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Towards *Amrit kaal, India @2047*

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Chief Editor

ASHOK GULATI

Editors

RANJANA ROY

SABARNI CHOWDHURY

Logistics Coordinator

RAHUL ARORA

Contact us:

ICRIER

CORE-6A, 4th Floor, India Habitat Center,
Lodhi Road, New Delhi – 110003, INDIA

(Email: agriculture@icrier.res.in)

www.facebook.com/icrier
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Inside the Issue

From the Director's Desk

DEEPAK MISHRA
Director & Chief Executive, ICRIER

Many Indians have often rued the fact that most of our politicians can't think beyond the next election. But how times have changed! As India approaches the 2024 parliamentary elections, the incumbent government is talking not just of next five years, but of India@2047. A long-term vision of *Viksit Bharat* by 2047 is the goal that Prime Minister Narendra Modi has set for the country. It may seem ambitious and aspirational, but with right policies and effective implementation, such a goal is within our reach.

On the positive side, it may be noted that even in the face of adversities like the global challenges posed by the Covid-19 pandemic, and the uncertainties stemming from the Russia-Ukraine war, the government has sustained a healthy growth rate of 5.9 percent over the ten years of Modi government, and also maintained inflation levels well within the Reserve Bank of India's targeted band of 4 +/- 2 percent. The substantial foreign exchange reserves, exceeding 600 billion, position the RBI to prevent any sharp fluctuations in the value of the currency. The corporates and banks have repaired their balance-sheet and the green shoots of investment are beginning to re-emerge. These combined factors have not only contributed to macroeconomic stability but also have underpinned the environment for sustained high growth rates. On a sectoral scale, agriculture, engaging approximately 45.8 percent of the work force, recorded an annual average growth rate of 3.55 percent over the past ten years, while manufacturing and service sectors continue to exhibit solid performance.

In this backdrop, the upcoming government carries the substantial responsibility of orchestrating a transformative shift towards agricultural sustainability, recognizing its pivotal role as the nation's backbone. The call for policies extends beyond simply boosting productivity; it emphasizes the need to prioritize sustainable environmental and socio-economic viability as imperatives. Stakeholders are looking toward a government committed to championing sustainable farming practices, minimizing dependency on chemical inputs, and embracing agroecological strategies but also those that enhance farmers' income. Foremost among these initiatives are those that enhance water-use efficiency, develop climate resilient crop varieties, helping farmers against the challenges posed by climate change. Expectations extend beyond immediate gains, underscoring a comprehensive approach that harmonizes the interests of farmers while protecting the planet's natural resources.

The present issue of AF-TAB is particularly timely as the nation heads for parliamentary elections. It delves into the economic performance over the last two decades, prevailing policies, and their repercussions on environmental sustainability today and in the coming future. At its core, the issue raises a fundamental query: Is the current policy direction, that relies extensively on subsidies and safety nets in contrast to developmental spending in agriculture, the appropriate strategy for realizing sustainable and inclusive growth during *Amrit Kaal*?

From the Chief Editor's Desk

ASHOK GULATI
Distinguished Professor, ICRIER

As India, the world's largest democracy, strides into the 2024 parliamentary elections, there is a likelihood that competing political parties will announce more and more welfare programs (doles), including those in agriculture. The issue for dispassionate economists is to evaluate the likely consequences of such policies. Will subsidies and welfare oriented manifestoes be the way forward or will it be developmental expenditures that can help achieve an inclusive and environmentally sustainable growth. For that, this issue looks at the growth record over the last twenty years or so, and how India is placed over the *Amrit Kaal* till 2047.

The crux of the matter lies in charting a course of actions that not only addresses fiscal concerns tied to subsidies but also aligns with sustainable development goals. The need to foster resilience in agriculture while mitigating its environmental footprint is becoming increasingly apparent. By prioritizing investments and fostering innovation over excessive subsidies, the upcoming government can lay the groundwork for the realization of its ambitious vision -'*Viksit Bharat*' - by the year 2047. In this context, the current issue of AF-TAB titled "***Towards Amrit kaal: India @2047***" delves into the current government's performance, analysing macroeconomic indicators and developmental policies while underscoring the imperative to recalibrate existing strategies for a sustainable trajectory.

The first article explores the evolution of development strategies employed by preceding governments over the past two decades and speculates on the potential trajectory for the next two decades. While the UPA government directed its efforts towards enhancing the overall GDP growth, it concurrently encountered hurdles associated with elevated inflation rates. In contrast, the NDA government effectively controlled inflation during its tenure; nevertheless, it witnessed relatively restrained growth rates. The second article critically examines major central subsidies in the agri-food sector, acknowledging their role in achieving food self-sufficiency and poverty reduction, yet highlighting the environmental challenges they present. The third article underscores the severe air pollution in Delhi during the rice harvest in Punjab and Haryana, emphasizing the pivotal role subsidies play in incentivizing increased rice production by farmers. The fourth article delves into the commitments outlined in the latest state election manifestos, raising concerns about potentially unsustainable fiscal policies and short-term gains that might neglect long-term challenges. It particularly scrutinizes the prevalent themes of agricultural doles, including MSP bonuses examining their impact on state fiscal sustainability, environmental ramifications, and potential distortions in the market.

In brief, this issue of AF-TAB reaffirms the journey to *Amrit Kaal,* and suggests that fiscal consolidation is critical. It advocates priority for development expenditures over doles/subsidies, with a view to spur inclusive growth with environmental sustainability. Without such a strategy, growth may be very lopsided and environmentally not sustainable.

India's Road to 2024 and Beyond

SHYMA JOSE AND ASHOK GULATI

The nation is gearing up for '*Amrit Kaal* @ 2047', emphasizing opportunities for its citizens, particularly the youth, and prioritizing growth, job creation, and a robust macro-environment. The upcoming general elections in 2024 and the subsequent elected government will be pivotal in realizing this vision. Currently, the ruling BJP party is optimistic about their third term, especially following their recent victories in the state assembly elections in Madhya Pradesh, Chhattisgarh, Rajasthan, Mizoram, and Telangana.

As the road to 2024 begins, we need to look into development strategies adopted by past governments over the last two decades and where it is likely to go in the next 20 years. A comparative analysis of the ten years of the Modi-led NDA government (2014-15 to 2023-24) vis-à-vis the ten years of the UPA government under Manmohan Singh (2004-05 to 2013-14) could offer invaluable insights for the incoming administration.

The primary objective of any government is to promote economic growth while also effectively managing inflation and ensuring financial stability. Beyond maintaining stability on the macroeconomic front, the government's ultimate goal is to alleviate poverty as fast as possible.

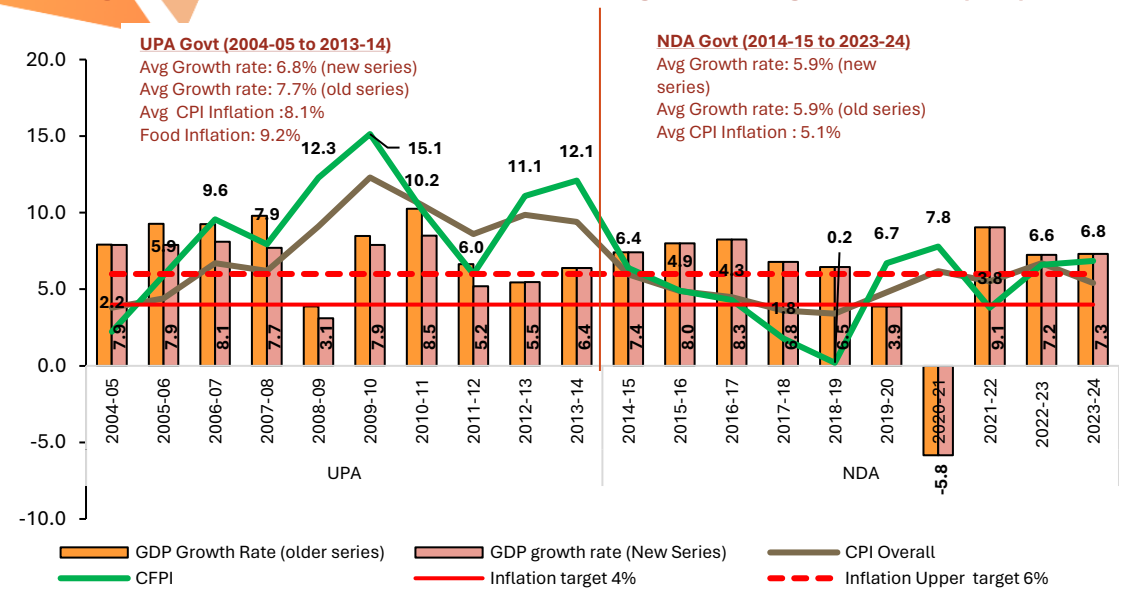
On the macroeconomic front, the average annual growth rate of GDP under the Modi government was 5.9 percent compared with 6.8 percent during the tenure of the Manmohan Singh-led UPA government (as per the latest revised series data with 2011-12 base).

