

VIEWPOINT

The impact of India's onion policy on local growers and communities

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Abstract

India's recurring onion price crises exemplify the intersection of structural agricultural inefficiencies, speculative market practices, and flawed policy interventions. This viewpoint investigates the causes of extreme price swings in India's onion markets, focusing on systemic vulnerabilities such as hoarding, infrastructure deficits, and inconsistent governance. Drawing on empirical data from government reports, agricultural studies, and market analyses, we argue that speculative trading and political collusion exacerbate natural supply-demand imbalances, disproportionately harming smallholder farmers and consumers. By prioritizing decentralized solutions like blockchain-enabled farmer cooperatives and solar-powered micro-storage, this viewpoint demonstrates how empowering local communities can result in retaining

profits within rural economies and fostering climate-resilient agricultural systems. These strategies align with circular economy principles and address intergenerational equity by curbing the migration of youth out of farming regions.

Keywords

agricultural price volatility, speculative trading, supply chain governance, policy failure, onions, India

Introduction

Onion prices in India have long been a barometer of socio-political stability, with sharp spikes triggering public outrage and electoral consequences.

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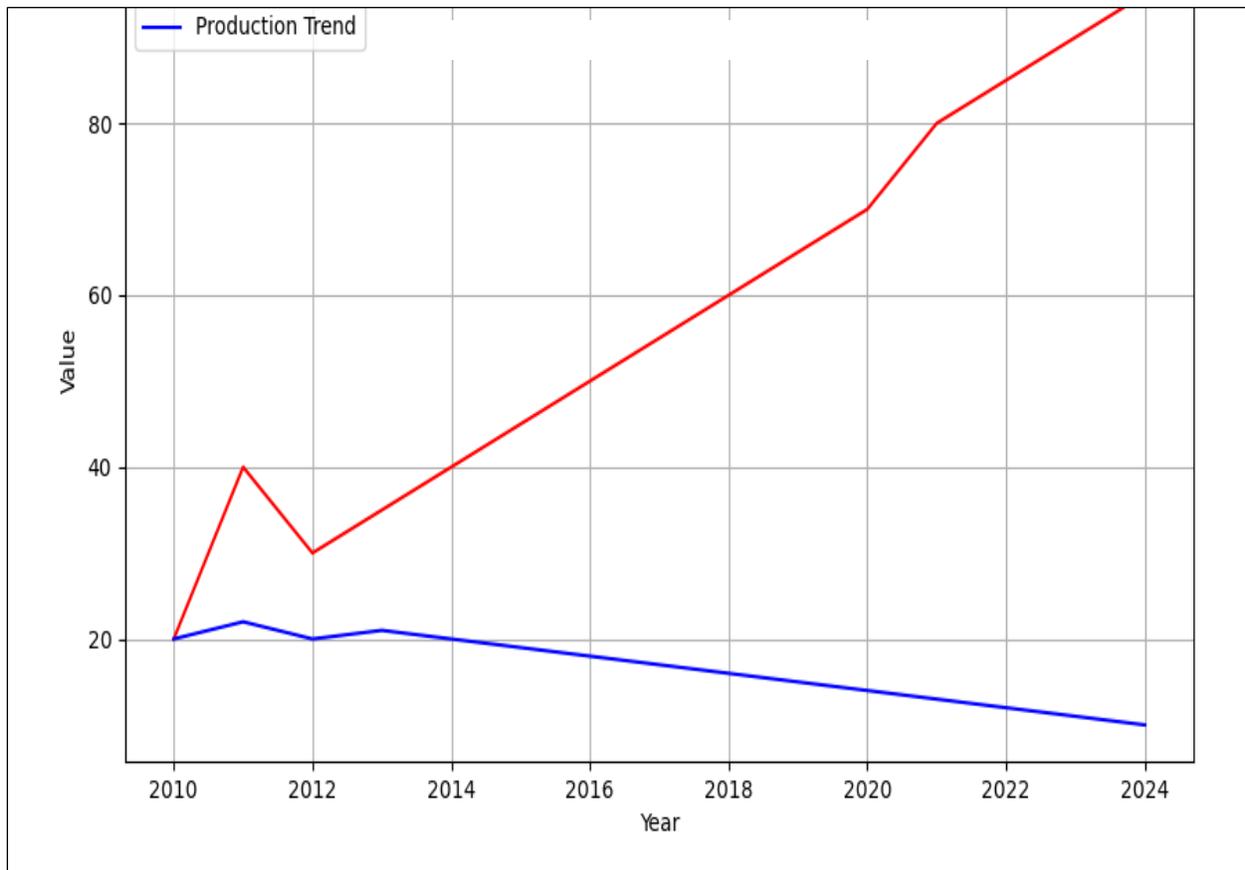
During the COVID-19 pandemic, prices in India surged by 100–120% due to significant supply-chain disruptions; see Figure 1 for price and production trends over time. This situation mirrors the crisis of 2010–2011, when prices increased by 183% in just six weeks, highlighting the inherent fragility of India’s agricultural supply chains. While climate shocks and seasonal demand fluctuations are proximate causes, this viewpoint identifies deeper structural drivers: systemic hoarding, infra-structural gaps, and reactive policymaking. Building on Matthan’s (2022) analysis of speculative crop markets and Reardon and Timmer’s (2007) work on agricultural transformation, we examine how rent-seeking intermediaries exploit institutional voids, perpetuating cycles of scarcity and inflation.

