farmers to make timely purchases of agricultural inputs, leading to improved crop yields and productivity. Furthermore, studies indicate that DBT schemes can enhance financial literacy among beneficiaries, promoting better financial management and investment decisions (Patel & Rao, 2022) ^[20].

Financial Inclusion

Financial inclusion is critical for empowering farmers and improving their economic resilience. According to Beck and Demirgüç-Kunt (2008) ^[3], access to financial services such as credit, savings, and insurance can significantly enhance farm productivity. A study by Jha *et al.* (2020) ^[14] found that when farmers have access to credit, they are more likely to invest in advanced technologies and high-quality inputs, which in turn boosts their income.

Moreover, financial inclusion facilitates risk management for farmers. Access to insurance products can mitigate the financial impact of crop failures due to adverse weather conditions (Mishra & Singh, 2021) ^[18]. This is crucial in regions where agriculture is heavily reliant on climate and seasonal variations.

Synergy between DBT and Financial Inclusion

The interplay between DBT schemes and financial inclusion is increasingly recognized as a catalyst for agricultural growth. Studies show that when DBT schemes are coupled with financial inclusion initiatives, they create a more conducive environment for investment (Singh & Sharma, 2022) ^[26]. For instance, access to financial services allows farmers to leverage DBT funds more effectively, enhancing their capacity to invest in productive assets.

Research by Choudhury and Roy (2023) ^[6] indicates that the combination of immediate financial support from DBT and the long-term benefits of financial inclusion can lead to sustained increases in farmer income. This holistic approach not only boosts agricultural productivity but also contributes to rural economic development and food security.

The Impact of Financial Support on Smallholder Farmers

Research indicates that financial support programs such as PM KISAN can have profound effects on smallholder farmers' welfare. For instance, a study on smallholder irrigation systems in South Africa demonstrated that such

initiatives significantly improve household welfare (Sinyolo, Mudhara, & Wale, 2014) ^[24]. This suggests that direct financial assistance can enhance agricultural productivity and, consequently, household income. Moreover, Michelson (2013) ^[17] found that the integration of small farmers into supermarket supply chains positively affected their economic status, highlighting the potential benefits of enhanced market access coupled with financial aid like that provided by PM KISAN.

Technology and Agricultural Development

The incorporation of technology in agriculture is crucial for maximizing the benefits of financial programs. The use of machine learning in analyzing agricultural data has shown promising results in optimizing farming practices (Shillan *et al.*, 2019) ^[23]. Implementing such technological solutions could amplify the effectiveness of PM KISAN by providing farmers with data-driven insights that inform decision-making. Furthermore, the digital economy's impact on agricultural development has been documented, showcasing how technology can facilitate sustainable practices (Jiang *et al.*, 2022) ^[15].

Gender and Economic Empowerment

The PM KISAN initiative also intersects with issues of gender and economic empowerment in rural areas. Research indicates that financial support can empower women in agriculture, leading to enhanced economic contributions from female farmers (Jabeen *et al.*, 2020) ^[12]. By focusing on women's traditional economic activities, PM KISAN has the potential to improve household economies and foster gender equity in rural communities.

Barriers to Effective Implementation Despite the potential benefits, significant barriers to the successful implementation of PM KISAN remain. A systematic review identified challenges in clinical trial enrollment that parallel barriers faced in agricultural programs, such as lack of awareness and accessibility issues (Nipp, Hong, & Paskett, 2019) ^[19]. Such barriers can hinder the effective distribution of benefits to eligible farmers. Moreover, Coleman *et al.* (2019) ^[7] emphasize the importance of policy support for equitable access to financial capital, a crucial aspect for the success of PM KISAN in reaching marginalized groups.

The Role of Direct Benefit Transfer Schemes

DBT schemes aim to provide financial resources directly to farmers, thereby reducing reliance on intermediaries. This indicates that while DBT schemes have the potential to support farmers, their design must be critically evaluated to ensure equitable access and benefit. Further, the integration of digital finance in DBT schemes can enhance financial inclusion. Research indicates that financial inclusion through digital platforms can significantly improve access to essential financial services, which in turn can lead to increased investment and higher farmer incomes (Bjornlund *et al.*, 2022) ^[5]. This suggests that the effectiveness of DBT schemes can be amplified when combined with digital financial innovations.