It is worth mentioning that the UPA average annual GDP growth was revised down from 7.7 percent when computed using the older series (with 2004-05 base at factor cost), although 2018's revised methodology for GDP data sparked considerable debate and criticism. However, the UPA government fared worse on the inflation front, with average annual inflation (measured by consumer price index (CPI)) rising to 8.1 percent compared to 5.1 percent during the NDA period.

The UPA government focused on boosting overall GDP growth but faced challenges with high inflation rates. In contrast, the NDA government successfully managed inflation over its tenure; however, growth rates were comparatively subdued (Figure 1). It's is noteworthy that both administrations navigated significant economic challenges: the UPA grappled with the 2008 and 2011 financial crises, while the NDA contended with severe droughts in 2014-15 and the Covid-19 pandemic in 2020, necessitating the adoption of expansionary fiscal and monetary measures.

The trade-off between inflation and economic growth has been a perennial debate among Indian policymakers. This is because high inflation compels central banks to adopt stringent monetary measures, leading to risks of dampened economic growth. Moreover, the repercussions of higher inflationary pressure, particularly in essential commodities like food, act as an implicit tax burdening consumers, jeopardizing the food security and nutritional well-being of the majority of the population.

Figure 1: Trend of CPI annual inflation along with GDP growth rates (in%)



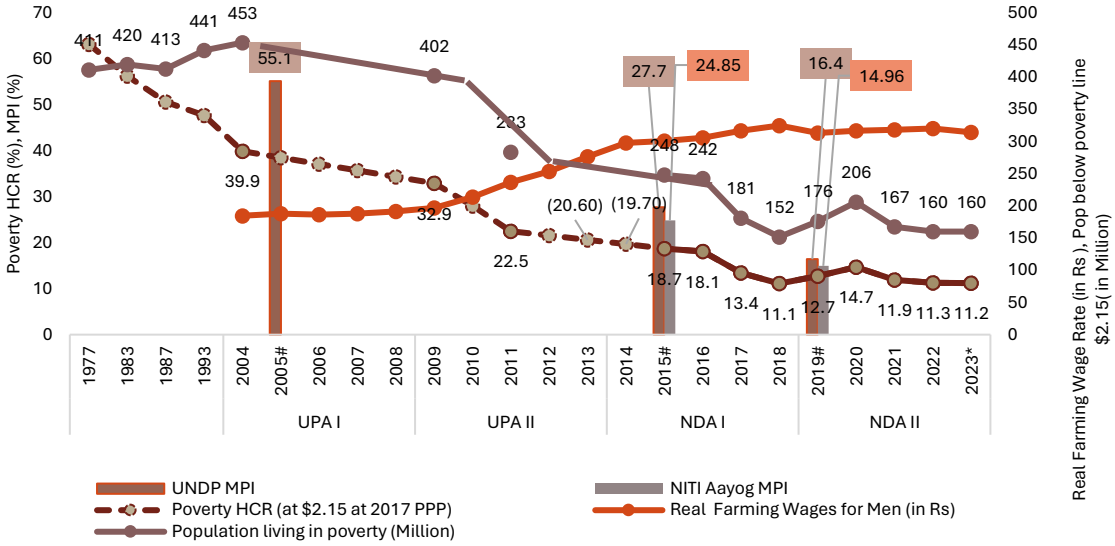
Note: Inflation data before 2011-12 is computed by splicing annual CPI-IW for overall CPI and food inflation. Food inflation Modi -II period is averaged till Nov 2023 for 2023-24.
Source: MoSPI and Labour Bureau, GoI

In terms of poverty alleviation, while data is available discretely since 1977, it reveals that India's headcount poverty rate significantly decreased from 63.11 percent to 39.91 percent between 1977 and 2004. This is measured in terms of World Bank's definition of extreme poverty at $2.15/day/per capita (in 2017 constant purchasing power parity, PPP). But, despite this, the absolute population living below extreme poverty line increased from 411 million to 453 million due to rapid population growth (2.1 percent).

As population growth came down, absolute poverty numbers also came down in subsequent years. Interpolating the discrete poverty data as shown in Figure 2, during the UPA-1 period, 2004-05 to 2008-09 (interpolated), extreme poverty declined by 1.12 percent per annum (from 39.9 percent to about 34.3 percent). But during UPA-II, 2009-10 to 2013-14 (interpolated), poverty declined rapidly at 2.46 percent per annum (32.9 percent to 20.6 percent). During the Modi-I period, poverty fell but at a declining rate, from about 19.7 percent in 2014-15 (interpolated) to 11.1 percent in 2018-19, i.e. 1.72 percent decline per year. Surprisingly, during Modi-II period, 2019-20 to 2023-24, poverty declined very meagerly at 0.3 percent per annum. Covid-19 seems to have given a big shock and even in 2023, India has the highest number of people (160 million) still in extreme poverty, up from 152 million in 2018.

The stunted decline in head count poverty figures during Modi-2 period also corroborate with decline in rate of growth in real average daily wage of men in farming operations. During the two-terms of UPA period, the real farm wages grew by 4.1 percent compared to 1.3 percent during Modi-1 and 2 periods. Interestingly, high food inflation during the UPA period benefitted the farmers through higher price realizations, partly driven by the global economic boom. The gains from higher overall economic growth and opening up of rural non-farm activities under the UPA administration trickled down in the form of higher wage growth for agricultural workers who still account for a major chuck of the workforce (Figure 2).

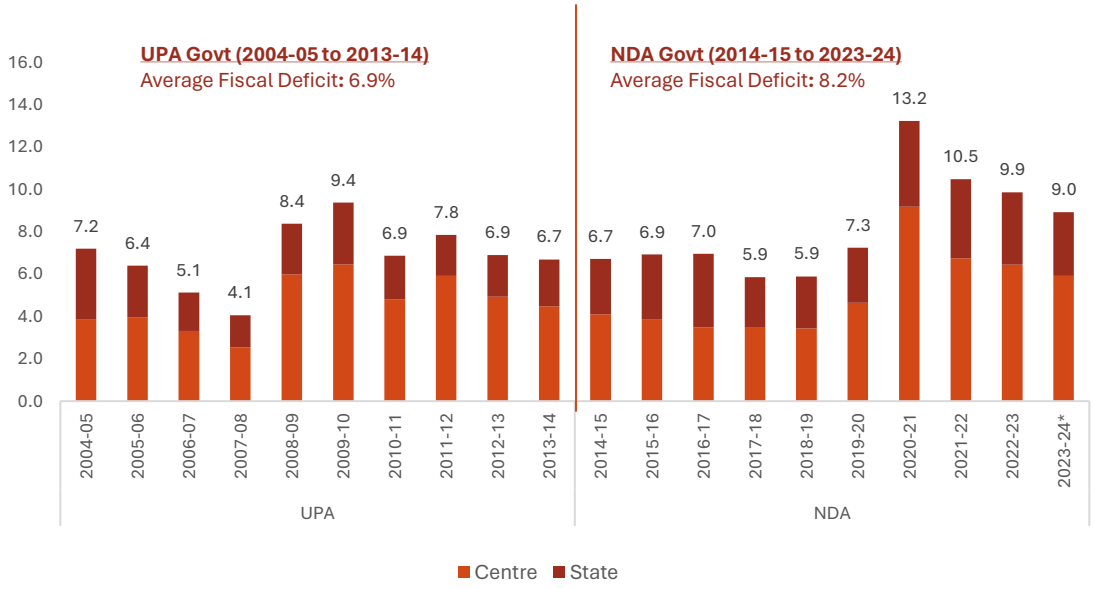
Figure 2: Poverty, Multi-dimensional Poverty & Real Average Daily Farming Wage Rate



*Note: *Poverty figures for 2023-24 are forecasted by the World Bank. Data for extreme poverty rates is discreet and have been linearly interpolated to estimate per year decline during UPA period (2004-05 to 2013-14) and NDA period (2014-15 to 2023-24). # MPI data are for the years 2005-06, 2015-16 and 2019-21. Real wages for farming operation are average daily wage rates for men in farming activities such as ploughing/tilling workers; sowing; harvesting/winnowing/ threshing workers; picking; workers and horticulture workers (including nursery growers). The nominal average daily wage rates have been deflated by CPI-AL to compute real wage rates. The base year of CPI-AL is changed from 1986-87 to 2020-21. Real wages for Modi -II period is averaged up to Oct 2023 for the year 2023-24.*

Source: World Bank, Poverty & Equity and Macroeconomics, 2023; RBI Database for Indian Economy, UNDP, NITI Aayog

Figure 3: Centres and state's fiscal deficit as share of the GDP (in%)



Note: Data for the Centre's fiscal deficit 2023-24 are projected, however state's fiscal deficit data are not available and hence, has been projected by authors.

