

THE RISE OF FOOD INSECURITY DURING COVID-19 IN ASSAM: CHALLENGES AND STATE INTERVENTION

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Abstract

This paper investigates the alarming increase of household food insecurity in the state of Assam in India during the COVID-19 pandemic. Positioned as a socio-politically complex and ecologically sensitive region, the state of Assam experienced unique structural shocks when national and state-level lockdowns were implemented. By analysing the intersection of supply chain disruptions, lockdowns, and natural disasters like the annual Brahmaputra floods, this study evaluates how vulnerable demographics like daily wage earners, informal sector workers, Scheduled Tribes (STs), and women-headed households were systematically pushed into situation of food insecurity. Utilizing a framework based on the Food and Agriculture Organization's (FAO) four pillars of food security (availability, access, utilization, and stability), this research examines the effectiveness of the Public Distribution System (PDS) and the *Pradhan Mantri Garib Kalyan Anna Yojana* (PMGKAY). The findings reveal that while state-led digital and in-kind food transfers mitigated absolute starvation, structural leakages, inflationary pressures on non-staple foods, and a deep loss of purchasing power triggered a profound shift toward nutritional poverty and dietary degradation.

Keywords: *food insecurity, COVID-19, Assam, PDS.*

INTRODUCTION

The World Food Summit defines food security as a state where all people, at all times, have physical and economic access to sufficient, safe, and nutritious food which remains an elusive milestone for many developing economies. The COVID-19 pandemic mutated rapidly from a global public health crisis into an unprecedented macroeconomic shockwave. In India, the enforcement of sudden, stringent lockdowns starting in March 2020 froze commercial ecosystems, grounded transportation networks, and disrupted agricultural cycles.

Assam, the largest economy in Northeast India, holds a unique geopolitical and topographical position that leaves it highly susceptible to systemic shocks. With over 85% of its population dependent on rural livelihoods, informal labour, or tea plantation wages, the state's baseline economic resilience was already under strain before 2020. The onset of the pandemic exposed deep fractures in Assam's food distribution networks and social safety nets, triggering a sudden spike in both transitory and chronic household food insecurity.

STATEMENT OF THE PROBLEM

While the COVID-19 infection curve was heavily monitored by public health authorities, a parallel, silent crisis emerged that is a steep rise in household food insecurity. Assam operates

under structural constraints, including isolated geography connected to mainland India via the narrow Siliguri Corridor, a heavy reliance on imported essential commodities (such as pulses, edible oils, and eggs), and annual disruptions caused by the Brahmaputra monsoon floods. When lockdowns sealed inter-state borders, the supply of essential foods dropped sharply, causing immediate market inflation. Simultaneously, the suspension of non-farm informal economic activities eliminated daily cash flows for millions of households. Consequently, even when food grains were physically present in state warehouses, economic access to a balanced diet became impossible for vulnerable groups.

RESEARCH OBJECTIVES

This study aims to address the following key objectives:

1. To assess the magnitude and nature of the rise in food insecurity across different socio-economic groups in Assam during the COVID-19 pandemic.
2. To evaluate the performance and reach of the state-led safety net interventions, specifically the Public Distribution System (PDS) and emergency direct cash/in-kind transfers.
3. To offer structural policy recommendations for withstanding future crises.

METHODOLOGY

Research Design

This study uses a mixed-methods research design, combining quantitative data from national surveys and state reports with qualitative insights from existing field studies and regional academic literature. This dual approach allows us to measure macro-level trends across the state while capturing the lived experiences of vulnerable households.

Data Sources

The secondary data has been extracted from the National Family Health Survey (NFHS-5), reports from the Ministry of Consumer Affairs, Food and Public Distribution, Assam State Disaster Management Authority (ASDMA) bulletins, and the Economic Survey of Assam. Furthermore, content analysis of journal articles, field assessments by non-governmental organizations (NGOs), policy briefs, and local news coverage tracking food prices and distribution gaps have been used to analyse the issues.