The onion price crisis in India is not a result of genuine supply-demand imbalances but rather a combination of artificial inflation and speculative trading, often fueled by collusion between traders,

politicians, and government agencies (Matthan, 2022). This cycle of corruption enables intermediaries to hoard supplies, manipulate prices, and drive up inflation. A well-established network of politicians, middlemen, and farmers manipulates onion supplies to exploit market fluctuations (John, 2011; Singhvi, 2020).

The government often resorts to short-term price controls instead of addressing the root causes, and these price controls ultimately hurt farmers more than they help consumers (Narayan & Bhattacharya, 2019). Farmers in India already receive low returns on their products due to fragmented supply chains, corruption, and an inefficient distribution network. Any government intervention to reduce onion prices without structural reforms may further erode their margins and worsen the ongoing farm income crisis that has previously led to thousands of farmer suicides (Mishra, 2020).

Figure 1. Price and Production Trends Over Time



In 2024, retail onion prices soared to a five-year high due to supply inefficiencies (Bhosale, 2024) and inflationary pressures (Jadhav, 2025). This unprecedented rise sparked national outrage, with consumers, traders, and political parties blaming each other.

Lack of cold storage and inefficient distribution result in high post-harvest losses (see Figure 2). India's onion productivity remains among the lowest globally, which leaves farmers vulnerable to yield shocks. Policies such as export bans and price ceilings are reactionary rather than preventive (Burgiel et al., 2006).

The recurring onion crises devastate rural communities, where smallholder farmers face debt-driven migration, and ecosystems suffer from wasted harvests. For instance, the state of Maharashtra's farmers lose 30% of their income to post-harvest spoilage, forcing youth to abandon agriculture (Vinaya Kumar et al., 2018).