Source: RBI-Handbook of Statistics on Indian Economy

During high inflationary pressure, India has followed restrictive monetary policies through rising bank rates and repo rates that tend to weaken the growth prospects of the country. To bring the balance between inflation and growth, fiscal consolidation is equally important. On average, the fiscal deficit under the Modi government was around 8.2 percent of the GDP vis-a-vis 6.9 percent during the period of the Singh government- both higher than the Fiscal Responsibility and Budget Management (FRBM) limit of 3 percent (Figure 3).

The third macro-economic indicator is the foreign exchange reserve which is important for financial stability and resilience. This is because adequate reserves give confidence to the governed to use trade policy, and fiscal and monetary instruments to trade-off between economic growth and inflation. During the UPA period, the foreign exchange reserve increased from US$ 119 billion on May 21, 2004, to US$ 313 billion on May 23, 2014, which was a net addition of US$ 194 billion. Compared to this, the performance of the Modi government has 303 billion as foreign exchange reserve increased to US$ 616 billion on December 15, 2023 (RBI, 2023). At the sectoral level, agriculture registered an annual average growth rate of 3.55 percent during the Modi government, against 3.5 percent during Manmohan Singh's period based on the 2011-12 constant prices. Performance of agriculture is critical for the well-being of masses as it still engages about 45.8 percent of work force. And we do not observe any significant difference in that during UPA or Modi period.

Next, we examine some major welfare schemes introduced during the tenures of both Modi and Manmohan Singh's governments to evaluate their performance on the social front. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), implemented to enhance livelihood security in rural areas and significantly impact the income and wage levels of the rural populace, has seen notable achievements under the Modi administration. As of December 26, 2023, the government has generated a total of 268 crore person-days of employment through this program. This exceeds the 208-crore person-days generated during the UPA era.

Another notable accomplishment of the Modi administration was achieving an Open Defecation Free (ODF) status for the country. The percentage of open defecation dropped significantly from 38.7percent on October 2, 2014, to 100 percent on October 2, 2019, within just five years. However, the estimates from various National Family Health Survey (NFHS) rounds indicate that the households practicing open defecation declined from 55 percent in 2005-06 to 39 percent in 2015-16, and further down to 19 percent in 2019-21. While there may be discrepancies when comparing government estimates with NFHS data, the commendable progress made under the Swachh Bharat Abhiyan (SBA) by the Modi government, which aimed at eliminating open defecation and eradicating manual scavenging, cannot be denied. Modi's administration appears to have made significant strides in terms of welfare schemes compared to the Singh government.

Notably, the UNDP's Multidimensional Poverty Index (MPI), computed using 10 indicators under three dimensions -health, education, and standard of living, halved from 55.1 percent to 27.7 percent between 2005-06 to 2015-16. That is, about 271 million people moved out of poverty. Similarly, NITI Aayog's national MPI (similar to UNDP' MPI with 12 indicators) dropped from 24.85 percent to 14.96 percent between 2015-16 and 2019-21. In absolute terms, about 135 million came out muti-dimensional poverty during Modi-2 period due to improved access to sanitation, cooking fuel, years of schooling, etc.

Way Forward

Given the upcoming general election, numerous welfare schemes 'revdi', have been announced. These schemes could potentially disrupt the fiscal deficit landscape, raising concerns about their implications on the Indian economy amidst a global economic slowdown.

For example,

- Beginning in March 2023, a series of additional LPG subsidies were introduced under the Ujjwala scheme. A subsidy of ₹200 per 14.2 kg cylinder was provided for up to 12 refills annually, aiming to boost the average annual refill rate from 3.68 in 2021-22. Furthermore, the Union Cabinet sanctioned an allocation for 75 lakhs additional Ujjwala connections, aiming to increase the total beneficiaries from 9.6 crore to 10.35 crore between 2023-24 and 2025-26 (PIB, 2023).

- Additionally, the Prime Minister announced an extension of the "free" ration initiative to cover 67 percent of households nationwide for an additional five years, from January 1, 2024. This move, approved by the Union Cabinet in November 2023, implies the burden on the exchequer will increase from the already earmarked food subsidy of ₹1.97 lakh crore for 2023-24 (Budget Estimate).

- On June 30, 2023, the Union Cabinet approved a "special package" comprising innovative schemes, with a total outlay of ₹3,68,676.7 crore (focused on urea subsidy) spanning three years, aimed at bolstering sustainable agriculture.

While these unsustainable populism schemes might yield short-term political gains, they have long-term adverse effects on both social and economic fronts. Rather, the forthcoming government should move away from a subsidy culture in the food and agricultural sector and promote a crop-neutral income support program. This approach would motivate farmers to grow crops aligned with market demand and local climatic conditions, optimizing resource use and reducing the government's subsidy outlay, thus paving the way for sustainable agricultural growth.

Looking ahead to Amrit Kaal, the imminent government must prioritize fiscal consolidation by minimizing doles and increasing capital investments in innovations, rural infrastructure, and health. Importantly, reducing income poverty should be ultimate goal over the next decade or so, especially of those who are most vulnerable (*Antyodaya*). Only then growth and stability will have any meaning for the masses.

References

- Central Statistical Organisation. (2023). Ministry of Statistics and Program Implementation. (MOSPI), GoI
- PIB (2023). Cabinet approves targeted subsidy to Pradhan Mantri Ujjwala Yojana Consumers. Retrieved from https://pib.gov.in/PressReleasePage.aspx?PRID=1910516
- RBI (2023). Handbook of Statistics on Indian Economy. 2023. Retrieved from https://t.co/2jniRU5DC4.
- World Bank (2023). Poverty and Inequality Platform. Retrieved from https://data.worldbank.org/indicator/SI.POV.DDAY?locations=IN

Assessing Policies for Sustainable Agricultural Development

RANJANA ROY AND ASHOK GULATI

As India gears up for its parliamentary elections in 2024, there are several issues that the incoming government will face. In the field of agriculture, environmental sustainability is one such issue. A government committed to the well-being of farmers and the agricultural sector needs to craft such policies that promote resource-efficient farming practices, while augmenting farmers' incomes. The incoming government, therefore, needs to demonstrate the political will to navigate this path.

As we see the course of agriculture development in India, the country's agri-food support provided by the government has played a major role in attaining self-sufficiency in food grain production as well as achieving food security for the growing population of the country. India has experienced a remarkable transformation since independence from being a 'begging bowl' to a food sufficient and food surplus economy. Food grain production in India has increased from just 52 MMT 1951-52 to 315.7 MMT in 2021-22 with per capita net food grain availability increasing from 144.1 kg per year in 1951 to 187.8 kg per year in 2021-22 (Agricultural Statistics at a Glance, 2022). However, these policies have been criticized for putting burden on state exchequer and also posing severe environmental challenges. This article provides an analysis of the national level agri-food support in the country in terms of input subsidies and safety net, especially fertilizers for farmers and food subsidy for consumers.

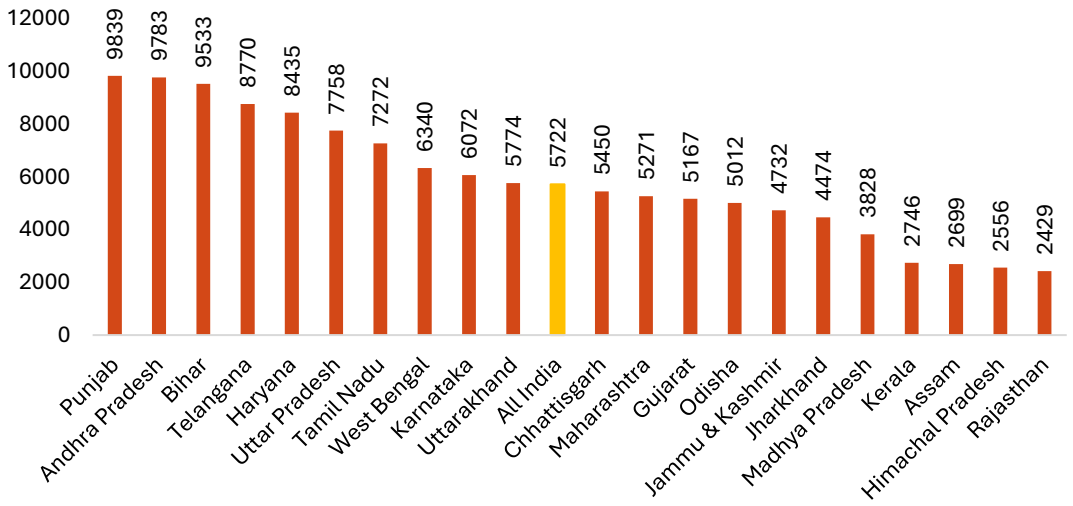
Input Support through Fertilizer Subsidy

In order to boost productivity and meet the increasing demand for food, the government offers fertilizers, power, water for irrigation, etc., at subsidized rates. India is a global player in the fertilizer market, both as a producer and importer. Since 2000, India has been the second largest producer of nitrogenous fertilizers after China (producing 10-11 percent of world production) and the third largest producer of phosphatic fertilizers after China and the USA (producing around 8-12 percent of total world production). India is also the second largest consumer of fertilizers in the world after China, and the fourth biggest consumer of potassic fertilizers after China, Brazil, and the US (8 percent of world consumption in 2020) (Fertilizer Statistics, 2021-22). The consumption of phosphatic and potassic fertilizers is met by imports.

