International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 20s, 2025
https://theaspd.com/index.php

A Chronological Survey Of The Effectiveness Of Public Distribution System In India: Challenges Ahead

Ritu Makhija[1], Dr. Niyati Padhi[2]
[1]Research Scholar, Department of Economics, Chhatrapati Shahu Ji Maharaj University, makhija2108@gmail.com
[2]Assistant Professor, Department of Economics, Chhatrapati Shahu Ji Maharaj University, niyatilal@gmail.com

Abstract
In India, the Public Distribution System (PDS) is one of the world's largest food security programs that provides food staples to poor and vulnerable portions of the population. Although it is a prominent part of the poverty and food insecurity reduction strategies of a country with the largest number of malnourished people in the world, there have been many challenges to the PDS: inefficiencies and corruption, as well as challenges in ensuring that ECD bodies are serving the right beneficiaries. While this paper considers the history, evolution, and challenges of the PDS, it also considers the policy reform attempts that have been completed to try to combat these various challenges. In the assessment of the PDS, collected quantitative data, review of the literature, as well as review of government documents from a variety of sources, in order to understand the impact, the PDS has had over time. The assessment revealed that the PDS has expanded in terms of coverage but has continued to encounter challenges with leakages and mismanagement, which reduces PDS effectiveness. In conclusion, it proposed strong rationales for the PDS to be modernized through introducing technological-based forms of support, improving governance, and better transparency in the programme in order to better serve the marginalized communities who need it most. In the future it encourages study to expand the exploration of the role and significance of digitalization for the PDS and to examine global best practices in public distribution systems to help strengthen ECD bodies.
Keywords: *Public Distribution System, Food Security, Policy Reforms, Inefficiencies, Digitalization*

1. INTRODUCTION

One of the biggest food security programs in the world, the PDS in India was established to provide vital food commodities in an equitable manner, especially to vulnerable groups (El Baz, & Iddik, 2022). Created in the mid-20th century, the PDS has developed over time from a naiver emergency food distribution system to a more structured and integrated system to deal with the complex socio-economic issues of poverty and hunger in the country. The system functions on the basis of a network of fair price shops (FPS), which serve as food grain retail outlets in rural and urban settings where eligible households can access subsidized food grains (like sugar, rice, and wheat). Although the government has a strong mandate towards food security and poverty alleviation, the PDS has received severe criticism concerning leakages, inefficiencies, corruption, and the ability to effectively reach marginalised groups (Sasi, et al., 2024).

Even while policies, like India's 2013 National Food Security Act (NFSA), are advanced, the Indian public distribution system (PDS) still faces persistent challenges, particularly targeting omission and inclusion errors, poor infrastructure, and poor management (Lăzăroiu, et al., 2020). While the PDS has increased coverage, it remains imperfect with respect to inefficiencies, especially in relation to leakages, corruption, and malfeasance in food grains. Also, sometimes governance issues concerning PDS start from the state or local level, where vulnerable populations bear the most serious costs. While the system has improved in some regards, the ability to efficiently harness and adapt to the diverging and evolving needs of diverse socio-economic groups will always be limited. Therefore, the structure, policy, and implementation of PDS need to be re-examined for future enhancements (Arora, et al., 2021).

The main aim of this study is to examine the historical evolution of India's FDS & its effectiveness in addressing social issues related to poverty reduction and food insecurity across time. Historical patterns of poverty and food deprivation will be explored to provide historical context, as well as the historical transformation of food distribution systems, which may be resolved through historical trends of successes and failures of policy processes, and policy developments and decisions for the wider good. In part, this is a historical evaluation of food distribution systems and will interrogate negative operational issues, like inefficiency, leakage, and corruption, which delegitimize the State's legitimacy. As a whole, this study aims

to engage in a critical evaluation of needed past, present, and future strategies in terms of policy implementation improvements regarding India's food distribution system to directly improve the operational conditions for food access for marginalized populations have equitable resources effectively distributed to the poorest and most food vulnerable.

The study starts with an overview of the PDS' conceptualization and historical underpinning in India, outlining its role in attempting to address food insecurity and poverty, as well as challenges such as inefficiencies, leakages, and corruption. In the literature review section, the authors highlight literature exploring past examination of the effectiveness of PDS, focusing on barriers such as inadequate targeting, and managing misappropriation of resources. The results alignment includes brief highlights of incidents, such as the 1987 draught, and government incremental interventions aimed to mitigate oscillations in the price of food. The discussion lays out systematic inefficiencies of the PDS, the increasing costs of food as subsidized by the state, and an identified need for transformation. The concluding section reiterates the foundational importance of the PDS for marginalized communities and stressed reforms in its administration and quality. Limitations for the study include refraining from attempts to document beneficiaries' actual experiences regarding PDS usage. Recommendations for future study encouraged other studies to consider the possibilities of digitalization replacing inperson distribution, utilizing comparisons with various global governance/management practices to improve overall effectiveness of similar systems.

2. LITERATURE REVIEW

The effectiveness of the PDS in India was a subject of extensive academic inquiry, particularly in the context of food security and socioeconomic equity. In the study "The Public Distribution System and Food Security in India," (Abey George & H. McKay, 2019) provided a comprehensive review of the existing literature surrounding the PDS, aiming to elucidate its impact on food insecurity within the country. The authors emphasized the dual objectives of their review: to assess the efficiency of the PDS as a food-safety network and to identify the barriers and enablers that influenced its operational effectiveness. In the paper “The Covid-19 Crisis and People’s Right to Food”, (Dreze & Somanchi, 2021), they explored the severe nutrition crisis that was triggered by India's national lockdown in response to COVID-19. The authors highlighted the persistent food deprivation experienced throughout 2020 and noted that despite various relief measures, such as increased foodgrain rations and expanded employment under NREGA, the support fell short of compensating for the substantial income losses faced by households. Reetika Khera discussed the revival of the PDS in 2011. Khera presented a counter-narrative to the common perception that the PDS was intrinsically broken, arguing that significant enhancement had occurred at the state level, which demonstrated that the PDS could play an important role in food security for qualifying rural households. Khera's work suggested that with meaningful implementation and support, the PDS could potentially alleviate food insecurity. Niyati and Vijayamba (2020) studied a specifically related building: the impact of COVID-19 on food security and indebtedness in rural India. A telephone survey of 164 households from 26 villages across 13 states revealed that the pandemic had worsened food insecurity and increased indebtedness due to the loss of a source of income and the availability of ineffective support initiatives.

THE 1970’S OIL CRISIS

With the Persian Gulf states' action in raising the posted price of crude oil by 100%, the Indian government encountered considerable uncertainty about what this meant for its future. There had been an expectation of a decline in food production—an essential ingredient in national stability—and it was determined that increasing oil prices and the extreme shortage of petroleum-based fertilizers would lead to a loss of at least three million tons of food production during the spring harvest (Barman, et al., 2021). This alarming situation led economists and government officials to acknowledge that the increasing costs of oil imports had placed India in a vulnerable position, exacerbated by rampant inflation, political unrest, sluggish economic growth, a rapidly growing population, and persistent poverty. The convergence of rising oil prices and food security painted a troubling scenario for the country, highlighting the urgent need for effective strategies to tackle those interconnected challenges (Doran, N. M., et al., 2023).