Theoretical Framework and Literature Review

To evaluate the impact of a pandemic on nutrition, researchers must look beyond absolute food production and use a broader, multidimensional analytical lens. This paper utilises the FAO's classic framework, which breaks food security down into four core pillars:

1. **Availability:** The physical presence of food within a region, determined by local production, stock levels, and net trade.
2. **Access:** A household's economic and physical capability to acquire food, heavily dependent on regular income, market proximity, and fair pricing.

3. **Utilization:** The nutritional use of food, which requires dietary diversity, access to clean drinking water, sanitation, and healthcare to translate ingested food into biological well-being.
4. **Stability:** The continuity of the first three pillars over time, ensuring that seasonal shocks, health crises, or economic downturns do not disrupt food security.

During the COVID-19 pandemic in Assam, all four pillars were compromised simultaneously. Structural lockdowns weakened *availability*, job losses destroyed *access*, market inflation degraded *utilization* as households skipped premium micronutrients, and compounding monsoon floods eroded seasonal *stability*.

Early literatures on COVID-19 food security (Laborde et al., 2020; Béné, 2020) highlighted that the pandemic-induced food crisis was primarily a crisis of access rather than production. Global grain silos were relatively full in early 2020, yet lockdowns prevented smooth distribution and decreased consumer's purchasing power. At the national level in India, studies by Dev and Sengupta (2020) and Kapoor et al. (2021) demonstrated that informal workers bore a disproportionate share of the burden due to lack of purchasing power caused by job losses and forced migration. Additionally, the sudden suspension of the mid-day meal scheme in schools and operations at Anganwadi centers severely harmed the nutritional intake of children and lactating mothers across rural India. While macro-level research across India provides valuable context, it often overlooks the unique challenges faced by Northeast India, particularly Assam. Assam's economy deals with specific intersectional vulnerabilities, including its politically marginalized tea-tribe communities, a large population living on transient river islands (*chars*), and constant climate-induced displacement from soil erosion.

SOCIO-ECONOMIC PROFILE AND BASELINE VULNERABILITIES OF ASSAM

To understand why the pandemic caused such a rapid increase in food insecurity, we must first look at Assam's pre-existing baseline vulnerabilities.

According to census projections and economic surveys, a vast majority of Assam's workforce earns a living through informal labour. This includes daily agricultural wage workers, construction labourers, rickshaw pullers, and street vendors. These workers operate without written employment contracts, paid leave, or health insurance, and they rely on daily cash wages to buy food. When the lockdown stopped all non-essential economic activity overnight, these families lost their primary means of survival immediately.

The tea industry is a major pillar of Assam's economy, employing over a million permanent and seasonal labourers. The tea-tribe communities face deep-rooted structural disadvantages, including low daily wages, historical marginalisation, low literacy rates and a heavy reliance on subsidised rations provided by estate managements. During the initial stages of the 2020 lockdown, supply chain halts and temporary estate closures disrupted these traditional ration lines. Even after tea plucking was permitted to resume under strict health protocols in April 2020, lost wages during the shutdown created an immediate financial deficit that impacted household food budgets for months.

Assam faces severe annual floods as the Brahmaputra and Barak rivers overflow their banks. In 2020 and 2021, the state faced a difficult double-disaster that is managing high COVID-19 infection rates while simultaneously running crowded flood relief camps. The *Char* areas

(shifting, low-lying river islands inhabited by millions of marginalised farmers) suffered the worst impacts. These communities rely on country boats to transport cash crops like vegetables and milk to mainland markets and to bring back manufactured staples. The suspension of river transport during lockdowns isolated these islands, causing local crop prices to crash while the cost of imported staples skyrocketed.

SUPPLY CHAIN DISRUPTIONS AND MARKET DYNAMICS

Assam acts as the logistical gateway for the entire northeastern region of India. Most of its essential commodities, such as lentils, mustard oil, sugar, onions, and potatoes, are imported from western and northern Indian states. These goods enter via railway and trucks traveling through the narrow Siliguri Corridor. During the initial phase of the nationwide lockdown, extreme confusion over what qualified as "essential services" led to severe delays at inter-state checkpoints, such as the Srirampur Gate. Truck drivers faced mandatory quarantine orders, harassment by local authorities and a lack of roadside amenities which caused a sharp decline in available transport capacity. This logistical bottleneck reduced wholesale arrival volumes in Assam's major markets leading to immediate supply shortages.