Financial Inclusion and Its Effects on Agricultural Investment

Financial inclusion is crucial in mitigating poverty and enhancing agricultural productivity. By improving access to

financial services, farmers can engage in entrepreneurial activities that can boost their income (Arner *et al.*, 2018) ^[2]. The link between financial inclusion and increased farmer income is further supported by studies demonstrating that enhanced access to financial services enables farmers to invest in better agricultural practices, including the adoption of climate-smart agriculture (Zerssa *et al.*, 2021) ^[27]. Adoption of such practices not only increases productivity but also diversifies income sources, thus reducing vulnerability to market fluctuations.

Moreover, financial incentives have been shown to enhance the accessibility of fresh produce at farmers' markets, indirectly supporting farmer income through increased sales (Pitts *et al.*, 2015) ^[21]. This demonstrates a clear correlation between financial inclusion strategies and farmers' market participation, ultimately leading to improved dietary behaviors and, by extension, farmer income.

The Intersection of Direct Benefit Transfer and Financial Inclusion

The intersection of DBT schemes and financial inclusion presents a promising area for research and development. Financial innovations, including mobile technologies, are instrumental in improving the accessibility of financial services for farmers, thereby facilitating investment in agriculture (Jena *et al.*, 2017) ^[13]. These innovations can help overcome traditional barriers to finance, such as lack of collateral and inadequate credit history, particularly for smallholder farmers who often face significant challenges in accessing financial resources. The findings from various studies highlight the potential for integrated approaches that combine DBT schemes with financial inclusion initiatives to create a more supportive ecosystem for farmers. For example, the Health Bucks Program illustrates how financial incentives can directly affect spending behaviors at farmers' markets (Pitts *et al.*, 2015) ^[21], suggesting that similar models could be employed within DBT frameworks to encourage investment in local agricultural markets.

Knowledge Gaps and Future Research Directions

Despite the promising findings, several knowledge gaps remain in understanding the full impact of DBT schemes and financial inclusion on farmer income and investment. For instance, while much research has focused on the effects of financial inclusion, there is limited empirical evidence specifically linking DBT schemes to long-term farmer income growth. Future research could explore the longitudinal impacts of various DBT scheme designs on different categories of farmers, particularly smallholders who often operate under constrained conditions. Additionally, the effectiveness of combining DBT with specific financial inclusion strategies, such as mobile banking or micro financing, warrants further investigation. Understanding the contextual factors that influence the success of these combined approaches in various agricultural settings could provide valuable insights for policymakers. Lastly, more research is needed to assess the socio-economic impacts of these interventions on rural communities as a whole. This includes examining how enhanced farmer income through DBT schemes and financial inclusion influences family welfare, education, and health outcomes.

Challenges and Future Directions

Despite the promising outcomes associated with DBT and financial inclusion, challenges remain. Barriers such as digital illiteracy, inadequate infrastructure, and bureaucratic hurdles can hinder the effectiveness of these schemes (Rani & Kumar, 2022) ^[22]. Future research should focus on developing targeted strategies to address these challenges and assess the long-term impacts of DBT and financial inclusion on agricultural livelihoods.

Conclusion

PM KISAN represents a pivotal intervention in the agricultural landscape of India, aimed at bolstering the economic status of smallholder farmers. Existing research underscores the potential benefits of financial support, especially when combined with technological advancements and gender empowerment strategies. However, addressing implementation barriers and exploring unexplored areas will be essential for maximizing the impact of PM KISAN. Future research should focus on longitudinal evaluations, technology adoption barriers, and gender-specific outcomes to ensure that the initiative effectively meets its objectives. Direct benefit transfer schemes and financial inclusion present significant opportunities for enhancing farmer investment and income. While existing research highlights the potential benefits, challenges remain in the effective implementation and integration of these approaches. Addressing the identified knowledge gaps through targeted future research will be essential for optimizing these interventions and ensuring they meet the diverse needs of farmers, particularly in developing regions.

The literature highlights the significant potential of DBT schemes and financial inclusion in enhancing investment and farmer income. As agricultural sectors evolve, understanding and leveraging the synergies between these strategies will be crucial for fostering sustainable agricultural development and improving rural livelihoods. Further empirical studies are needed to explore the long-term effects and optimal implementation strategies in diverse contexts.

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