2.1 Food Security amidst Oil Crisis

Efforts had been made to alleviate the financial strain on the common man by optimizing distribution methods, lowering transportation expenses, and reducing local taxes and commissions. Authorities actively monitored prices in small towns and rural areas to maintain affordability. Additionally, the

allocation of kerosene oil from the central pool to state governments had been adjusted monthly to prevent price increases due to supply shortages. The strengthening of the Public Distribution System had been one of the most important elements of the government's anti-inflammatory policy (Gowd, 2022).
In 1974-75, 2,23,000 fair price shops served a population of 453.6 million, distributing 11.5 million tonnes of food grains from government stocks, which represented an increase from 10.4 million tonnes the previous year. This had been supported by 7.3 million tonnes in imports (Joudyian, N., et al., 2021). Although kerosene quotas were sometimes cut to focus on urgent needs, overall supply remained stable due to careful monitoring (Rajabi, M., et al., 2021). There had been some delays in transporting soft coke by rail, but actions had been taken to improve this, including building coal stockpiles at key locations to ensure a steady supply [Economic Survey 1975-76]. However, in 1975, there had been a seasonal increase in prices. This had been effectively managed by tackling hoarding and black marketing, successfully reversing the upward trend. This achievement had been particularly notable given the unavoidable rise in kerosene and petroleum product prices (Latupeirissa, et al., 2024).
To ensure that price reductions effectively benefited consumers, enhancing distribution had been crucial. As part of the consumer-focused Public Distribution System, 70,000 cooperative retail outlets were established, which generated an annual turnover of ₹1,000 crores in essential commodities (Butt, et al., 2021). Moreover, a National Cooperative Development Scheme was introduced to offer financial support to marketing cooperatives, which enabled them to increase their working capital. This comprehensive approach complemented the efforts of the newly established Department of Civil Supplies and Cooperation, which aimed to tackle inflation and improve the availability of essential goods [Economic Survey 1976-77].

3. RESEARCH METHODOLOGY

This research study uses a mixed-methods approach with qualitative and quantitative methods to assess and evaluate the PDS in India. The research design is descriptive and analytical and seeks to show the contextual historical evolution of the PDS in India, its impacts, and several challenges. The study focuses on India as a case study and examines national-level trends and region-level differences in the implementation of the PDS. The data for the study collected using secondary sources and documentation and include government reports, policy documents, academic research, and statistical data. The analysis of the data will analyze aspects regarding PDS coverage; efficiency; and leakage as well as operational challenges, policy impact, an approach to the socio-political environment of the PDS. This is a mixed-methods approach that demonstrate the overall contribution that the PDS has made to addressing poverty and food security in India.
Research objectives are as follows:

I. To examine the historical evolution of the PDS in India.
II. To assess the efficiency and operational challenges of the PDS mechanism
III. To investigate the role of technological advancements in improving PDS effectiveness

4. RESULTS

3.1Drought of 1987

In the early 1980s, India experienced a surge in agricultural production, reaching a high of over 152 million tonnes of food grains in 1983-84. Unfortunately, this upward trajectory was halted by a series of adverse weather conditions. Four successive inadequate monsoons resulted in one of the most severe droughts in history in 1987, leading to a decrease in food grain output to 144 million tons. That year, food grain output declined by 7-10%, while non-food crops, notably oilseeds, also experienced substantial losses. The 1987 drought served as a stark reminder of the fragility of Indian agriculture in the face of indeterminable weather. In 1986-87, the second year of the Seventh Five-Year Plan, the agricultural food production dropped significantly during three consecutive years of drought. The total food grain falls from 150.4 million tonnes to 144.1 million tonnes. Kharif production declined by 3.7 million tonnes and Rabi production fell by a further 2.65 million tonnes. This was indicative of the deficiencies in Indian agriculture and its exposure to erratic weather.
The unrelenting effects of successive droughts in the 1980s not only threatened the survival of many who lived in the rural areas of the country, it also broke the hearts and hopes of millions who dared to dream for a better life. The nature of drought and how quickly things became dire changed quickly, with rising

prices for necessary things like pulses, edible oils, etc. The increase was confirmed in the WPI, which increased 9.3 percent in August 1987 compared with 6.1 percent last year, and the rising prices further aggravated the plight of the rural poor (who were already finding it very difficult to readjust before the drought) and made it increasingly difficult to acquire necessities during the ongoing fight for survival.

3.1.1 Price Stability and Access to Essential Goods

As of January 1988, the Wholesale Price Index (WPI) showed a 9.8 percent increase compared with an increase of 5.4 percent in the previous year's period. Although inflation could not be stopped completely as it was primarily a byproduct of not producing essential commodities, the price situation was much improved compared with the very high rates in the previous drought years. For comparison, the annual WPI inflation rates at the beginning of drought years were 12.4 percent (1965-66), 15.5 percent (1966-67), 22.7 percent (1973-74), and 21.4 percent (1979-80). For these reasons, the inflation rate of 9.8 percent during January 1988 was less significant and this outcome reflected active government activities that fulfilled their primary purpose which was a proactive government initiative to get net benefits from distribution of the market system and to balance supply and demand in the economy.

By June 1987, the Food Corporation of India had built up considerable stocks of both wheat and rice, amounting to 23 million tonnes. This was an important part of Government policy to deal with the drought, control inflation and protect the interests of the poorer sections of society. In addition, a forward-looking action plan was in place to increase domestic supplies of essential items including pulses, and edible oils, by also, regularly importing them to solidify the PDS primacy in the country.

As part of the PDS Scheme more than 5,600 Fair Price Shops have been established, of which 3,100 were mobile distribution outlets. These mobile outlets were critical in reducing the impacts of drought on communities. They provided direct access to goods and commodities at subsidized prices, which effectively addressed issues of hunger and malnutrition. The mobile units delivered food goods to distant communities, ensured everyone received an equal share of food goods, and stabilized local food prices. They served as an important, additional source of food for vulnerable populations during the drought. By December 1987 there were 3.43 lakh Fair price shops of the PDS.

3.1.2 Agricultural Prices

In the face of recurring drought conditions, building on its commitment, the government acknowledged the critical need to provide remunerative prices to farmers in order to strengthen adaptability during these challenging times. There was a systematic upward revision of procurement prices/minimum support prices for primary agricultural commodities (Table I). This strategic approach aimed to secure farmers' livelihoods, maintain agricultural productivity, and ultimately promote stability within the sector, thereby reinforcing the overall economic framework. The revisions made during the marketing years from 1982-83 to 1988-89 are given in the Table I below:

Table I Minimum Support / Procurement Prices of Primary Agricultural Commodities

(Rs. Per quintal)

Commodity	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
Wheat	142	151	152	157	162	166	173
Paddy	122	132	137	142	146	150**	
Coarse grains	118	124	130	130	132	135	
Gram	-	235	240	—	260	280	290
Arhar	215	245	275	300	320	325	

Source: Economic Survey 1987-88

** Rs. 150 for common variety, Rs.154 for fine variety and Rs. 158 per quintal for superfine variety.

3.1.3 Food grains Logistics

Despite considerable decrease in food grain procurement during the drought year, the distribution through the PDS increased to meet the rising demands.

