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Transforming Agricultural Policy in India: From Subsidy Dependence to Smart Governance

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Abstract

Agriculture remains a key pillar of India's economy, supporting a majority of the population and ensuring food security and rural livelihoods. For many decades, agricultural policies were dominated by subsidy-based interventions intended to enhance input affordability and production. However, these subsidies gradually led to inefficiencies, fiscal strain, leakages, and environmental challenges. In recent years, India has begun transitioning towards a smart governance model that prioritizes digitalization, direct income support, and data-driven policymaking to improve efficiency and transparency.

This paper examines the shift from traditional subsidy frameworks to smart governance mechanisms in Indian agriculture. The scope includes an analysis of key reforms such as PM-KISAN, Telangana's Rythu Bharosa, and the Digital Agriculture Mission. The objectives are to analyze the economic rationale for reducing subsidy dependence, assess administrative innovations supporting smart governance, and evaluate their impact on farmers' welfare and sustainability. The study uses a qualitative methodology based on secondary data from policy documents, government reports, and research literature.

Findings indicate that Direct Benefit Transfers (DBT), digital land record systems, e-governance platforms, and integrated data tools have enhanced transparency, accountability, and fiscal efficiency. The paper recommends shifting subsidies to long-term investments, improving digital literacy, and ensuring inclusive farmer-centric governance to achieve sustainable agricultural transformation in India.

Keywords: *Agricultural Policy; Smart Governance; Subsidy Reform; Direct Benefit Transfer; Digital Agriculture; Farmers' Welfare; Public Administration; India*

1. Introduction

The narrative of Indian agriculture is one of paradoxical success. Over the past seven decades, the nation has transformed from a "ship-to-mouth" existence to becoming a net exporter of food grains. However, the policy instruments that engineered this success primarily price supports and heavy input subsidies are now yielding diminishing returns, trapping the sector in a low-equilibrium cycle of ecological degradation and stagnant incomes. Despite employing nearly 45% of the workforce, the sector's contribution to Gross Domestic Product (GDP) hovers around 18% (Ministry of Statistics and Programme Implementation [MoSPI], 2023), a statistic that underscores a profound productivity crisis.

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Historically, the Indian state functioned as a benevolent provider of cheap inputs. By suppressing the costs of electricity, water, and fertilizers, policymakers hoped to insulate farmers from market volatility. While this "input-subsidy" regime secured food self-sufficiency, it fostered severe long-term externalities. The indiscriminate use of subsidized urea has skewed soil nutrient ratios, while free electricity has incentivized the over-extraction of groundwater, pushing states like Punjab and Telangana toward desertification (Gulati & Narayanan, 2003). Administratively, this system was equally flawed; the machinery for delivering these subsidies became porous, riddled with leakages, and often failed to reach the marginalized cultivators it was intended to protect (Ministry of Finance, 2018).

We are now witnessing a decisive rupture in this trajectory. The emerging paradigm of "Smart Governance" seeks to replace distortive price interventions with neutral income support and digital empowerment. By leveraging the JAM trinity (Jan Dhan-Aadhaar-Mobile), the state is attempting to decouple support from production decisions, thereby allowing market signals to guide cropping patterns. Initiatives such as Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) and the Digital Agriculture Mission are not merely new schemes but represent a fundamental reimagining of the state-farmer relationship (Subramanian, 2019).

This paper critically examines this pivot. It moves beyond a simple description of schemes to analyze the friction between the legacy subsidy ecosystem and the new digital public infrastructure. The objective is to assess whether this shift toward smart governance truly empowers the agrarian community or merely digitizes existing inequalities.

2. Literature Review

The academic debate surrounding Indian agricultural policy is polarized, often splitting between proponents of welfare subsidies and advocates for structural investment.

2.1 The Economics of the Subsidy Trap

Foundational work by Gulati and Narayanan (2003) characterizes the Indian agricultural support system as politically convenient but economically disastrous. They argue that the "subsidy syndrome" has crowded out public investment in research and irrigation. Their analysis suggests that input subsidies differ from public goods because they are often regressive; for instance, power subsidies disproportionately benefit large landowners who own deep-bore wells, leaving rainfed farmers with little support. The Economic Survey 2017-18 reinforced this view, explicitly stating that the subsidy regime encourages the cultivation of water-guzzling crops in water-scarce regions, creating a "resource curse" (Ministry of Finance, 2018).

2.2 The Case for Direct Income Support

As the inefficiencies of price supports became undeniable, the literature began to favor Direct Benefit Transfer (DBT). Subramanian (2019) champions quasi-universal basic income (QUBI) for farmers, arguing that schemes like Rythu Bandhu (now Rythu Bharosa) are administratively superior because they bypass the leaky supply chains of fertilizers and seeds. The argument here is one of agency: cash transfers empower farmers to decide their own input mix, theoretically leading to more rational resource use.

However, this enthusiasm is tempered by critical voices. Ramakumar (2020) cautions that cash transfers are a palliative, not a cure. His analysis of the Telangana model suggests that while DBT provides immediate liquidity, it cannot substitute for the state's role in building physical infrastructure. He warns that "smart governance" could become a pretext for the state to withdraw from its responsibility of capital formation, leaving farmers to navigate volatile markets with only a small cash transfer as a buffer.

