



STRATEGIC RECALIBRATION OF INDIAN AGRICULTURE: PMDDKY, PULSES SELF-RELIANCE, AND THE AATMANIRBHAR KRISHI FRAMEWORK

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Abstract

Indian agriculture is at a critical policy juncture, requiring a shift from cereal-centric productivity enhancement toward self-reliance, nutritional security, and decentralized governance. Persistent regional disparities, import dependence in pulses, ecological stress, and uneven farmer incomes constitute the core challenges confronting the sector. In this context, the Pradhan Mantri Dhan Dhaanya Krishi Yojana and the Mission for Aatmanirbharta in Pulses, launched in October 2025, represent a strategic recalibration of India's agricultural policy framework. The primary objective of this paper is to examine the policy rationale, design architecture, and implementation mechanisms of these two flagship initiatives and assess their potential contribution to agricultural self-reliance. The study adopts a qualitative policy analysis methodology based on secondary sources, including official programme documents, budgetary provisions, and implementation frameworks. The analysis finds that the Pradhan Mantri Dhan Dhaanya Krishi Yojana addresses systemic constraints through decentralized district-level planning, convergence of existing schemes, promotion of sustainable agricultural practices, and strengthening of local infrastructure. The Mission for Aatmanirbharta in Pulses directly targets import dependence and protein insecurity by incentivizing domestic production through assured price support, indigenous seed systems, and expanded post-harvest and processing capacity. The paper concludes that the integrated implementation of these initiatives offers a coherent pathway toward agricultural self-reliance. However, their effectiveness depends on institutional capacity at the district level, transparent market management, and alignment between sustainability goals and productivity targets. Strengthening these aspects has significant policy implications for enhancing farmer incomes, nutritional security, and long-term agricultural resilience.

Keywords: Aatmanirbhar Krishi, PMDDKY, Pulses Mission, Decentralized Governance, Protein Security

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1. Introduction

Indian agriculture has undergone multiple phases of policy evolution since Independence, each responding to prevailing economic and food security challenges. The Green Revolution remains a defining milestone, having transformed India from a food-deficit nation into a cereal-surplus economy. Foodgrain production increased from about 82 million tonnes in 1960–61 to over 357 million tonnes by 2023–24, largely driven by productivity gains in rice and wheat (Government of India, 2024). While this achievement ensured national food security, the cereal-centric and input-intensive growth model has also resulted in regional concentration of benefits, environmental stress, declining factor productivity, and limited diversification.

Despite surplus cereal production and rising agricultural exports, structural vulnerabilities persist in nutrition-sensitive crops, particularly pulses. Pulses contribute nearly one-fourth of dietary protein intake in India, yet per capita availability remains below recommended nutritional norms (Indian Council of Medical Research, 2020). Although India is the world's largest producer and consumer of pulses, domestic production has not kept pace with demand. Pulse imports exceeded 4.7 million tonnes in 2023–24, reflecting continued dependence on global markets and exposure to price volatility (Ministry of Agriculture and Farmers' Welfare, 2024). This import dependence has recurrent macroeconomic and inflationary implications, especially during global supply disruptions. Concurrently, Indian agriculture faces emerging challenges of climate variability,

soil degradation, fragmented landholdings, and uneven access to infrastructure, technology, and markets. These constraints have highlighted the limitations of uniform subsidy-driven interventions and underscored the need for decentralized, outcome-oriented policy frameworks.

Recent policy discourse increasingly emphasizes income security, sustainability, nutritional outcomes, and governance efficiency as central objectives of agricultural development (Chand et al., 2021). Against this backdrop, the launch of the Pradhan Mantri Dhan Dhaanya Krishi Yojana and the Mission for Aatmanirbharta in Pulses in October 2025 represents a strategic recalibration of Indian agricultural policy. Together, these mission-mode initiatives signify a shift toward agricultural self-reliance by integrating district-level convergence, sustainable production systems, and targeted commodity interventions. This paper examines how these initiatives collectively operationalize the Aatmanirbhar Krishi framework and evaluates their potential to address long-standing structural and nutritional challenges in Indian agriculture.

2. Literature Review

The evolution of Indian agricultural policy has been widely examined in the context of food security, productivity growth, and structural transformation. Early literature largely attributes India's escape from chronic food shortages to the Green Revolution, which significantly increased cereal yields through the adoption of high-yielding varieties, irrigation expansion, and input intensification (Reddy, 2018). While this phase ensured national food security, subsequent studies

highlight its uneven regional impact, ecological externalities, and limited contribution to diversification and income growth, particularly in rainfed and marginal regions (Shiva, 2016).