Table II indicates that rice procurement during the drought year was 4.7 million tonnes, a decrease from 6.7 million tonnes in the preceding year. Wheat procurement dropped by almost 3 million tons relative to the prior year. Nonetheless, the increasing demand for food grains was adequately met by the Public Distribution System. The table indicates that the distribution of food grains via the PDS rose by more than 2 million tons relative to the year preceding the drought. To further support these efforts, an

exceptional allocation of 4.9 lakh tonnes of rice was granted to states for the Public Distribution System during August to October 1987, significantly enhancing food security initiatives.

Table II Procurement, Public Distribution and Stock of Food grains

(In Thousand Tonnes)

Commodity	1986-87 (Up to Dec. 1986)	1987-88 (Up to Dec. 1987)
A. Procurement		
Wheat	10,529	7845
Rice	6430	4745
Total Food grains	16,976	12,671
B. Public Distribution System		
Wheat	4867	6066
Rice	6797	7402
Total Food grains	11,874	13,535
C. Stocks		
Wheat	14,135	7569
Rice	9,448	6,483
Total Food grains	23,630	14,143

Source: Economic Survey 1987

This achievement was made possible by the careful build up and maintenance of food stocks in preceding years which allowed the government to release food grains during critical times to at least partially mitigate the effects of drought. The substantial stock of 14.1 million tonnes at the end of December 1986 was key to meeting the needs of the PDS. This buffer stock has proven to be highly resilient, serving as a critical foundation for ensuring the nation's food security. Additionally, the government proposed open market sales in drought-affected areas to ensure ongoing access to essential food supplies, reinforcing its commitment to food security.

3.2Economic liberalization, 1991

In reaction to an unparalleled Balance of Payments crisis in the early 1990s, the Government of India initiated a revolutionary transition towards a more open economy. This was a notable transition towards more dependence on market dynamics, enhanced prospects for the private sector—including foreign investment—and a reconfigured role for government. This New Economic Policy aimed to foster economic resilience and drive sustainable growth in a rapidly changing global landscape. From 1992-1993 to 2001-2002, the average growth rate was approximately 6.0 percent, which was notable for its resilience, particularly in the face of the East Asian crisis, while also maintaining significant external stability [Ahluwalia, 2006].

3.2.1 NEP & PDS: Ensuring Access and Stability

Despite favourable monsoon conditions and three consecutive years of bumper harvests in the fiscal year 1990-91, the price situation remained significantly difficult. Inflationary pressures began to mount in 1989-90, with the rate rising to 9.1 percent, up from 5.7 percent in 1988-89, and continuing to climb to 12.1 percent in 1990-91. A key concern during this time was the sharp inflation affecting essential commodities, especially food grains. This inflation was driven by ongoing fiscal imbalances and the government's challenges in importing sufficient quantities of goods, compounded by persistent strains on the balance of payments.

Table III Percentage change in Price Indices

Index	1989-90	1990-91
Wholesale Price Index (1981-82=100)		
Annual Inflation Rate (Point to Point Basis)	9.1	12.1

Annual Inflation Rate (Average of the year Basis)	7.5	10.3
Level of the Index	171.1	191.8
Consumer Price Index for Industrial Workers (1982=100)		
Annual Inflation Rate (Point to Point Basis)	6.6	13.6
Annual Inflation Rate (Average of the year Basis)	6.1	11.6
Level of the Index	177	201

Source: Economic Survey, 1990-91

The details mentioned in the Table III above outline the movement in price indices, specifically "the Wholesale Price Index (WPI) and the Consumer Price Index (CPI)," during the fiscal years 1989-90 and 1990-91. The significantly higher rise in the CPI is due to large rise in food prices a higher percentage of the CPI than.

This difference demonstrates that consumers are more sensitive to prices of important food commodities and highlights how important it is to be aware of food price trends, as they are an influential component of overall inflation. Additionally understanding price index movements, is also important for effective monetary and fiscal policy that aims to stabilize prices and ensure food security.

The sudden price escalation in 1990-91 was caused by large fiscal deficits led to an increased money supply, inconsistencies in supply and demand for important commodities, collection of a 25% Gulf surcharge on petroleum, and law and order problems preventing production and delivery of goods, resulting in local shortages.

To address inefficiencies in demand, localized shortages, and market fluctuations, the GOI enhanced the procurement and MSP through "the Commission on Agricultural Costs and Prices (CACP)." This initiative based on a new methodology for estimating production costs, as recommended by the Hanumantha Rao Committee was formed in the early 1990s under the leadership of Prof. C.H. Hanumantha. The committee's insights have been designed to protect farmers' interests, bolster food availability, and promote crop diversification, ultimately strengthening the agricultural sector.

Another Standing Advisory Committee, led by Sharad Joshi, proposed modifications to support and advise the government in implementing agricultural policy effectively. As a result, there was an upward revision in the procurement prices of Food grains, Oilseeds, Fibre etc.

3.2.2 Market Intervention Operation

Market intervention operations are vital in bringing equilibrium to the market and thereby regulating prices in the economy. One important aspect of market intervention in the Indian context is when the Food Corporation of India (FCI), procures food grains at the price predetermined by the government. This provides financial security to the farmer, and the buffer stock rolls over. Thereafter, this buffer stock is released to the vulnerable sections of society through the PDS which is accessed by the vulnerable sections of society through a network of Fair Price Shops. As just one example of the government's proactive role, it maintains prices of essential food commodities, thereby issues low prices at the retail level. The difference between the economic cost (the amount the FCI pays for procurement) and what the disadvantaged sections of society pay is reimbursed to the FCI through subsidies. This scheme continues to provide revenue for the FCI and a means for vulnerable populations to access low-cost food. This reinforces the breadth and efficacy of the PDS in maintain equilibrium within the economy.

The rising prices that stemmed from fiscal imbalances, liberalization, and globalisation impacted the economic wellbeing of disadvantaged communities by reducing their real earnings. As a result of economic disruption, intervention was necessary to address food insecurity and food grains were distributed through the PDS at an increaed distribution quantity. The following Table IV provides the procurement, stock, and supply of food grains during those years.

Table IV Procurement, Public Distribution and Stock of Foodgrains

(In Lakh Tonnes)

Commodity	1988-89	1989-90	1990-91
A. Procurement			
Wheat	65.35	90.00	110.74

Rice	77.07	111.43	130.15
Total Food grains	142.92	203.14	242.90
B. Public Distribution System			
Wheat	77.68	70.85	70.64
Rice	91.79	86.31	88.18
Total Food grains	171.26	158.40	160.26
C. Stocks			
Wheat	26.61	36.52	58.05
Rice	46.75	79.10	112.39
Total Food grains	73.87	117.28	172.71

Source: Economic Survey 1990-91

In 1990-91 FCI and state agencies procured a total of 24 million tons of wheat and rice, up from 20 million tons in the previous year. This increase in procurement is a sign of a proactive approach to food security.