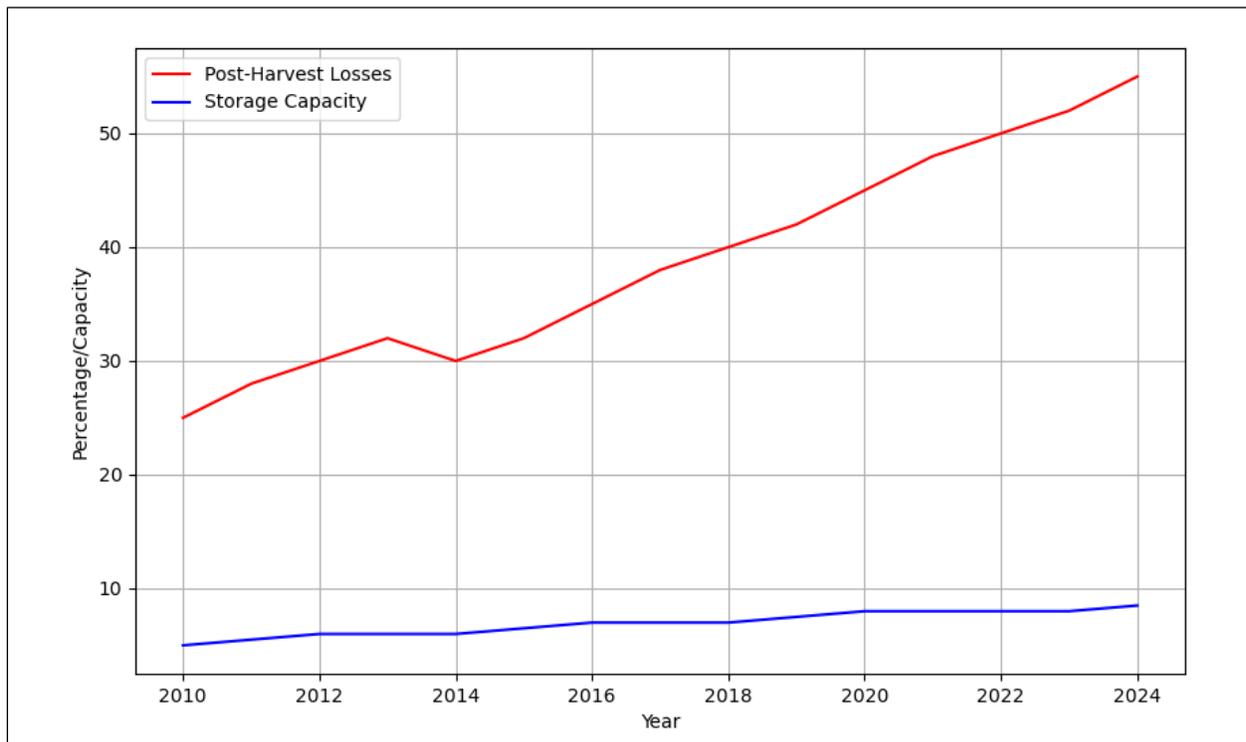
Market manipulation by traders in agricultural commodities is well-documented (Matthan, 2022; Scheinkman, 2014). In India, onion markets are particularly susceptible due to high perishability,

low storage capacity, and concentrated production regions. Middlemen exploit these conditions through hoarding and collusion with political actors, creating artificial scarcity (John, 2011; Pailwar, 2013).

India's reliance on export bans and price ceilings fail to address root causes (Narayan & Bhattacharya, 2019), such as post-harvest losses (30% of production) and fragmented supply chains (Gulati et al., 2022). Rana (2019) links these inefficiencies to underinvestment in cold storage and meteorological tools, which heighten the crop's vulnerability to climate shocks.

Emerging studies advocate blockchain technology for enhancing traceability (Zisi, 2020) and deregulation to reduce intermediaries' influence (Gulati et al., 2022). However, implementation challenges, including digital literacy and capital constraints, remain understudied in developing economies. Studies on participatory rural development (Chambers, 1994) highlight how decentralized infrastructure, like community-owned cold storage, can reduce post-harvest losses while creating local jobs.

Figure 2. Post-Harvest Losses and Storage Capacity



In 2024, erratic monsoon patterns reduced onion yields by 35% in the states of Karnataka and Maharashtra (Kumar, 2024). Traders stockpiled 50% of the rabi produce, exacerbating shortages (Gaurav et al., 2024) as only 20% of required cold storage capacity existed. This forced farmers into distress sales (Dhotre et al., 2025). Real prices fell 30% below production costs during glut seasons in the years preceding 2020, contributing to debt cycles (Mishra, 2020). In Nasik district, farmer-led cooperatives reduced hoarding by 60% through transparent e-auctions, illustrating how community governance can disrupt speculative networks (Abraham et al., 2018).