More recent scholarship has shifted focus toward diversification, sustainability, and farmer welfare. Chand et al. (2021) argue that future agricultural growth in India must come from improvements in total factor productivity, diversification toward high-value crops, and better integration of farmers with markets and value chains. Studies further emphasize that uniform, subsidy-driven policies have diminishing returns and often fail to address region-specific constraints related to soil quality, climate risk, and infrastructure gaps (Gulati & Saini, 2022).

Pulses have received increasing attention in the literature due to their dual role in nutritional security and sustainable farming systems. Pulses are recognized as a critical source of plant-based protein and micronutrients, while also contributing to soil fertility through biological nitrogen fixation (Narayanan & Gulati, 2020). Despite India being the world's largest producer and consumer of pulses, several studies document persistent production volatility, low productivity, and weak price incentives as key reasons for continued import dependence (Birthal et al., 2019). Price instability and the absence of assured procurement mechanisms have historically discouraged farmers from expanding pulse cultivation, particularly in comparison to cereals supported by strong minimum support price regimes.

The role of institutional mechanisms and governance reforms has gained prominence in recent policy-oriented research. Mission-mode

approaches, such as the Aspirational District Programme, are found to improve outcomes when supported by convergence of schemes, real-time monitoring, and administrative accountability (NITI Aayog, 2022). However, scholars caution that convergence alone is insufficient without adequate local capacity, reliable data systems, and outcome-oriented performance metrics (Chand & Parappurathu, 2023).

Emerging literature on Aatmanirbhar Krishi frames agricultural self-reliance not merely as import substitution but as a broader strategy encompassing resilience, nutritional sovereignty, and farmer income security. This perspective emphasizes decentralized planning, indigenous technology development, and strengthening of local value chains (Government of India, 2023). Yet, empirical and policy analyses highlight gaps in integrating sustainability objectives with productivity targets, particularly in balancing low-input ecological practices with the demand for higher yields.

Overall, the literature suggests that achieving agricultural self-reliance in India requires a coordinated approach that combines governance reform with commodity-specific interventions. However, there remains limited scholarly examination of how large-scale, concurrent mission-mode initiatives interact to address systemic and commodity-level constraints simultaneously. This paper seeks to bridge this gap by examining the combined policy logic and implementation architecture of the Pradhan Mantri Dhan Dhaanya Krishi Yojana and the Mission for Aatmanirbharta in Pulses within the evolving framework of Aatmanirbhar Krishi.

3. Methodology, Objectives and Hypotheses

3.1 Objective of the Study

The primary objective of this study is to critically examine the strategic design, governance architecture, and policy coherence of the Pradhan Mantri Dhan Dhaanya Krishi Yojana and the Mission for Aatmanirbharta in Pulses, and to assess their combined potential to advance agricultural self-reliance, nutritional security, and systemic resilience within the Aatmanirbhar Krishi framework in India.

3.2 Methodological Framework

The study employs a qualitative policy analysis approach, appropriate for evaluating large-scale national initiatives at an early stage of implementation. The analysis is based entirely on secondary sources, including official policy guidelines, budget documents, programme frameworks, and reports published by the Government of India and allied institutions. Peer-reviewed literature on agricultural policy, pulses economics, governance reforms, and mission mode development is reviewed to provide analytical context.

An analytical descriptive method is used to examine the institutional design, financial commitments, and operational mechanisms of the two initiatives. Comparative interpretation is applied to assess how governance-led process reforms under the Pradhan Mantri Dhan Dhaanya Krishi Yojana interact with the commodity-specific interventions of the Pulses Mission. The analysis further adopts a policy synthesis perspective, linking decentralization, convergence, and assured price mechanisms with anticipated

outcomes related to productivity, income stability, sustainability, and import substitution. Given the policy commentary nature of the paper, no primary survey or econometric estimation is undertaken. Instead, emphasis is placed on the internal coherence of policy instruments, feasibility of implementation, and alignment with broader national development objectives.

3.3 Hypothesis

The study is guided by the following hypothesis:

H1: An integrated mission-mode policy framework that combines decentralized governance reforms with targeted commodity-specific interventions is more effective in promoting agricultural self-reliance and nutritional security than isolated or uniform agricultural policy measures.