In addition, the total supply of food grains provided by the PDS reached 16.30 million tons, compared to only 15.84 million tons in 1989-90. This not only provides a significant increase in the availability of essential commodities but also signifies the government's efforts to achieve food security for those who are especially vulnerable.

The enhanced stock position during this time, enabled the government to provide necessary quantities of food grains at the appropriate time, further establishing the credibility of the PDS in terms of reliability. Additionally, with concerns of increasing wheat prices, the FCI also began open market sale of wheat at Rs. 320 per quintal, far below the open market prices in different parts of the country. This pricing did not only stabilize the market but also improved access to a necessary commodity for consumers.

Food grains were also provided at subsidised prices - 50 paise below the PDS prices - to people living in Integrated Tribal Development Project areas. In 1990-91, 1.8 million tons were distributed; in the first eight months to November 1992 alone 1.34 million tons were provided. This aimed at enhancing food security and access for vulnerable populations in the region.

In years afterwards, inflation rates dropped sharply, owing to a number of factors, including the upturn in industrial production and compliance with budgets and monetary policy. The improved supply side through open market operations with food grains and edible oils led to better market outcomes.

The PDS was expanded to 1,700 additional blocks in the far-flung and economically backward, drought prone, desert, and hilly areas under the Targeted Public Distribution System (TPDS), enhancing access to essential commodities. These coordinated efforts to address supply and distribution bottlenecks effectively curbed inflation and strengthened the economy, showcasing the impact of targeted policy measures.

3.3COVID-19 PANDEMIC

The global novel coronavirus pandemic emerged as a shock, catching nations off guard and disrupting daily life in unprecedented ways. Lockdowns, social distancing, and widespread illness, reshaped societies, economies, and healthcare systems. The state of starvation and malnutrition in India during the COVID-19 outbreak and the ensuing lockdown has been severe. The pandemic threatened millions of children and adolescents and their families living with or at risk for development of food insecurity (Paslakis et al., 2021). Millions faced job losses and economic instability, exacerbating food insecurity and limiting access to essential nutrition.

According to a 2020 report by the High-Level Panel of Experts on Food Security and Nutrition under the UN Committee on World Food Security, the pandemic led to an increase in food insecurity, affecting an estimated 83 to 132 million more individuals (Niyati & Vijayamba, n.d.). Beyond immediate health concerns from the COVID-19 crisis, short-, medium- and long-term impacts are expected on food systems and on food security and nutrition (Nutrition et al., 2020). A study executed by the Centre for Sustainable Employment (CSE) at Azim Premji University in April and May 2020 underscores the significant economic difficulties encountered by rural communities during the epidemic. Their results show that 73 percent of rural households reduced their food intake, and many households found themselves

increasingly in debt as a result of lost employment during the lockdown (CSE 2020) (https://lookerstudio.google.com/embed/u/0/reporting/eb7b3ad4-67ec-43c9-9027-1b315ec7af96/page/R4vPB)

3.3.1 Navigating Food Security during the Pandemic

Agriculture faced serious challenges during the COVID-19 pandemic, with unprecedented obstacles threatening its stability. Lockdown measures halted the movement of essential farm inputs and machinery, creating significant operational issues. Just as the national lockdown began, the critical harvesting season for Rabi crops was underway, leaving farmers struggling to cope. Many agricultural labourers returned to their home villages, resulting in a severe shortage of workers for planting and harvesting. Despite these hardships, India's agricultural system demonstrated remarkable resilience, working to sustain production against the odds. This was evident in the achievement of a 3.4 percent growth rate, alongside a steady supply of agricultural commodities—particularly staples like rice, wheat, pulses, and vegetables—which proved to be highly beneficial during the pandemic. However, Availability alone does not guarantee food security; effective management of food resources is equally essential for to augment availability and ensuring access and sustainability.

3.3.2 Pradhan mantri garib kalyan anna yojana (PMGKAY)

In response to the adversities encountered by the underprivileged due to the economic repercussions of the COVID-19 pandemic, the Government of India launched the PMGKAY, a program designed to supply supplementary free food grains (rice and wheat) to approximately 80 crore beneficiaries under the National Food Security Act (NFSA). Under the PMGKAY, each recipient receives an additional 5 kg of food grains monthly, augmenting their standard rations. This initiative effectively doubled the amount of food grains supplied to 80.9 crore beneficiaries, ensuring that poor, needy, and vulnerable families had sufficient access to food during the economic crisis. Initially launched to provide essential support from April to June 2020, the program quickly proved vital for ongoing relief efforts. Recognizing the persistent need for assistance among vulnerable groups, the scheme has been extended and rolled out in multiple phases.

Starting from April 2020, this scheme has been implemented in 7 phases with a total planned financial outlay of about Rs. 3.91 lakh crore to ensure food security of NFSA beneficiaries in the country [PIB]. Phase-wise details are depicted in Table V as follows:

Table V Phase-Wise Details of PMGKAY

PMGKAY	Duration	Quantity Distributed in LMTs
Phase - I (3 months)	April'20 - June'20	112.6 LMT
Phase - II (5 months)	July'20- Nov.'20	186.2 LMT
Phase - III (2 months)	May'21 - June'21	75.2 LMT
Phase - IV (5 months)	July'21- Nov.'21	186.7 LMT
Phase - V (4 months)	Dec'21- Mar'22	149 LMT
Phase-VI (6 months)	April'22- Sep'22	217 LMT
Phase-VII (3 months)	Oct'22- Dec'22	88.27 LMT
Total (28 months)		**1,015 LMT**

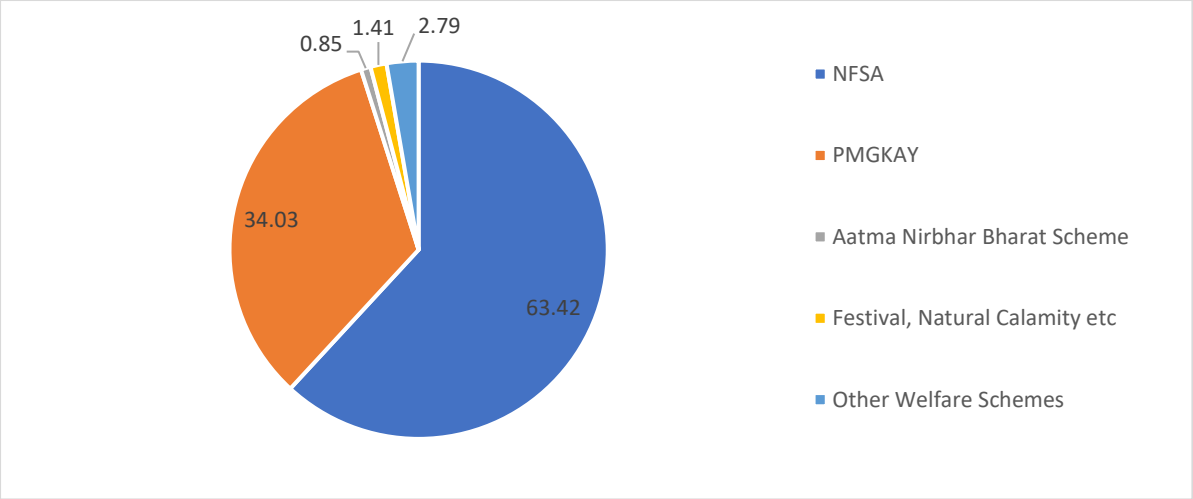
Source: Department of Food and Public Distribution

Furthermore, as part of the Atma Nirbhar Bharat Package, the Government of India allocated free food grains (wheat and rice) at the rate of 5 kg per person per month for two months (May and June 2020) to benefit approximately 8 crore migrants and stranded individuals who are not covered under the NFSA or state ration cards, entailing a subsidy of approximately ₹3,109 crores. The distribution term for the

previously released food grains was extended until August 31, 2020. During May and June 2020, the ANBP provided coverage to an average of around 2.74 crore persons each month. Consequently, 5.48 crore persons were provided with around 2 lakh metric tons of rice and 0.74 lakh metric tons of wheat, incurring a total expenditure of nearly ₹989.30 crores [Economic Survey, 2021-22].