Factors Causing the Price Rise

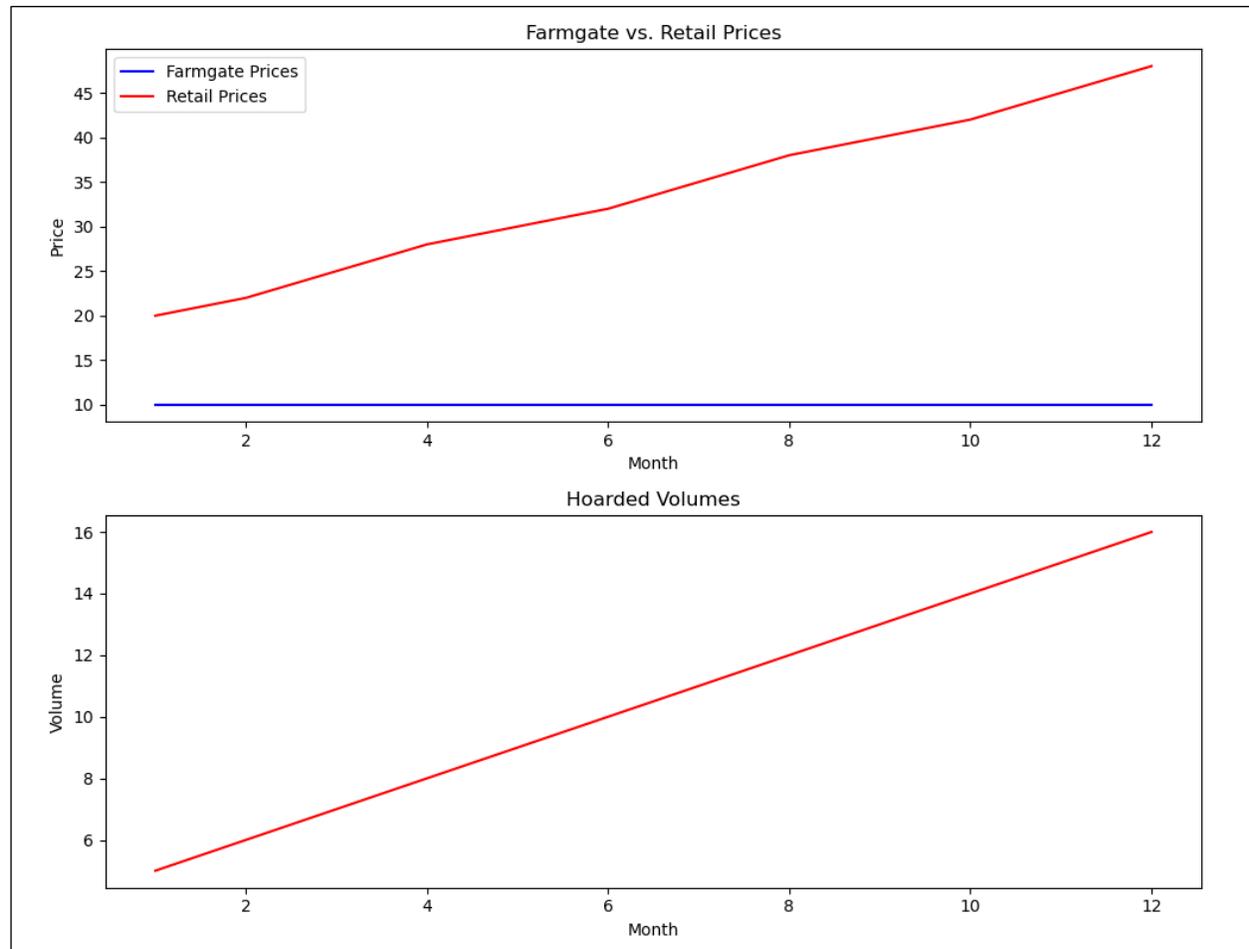
The dramatic escalation in onion prices has several causes. These can be broadly categorized into internal systemic weaknesses and external influences. The following breakdown offers a more granular view of each contributing element.

Internal Factors

1. **Hoarding and black market activities:**

Middlemen deliberately stockpile onions to restrict supply and artificially inflate prices (Levi et al., 2021). Reports indicate that speculative trading accounts for over 50% of price fluctuations (Scheinkman, 2014) (see Figure 3). Hawala networks¹ facilitate the

Figure 3. Farmgate vs. Retail Prices and Hoarded Volumes



¹ Hawala networks are informal systems used to send money without moving it physically or electronically. These networks operate outside regular banks and are based on trust, often leaving no paper trail, which can make them attractive for money laundering.

laundering of illicit profits derived from onion hoarding into offshore accounts, thereby exacerbating market manipulation (Pailwar, 2013). Political actors often turn a blind eye, benefiting indirectly through lobbying and illicit financial flows (Matthan, 2022).