4. Results and Discussion

4.1 Strategic Recalibration under Aatmanirbhar Krishi

The combined launch of the Pradhan Mantri Dhan Dhaanya Krishi Yojana and the Mission for Aatmanirbharta in Pulses marks a clear transition in Indian agricultural policy from output-centric and scheme-fragmented interventions toward systemic, mission-mode transformation. The analysis indicates that the two initiatives operate at different but complementary policy levels. While the Pradhan Mantri Dhan Dhaanya Krishi Yojana emphasizes governance reform, convergence, and sustainability, the Pulses Mission addresses a specific commodity deficit through targeted economic incentives. Table 1 highlights the contrasting yet complementary policy orientation of the two missions.

Table 1: Comparative Policy Orientation of PMDDKY and the Pulses Mission

Dimension	PMDDKY	Mission for Aatmanirbharta in Pulses
Policy focus	Systemic and governance reform	Commodity-specific intervention
Core strategy	Convergence of schemes, decentralization	Import substitution and price assurance
Coverage	100 identified districts	Nationwide (pulse-growing regions)
Key instruments	District planning, sustainability, infrastructure	MSP assurance, seed security, procurement
Primary outcome	Efficiency, resilience, diversification	Protein security, market stabilization

Source: Compiled from programme guidelines and policy documents

The findings suggest that this dual approach reflects a strategic recalibration toward Aatmanirbhar Krishi, where self-reliance is pursued not only through production expansion but also through institutional efficiency, sustainability, and nutritional outcomes.

4.2 PMDDKY: Decentralized and Sustainable Transformation

The Pradhan Mantri Dhan Dhaanya Krishi Yojana institutionalizes the aspirational district model

within agriculture by targeting 100 low-performing districts characterized by low productivity, weak infrastructure, and limited market access. The scheme's emphasis on District Agriculture and Allied Activities Plans enables localized prioritization of interventions related to irrigation, mechanization, soil health, and post-harvest infrastructure. Table 2 summarizes the key operational pillars of PMDDKY and their expected outcomes.

Table 2: Operational Pillars of PMDDKY and Expected Outcomes

Pillar	Key Interventions	Expected Outcomes
Governance convergence	Integration of 36 schemes across 11 ministries	Reduced duplication and improved delivery efficiency
Sustainable inputs	Natural farming, integrated nutrient management	Improved soil health and reduced input dependency
Technology adoption	Digital advisories, precision tools	Better resource use and decision-making
Infrastructure development	Storage, aggregation, local processing	Reduced post-harvest losses and better price realization

Source: Authors' synthesis based on PMDDKY framework.

The analysis indicates that PMDDKY's effectiveness depends critically on district-level technical capacity and coordination. While the convergence approach enhances efficiency, administrative complexity poses implementation risks. The findings further suggest that conventional performance indicators may inadequately capture farmer welfare outcomes, underscoring the need for metrics such as net farm income per hectare to assess genuine empowerment.

4.3 Pulses Mission: Protein Security and Import Substitution

The Mission for Aatmanirbharta in Pulses directly addresses India's structural dependence on pulse imports despite its status as the world's largest producer and consumer. The mission's production target of 350 lakh tonnes by 2030–31 represents a substantial expansion over recent output levels.

Table 3: Pulses Sector Targets under the Mission for Aatmanirbharta in Pulses

Indicator	Current Level	Target by 2030–31
Production (lakh tonnes)	~242	350
Area (lakh hectares)	~275	310
Average productivity (kg/ha)	~880	1,130

Source: Ministry of Agriculture and Farmers' Welfare.

A defining feature of the mission is the 100 percent procurement assurance at Minimum Support Price for Tur, Urad, and Masoor, implemented through National Agricultural Cooperative Marketing Federation of India and National Cooperative Consumers' Federation of India. This mechanism directly mitigates price risk for farmers and incentivizes crop diversification. However, the analysis highlights

concerns regarding fiscal sustainability and buffer stock management, particularly if production targets are fully realized. Transparent stock release and utilization strategies emerge as critical policy requirements to avoid market distortions.

4.4 Synergies and Interplay between PMDDKY and the Pulses Mission

The results indicate strong operational and strategic synergies between the two initiatives. PMDDKY's investments in local storage, aggregation, and processing infrastructure provide the physical backbone required for the effective implementation of large-scale pulse procurement and value addition. Simultaneously, the Pulses Mission provides tangible output incentives that strengthen PMDDKY's diversification and income-enhancement objectives.