By the conclusion of December 2020, the Government of India distributed 943.53 lakh tons of food grains to States and Union Territories under the NFSA and different humanitarian initiatives. The distribution details are illustrated in the accompanying Figure I.

Figure I: Break up of Allocation under various schemes (share in percent)



Source: Department of Food & Public Distribution & Economic Survey 2020-21

3.4Open Market Sales Scheme

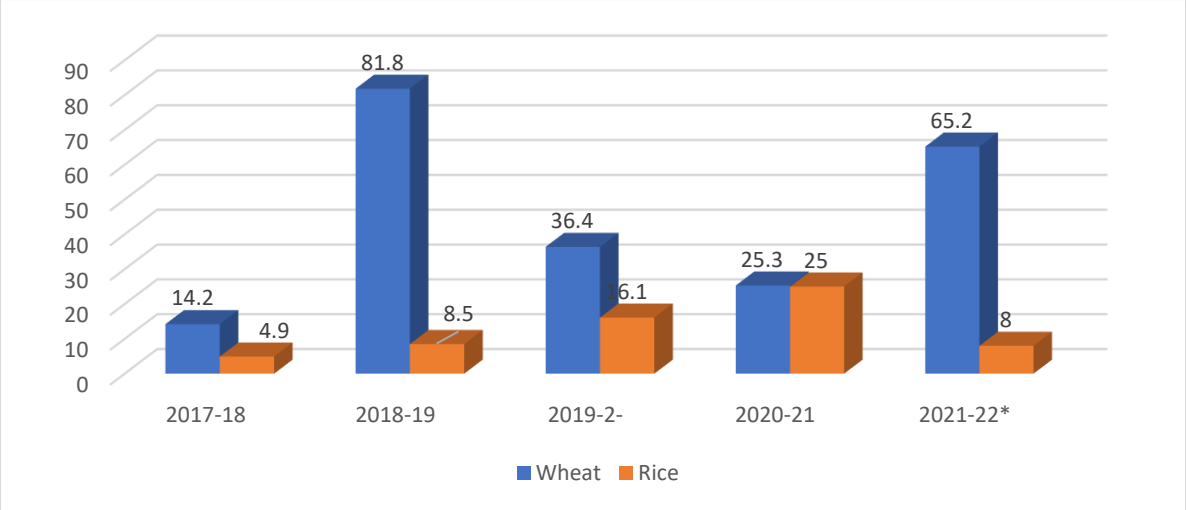
Through the Open Market Sales Scheme (Domestic), the FCI sells excess stock from the Central pool at fixed prices, as directed by the government. In the fiscal year 2020-21, this resulted in the sale of 10.36 lakh metric tons of wheat and 12.87 lakh metric tons of rice by January 2, 2021. This scheme played a vital role in stabilizing food prices and ensuring market availability. By managing the supply of excess stock, the FCI managed to prevent sharp price fluctuations that could adversely affect consumers, particularly vulnerable populations.

Furthermore, a special dispensation was instituted on April 8, 2020, to supply food grains to charity and non-governmental groups that provided aid and managed communal meals for migratory laborers and vulnerable populations during the lockdown. Under this program, wheat was provided at a set rate of ₹21 per kilogram, and rice was accessible at ₹22 per kilogram. There are no restrictions on the quantity of food grains that any organization may get from any FCI depot. This program, originally scheduled to terminate in June 2020, was subsequently prolonged under the same terms and circumstances for the entirety of the 2020-21 fiscal year. As of January 12, 2021, 1,246 metric tons of wheat and 10,418 metric tons of rice were provided to 229 and 1,126 humanitarian organizations and NGOs, respectively [Economic Survey 2021][37]

The Figure II below illustrates the Sale of Wheat and Rice under OMSS during the Past Five Years

Figure II: Sale of Wheat and Rice under OMSS(D) during the last five year

Quantity in LMT



Source: Department of Food and Public Distribution
*Up to 3rd weekly auction of January 2022

3.5One Nation One Ration Card System

During the initial phase of the lockdown, migrant laborers were left destitute and deprived of sustenance, facing stringent mobility restrictions, which precipitated a major flight back to their hometowns and villages. In the latter half, the workers' difficulties were exacerbated by a succession of disordered travel directives and significant mishandling of the repatriation procedure (Adhikari et al., 2020). To enhance access to the PDS for workers, the Government initiated the One Nation One Ration Card System under the Integrated Management of Public Distribution System (IM-PDS). This effort emphasizes the digitization and mobility of ration cards. The scheme allows ration card holders to obtain their entitled food grains from any fair price shop (FPS) across the country, thereby significantly improving flexibility and convenience for individuals who have been displaced or unable to return to their original locations due to lockdowns or travel restrictions. The system, which began with only four states, currently includes all 36 States and Union Territories, serving around 80 crore NFSA beneficiaries—effectively covering nearly 100% of the NFSA population nationwide.

As of December 2023, over 125 crore portability transactions have been documented under the ONORC scheme across the nation, resulting in the distribution of more than 241 LMT of food grains, encompassing both inter-State and intra-State transactions.[32]

3.6CHALLENGES AHEAD

India is a worldwide agricultural powerhouse. The Economic Survey indicates that in 2022-23, food grain output reached a record high of 329.7 million tonnes, while oilseeds production amounted to 41.4 million tonnes. The Indian agriculture industry supports the livelihoods of around 42.3 percent of the people and contributes 18.2 percent to the nation's GDP at current rates. While the country can take pride in meeting its food demand through indigenous production, the challenges remain stark. Despite these impressive figures, challenges related to economic access and effective utilization of food continue to prevail. Millions of individuals living below the poverty line grapple with daily hardships in securing adequate nutrition, highlighting the pressing need for a thorough re- evaluation of the public distribution system.

According to Amartya Sen, the Indian philosopher, economist, and Nobel winner, “What truly matters regarding food is not the total supply but individual access.” Notwithstanding India's remarkable food production capacity, millions persist in experiencing what is termed 'hidden hunger.' The UN's Food and Agricultural Organisation (FAO) reported in 2022 that roughly 224.3 million individuals, or nearly 16% of India's population, are undernourished. Disturbingly, 53% of women of reproductive age suffer from anaemia, while over 17.3% of children are afflicted by wasting and more than 30.9% are stunted. This paradox—characterized by filled granaries juxtaposed with empty stomachs—exposes a profound disconnection between food supply and nutritional sufficiency. Advancements in agricultural productivity have demonstrated a tenuous association with improved nutritional results (Food & Agricultural Organization, UN). The essence of India's food dilemma is not only in augmenting food availability, but in the efficient distribution of food. The epidemic intensified the issue, exposing India's severe disparity.