Over the years, the volume of fertilizer subsidy has steadily increased, and stood at Rs 2,252.2 billion in 2022-23. The subsidy on urea constitutes around 70 percent of the total fertilizer subsidy. Fertilizer subsidy has a positive impact on the productivity of output as consumption of nutrients significantly increased. As production increased, cheaper food was available for the mass. So, fertilizer subsidy worked not only as input subsidy for the farmers but also as support for the consumers. In absolute terms, consumption of total nutrients has increased from 16.7 MMT in 2000-01 to 32.5 MMT in 2020-21. However,

the fertilizer subsidy policy could not accelerate domestic production enough and import dependency has increased steadily. This has resulted in burgeoning subsidy burden in India. On the basis of per hectare of gross cropped area, government spends Rs.7274 in 2021-22 through fertilizer subsidy. However, at the state level, huge disparity is observed in the consumption of nutrients even though support is provided by the Centre. The level of fertilizer consumption per hectare of gross cropped area is much higher than all-India average (144.6kg/ha) for states of Punjab (247.9kg/ha), Haryana (214 kg/ha), and Uttar Pradesh (196.4 kg/ha) in TE 2021-22 (Fertilizer Statistics, 2021-22). This implies huge subsidy Going to these states in TE 2021-22 (Figure 1).

Figure 1: Fertilizer Subsidy TE -2021-22 (Rs/ha)[1]



Source: calculated by authors using Union Budget Documents various years, Ministry of Finance and Agricultural Statistics at a Glance various years, DES, MoA&FW

This high level of subsidy is not only a burden on the state exchequer but also hampering soil health of these states. Due to heavily subsidized urea, the ratio of nitrogen (N), phosphorous (P), and potash (K) is far from ideal use in these states. Chand (2015) has estimated the all-India ideal ratio as 2.6:1.4:1 and he also stated state-wise ideal ratios in the study. According to the paper, ideal ratios of NPK for Punjab and Haryana are 4.1:1.6:1, and 4.0:1.7:1 respectively. Compared to that in 2019-20, the NPK ratio in Punjab and Haryana were 34.8:8.4:1 and 28.2:8:1.

According to a study by FAO (2005), India's soils are lacking nitrogen; phosphatic nutrient content is low to medium, and over time, the deficit of potassic nutrients has also become widespread. The nitrogen use efficiency (NUE) of Indian soils is also low. Proper and rationed application of fertilizers, is overdue and highly subsidized urea is obstructing balanced application of nutrients.

Food Subsidy

Agricultural price policy played a crucial role in attaining growth and equity in Indian economy in general and the agricultural sector in

[1] Methodology for Calculation: fertilizer subsidy all India/fertilizer consumption all India=fertilizer subsidy per tonne; Fertilizer subsidy per tonne* state consumption of (N+P+K) = Total subsidy at state level; subsidy per ha= Total State Subsidy /Gross Cropped Area

particular. The idea of food rationing is derived from the British initiative in 1939 which eventually laid the foundation of PDS that was developed in 1942. The death of 1.5 million people during Bengal famine in 1943 gave the legitimacy to the PDS. In the present time, the system is ensuring food security for 800 million people across India.

The scheme was adopted with the dual objectives of protecting both the producers and consumers by achieving food security of majority of the population and augmenting production, employment, and income of the farmers. Currently, the price policy consists of three instruments: procurement prices/ Minimum Support Prices (MSP), buffer stocks and public distribution system.

Minimum Support Price and Procurement

Through MSPs for products and guaranteed procurement, the government established an environment to remove uncertainties for farmers during harvesting period while, at the same time, shielding consumers against price fluctuations. Food subsidy is the largest component of government's subsidy bill in India. The food subsidy bill has risen steeply to Rs.2871 billion in 2022-23.

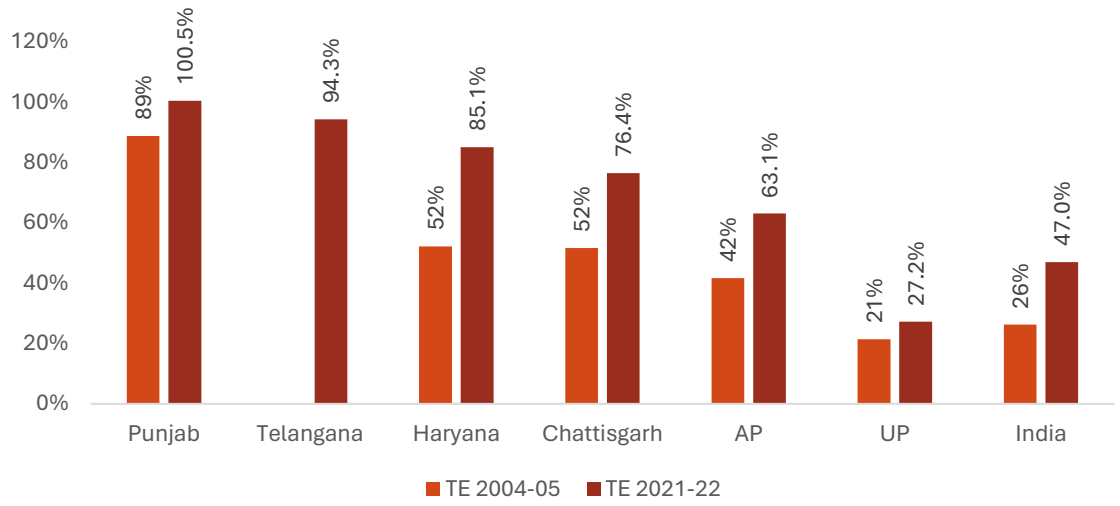
One of the key challenges with a long-established procurement-backed MSP policy is that the central government may announce MSPs for 24 commodities (including fair and remunerative price (FRP) for sugarcane) on paper, but their implementation remains largely concentrated in implementation. Only wheat and rice are procured by the FCI on a continuous basis, and that too from a few selected states, while procurement mechanisms for other crops – pulses, oilseeds, sugar, and cotton – are mostly insufficient.

Farmers respond to the price signals provided by the MSPs and grow principally crops which ensure them best price. Procurement at MSP was adopted primarily for wheat and paddy to ensure remunerative prices to farmers for their produce which worked as an incentive to produce rice. This has been successful in states like Punjab and Haryana. In the recent years, states like Madhya Pradesh, Chhattisgarh, Telangana, Odisha have entered the game. Punjab and Haryana together produce around 14 percent of rice and 27 percent of wheat production in India respectively in 2020-21. However, these two states together contributed 28 percent of rice and 73.6 percent of total wheat procurement in 2022-23.

In terms of percentage share of production, entire produce was procured by government agencies in Punjab, and around 85 percent of the production was procured in Haryana (Figure 2). As a result of open-ended procurement, the cropping pattern in these states have shifted towards production of paddy. The major crops grown in Punjab were wheat, rice, maize, cotton, sugarcane, and horticulture. However, owing to lower market risk in rice compared to other competing crops, farmers moved towards rice cultivation.

Farmers' preference for paddy cultivation is due to assured MSP, which is fixed at 1.5 times the cost of production incurred by the farmers. For instance, MSP of common paddy was fixed at Rs.2183/quintal in kharif 2023. Because of very high procurement as a percentage of state production, wholesale price of paddy in private markets reached as high as Rs.2634 and Rs.2239 in Punjab and Haryana in the harvest months respectively. On the other hand, in West Bengal, where there is hardly any procurement by the government, wholesale price (Rs.2126/Quintal) remained lower than MSP.

Figure 2: Procurement of Rice as a percentage of production in major states, TE 2004-05, and TE 2021-22



Source: Agricultural Statistics at a Glance, DES, 2021 and FCI, 2022

Without a well-functioning procurement mechanism, paddy is not as lucrative a crop in states where it is environmentally sustainable for cultivation.