2. Productivity and infrastructure deficits:

Despite India producing 26.6 million tonnes of onions annually, post-harvest losses due to poor storage infrastructure reach up to 30% (Gulati et al., 2022). India's inadequate cold storage facilities compel farmers to sell their produce immediately at reduced prices, so traders have significant control over subsequent pricing (Rana, 2019). Limited cold storage capacity results in spoilage, which creates seasonal supply shocks and price hikes (Narayan & Bhattacharya, 2019).

3. Inconsistent government policies: Frequent export bans and stock limits disrupt market dynamics instead of providing long-term stability (Singhvi, 2020) (see Figure 4). Policy responses are often delayed and focus only on short-term price control instead of addressing broken supply chains.

External Factors

1. Climate impact and natural disruptions:

Unseasonal rains and fungal diseases have led to substantial crop losses over many years (see Figure 5), exacerbating the supply-demand gap (Kishore & Shekhar, 2022).

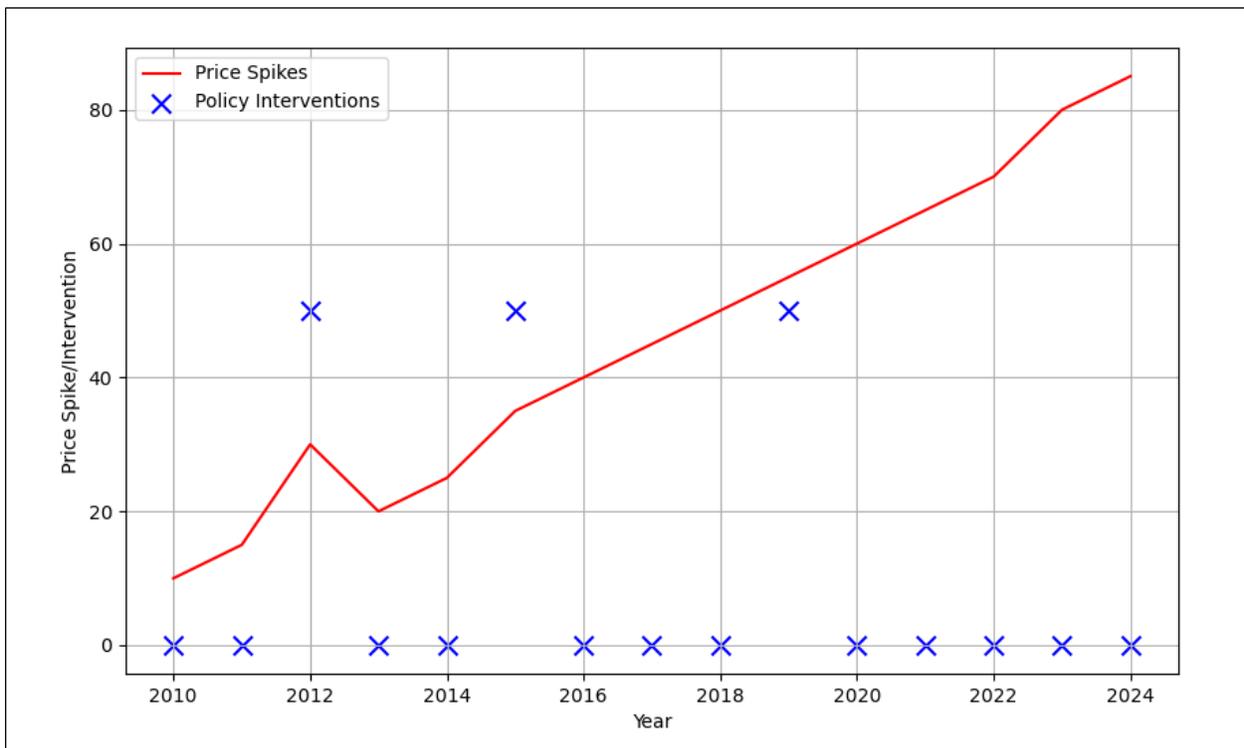
2. Demand shifts and speculation: Rising consumer demand due to festivals and increased household stockpiling have aggravated the crises (Mishra, 2020).