3.6.1 Per Capita Availability of Food grains

The per capita net availability of food grains is calculated by dividing the net availability of food grains for a specific year by the population estimates for that year, expressed in kilograms per annum. This figure is then divided by 365 days to get the daily availability of food grains, expressed in grams per day. This measure offers information into the average quantity of dietary grains accessible to each individual in the population. The table below illustrates the significant fluctuations in the output of rice, wheat, cereals, and pulses from 2020-21 to 2022-23. Fluctuations in food grain production causes shortages and price volatility, making food less accessible and affordable for low-income households. Additionally, inconsistent production compromises the availability of diverse foods, undermining nutritional quality and threatening the livelihoods of farming communities, which further exacerbates food insecurity.

Table VI: Per Capita Net Availability

(In 000 tonnes)

Year	Population (in Thousand Persons)	Net Production	Net Imports	Change in Stocks	Net Availability	Per Capita Availability Kg/Year Gram/Day	
RICE							
2020-21	1367173	114918	-17775	-3121	100264	73.3	200.9
2021-22	1379750	120389	-21222	3204	95963	69.6	190.5
2022-23	1392329	125438	-22347	-7462	115120	82.7	226.5
WHEAT							
2020-21	1367173	96330	-2155	2604	91571	67	183.5
2021-22	1379750	93917	-7245	-8314	94987	68.8	188.6
2022-23	1392329	97177	-4682	-10645	103142	74.1	203
CEREALS							
2020-21	1367173	256152	-22870	153	233129	170.5	467.2
2021-22	1379750	258843	-32214	-5424	232053	168.2	460.8
2022-23	1392329	272769	-30352	-18155	265144	190.4	521.7
PULSES							
2020-21	1367173	22278	2189	2247	22219	16.3	44.5
2021-22	1379750	24229	2312	-666	27105	19.6	53.8
2022-23	1392329	22801	1733	615	23919	17.2	47.1

Source: Directorate of Economic & Statistics, Department of Agriculture, and Farmers Welfare.

Volatility in food systems, driven by external shocks such as weather events and instability in international markets, poses a significant threat to national food security. While India has made notable progress in increasing food grain production—especially of rice and wheat—managing year-to-year production fluctuations remains a critical challenge. Additionally, the volatility of coarse cereals is considerably higher than that of rice and wheat, intensifying pressure on these staple crops.

3.6.2 Leakages and Corruption

Leakages in the PDS denote occurrences where food grains fail to reach their designated recipients. Data from 2011 suggested that leakages throughout India were assessed at 46.7%. [19] These leakages can be categorized into three types: (i) pilferage or damage during the transportation of food grains, (ii) diversion to non-beneficiaries at fair price shops via the issuance of ghost cards (Inclusion errors), and (iii) the exclusion of eligible individuals not listed as beneficiaries (Exclusion errors). The Evaluation Study on the Role of PDS in Shaping Households and Nutritional Security in India, undertaken by Niti Aayog in December 2016, indicated that exclusion mistakes decreased markedly from 55% in 2004-05 to 41% in 2011-12. In contrast, inclusion mistakes demonstrated an increasing tendency, escalating from 29% in 2004-05 to 37% in 2011-12.

Figure III: Inclusion and Exclusion errors (%)

Credits: PRS,India

Leakages can be assessed by comparing "National Sample Survey (NSS)" data on household purchases with the offtake of foodgrains reported by the Department of Food and Public Distribution. The table below, reproduced from the CACP, illustrates the percentage of foodgrain leakages for the years 2004-05 and 2009-10. It is important to note that the most recent data on consumption from the NSS pertains to the year 2009-10.

Table VII: Offtake compared to consumption of food grains (all India) in million tons

Cereal	Year	Offtake	Consumption as per NSS	Leakage	Leakage (in %)
Rice	2004-05 - 2009-10	16.5 23.4	9.9 17.5	6.5 5.9	39.8 25.1
Wheat	2004-05 - 2009-10	12.9 18.9	3.6 7.8	9.3 11.2	72.4 59.1
Total (Rice + Wheat)	2004-05 - 2009-10	29.4 42.4	13.5 25.3	15.9 17.1	54.1 40.4

Source: Commission for Agricultural Costs and Prices.

The table highlights a considerable proportion of food grain leakage in the market, largely due to corrupt practices and the involvement of intermediaries, which hinder the intended beneficiaries from receiving their allocated shares. The PDS in the country suffers from significant leakage, with only 1 out of every 4 rupees spent actually reaching those in need. In fact, 57 percent of the grains intended for beneficiaries do not reach them. (Planning Commission, Performance Evaluation of Targeted PDS, 2005) [30]

3.6.3 Rising Food Subsidy Bill

The government's Food Subsidy Bill is evaluated by determining the disparity between the Economic Cost (EC) of acquiring food grains and their Central Issue Price (CIP). The CIP denotes the subsidized rate at which basic food grains are allocated to qualifying recipients via government programs, such as the PDS, in India. The government-established price is generally lower than the whole economic cost associated with the acquisition, storage, and distribution of these food grains. These rates have been constant since July 1, 2002. The Table below depicts the vast difference in the Food Subsidy Bill of Rice and Wheat for the years 2002 and 2023 in Rupees per kg.

Table VIII: Calculation of Food Subsidy (in Rs. Per kg)

Grains	Economic Cost (EC)		Central Issue Price (CIP)		Food Subsidy (EC-CIP)	
Year	2002	2023	2002	2023	2002	2023
Rice	11.7	39.2	3	3	8.7	36.2
Wheat	8.8	27	2	2	6.8	25

Source: prsindia.org

As outlined in the Economic Survey of India 2021, the food subsidy bill has become increasingly unmanageable, primarily due to rising Minimum Support Prices (MSPs), which inflate the economic cost, coupled with the fixed Central Issue Price that has remained unchanged since last two decades. This stagnation has exacerbated the gap between the economic cost and the subsidized price, resulting in a

substantial increase in the food subsidy bill, which has quadrupled over the past decade—from ₹43,751 crore in 2008-09 to ₹1,69,323 crore in 2018-19 [16]. The food subsidy as a proportion of GDP from agriculture rose from 3.6% in 2000-01 to 5.1% in 2010-11. This increase is propelled by elevated economic expenses associated with food grain management, unprecedented procurement volumes, and a widening disparity between the economic cost and the Central Issue Price.