Table 4: Complementarity between PMDDKY and the Pulses Mission

PMDDKY Contribution	Pulses Mission Benefit
Local storage and infrastructure	Efficient procurement and stock management
Crop diversification mandate	Area expansion under pulses
Digital monitoring systems	Tracking procurement and productivity outcomes
Institutional convergence	Reduced transaction costs for farmers

Source: Authors' analysis

Together, these findings support the hypothesis that integrated mission-mode interventions combining governance reform with commodity-specific incentives are more effective than isolated policy measures. The Aatmanirbhar

Krishi framework thus emerges as a coherent architecture linking administrative efficiency, nutritional security, and economic resilience.

5. Conclusion and Policy Implications

5.1 Conclusion

This paper examined the strategic recalibration of Indian agriculture through the lens of the Pradhan Mantri Dhan Dhaanya Krishi Yojana and the Mission for Aatmanirbharta in Pulses, situating these initiatives within the broader Aatmanirbhar Krishi framework. The analysis demonstrates that these two flagship missions collectively represent a decisive departure from conventional, cereal-centric and subsidy-driven policy approaches toward a more integrated, mission-mode strategy that simultaneously addresses governance inefficiencies, nutritional deficits, and market vulnerabilities.

The findings indicate that the Pradhan Mantri Dhan Dhaanya Krishi Yojana functions primarily as a systemic reform instrument, emphasizing decentralized planning, convergence of schemes, sustainable production practices, and localized infrastructure development. By targeting low-performing districts, the scheme seeks to correct long-standing regional disparities and improve the efficiency of public investment in agriculture. In parallel, the Mission for Aatmanirbharta in Pulses addresses a critical commodity-specific challenge by combining assured price support, indigenous seed systems, and post-harvest capacity expansion to reduce import dependence and strengthen national protein security.

The concurrent implementation of these initiatives underscores an important policy insight:

agricultural self-reliance cannot be achieved solely through production enhancement or market intervention in isolation. Rather, it requires the alignment of governance reform with targeted economic incentives. The Aatmanirbhar Krishi framework thus emerges as a multi-dimensional strategy that integrates administrative efficiency, farmer income security, nutritional outcomes, and long-term sustainability. However, the realization of these objectives is contingent upon effective implementation, institutional capacity at the district level, and transparent market management mechanisms.

5.2 Policy Implications

The analysis yields several important policy implications for strengthening the effectiveness and sustainability of the Aatmanirbhar Krishi framework:

First, capacity building at the district level must be prioritized. The success of decentralized planning and scheme convergence under the Pradhan Mantri Dhan Dhaanya Krishi Yojana depends critically on the technical, administrative, and data management capabilities of district institutions. Targeted investments in human resources, training of extension personnel, and decision-support systems are essential to translate policy design into field-level outcomes.

Second, performance measurement frameworks require refinement. Reliance on input-based or scheme-wise indicators may obscure actual welfare gains. Farmer-centric metrics, such as net farm income per hectare, diversification indices, and reduction in post-harvest losses, should be integrated into monitoring systems to more

accurately capture progress toward self-reliance. Third, market stabilization mechanisms under the Pulses Mission must be transparently defined. While assured procurement at minimum support prices is critical for incentivizing pulse cultivation, clear guidelines on buffer stock management, stock rotation, and market release are necessary to prevent fiscal stress and unintended price distortions. Predictable and transparent rules will enhance farmer confidence while safeguarding market stability.

Fourth, balancing sustainability and productivity objectives requires careful calibration. The promotion of natural and low-input farming practices under the Pradhan Mantri Dhan Dhaanya Krishi Yojana must be harmonized with the productivity targets of the Pulses Mission. Policy coordination at the district level should emphasize the adoption of high-yielding, climate-resilient, and resource-efficient crop varieties to ensure that ecological goals do not compromise output requirements.

Finally, strengthening farmer institutions and local value chains is crucial for long-term self-reliance. Farmer Producer Organizations, cooperatives, and primary agricultural credit institutions can serve as effective last-mile platforms for seed distribution, extension services, aggregation, and market access. Their integration into the implementation architecture of both missions can enhance local ownership, reduce transaction costs, and improve price realization for farmers.

In conclusion, the Pradhan Mantri Dhan Dhaanya Krishi Yojana and the Mission for Aatmanirbharta in Pulses together constitute a coherent and

forward-looking policy framework for Indian agriculture. If supported by robust institutional capacity, transparent market governance, and adaptive implementation, these initiatives have the potential to advance agricultural self-reliance in a manner that is economically viable, nutritionally secure, and environmentally sustainable.

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Conflict of Interest Statement

The authors declare that they have no known financial, professional, or personal conflict of interest that could have influenced the work reported in this paper.

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