The disruption of inbound logistics quickly triggered price inflation at the retail level. While the Government of India kept minimum support prices stable for bulk procurement, local retail prices in cities like Guwahati, Jorhat, and Silchar surged. Shortages of daily labour at the wholesale markets (*mandis*) like Fancy Bazar in Guwahati made it difficult to unload cargo which increased labour costs. Retail vendors, facing unpredictable supplies and limited operating hours imposed by district administrations, raised their markups to hedge against losses. As a result, prices for everyday vegetables, pulses, and edible oils increased by 30% to 50% in weeks thereby making a balanced diet unaffordable for low-income families.

While consumers in urban areas faced high food prices, rural farmers across districts like Barpeta, Nagaon, and Koliabor suffered from a collapse in farmgate prices. Assam's agricultural sector produces large quantities of perishable summer vegetables, poultry, and dairy products. Because weekly rural markets (*haats*) were shut down and transport restrictions prevented intermediate traders from reaching farms, tons of fresh produce rotted in fields. Smallholders who lacked access to cold storage were forced to dump milk into rivers or sell vegetables at a fraction of production cost, wiping out their working capital and reducing their own ability to buy food in subsequent seasons.

IMPACT ON VULNERABLE POPULATIONS AND NUTRITIONAL SHIFTS

As household incomes fell and food prices rose, families adapted by shifting their consumption patterns. Households began reducing the consumption of expensive and nutrient-rich food especially animal proteins (like fish, meat, eggs), dairy products, pulses, and fresh green vegetables. Instead, they focused their limited budgets on cheap, calorie-dense carbohydrates, primarily plain rice (which is the staple food of the region) obtained through relief channels. This shift led to widespread "carbohydrate loading," which staved off immediate hunger but created a hidden crisis of nutrient deficiencies, increasing the risk of anaemia and malnutrition among vulnerable family members. The situation was slightly different for families that practiced sustainable agriculture or limited poultry farming at their houses in the rural areas.

However, in most cases it was not enough to meet the requirements for a longer duration of time.

Another important aspect is that food insecurity within households is rarely distributed equally, as it is deeply shaped by gender roles. In Indian society, traditional patriarchal norms often dictate that women eat last and least during meals. When food supplies grew tight during lockdowns, women reduced their own portions to ensure that children and male working members had enough to eat. This intra-household rationing worsened pre-existing maternal malnutrition. The suspension of routine village health days due to social distancing and lockdown measures further limited pregnant women's access to iron and folic acid supplements and other necessary medical requirements, leading to a rise in maternal anaemia mostly across rural districts.

Data shows that historical inequalities widened the impact of the pandemic. Scheduled Tribes living in remote hill areas, such as Karbi Anglong and Dima Hasao, faced severe hurdles due to a lack of local banking infrastructure and brick-and-mortar fair price shops. For casual workers in urban informal settlements, a lack of permanent address proof or local ration cards often excluded them from receiving emergency state benefits. This forced many migrant families to borrow money from local lenders at extremely high interest rates just to buy basic provisions, trapping them in long-term debt cycles.

POLICY RESPONSE AND 'SAFETY NETS': SUCCESSES AND DRAWBACKS

To prevent widespread starvation, both the central and state governments launched large-scale food assistance operations. The Government of Assam's Department of Food, Civil Supplies, and Consumer Affairs mobilised its distribution network to implement the *National Food Security Act* (NFSA) mandates alongside the emergency *Pradhan Mantri Garib Kalyan Anna Yojana* (PMGKAY). In March 2020, the Assam Cabinet decided to waive all costs for standard NFSA rice allocations, providing free grains to approximately 58 lakh eligible families. This intervention served as a vital safety net, ensuring that basic calories were accessible to the majority of the population during the worst months of economic disruption.

