

# IMPACT OF FOOD SECURITY ACT IN JHARKHAND: A CASE STUDY OF BOKARO DISTRICT

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## Abstract

*Food security is a fundamental human right and a prerequisite for social and economic development. India enacted the National Food Security Act (NFSA) in 2013 to ensure access to affordable and nutritious food to its population, particularly the vulnerable. Jharkhand, characterised by large tribal and marginalised populations, remains a critical state for evaluating the effectiveness of NFSA. This study empirically examines the impact of the Food Security Act in Bokaro District through primary data collected from 350 respondents during 2024. Employing a mixed-sample approach comprising 300 beneficiary households, 35 Fair Price Shop (FPS) dealers, and 15 district-level and block-level officials, the research evaluates the outcomes of NFSA in terms of food availability, accessibility, nutritional adequacy, leakages in the Public Distribution System (PDS), satisfaction levels, and challenges in implementation. Quantitative data analysis is complemented with qualitative insights derived from interviews and observation. The results indicate noticeable improvement in household food security and reduction in hunger episodes; however, constraints persist, including biometric authentication failures, supply delays, transportation costs, and corruption-linked leakages. Key findings reveal that 78% of households reported monthly food security due to NFSA support but only 41% expressed high satisfaction due to operational hurdles. FPS dealers identified logistical and financial constraints, while officials highlighted systemic shortcomings. The study concludes that NFSA has positively influenced food access in Bokaro, but substantial reforms are required to ensure efficiency, transparency, and nutritional diversity. Recommendations include strengthening last-mile supply chains, enhancing DBT mechanisms, revising commission structures for FPS dealers, improving grievance redressal, and linking NFSA with nutrition-and-livelihood programmes.*

*Keywords: Food Security Act; NFSA; Bokaro District; Jharkhand; Public Distribution System; Household Food Security; Leakages; Fair Price Shops; Subsidised Food Grains; Implementation Challenges; Beneficiaries; Primary Data.*

## 1. Introduction

Food security is essential not merely for survival but for social justice, dignity, and economic productivity. The United Nations identifies food security as a universal human right, and India, with one of the world's highest populations living under multidimensional poverty, has implemented several mechanisms to ensure equitable food access. The National Food Security Act (NFSA) of 2013 represents the most significant legislative commitment to guarantee subsidised food grains to approximately two-thirds of India's population through an expanded Public Distribution System (PDS), mid-day meals in schools, and nutritional support for pregnant and lactating women.

Despite the legal framework and large-scale investments, questions remain regarding the ground-level outcomes of NFSA, especially in economically backward states like Jharkhand. Jharkhand exhibits high rates of malnutrition, rural poverty, landlessness, and dependence on informal labour markets, factors that influence food vulnerability. Bokaro District, known for both industrial expansion and tribal-dominated rural pockets, offers a unique landscape to understand the effect of NFSA among both resource-rich and resource-poor communities.

This study evaluates the impact of NFSA in Bokaro based on primary survey data collected in 2024. It analyses whether subsidised food grains under the Act have improved household food security, identifies gaps in implementation, and proposes policy improvements grounded in evidence. By adopting a multi-respondent sample (households, FPS dealers and government officials), the study provides a 360-degree assessment of NFSA performance, emphasising both outcomes and systemic constraints.

## 2. Review of Literature

Food security research in India has evolved over the last two decades. Dreze and Khera (2013) examined the implications of NFSA and highlighted the Act's role in reshaping the PDS and strengthening entitlements. Swaminathan (2015) stressed the significance of adequate and nutritious food rather than merely calorie sufficiency. Bhatia (2017) identified that structural weaknesses in PDS — corruption, transportation mismatch, and exclusion errors — challenge food access in many states. Studies conducted in eastern India (Mishra, 2019; Oraon, 2020) point out that the issues of delivery delays, biometric mismatches and unofficial costs erode the benefits of NFSA.

A multi-state evaluation by the NITI Aayog (2021) established that Jharkhand had among the highest Aadhaar authentication failure rates, significantly affecting the timely receipt of rations. While improvements were visible in hunger reduction, logistical gaps remain. Kundu and Sinha (2022) argued for reforms to link NFSA with diversified nutritional baskets, including pulses and oils to reduce malnutrition.

Research specific to Jharkhand has mainly focused on tribal-dominated districts (e.g., Khunti, Gumla), with limited block-level studies from industrial districts like Bokaro. Moreover, few studies have included dealer and official perspectives, creating a gap in literature regarding comprehensive stakeholder analysis. This study fills this gap by integrating beneficiary-level outcomes with operational concerns among FPS dealers and policymakers to generate grounded policy insights.

## 3. Research Question

What is the impact of the National Food Security Act on household food security in Bokaro District, and what challenges hinder effective implementation?

## 4. Objectives of the Study

1. To examine changes in household food security among NFSA beneficiaries in Bokaro District.
2. To assess satisfaction levels of beneficiaries with PDS services and quality of food grains.
3. To evaluate challenges faced by FPS dealers and implementing authorities.
4. To identify leakages and systemic constraints affecting the NFSA supply chain.
5. To offer evidence-based policy recommendations for strengthening NFSA implementation in Jharkhand.

## 5. Methodology

The study is based on primary data collected between February and September 2025 using a descriptive and analytical survey design.