2.3 The Digital Turn in Governance

Recent scholarship has focused on the "datafication" of agriculture. The NITI Aayog (2021) strategy paper envisages an "AgriStack" a unified database where every farmer has a unique digital ID linked to their land and credit history. De and Singh (2022) provide empirical evidence suggesting that digitized land records are a

prerequisite for formal credit access. Their work highlights that in the absence of clear digital titles, "smart" schemes remain inaccessible to those with informal land rights, thereby replicating offline exclusions in the online world.

3. Methodology

This paper adopts a qualitative, analytical approach to evaluate policy shifts. Unlike quantitative studies that might measure yield outcomes, this research focuses on the administrative and structural implications of policy changes.

Data Sources: The analysis relies on a triangulation of:

- **Primary Policy Documents:** Operational guidelines of PM-KISAN and Rythu Bharosa, and strategy papers from the Ministry of Agriculture.
- **Government Reports:** Critical data points are drawn from the Economic Surveys, CACP reports, and budget expenditure profiles.
- **Critical Literature:** Academic articles from journals such as the Review of Agrarian Studies and Journal of Development Studies provide the theoretical lens.

Analytical Lens: The study utilizes a "Comparative Governance Framework." It contrasts the Input Subsidy Model (characterized by opacity, supplier-capture, and distortion) with the Smart Governance Model (characterized by direct transfers, beneficiary targeting, and digital trails). The comparison is weighed against three metrics: Fiscal Prudence, Administrative Efficiency, and Social Equity.

4. The Legacy of Subsidy Dependence: A Critical Diagnosis

To understand the necessity of reform, one must first diagnose the pathology of the old system. The "Iron Triangle" of MSP, fertilizer subsidies, and free power defined Indian agriculture for decades.

4.1 The Fiscal Hemorrhage

The financial cost of maintaining this system is staggering. In the fiscal year 2021-22, the fertilizer subsidy bill alone exceeded ₹1.5 lakh crore (Ministry of Finance, 2022). Economically, this is "bad expenditure" because it fuels consumption rather than asset creation. For every rupee spent on subsidies, less than a rupee of value is generated due to inefficiencies. In contrast, public investment in roads or irrigation yields a multiplier effect of 2 to 4 times the initial spending.

4.2 The Administrative Quagmire

From a public administration standpoint, the subsidy regime was a nightmare of unaccountability.

- **The Leakage Problem:** Subsidized urea was frequently diverted to chemical industries or smuggled across borders. Because the subsidy was routed through manufacturers, farmers often faced shortages despite the massive government spending.

- **The Identification Crisis:** Without a verified digital database, the state had no way of knowing who was actually farming. This led to the phenomenon of "ghost beneficiaries" names that existed only on paper to siphon off funds.

- **The Time Lag:** Input subsidies often suffered from bureaucratic delays. A subsidy check arriving after the sowing season is economically worthless to a farmer, forcing them into the arms of informal moneylenders.

5. The Paradigm Shift: The Architecture of Smart Governance

"Smart Governance" in this context is not merely about using computers; it is about re-engineering the state's logic of intervention. It shifts the focus from subsidizing commodities to supporting people.

5.1 The JAM Trinity as the Backbone The convergence of Jan Dhan (banking), Aadhaar (identity), and Mobile (delivery) provided the infrastructure for this shift.

- **Aadhaar Seeding:** By mandating biometric linking, the government cleaned up beneficiary lists, removing millions of fake accounts. This was the first step in establishing a "single source of truth" for agricultural welfare.
- **Frictionless Delivery:** DBT allows the state to transfer purchasing power directly to the farmer's account. This disintermediates the local bureaucracy and the fertilizer mafia, theoretically reducing corruption (Chand, 2020).

5.2 Digitization of Land Records (Bhoomi Rashi) The bedrock of smart agricultural governance is the land record. You cannot transfer money to a farmer if you cannot prove their connection to the land. Initiatives like Dharani in Telangana and Bhoomi in Karnataka have attempted to digitize cadastral maps and Records of Rights (RoR). This digitization reduces the discretion of the local Patwari (village accountant), making land administration more transparent and rules-based (De & Singh, 2022).

5.3 The Vision of AgriStack The "Digital Agriculture Mission" (2021–2025) aims to build a digital ecosystem. The proposed "AgriStack" will integrate data on soil health, crop patterns, and credit history. The vision is to create a "Plug and Play" platform where private players can build apps for farmers offering tailored insurance or credit products based on verified data (Ministry of Agriculture & Farmers Welfare, 2021).

6. Analysis of Flagship Interventions

The transition is best understood by examining its two most prominent manifestations.

6.1 PM-KISAN: A Centralized Efficiency Model

Launched in 2019, PM-KISAN (Pradhan Mantri Kisan Samman Nidhi) provides ₹6,000 annually to landholding families.