In Punjab, wholesale price of maize (Rs.1305) remained very low in the kharif marketing season of 2023 compared to its MSP (2090). Similarly, in Haryana, wholesale price of moong (Rs.8057) hovered below the MSP (Rs.8558) in the marketing season (AGMARKNET). The crop-specific and region-specific procurement operation has distorted the cropping pattern of these states. The need of the hour is to incentivize diversification away from rice through crop-neutral support for farmers.

Way Forward

Currently, fertilizer and food subsidy together constitute 10.9 percent of agriculture GDP in 2021-22. With agriculture being the backbone of the nation, there is a pressing need to reorient policies towards long-term environmental and socio-economic viability without hampering the productivity.

1) The urgent need to revisit procurement policy:

Current MSP policy generates highly skewed incentive structure in favour of wheat and rice. While there is shortages of pulses and oilseeds, their prices often remain below MSP without any effective price support. Moreover, trade policy works independently of MSP policy, and pulses are often imported at a price lower than MSP. This disincentivizes diversification. It is highly desirable that the country has crop-neutral incentive structures. That way, pulses and oilseeds need to get a similar support as wheat and rice.

2) Revamp Public Distribution System

GoI can revamp the public distribution system by launching food coupons for the poorest population. Ration shops can be converted into nutrition hubs where all the ingredients of a balanced meal will be available. The female heads of the BPL households should be provided with food coupons which could be used at these ration shops. This will provide them with the option to purchase nutritious food at a subsidized rate, expanding access to

healthier options. This will serve the objective of incentivizing crop diversification and improve nutritional status of the population.

3) Direct Benefits Transfer

India's agriculture is heavily dependent on monsoon rain, making it vulnerable to droughts and inconsistent rainfall patterns. Hence farmers, especially the small and marginal farmers, will always require government support. To deal with inefficiencies of the current subsidy structure government can adopt direct benefit structure. This will help create a crop-neutral incentive structure.

References

- Agricultural Statistics at a Glance (2022), Agricultural Statistics Division, Directorate of Economics and Statistics, Department of Agriculture and Co-operation, Ministry of Agriculture, Government of India (GoI)
- Chand, R, & Pavithra, S. (2015). Fertiliser use and imbalance in India: analysis of states. *Economic and Political Weekly*, *50*(44), 98-104.
- Commission for Agricultural Costs and Prices (2021), Ministry of Agriculture & Farmers Welfare, Government of India
- FAO (2005), Food and Agriculture Organization of United nations (2005). "Fertilizer Use by Crop in India", Land and Plant Nutrition Management Service, Land and Water Development Division, FAO, Rome.
- Fertilizer Statistics, The Fertilizer Association of India (FAI)
- Union Budget Documents various years, Ministry of Finance

Making Delhiites Breathe

REENA SINGH AND ASHOK GULATI

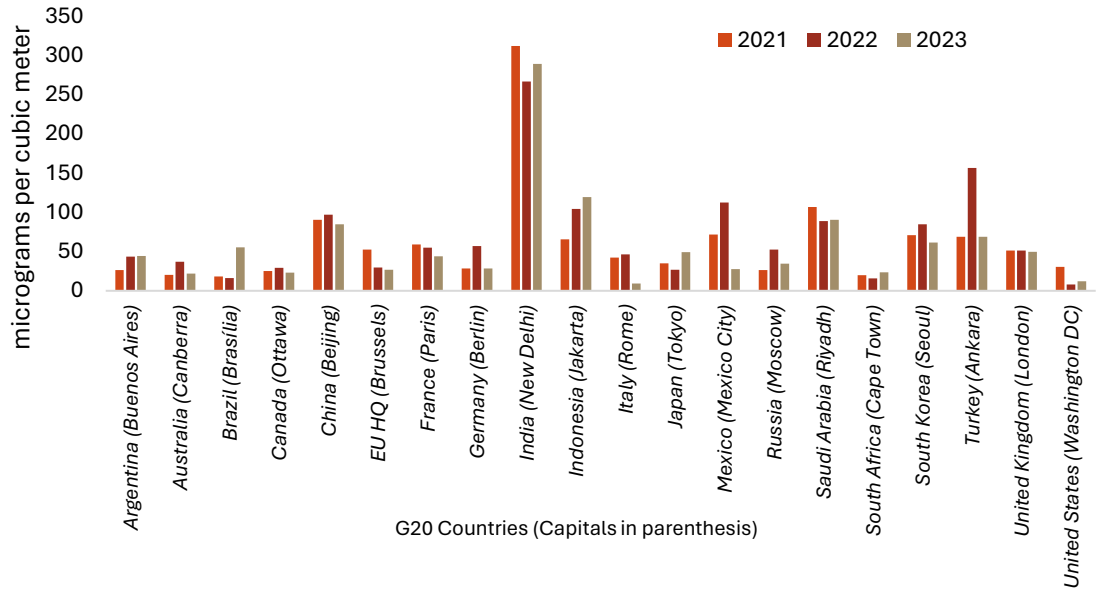
Breathing for healthy humans is taken for granted; it occurs naturally without conscious effort using ambient (1-atmosphere) pressure with 21 percent oxygen (O_2) concentration. Air quality is a measure of the air's suitability for breathing by people, plants, and animals (CPCB, 2019). On average, a person takes 15-20 breaths per minute and inhales about 14,000 litres of air every day (CPCB, 2019). Good outdoor air quality is fundamental to our well-being and life. Violation, therefore, of the right to healthy air is potentially a violation of the basic right to life. Given the current high levels of air pollution in Delhi, this article highlights the impacts of poor air quality, the factors and policies that are impacting Delhi's breath and finally the policy recommendations to bend air pollution curve of Delhi so that more than 20 million people of Delhi (National Commission on Population) can breathe comfortably without adversely impacting their health and life longevity.

Air Pollution Trends in Delhi

Air pollution is the presence of one or more contaminants in the atmosphere, in quantities and duration, that can be injurious to human health. As per the Air Quality Life Index 2023, India is the world's second most polluted country (after Bangladesh) and Delhi is the most polluted city in the world. The recent three years' trends of fine particulate matter (PM) 2.5 in the capitals of G20 countries during first fortnight of November is presented in Figure 1. The startling aspect of that statistic is that the recorded levels (PM 2.5 reaching close to 300 µg/ m^3) are not only 20 times higher than World Health Organization's (WHO) air quality guidelines (Refer Box 1), but also five times higher than India's National Ambient Air Quality Standards (NAAQS). It is important to note that the WHO air quality standards are not legally binding; and are provided as a guideline for countries who may or may not choose to adopt them. Although India has chosen the same standards for the same type of pollutants as WHO has prescribed but the limits are quite different and as a matter of fact more forgiving and generous. This makes us wonder - what is the truly safe limits for people? and are citizens of India being exposed to more air pollution than the people who live in countries with more stringent limits? Nevertheless, the data is very loud that Delhi has turned into gas chamber, even as per the national guidelines, mandating Delhiites to choke with each breath. The capital of "*Viksit Bharat* by 2047" definitely deserves healthy breaths.

Outdoor air pollution is the major environmental health hazard and as per World Health Organization (WHO), it has caused 4.2 million premature deaths worldwide in 2019. PM 2.5 is an especially important source of health risks, as these are very small inhalable particles with diameters 2.5 micro meters or smaller. These particles can penetrate deep into the lungs, enter the bloodstream, and travel to organs causing systemic damages to tissues and cells. PM 2.5 can shorten an average Indian's life expectancy by 5.3 years (Air Quality Life Index 2023), relative to what it would be if the WHO guideline of 5 µg/m^3 was met.

Figure 1: Average PM 2.5 concentrations in capitals of G20 countries during 2021, 2022, 2023.



Source: Prepared by Purvi Thangaraj based on Gulati & Thangaraj 2022, World Air Quality Index Project

The National Capital Territory of Delhi fares much worse than Indian average, with air pollution shortening lives by 11.9 years (Air Quality Life Index 2023). In contrast, cardiovascular diseases reduce the average Indian's life expectancy by about 4.5 years, while child and maternal malnutrition reduce life expectancy by 1.8 years.

Source Contribution to PM 2.5 in Delhi

The monthly average air quality index[2] (AQI) of Delhi starts peaking up from October, touches its peak during November and starts declining from January (Figure 2). October-November is the kharif harvesting season (with highest incidences of fire counts, particularly in Punjab, see next section) and Diwali (2-3 days of cracker burning). During December-January months, pollutants get trapped over the region due to (i) low or stagnant wind speed or (ii) low air winter inversion – upward movement of air from the layers below is stopped as the cold winter air is much denser than the hot summer air. March-April also sees a minor peak in AQI, which is coincided with the rabi harvesting season. July-August is the monsoon time and also the time when AQI is satisfactory or moderate.