3. Global trade dynamics: In 2022, India's onion exports reached 2.5 million tonnes, but erratic policies led to a 40% drop in farmer incomes (Khan, 2022). Their pricing is lower than that of global competitors, enhancing their appeal for export markets. In addition, the government's practice of suspending exports during crises disrupts market dynamics (Mishra, 2020).

Discussion

Manipulation of markets by traders thrives in environments where institutional oversight is weak and infrastructure gaps limit farmers' bargaining power (Bellemare et al., 2017).

Figure 4. Policy Interventions and Price Spikes

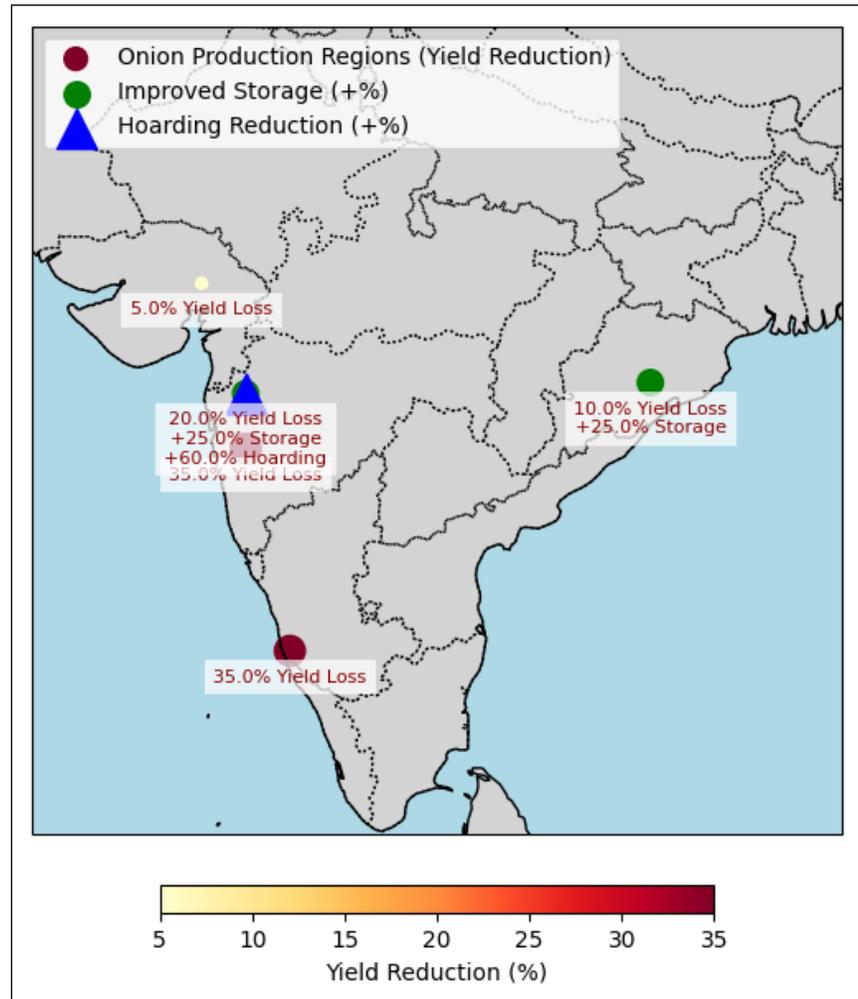


In 2024, erratic monsoon patterns reduced onion yields by 35% in the city of Nasik, Maharashtra, exacerbating the already precarious situation for smallholder farmers (Kumar, 2024). Despite being one of the largest onion-producing regions in India, Nasik's farmers face significant challenges due to inadequate storage infrastructure and market manipulation by intermediaries (Gulati et al., 2022; Rana, 2019).