- **Administrative Innovation:** It represents a massive centralization of welfare delivery. While agriculture is a state subject, PM-KISAN uses a central portal to push funds directly, bypassing state treasuries. This ensures uniformity in delivery speed across the country.
- **Data Catalyst:** The scheme forced state governments to update their land records in "mission mode." States that had lagged in digitization were compelled to modernize to ensure their voters received the central funds.
- **Limitation:** The scheme ties benefits to land ownership. This creates a fundamental equity issue: it excludes tenant farmers, who often bear the highest risks and costs of cultivation. In the "smart" database, these actual cultivators remain invisible.

6.2 Rythu Bharosa: The Investment Support Model

Telangana's Rythu Bharosa (formerly Rythu Bandhu) offers a more generous per-acre investment support, distinct from the flat rate of PM-KISAN.

- **Design Philosophy:** The scheme is designed not just as welfare but as "investment support" to break the cycle of rural indebtedness at the start of the crop season.
- **Implementation through Dharani:** The scheme's success relies heavily on the Dharani portal. By integrating registration and revenue records, the state minimizes the human interface required to verify eligibility.

- **Behavioral Nudges:** The state has experimented with linking this support to crop diversification (e.g., urging farmers to switch from paddy to cotton). This represents the next evolution of smart governance: using fiscal transfers to steer ecological behavior (Ramakumar, 2020).
- **Critique:** Like PM-KISAN, it has been criticized for favoring absentee landlords. Since the money follows the land title, a landowner living in the city receives the subsidy, while the tenant cultivating the land receives nothing.

7. Comparative Assessment: Old vs. New

Dimension	**The Old Regime (Input Subsidies)**	**The New Regime (Smart Governance/DBT)**
Logic of Support	Subsidize the cost of production.	Subsidize the income of the producer.
Targeting Mechanism	Universal but leaky (anyone buying fertilizer gets it).	Targeted and verified (only Aadhaar-seeded owners get it).
Market Impact	Highly distortive; encourages overuse of cheap inputs.	Market-neutral; farmers choose how to spend the cash.
Transparency	Low; opaque supply chains and middlemen.	High; digital audit trails for every transaction.
Ecological Outcome	Negative; promotes chemical-intensive farming.	Potentially neutral; depends on farmer choices.

Source: Compiled by authors based on analysis from Gulati (2018) and Subramanian (2019).

8. The Unresolved Challenges

While the shift to smart governance addresses fiscal and transparency issues, it introduces new vulnerabilities.

- **The Technocratic Exclusion:** Accessing "smart" benefits requires digital literacy. A farmer unable to navigate a portal or fix an Aadhaar mismatch can be effectively locked out of the welfare state. This "digital divide" can exacerbate existing social inequalities.
- **The Privacy Paradox:** The aggregation of vast amounts of farm data in the AgriStack raises serious privacy concerns. Without a robust Data Protection Law, there is a risk that this data could be exploited by corporate interests to manipulate market prices or push proprietary inputs (World Bank, 2020).
- **The Tenancy Blind Spot:** Both the old and new systems fail to adequately recognize tenant farmers. However, the new system, by rigidifying land records into digital formats, might make it even harder for informal tenants to claim rights, as the "digital truth" (the official record) becomes the only truth the state recognizes.
- **Federal Friction:** While the Centre pushes for a unified digital architecture, land remains a State subject. Discrepancies between central software standards and state-level land laws continue to create implementation friction.

9. Strategic Policy Recommendations

To ensure that smart governance leads to genuine transformation, the following policy adjustments are recommended:

- **From Consumption to Capital:** The savings generated from subsidy reforms should be ring-fenced for capital investments specifically in cold storage, logistics, and micro-irrigation. The goal should be to "drought-proof" agriculture, not just subsidize it.
- **Recognizing the Cultivator:** The definition of a beneficiary must expand beyond the "landowner." Developing a digital "Cultivator's Registry" validated by local Gram Sabhas would allow tenant farmers to access DBT and credit without threatening the ownership rights of landlords.
- **Digital Extension Services:** "Smart" governance requires "smart" citizens. The state must invest in a cadre of "Digital Agricultural Extension Officers" to help farmers navigate the new digital ecosystem, ensuring that technology serves the farmer, not the other way around.
- **Data Sovereignty:** The government must establish clear protocols for data sharing. Farmers should own their data and have the right to consent to its use. A "Data Trust" model could be explored to manage this data for the public good.

10. Conclusion

The transition from a subsidy-dependent past to a smart-governance future is the defining trend of contemporary Indian agricultural policy. This shift is not merely administrative; it is an economic imperative driven by the need to restore fiscal health and ecological balance. Innovations like PM-KISAN and Rythu Bharosa have demonstrated that the Indian state is capable of delivering welfare with speed, scale, and transparency previously thought impossible.

However, efficiency should not be mistaken for equity. A governance model that is "smart" but exclusionary is a failure. As the state embraces algorithms and databases, it must ensure that the digital revolution does not leave the most vulnerable the landless, the illiterate, and the tenant farmer behind. The ultimate success of this transformation will depend on the state's ability to blend high-tech delivery systems with high-touch, empathetic policymaking. Only then can Indian agriculture move from a state of survival to a state of sustainable prosperity.

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