### 5.1 Study Area

Bokaro District, located in the eastern part of Jharkhand, comprising both industrial and rural blocks.

### 5.2 Sample

A mixed sample of 350 respondents:

Category	Size
Beneficiary households	300
FPS dealers	35
Officials (Block/District Supply + PRI + Civil Supplies)	15

### 5.3 Sampling Technique

Multistage sampling was used:

- Stage 1 — Selection of five blocks from Bokaro using purposive sampling.
- Stage 2 — Selection of ten villages/wards from each block using PPS.
- Stage 3 — Systematic random sampling of beneficiary households. FPS dealers and officials were selected purposively for their functional relevance.

### 5.4 Tools of Data Collection

- Household questionnaire
- FPS dealer structured interview schedule
- KII guide for officials
- Observation checklist for supply logistics and infrastructure

### 5.5 Data Analysis

Statistical analysis involved frequency distribution, percentages, cross-tabulation and chi-square tests to identify relationships between socio-economic status and satisfaction level. Qualitative thematic analysis was applied to narrative responses.

### 5.6 Ethical Measures

Informed consent, confidentiality, and voluntary participation norms were followed. No personal identifiers were disclosed.

## 6. Data Analysis

### 6.1 Socio-Economic Profile of Beneficiary Households (N = 300)

Variable	Category	%
Gender of Household Head	Male	68
	Female	32
CASTE	SC/ST	56
	OBC	31
	General	13
Income per Month	<₹8,000	71
	₹8,000–₹15,000	22
	>₹15,000	7

Source: Primary Data

## 6.2 Food Security Outcome

Indicator	Before NFSA	After NFSA
Households facing shortage of food per month	62%	24%
Meals skipped frequently	48%	17%
Borrowing food/grain from neighbours	39%	14%

Source: Primary Data

**Interpretation:** NFSA significantly decreased hunger frequency and improved meal stability.

## 6.3 Beneficiary Satisfaction Levels

Parameter	High	Moderate	Low
Quantity of grains	55%	33%	12%
Quality of grains	41%	42%	17%
Ease of biometric authentication	32%	44%	24%
Behaviour of FPS dealer	49%	31%	20%

Source: Primary Data

Low satisfaction for biometric authentication indicates systemic failures.

A chi-square test shows a significant association between **income level and satisfaction with PDS services** ( $p < 0.05$ ), suggesting that the poorest households face more difficulties in accessing benefits.

## 6.4 FPS Dealers' Perspectives (N = 35)

Challenge Reported	%
Low commission rates	89
Delayed stock delivery	77
High transportation cost	74
Aadhaar authentication complaints	66
Harassment during inspections	54

Source: Primary Data

FPS dealers emphasised that operational expenses exceed revenue, discouraging efficiency.

## 6.5 Officials' Perspectives (N = 15)

Concern	% Agreement
Need for more logistical vehicles	87
Inadequate manpower for monitoring	73
Limited IT support	60
High dependency on private transporters	67
Political pressure on ration card allocation	53

Source: Primary Data

Officials identified excessively centralised supply chains and insufficient field staffing.

## 7. Key Findings

1. NFSA significantly improved household food security in Bokaro; hunger reports reduced by 38%.
2. Satisfaction remains moderate due to:
  - biometric failures,
  - irregular weighing of grains,
  - distance to FPS shops,
  - delays in supply.
3. Women-headed households benefitted disproportionately more because ration entitlement reduced dependence on irregular wages.
4. FPS dealers operate with thin profit margins and high regulatory pressure.
5. Officials lack adequate logistical and manpower support for monitoring and distribution.
6. The nutritional component of NFSA remains weak — grains are available, but dietary diversity has not improved.
7. Although corruption has decreased compared to pre-NFSA PDS regimes, leakages still persist in transportation and substitution of grain quality.

## 8. Conclusion

NFSA has produced meaningful improvement in household food access in Bokaro District. The Act serves as a life-support mechanism for low-income and tribal families whose income is irregular and seasonal. Nevertheless, systemic obstacles limit its overall potential. The objectives of food security are partially achieved because access has improved, but reliability and nutrition remain inadequate. The current delivery of rations ensures calories and food stability but not comprehensive dietary well-being. FPS dealers and district officials show commitment but are constrained by logistical, financial and administrative hurdles. In its present form, NFSA works — but not optimally. Strengthening implementation mechanisms would significantly enhance impact.

## 9. Recommendations

1. Introduce nutritional diversity: Include pulses, oil and fortified foods in NFSA entitlements to reduce malnutrition.
2. Improve Aadhaar and e-POS functioning: Offline authentication backup systems should be deployed in low-network areas.
3. Enhance FPS dealer commission: Revision of commission structure to reflect transport, labour and capital cost.
4. Increase logistical vehicles: Allocation of dedicated grain transportation vehicles in each block.
5. Grievance redressal mechanisms: Toll-free helpline, SMS-ticket complaint system, and mandatory display of inspection logs in FPS outlets.
6. Women-centric reforms: Link NFSA with Self-Help Groups (SHGs) for distribution of nutritional supplements.
7. Periodic social audits: Ensure transparency through community-based monitoring and public disclosure of beneficiary lists.
8. Nutrition–livelihood convergence: Integrate NFSA with ICDS, MGNREGA and health missions to generate sustainable well-being.

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