Over the years and in 2023, the period of November 1-15th has been the worst in terms of air quality for Delhi. Modelled source contribution estimates of PM 2.5 by Decision Support System for air quality management in India under the aegis of the Ministry of Earth Sciences (MoES) suggest that during first fortnight of November 2023, the relative contribution from biomass burning (from the adjoining states) was the highest (approximately up to 36 per cent), followed by Delhi's transport sector (approx. 15 percent) (Figure 3).

[2] Indian AQI range is 0-500, from 0 being good and 500 being severe. To calculate AQI, data for minimum three pollutants (one should be either PM 10 or PM 2.5) must be present out of eight key pollutants (PM 10, PM 2.5, CO, O_3, NO_2, SO_2, NH_3, and Pb.

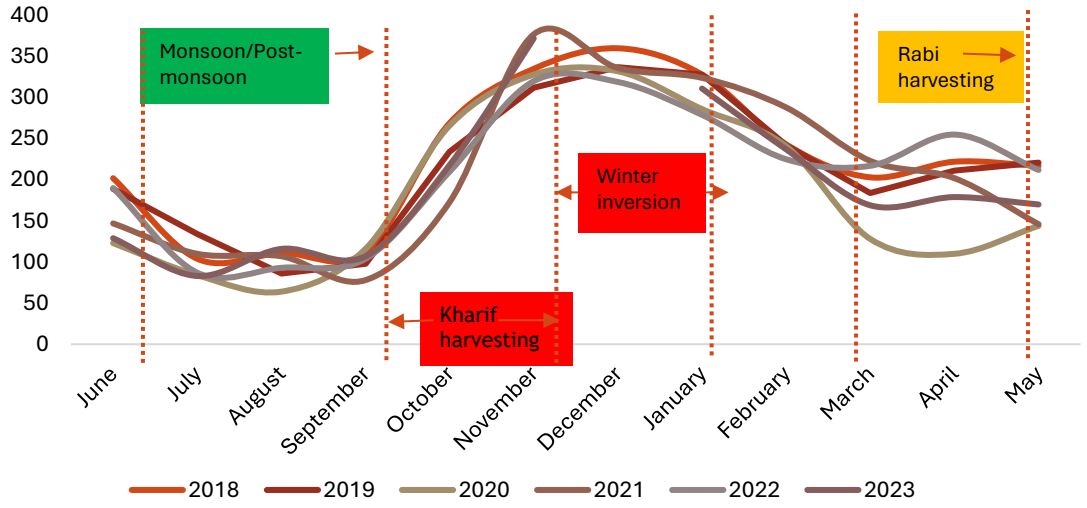
Box 1: Air Quality Guidelines

Air pollutants with the strongest evidence for public health concern are: Particulate matter (PM), carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2) and sulphur dioxide (SO_2). Breathing in these pollutants impacts lungs, heart, brain among other organs and ultimately leading to disease. The WHO Global air quality guidelines (AQG) offer global guidance on thresholds and limits for key air pollutants that pose health risks. Central Pollution Control Board's (CPCB) National Ambient Air Quality Standards (NAAQS) specifies county's thresholds and limits for key air pollutants.

Pollutant	WHO GLOBAL AQG level	CPCB's NAAQS level
PM 2.5 (µg/m³)		
Annual	5	40
24-hour Mean	15	60
PM 10 (µg/m³)		
Annual	15	60
24-hour mean	45	100
O_3 (µg/m³)		
Peak Season	60	-
8 –hour mean	100	100
NO_2 (µg/m³)		
Annual	10	40
24-hour mean	25	80
SO_2 (µg/m³)		
24 **hours** mean	40	80
CO (mg/m³)		
24 **hours** mean	4	2 (8 hrs)

Source: WHO, CPCB

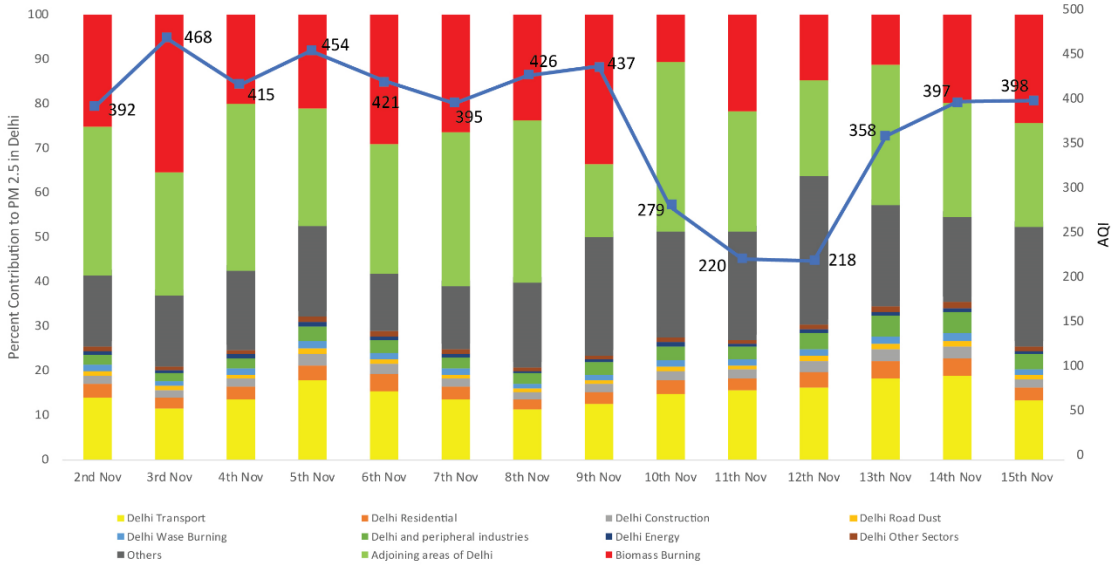
Figure 2: Monthly daily average AQI of Delhi, 2018-2023



Source: Compiled from Daily AQI Bulletin, CPCB

Apart from transport, other sources from Delhi that contribute to its AQI are residential (approx. 3 percent), industries (approx. 3 percent), construction (approx. 2 percent), and road dust (approx. 1 percent). Approximately 30-35 percent is contributed from adjoining areas of Delhi, major ones are Gurgaon, Jhajjar, Faridabad, Ghaziabad, and Gautam Buddha Nagar. This clearly reflects that air pollution is not the local problem of Delhi (it contributes only 22-24 percent to PM 2.5) but it is national or at least a regional problem, and needs to be addressed accordingly. In fact, it cuts across India to even Pakistan and Bangladesh indicating that it is in the Himalayan shade that this problem becomes quite acute due to wind speed suddenly dropping with the arrival of winter. And it continues till winter wanes away. Some multilateral agencies like the UN or World Bank need to take up this issue as a regional issue cutting across countries in the Himalayan shade.

Figure 3: Daily Mean of Local and Non-Local Percent Contribution to PM2.5 in Delhi: First Fortnight of November 2023

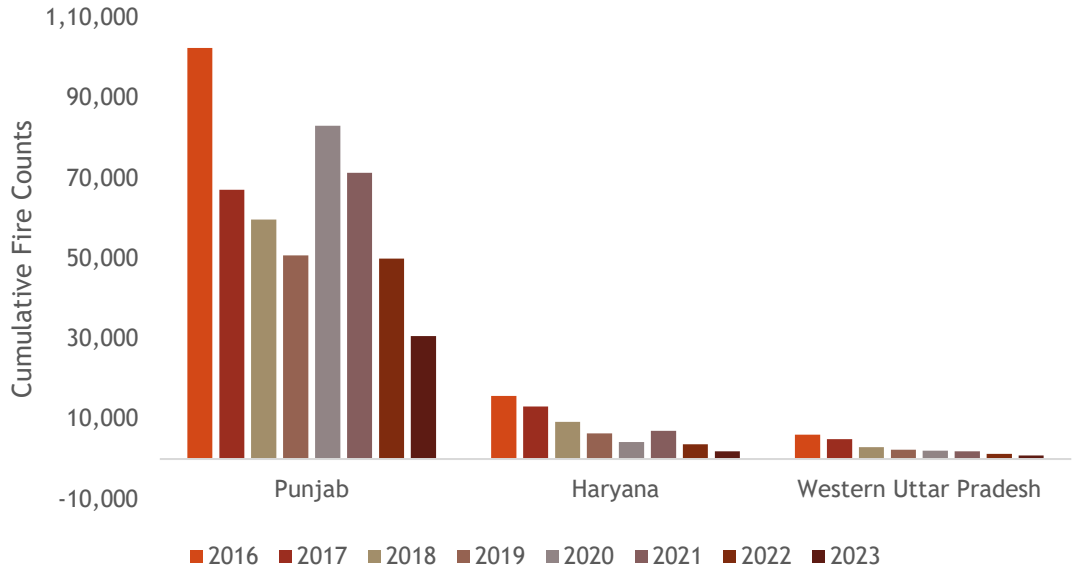


Source: Decision Support System for Air Quality Management in Delhi, Daily AQI Bulletin, CPCB

Biomass burning Trends

Despite ban on crop residue burning, high number of fire count events are recorded in Punjab during paddy harvesting (Figure 4). During 2016, there were 102,379 fire events during Sep-Nov. However, since 2020, there is a declining trend and 36,663 fire events have been recorded in Punjab during Sept-Nov. In Haryana, which is also the state with predominantly wheat-rice cultivation cycle, the fire events during the same duration was recorded to be 1,940. In western Uttar-Pradesh (U.P.), the fire counts were 901. That means 92 percent of the fire counts were from Punjab, followed by Haryana (6 percent) and western U.P. (2 percent). Delhi and neighboring districts of Rajasthan have very less percentage (less than 2 percent) of fire counts, thus their values are not depicted.