5. DISCUSSION

The PDS in India has long been acknowledged as an important mechanism for dealing with food insecurity, but its operational issues have been a substantial focus of research. The study in the provided document presents the changes to the PDS, specifically in response to the issue of food security and the broader economic inequalities that persist despite policy innovations. It draws on the work of critics such as Adefila, A. O., et al., (2024) who focus on the issues of digital transformation and the challenges it brings to the system, and Lee, B., et al., (2021) who respond to criticisms of the PDS by discussing what is possible under the right conditions at the state level. The discussion is then informed by Alabi, & Ngwenyama, (2023) who assess food security inadequacies as the COVID-19 crisis deepened. They provide insights into how the pandemic magnified the conditions of food deprivation, but particularly within the rural poor. While the discussion aligns closely with the operational inefficiencies of the PDS (leakage and corruption), and structural inefficiencies, it does not incorporate recent studies that examine growing indebtedness and food insecurity during the pandemic, such as Gurcan, & Kahraman, (2020) or studies finally bringing light to these equally burdensome issues. This omission would suggest that while the document has a historical view of PDS, it has failed to incorporate more recent assessments of its response to present circumstances.

Furthermore, the review in the study could utilize contrasting with more recent evidence-based research on the financial sustainability of PDS which has come under increasing scrutiny due to rising food subsidy bills. Sharmiladevi, (2023) calls attention to the challenges that the food subsidy bill has on India's economy which also parallels the Economic Survey (2021) report which identified the stark rise between the economic cost of food grains and the subsidized sale prices and general public awareness of food grains market forces that necessitated the cost of the food subsidy. The Economic Survey (1990-91) also outlines the problems of volatility with food grains and related market intervention schemes, together with the evaluation of food grain leakages and inefficiencies in systemic governance structures of the Commission for Agricultural Costs and Prices (CACP) report (2019), which give good insight that could be explored further. Examining and critiquing these readings would could augment the views of PDS system inefficacies with more contextual understanding, and brings a clearer perspective on the context of reforms needed by not only looking at the operational perspective and highlighting the financial reality of operational circumstances, but put an incremental view on the immediacy of reforms to safeguard food security in future strategies to support food security in India (Olson, R., et al., 2021).

6. CONCLUSION

The Public Distribution System (PDS) in India embodies both a historical achievement and a crucial mechanism for tackling the ongoing challenges of poverty and food insecurity. As India aspires to become one of the largest economies in the world, the relevance of the PDS cannot be overstated. Despite continuing economic growth, hard truths like rising inequality and poverty remain and take centre stage all the time. No one can dispute that PDS has always been an essential safety net; a net to secure millions of impoverished families, safeguarding them from the worst of economic shocks, and ensuring their food security. When crises arose, these systems were a stabilising force, allowing families to manage abrupt changes with dignity and humility.

The PDS is not just a distribution system. It is important that the nature of the PDS is not seen as just a relic but as an important tool for social safety and equity as conditions become ever more complex and unpredictable the world over. As India looks ahead and shapes its situation in movements that are taking place every day around the world, the PDS must play a central role in food security strategy. In order to remain strategic, the PDS must evolve to fit the requirements of all people, but especially the most vulnerable.

Strategic improvements can include new ways of utilizing technology to create more efficiency and transparency, broadening the nutritional scope of the distributions to address dietary concerns, and increasing community engagement to strengthen accountability. Additionally, integrating the PDS with

other welfare programs will allow for a more complete social safety-valve to address the phenomenological areas of poverty. By committing to the continued improvement of the PDS, India can imagine a future where people are prioritized by making PDS both a pillar and a beacon for a more inclusive and equitable future for all.

While improving the PDS is critical for improving food security in the short term, reducing dependence on the PDS for extended periods is equally important. Improvements in the PDS should be linked to effective unemployment schemes and skill development to empower families on low income who want to be financially independent. If it supports the establishment of sustainable jobs with opportunities for advancing skill development, are giving families the tools to escape poverty and access food, shelter and whatever else they may need for self-sustaining livelihoods and well-being. For some, that still might look like supplementing their income using the PDS, but it would also likely also mean accessing some degree of financial independence and stability. This approach recognizes that hunger needs to be addressed as a nutritional and hunger issue but also attempts to build resilience and self-sufficiency. In this way, India would be able to achieve food security while still retaining socioeconomic opportunities for families and communities.

5.1IMPLICATION OF THE STUDY

The implications of this study are important for policymakers and government authorities who wish to enhance the PDS. The findings highlight that while expanding the reach of PDS is important, it is equally vital to improve access to food by efficiently distributing it, mitigating corruption through efficient delivery methods, using technology to improve transparency, etc. Moreover, this study provides insights into the importance of being more inclusive in balancing access to food and recognizing the challenges faced by marginalized groups. Therefore, the PDS should not only be expanding quantity, but rather should be expanding both quantity and quality as food security must also be nutritionally adequate. This study has a limitation in that it focuses narrowly on historical in nature and macro-level analyses of the PDS. This analysis does not allow for a fuller exploration into the lived experiences of beneficiaries living in rural and marginalized communities and what might serve as a more nuanced consideration of the effectiveness of the system. This study also did not provide an extensive analysis of the intersectionality of issues such as caste, gender, and geography, all of which may complicate the challenges of access under the PDS. Finally, this research is limited in examining current technological trends that are transforming public service delivery in India through the PDS and would benefit from a future research endeavor exploring these possibilities further. Future research should investigate the effects of digitalization on public distribution systems, considering the role of technology in making distribution more efficient and reducing leakage. The author should also more extensively examine the socio-economic and cultural barricades to marginalized groups accessing public distribution services. Assessing the economic sustainability of public distribution reforms is another area for additional future study, investigating how these reforms may alter India's fiscal policy and food security targets over the long run. Overall, the author may want to widen their lens by assessing cross-national comparative analysis on best practices promoting public distribution systems.

REFERENCES

[1]Abey George, N. & H. McKay, F. (2019). The Public Distribution System and Food Security in India. ncbi.nlm.nih.gov

[2]Adefila, A. O., Ajayi, O. O., Toromade, A. S., & Sam-Bulya, N. J. (2024). Bridging the gap: A sociological review of agricultural development strategies for food security and nutrition. International Journal of Applied Research in Social Sciences, 6(11), 2678-2696.

[3]Adhikari, A., Goregaonkar, N., Narayanan, R., Panicker, N., & Ramamoorthy, N. (2020). Manufactured Maladies: Lives and Livelihoods of Migrant Workers During COVID-19 Lockdown in India. The Indian Journal of Labour Economics, 63(4), 969–997. https://doi.org/10.1007/s41027-020-00282-x

[4]Ahluwalia, M. S. (2002). Economic reforms in India since 1991: Has gradualism worked? Journal of Economic Perspectives, 16(3), 67–88. https://www.aeaweb.org/articles?id=10.1257/089533002760278721

[5]Alabi, M. O., & Ngwenyama, O. (2023). Food security and disruptions of the global food supply chains during COVID-19: building smarter food supply chains for post COVID-19 era. British Food Journal, 125(1), 167-185.

[6]Arora, S., Nabi, T., & Awasthi, V. (2021). CHALLENGES OF DIGITAL TRANSFORMATION AND INDIAN PUBLIC DISTRIBUTION SYSTEM: A SYSTEMATIC REVIEW. 湖南大学学报 (自然科学版), 48(6).

[7]Barman, A., Das, R., & De, P. K. (2021). Impact of COVID-19 in food supply chain: Disruptions and recovery strategy. Current Research in Behavioral Sciences, 2, 100017.