The introduction of PMGKAY, which provided an additional 5 kg of free rice per person per month to all ration card holders, significantly helped reduce absolute hunger. By focusing on individual family members rather than fixed household quotas, the program automatically adjusted support upward for larger families, which were statistically at greater risk of facing food shortages. Additionally, in March 2020, relief materials were provided to the daily wage earners for seven days as a temporary relief measure.

Despite these massive mobilisation efforts, structural issues limited the overall effectiveness of the relief programs:

1. **Biometric Authentication Failures:** Mandatory point-of-sale (PoS) fingerprint authentication at fair-price shops faced disruptions due to poor cellular connectivity in remote riverine and hilly areas, creating long delays for beneficiaries.
2. **The Non-Cardholder Exclusion Gap:** While families with ration cards received expanded support, thousands of low-income families without cards struggled to access food. The state government attempted to address this by distributing a one-time cash transfer of ₹1,000 to

selected non-NFSA poor families, but implementation gaps left many urban migrants and seasonal labourers without help.

3. **Nutritional Imbalance in Rations:** The relief packages consisted almost entirely of carbohydrates (rice). The initial promise to include free pulses (chana or whole lentils) under PMGKAY faced major distribution delays in the state due to shipping bottlenecks, leaving families without a dependable source of protein.

DISCUSSION

The rise of food insecurity in Assam during the COVID-19 pandemic demonstrates that public health crises cannot be managed in isolation from food production and distribution systems. The state's experience reveals a clear pattern: systemic economic shocks hit vulnerable communities fastest and hardest. While the expansion of the PDS successfully prevented severe famine, it was not structured to address systemic nutritional depletion. The pandemic forced a trade-off between quantity and quality. While families managed to secure enough raw calories to survive, their overall diet quality fell significantly. This shift has long-term human capital costs, as prolonged nutritional deficits can lead to weakened immune systems.

Furthermore, the pandemic showed how climate changes and public health crises compound one another. The overlapping challenges of managing COVID-19 transmission during the annual Brahmaputra floods exposed the limits of traditional disaster response mechanisms. This experience highlights the clear need to transition from short-term emergency relief models to long-term, proactive frameworks that integrate health, climate resilience, and food supply protection.

CONCLUSION AND POLICY RECOMMENDATIONS

The COVID-19 pandemic caused a significant increase in household food insecurity across Assam. This crisis was driven by a sharp drop in household incomes, logistical bottlenecks along key transport corridors, and market price inflation. While state food grains distributed through the PDS and PMGKAY prevented widespread starvation, the lack of nutritional diversity in relief packages led to a rise in qualitative malnutrition, particularly among women, Scheduled Tribes, and informal labourers.

Policy Recommendations for Resilient Food Systems

To build more resilient food systems and protect Assam against future regional or national crises, the following policy interventions are recommended:

1. **Decentralising procurement and storage:** Assam should reduce its dependence on long-distance food imports through the Siliguri Corridor by expanding state-level procurement of local paddy, pulses, and mustard seed. Building network-connected cold storage centers at the district level will help preserve fresh vegetables during transport lockdowns or flood displacements.
2. **Diversification of the Public Distribution System (PDS):** Shifting of the PDS basket from a rice-only model to a nutritionally diverse framework by permanently including millets, pulses, iodized salt, and fortified edible oils, thereby tackling the problem of hidden hunger directly.

3. **Building universal portability via digital integration:** Ensuring full implementation of the "One Nation One Ration Card" (ONORC) initiative across all tea estates and remote river islands, allowing inter-district migrant workers to claim entitlements without administrative delays.
4. **Deploying shock-responsive social safety nets:** Setting up of institutional systems to automatically expand cash and in-kind assistance when climate bulletins or public health data indicate upcoming regional disruptions, ensuring that vulnerable families retain purchasing power.
5. **Strengthening localized female-led distribution systems:** Partnering with local women's self-help groups under the *Assam State Rural Livelihoods Mission* (ASRLM) to manage neighbourhood food banks, community kitchens, and fresh-produce networks can help in ensuring fair food distribution during crises.

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