Figure 4: Cumulative Fire Counts during September-November: 2016-2023



Source: Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) Laboratory, Division of Agricultural Physics, ICAR – Indian Agricultural Research Institute (IARI), New Delhi

Rice contributes much more to air beyond its AQI share from stubble burning!

While fire counts from rice stubble burning (with 35.43 percent share in PM 2.5 on 3rd November 2023) substantially contribute for air quality deterioration, paddy rice cultivation cycle for three-four months degrades the air much beyond this that our eyes can see! Conventionally, farmers transplant rice seedlings after puddling the soil (intensive wet tillage) and keep the field continuously flooded for 30–40 days after transplanting. Puddling is good for initial crop establishment, weed control and reducing percolation loss of water. But, anaerobic decomposition of organic material in flooded rice fields produces methane (CH_4), which is 27.2 times more powerful than carbon-dioxide (CO_2) for causing temperature rise at a 100-yr time scale. Having a shorter life span of 12 years, it is 80.8 times more impactful than CO_2 at a 20-years' time-scale. Other sources of GHG emission from rice cultivation is nitrous oxide (N_2O) – which is 273 times more impactful than CO_2, at both 100-yr and 20-yr time-scale – predominantly through synthetic fertilizers; CO_2 emissions from energy sources and CH_4 and N_2O from residue burning.

Our calculations (including all above-mentioned four sources of GHG emissions from rice cultivation) using IPCC Tier 2 methodology on GHG emission estimates for the year **2021-22** (most recent data available) showed that Indian paddy rice fields covering an area of **46.27 million hectares** emitted approximately **144 Mt CO_2 eq** (or 143,755 Gg CO_2 eq) **of GHG emissions**. Due to higher rice cultivation area, Uttar-Pradesh and West-Bengal emitted highest. But, Punjab (5t CO_2 eq/ha) and Haryana (4.9 t CO_2 eq/ha) were the highest GHG emitter for rice cultivation on per hectare basis (All India Average of 3.1 t CO_2 eq/ha)

Source: Reena Singh and Ashok Gulati "Achieving Low-Carbon Agriculture in India" (Forthcoming)

Rice is also a water guzzler, requiring minimum 20-25 irrigations as compared to 4-5 irrigations in other crops. The continuous decline of groundwater table has created water-stressed condition in Punjab, where the depth to water level is generally deeper and reported to range from about 20 to more than 40 meters below ground water level (mbgl) during pre-monsoon 2022 and water extraction to be 164 percent (CGWB, 2023). The status quo for rice cultivation in Punjab (amongst all states of India), with highest per ha GHG emissions, highest decline in water level and highest fire counts from residues, is an increasingly unsustainable option. Shifting at least 1.5 million hectares out of rice (out of about 4.5 m ha of rice cultivation in Punjab-Haryana belt) will not only save Delhi's pollution problems from stubble burning, which is the major contributors of Delhi's AQI but also a step to mitigate climate change concerns and increasing water stress of India. However, with existing input subsidies for power, water and fertilizer, and price support policies are easier said than done.

In Punjab, 56 percent of the total agriculture subsidies of Rs 9,549 crores (that included power subsidy and irrigation subsidy by state government and fertilizer subsidy by central government) was provided for rice cultivation in 2021-22 (Singh and Gulati, 2023). This comes to be approximately 30,000 per hectare of input subsidies for rice cultivation. Subsidies given to rice needs to be repurposed to other crops that are people and climate positive. It may be in the form of green credits for those crops, like pulses and oilseeds, that are nitrogen fixing, do not need much of power for irrigation and chemical fertilizers, and are benign to natural resource endowment. Other incentives and models need to be worked out to match the farmer's profitability of rice cultivation to create a crop-neutral incentive structure. Only then, the crop diversification can take off in Punjab and Haryana, and Delhiites can have better air to breathe.

References

- AQI Bulletin. Daily Air Quality Index (AQI). Central Pollution Control Board (CPCB), Ministry of Environment and Climate Change (MoEFCC), Government of India https://cpcb.nic.in/AQI_Bulletin.php
- Ashok Gulati, and Purvi Thangaraj, (2022). AQI a priority too. Financial Express 28th November, 2022
- CGWB (2023). National Compilation on Dynamic Ground Water Resources of India. Central Ground Water Board (CGWB), Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti, Government of India.
- CPCB (2019). National Ambient Air Quality Status & Trends. Central Pollution Control Board (CPCB), Ministry of Environment and Climate Change (MoEFCC), Government of India.
- Consortium for Research on Agroecosystem Monitoring and Modeling from Space (CREAMS) http://creams.iari.res.in/
- Decision Support System for Air Quality Management in Delhi. https://ews.tropmet.res.in/dss/index.php National Commission on Population (NCP 2020). Report of the technical group on population projections by NCP, Ministry of Health, and Family Welfare.
- Reena Singh, and Ashok Gulati (2023). Is India Ready to lead carbon farming market. In AFTAB Issue 2, Volume 3 G20 to G21 One Earth, One Family, One Future.
- World Air Quality Index Project. https://www.iqair.com/.

Politics and Policies of Doles versus Development

RAYA DAS AND ASHOK GULATI

The recent state-level election manifestoes underscore a trend towards leveraging populist measures, particularly in the form of doles (*revdis*) before the polls. The Bharatiya Janata Party (BJP) re-elected in Madhya Pradesh, and defeated the Congress in Chhattisgarh and Rajasthan, whereas the Congress won in Telangana displacing previously elected the Bharat Rashtra Samithi (BRS) Party. While, these political wins have been in sensational news, it can be said without disagreement that there were several promises to farmers, women [3], and others which were more in the form of doles to gain voters sentiments. And this cut across major party lines to woo voters.

Here we pick up some important promises made in the state election manifestoes that have implications for agriculture in particular.

State election agenda: MSP bonuses

The major promises made in the recent state elections were bonus over MSP, providing income support for farmers and women, and subsidizing LPG cooking gas cylinders for lower income and poor families. In this context, the article focuses on the major doles-- MSP bonuses announced for rice and wheat in these four states and their implications on the state's fiscal sustainability, environmental consequences, and the potential market distortions (Table 1).

Table 1: MSP bonuses promise in Election Manifestos of Four States in 2023

Chhattisgarh		Madhya Pradesh		Rajasthan		Telangana		
BJP	Congress	BJP	Congress	BJP	Congress	BRS	Congress	BJP
Promised MSP for Paddy purchase at Rs.3100 per quintal. (As against central MSP of paddy at Rs. 2183 per quintal).	Promised MSP for Paddy purchase at Rs. 3200 per quintal by 20 quintal per acre of paddy, a bonus over central MSP of Rs. 1017 per quintal.	The BJP has promised to purchase wheat at Rs. 2,700 per quintal and paddy at Rs. 3100 per quintal. (As against central MSP of wheat at Rs. 2275 per quintal for the 2024-25 marketing season).	The Congress, on the other hand, had said it will buy paddy at Rs. 2,500 and wheat at Rs. 2,600 per quintal.	Rs. 2700 per quintal for wheat, whereas the central MSP for 2024-25 marketing season is at Rs. 2275 per quintal	Law for guaranteeing MSP following Swaminathan Commission's recommendation		A bonus of Rs. 500 per quintal for paddy.	Promise of providing Rs. 3100 per quintal for paddy, a bonus over central MSP of Rs. 917 per quintal. A reasonable bonus for ragi, millets, jowar, bajra.

Source: Election manifestos for major political parties, 2023 state election

[3] However, MP allocated Rs. 9553 crores for women development in 2023-24 BE. The income support scheme for women like Ladli behena welfare scheme in Madhya Pradesh, which gives direct benefit transfer of Rs. 1250 has been the highlight of the last election.