[8]Butt, O. M., Zulqarnain, M., & Butt, T. M. (2021). Recent advancement in smart grid technology: Future prospects in the electrical power network. Ain Shams Engineering Journal, 12(1), 687-695.

[9]Centre for Sustainable Development, Azim Prem Ji University https://lookerstudio.google.com/embed/u/0/reporting/eb7b3ad4-67ec-43c9-9027-1b315ec7af96/page/R4vPB

[10] Doran, N. M., Puiu, S., Bădîrcea, R. M., Pirtea, M. G., Doran, M. D., Ciobanu, G., & Mihit, L. D. (2023). E-government development—A key factor in government administration effectiveness in the European Union. Electronics, 12(3), 641.

[11] Dreze, J., & Somanchi, A. (2021). The Covid-19 crisis and people's right to food. SocArXiv Papers, 10. https://osf.io/preprints/socarxiv/ybrmg

[12] El Baz, J., & Iddik, S. (2022). Green supply chain management and organizational culture: a bibliometric analysis based on Scopus data (2001-2020). International Journal of Organizational Analysis, 30(1), 156-179.

[13] Food and Agricultural Organisation of the United Nations Retrieved From https://www.fao.org/india/fao-in-india/india-at-a-glance/en/

[14] Gowd, K. K. (2022). Network governance, food security, and public service delivery: Functioning of Chhattisgarh's Centralized Online Real-time Electronic Public Distribution System (CORE-PDS). Journal of Public Affairs, 22(3), e2549.

[15] Gurcan, E., & Kahraman, O. (2020). COVID-19 in historical perspective: How disaster capitalism fabricates a fear-managed world order? Belt & Road Initiative Quarterly, 1(3), 49-62.

[16] https://prsindia.org/budgets/parliament/demand-for-grants-2018-19-analysis-food-and-public-distribution https://www.indiabudget.gov.in/budget_archive/es1987-88/5%20Prices%20Price%20Policy%20and%20The%20Public%20Distribution%20System.pdf https://www.researchgate.net/publication/344877437_FOOD_SECURITY_AND_NUTRITION_BUILDING_A_GLOBAL_NARRATIVE_TOWARDS_2030

[17] India Issues and Priorities for Agriculture, World Bank Group Retrieved From https://www.worldbank.org/en/news/feature/2012/05/17/india-agriculture-issues-priorities

[18] Jain, S. (2016). Food security in India: Problems and prospects. OIDA International Journal of Sustainable Development, 9(1), 11-20. Retrieved from https://oidaijsd.com/wp-content/uploads/2019/02/09-01-01.pdf

[19] Joudyian, N., Doshmangir, L., Mahdavi, M., Tabrizi, J. S., & Gordeev, V. S. (2021). Public-private partnerships in primary health care: a scoping review. BMC health services research, 21(1), 4.

[20] Khera, R. (2011). Revival of the public distribution system: Evidence and explanations. https://web.iitd.ac.in/~suban/COP290/stuff/pds/XLVI_44&45_(PDS%20survey)_Reetika_Khera.pdf

[21] Latupeirissa, J. J. P., Dewi, N. L. Y., Prayana, I. K. R., Srikandi, M. B., Ramadiansyah, S. A., & Pramana, I. B. G. A. Y. (2024). Transforming public service delivery: A comprehensive review of digitization initiatives. Sustainability, 16(7), 2818.

[22] Lăzăroiu, G., Ionescu, L., Uță, C., Hurloiu, I., Andronie, M., & Dijmărescu, I. (2020). Environmentally responsible behavior and sustainability policy adoption in green public procurement. Sustainability, 12(5), 2110.

[23] Lee, B., Zhao, W., Yang, K. C., Ahn, Y. Y., & Perry, B. L. (2021). Systematic evaluation of state policy interventions targeting the US opioid epidemic, 2007-2018. JAMA network open, 4(2), e2036687-e2036687.

[24] National Food Security Bill: Challenges and Options Retrieved From https://prsindia.org/files/bills_acts/bills_parliament/2011/CACP_Report_on_Food_Security_Bill.pdf

[25] Niyati, S., & Vijayamba, R. (n.d.). Give to AgEcon Search Impact of the Covid-19 Pandemic on Food Security and Indebtedness in Rural India. https://doi.org/10.25003/RAS.11.1.0009

[26] Nutrition, H., Clapp, J., Burlingame, B., Moseley, W., & Termine, P. (2020). FOOD SECURITY AND NUTRITION: BUILDING A GLOBAL NARRATIVE TOWARDS 2030.

[27] Olson, R., Gavin-Smith, B., Ferraboschi, C., & Kraemer, K. (2021). Food fortification: The advantages, disadvantages and lessons from sight and life programs. Nutrients, 13(4), 1118.

[28] Paslakis, G., Dimitropoulos, G., & Katzman, D. K. (2021). A call to action to address COVID-19–induced global food insecurity to prevent hunger, malnutrition, and eating pathology. Nutrition Reviews, 79(1), 114–116. https://doi.org/10.1093/nutrit/nuaa069

[29] Per Capita Availability of Foodgrains Data Retrieved from https://www.indiabudget.gov.in/economicsurvey/doc/stat/tab119.pdf

[30] Planning Commission Data Report Retrieved from https://dmeo.gov.in/sites/default/files/2019-10/Performance%20Evaluation%20of%20Targeted%20Public%20Distribution%20System%20%28TPDS%29.pdf

[31] Press Information Bureau https://pib.gov.in/PressReleasePage.aspx?PRID=2034943

[32] Press Information Bureau, Delhi https://pib.gov.in/PressReleasePage.aspx?PRID=1990696

[33] Rajabi, M., Ebrahimi, P., & Aryankhesal, A. (2021). Collaboration between the government and nongovernmental organizations in providing health-care services: A systematic review of challenges. Journal of Education and Health Promotion, 10(1), 242.

[34] Retrieved from Economic Survey 1976-77 https://www.indiabudget.gov.in/budget_archive/es1976-77/4%20Price%20Behaviour%20and%20Price%20Policy.pdf

[35] Retrieved from Economic Survey 1987-88

[36] Retrieved from Economic Survey 1990-91 https://www.indiabudget.gov.in/budget_archive/es1991-92_B/4%20Prices%20and%20Distribution.pdf

[37] Retrieved from Economic Survey 2020-21 https://www.indiabudget.gov.in/budget2021-22/economicsurvey/doc/vol2chapter/echap07_vol2.pdf

[38] Sasi, A., Abishek, M., Tejashree, Y., Roy, S., Suresh, D., & Sagar, S. T. A (2024). Systematic Literature Review of the Public Distribution System in India. International Journal of Computer Applications, 975, 8887.

[39] Sharmiladevi, J. C. (2023). Impact study of agricultural value added on foreign direct investment, economic development, trade openness for India following ARDL approach. Cogent Economics & Finance, 11(2), 2270595.

[40] Zahari, N., & Kaliannan, M. (2023). Antecedents of work engagement in the public sector: A systematic literature review. Review of Public Personnel Administration, 43(3), 557-582.