A case in point is the Nasik District Onion Growers' Cooperative Society, which has been working to mitigate the effects of price volatility and post-harvest losses. In 2023, the cooperative introduced transparent e-auctions to bypass traditional middlemen, allowing farmers to sell directly to retailers and wholesalers (Dhotre et al., 2025). According to preliminary estimates, this initiative reportedly reduced hoarding by 60% and increased farmers' profits by 25%. Similar outcomes have been observed in earlier studies of e-auction models in agriculture (Abraham et al., 2018). However, the cooperative's efforts were severely undermined during the 2024 price crisis when traders stockpiled 50% of the rabi produce, creating artificial scarcity (Gaurav et al., 2024). Despite the cooperative's attempts to stabilize prices, the lack of cold storage facilities forced many farmers into distress sales, with real prices falling 30% below production costs (Mishra, 2020).

The impact on the local community has been devastating. Many smallholder farmers, unable to recover their costs, have fallen into debt cycles (Vinaya Kumar et al., 2018). The cooperative's

Figure 5. Geospatial Production and Rainfall Anomalies



Note: The label placement is determined algorithmically when the map output is hard-coded into the simulation file during generation. Once the map is generated, it is not possible to manually adjust or reposition the labels.

struggle highlights the urgent need for decentralized, community-led solutions that could empower farmers to retain a larger share of profits and reduce their vulnerability to market manipulation (Mohanty & Routray, 2025; Zisi, 2020).

For extension workers and NGOs, piloting blockchain tools with farmer groups or lobbying for micro-storage subsidies could create immediate impact. This is not just about technological advancement but also enabling farmer cooperatives to gain direct access to markets to ensure a larger share of profits remains within the local grower communities. The following measures could be taken to address the problem:

- **Establishing a digital supply chain tracking system:** Use blockchain-based tracking for onion storage and distribution to prevent hoarding and black-market activities (Zisi, 2020). Blockchain-enabled traceability empowers farmer collectives to negotiate directly with retailers, ensuring fair prices. In Tamil Nadu, the Uzhavan Cooperative used similar tools to increase profits by 40%, reinvesting gains into organic farming training (A & Raj, 2020). Extension workers can replicate this by training farmers in digital literacy.
- **Liberalizing onion trade and reducing over-governance:** Deregulating onion trade (Gulati et al., 2022) would allow market forces to determine prices and eliminate restrictive stock limits.
- **Building large-scale cold storage infrastructure:** Partner with private players to build modern cold-storage units across major production regions. Decentralized solar-powered storage units, managed by women's self-help groups, reduce spoilage while creating green jobs. Odisha's Cold Store Policy reduced losses by 25% and employed local residents, fostering circular economies where crop waste is composted for biogas (Mohanty & Routray, 2025).
- **Implementing price stabilization funds and forward contracts:** The government can create a price stabilization fund and encourage farmers to adopt forward contracts to hedge against price fluctuations (Larson et al., 1998). Decentralized models like solar-powered micro-storage units could enhance community-level resilience and create local employment opportunities. This stands in accordance with the principles of a circular economy.
- **Raising the minimum export price (MEP):** Raising the MEP will increase farmers' profit

margins by aligning domestic prices with international rates, which minimizes arbitrage opportunities for traders (Firasta-Vastani & Sheth, 2024). Phasing out MSP in favor of community-led price-setting could ensure that prices reflect local ecological costs, such as water scarcity, rather than distant market whims (Chatterjee, 2025).

- **Investing in meteorological tools:** Investments in meteorological tools can enhance onion yield predictability and reduce post-harvest losses (Bhattacharyya, 2003).
- **Reforming agricultural policies—scrap MSP:** Studies suggest that scrapping minimum support price (MSP) and focusing on demand-driven pricing could boost efficiency and profitability (Reardon & Timmer, 2007). By utilizing technology and lowering regulatory barriers, India can build a more resilient onion market that benefits both farmers and consumers. Raising the MEP and phasing out the MSP while improving infrastructure and storage would be ideal.

Conclusion

Sustainable resolution of India's onion price volatility requires dismantling the political-economic networks that profit from scarcity. By prioritizing infrastructure modernization and market liberalization, policymakers can align farmer interests with consumer needs. By reducing price volatility and ensuring fair market access, these recommendations could contribute to issues such as intergenerational equity, as debt cycles from price crashes drive youth migration from farming communities. By making farming more viable, we can foster a more stable, sustainable rural economy in India and other countries. 

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