1. MSP bonus and mounting food subsidy

The GOI primarily procures paddy and wheat at procurement price to ensure remunerative price realization by farmers. After that, the Centre distributes quotas to states for distribution through fair price shops (FPS) at issue price. The difference between the economic cost (of procurement, stocking, and distribution) and the central issue price is food subsidy borne by the Centre [4]. This food subsidy bill is substantial (likely to be more than Rs 2 lakh crores in 2023-24). Furthermore, the system's inherent crop-specificity tends to overlook the imperative considerations of crop and nutritional diversity at both ends (Kumar, Gulati, & Summings, 2007).

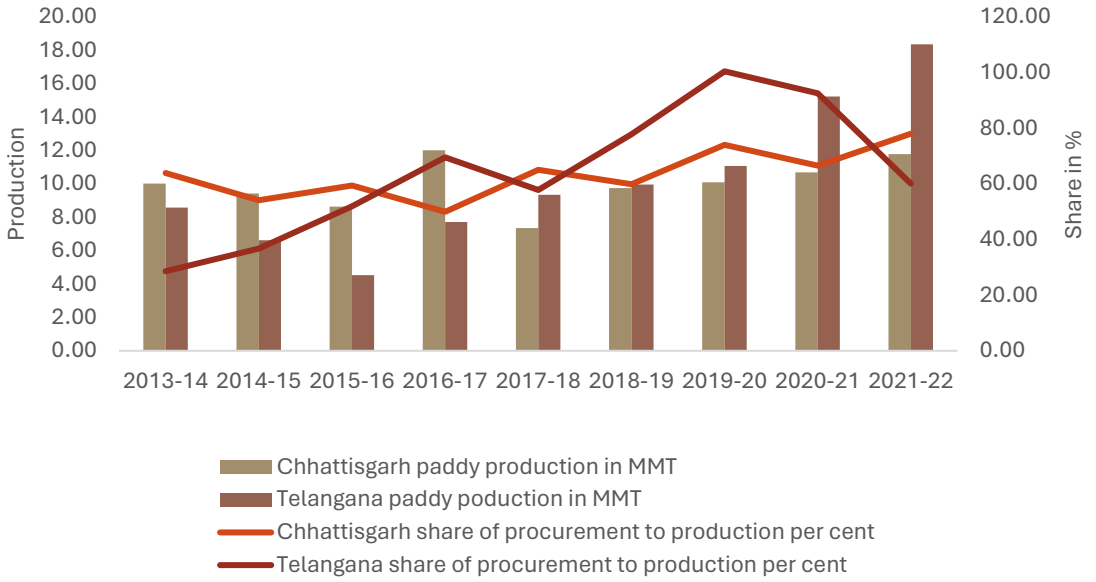
In the 2018 Chhattisgarh state election, when the Central MSP for common paddy was fixed at Rs. 1750 per quintal, the congress in opposition had promised to give a bonus of Rs. 750 per quintal over central MSP. Even in 2013, there was a bonus of Rs.300 per quintal over central MSP that was being given by the BJP government in Chhattisgarh, but that was withdrawn in 2014-15 Kharif Marketing Season (KMS) when NDA came to power at the Centre. The logic was to abolish any distortions in state level and central level MSP, given piling of grain stocks in the central pool. Obviously, withdrawal of bonus at that time was not appreciated by the farmers. Then in the 2018 state election, the Congress promised to resume that bonus, which led to defeat of the BJP and victory of the Congress in the state. So, now in 2023 elections, the BJP was also forced to match the bonus being given by the Congress, where, ahead of the elections, the previously ruling Congress party announced an MSP of Rs. 3200 per quintal for paddy. The currently elected BJP party announced MSP for paddy at Rs. 3100 per quintal for the year 2023-24. This figure starkly contrasts with the MSP fixed by the Central government at Rs. 2183 per quintal for 2023-24 KMS, a notable 42 per cent higher. Similarly, in the other major rice producing state Telangana, where election was held this year, an MSP bonus of 500 per quintal was announced by the elected Congress party. If we look at the paddy production and procurement pattern in both the states in the last decade, it is observed that the production of paddy is getting incentivized by the increase in public procurement of paddy at MSP (Figure 2). The share of procurement to production even reached 100 percent for Telangana in 2019-20 from 36.7 percent in 2014-15 for paddy[5], which indicates farmers from other states are also bringing their paddy to bonus paying states. The share of procurement to production for paddy increased from 63 percent to 78 percent between 2013-14 to 2021-22 in Chhattisgarh state as well. The implication of such a high-level bonus on paddy is that it leads to very skewed incentive structure, promotes water guzzling and methane emitting paddy, besides imposing large fiscal cost on the state exchequer.

An increase in MSP by announcement of bonuses over MSP for rice and wheat inflate the procurement cost for the state and distort the market (Table 1). In 2022-23 KMS, the procurement of paddy in Chhattisgarh and Telangana were 8.75 MMT and 13.01 MMT, respectively.

[4] The food subsidy encompasses three distinct components, firstly, consumer subsidy delineates the difference between the economic cost and the Central Issue Price (CIP). Second is the cost of maintaining a buffer stock. Lastly, subsidies extended to coarse grains, along with the regularization of operational losses incurred by the Food Corporation of India (FCI) and other non-plan allocations to states. The economic cost comprises expenses incurred in procurement, acquisition, and distribution.

[5] The marketed surplus ratio of rice was 93 percent in Andhra Pradesh based on the latest data (Agriculture Statistics at a glance, 2015).

Figure 2: Paddy production and procurement over the years in Chhattisgarh and Telangana 2013-14 to 2021-22



Source: FCI, DES

An increase in MSP by announcement of bonuses over MSP for rice and wheat inflate the procurement cost for the state and distort the market (Table 2). In 2022-23 KMS, the procurement of paddy in Chhattisgarh and Telangana were 8.75 MMT and 13.01 MMT, respectively. Taking into account the additional bonuses announced in the electoral manifestoes of the elected parties in the state, the ensuing financial strain on the state budget is projected to amount to Rs. 8023.75 crores in Chhattisgarh and Rs. 6505 crores in Telangana, considering the same 2022-23 KMS procurement level. This holds notable significance, constituting a substantial portion, accounting for 40.3 percent of the state agriculture and allied budget in Chhattisgarh and 22.3 percent in Telangana for the FY24 (Table 2). The resulting additional fiscal burden is expected to impact the state's development expenditure.

Table 2: Fiscal Burden and Market Distortion: Implications of Dole Policies 2023-24

States	MSP (Rs. /quintal)	MSP with bonus (Rs. / quintal)	Bonus (Additional cost) Rs. per quintal	Procurement in MMT (2022-23)	Burden in Rs. Crores	Agriculture budget in Rs. Crores (BE)	Share in state budget (in %)	Wholesale Price Rs. per quintal
Paddy								
Chhattisgarh	2183	3100	917	8.75	8023.75	19896	40.33	3235#
Telangana	2183	2683	500	13.01	6505	29164	22.30	2550#
Wheat								
Madhya Pradesh	2125	2700	575	7.1	4082.5	17938	22.76	2572
Rajasthan	2125	2700	575	0.44	253	12864	1.97	2558

Note: # Average wholesale price of rice from common paddy in the states from November 2023
Source: FCI, Agmarknet

2. Environmental consequences of MSP bonus on rice and wheat

The surge in paddy production observed in Chhattisgarh and Telangana mirrors the trajectory of agricultural development seen in Punjab, which has substantial environmental consequences and adverse effects on crop diversity. Paddy cultivation stands as a water-intensive crop and a significant contributor to greenhouse gas emissions, particularly methane (CH_4). Also, Chhattisgarh and Telangana have around 15 per cent and 11 per cent blocks are under semi-critical and critical categories (CGWB, 2021). Increase in paddy production would lead to increase ground water extraction resulting in depletion of ground water level. In the last decade (November 2011-2021), 33 per cent of wells in Chhattisgarh witnessed fall in ground water level between 0-2 meters level. Though in Telangana, there has been rise in ground water level with the help of Kaleswaram and other minor irrigation projects, the increase in area under paddy has an impact on the crop diversity of the state. Area under rice in Telangana increased from 1.41 million hectare (Mha) in 2012-13 to 3.18 Mha in 2020-21 (DES, 2021). Concerning wheat cultivation, even though it is less water-intensive compared to rice, the widespread adoption of wheat as a major crop, facilitated by the state government incentives and bonuses, has inadvertently result in a reduction in crop diversity in states like Rajasthan and Madhya Pradesh (Table 2).

3. Impact of state specific bonuses on commodity market

This rise in MSP of paddy in some states also distort the market. The updated economic cost of rice is 63 per cent higher than the prevailing wholesale price of rice in Chhattisgarh (Table 2). Hence, this kind of bonus policies over MSP disrupts the market dynamics of the commodity. The bonuses on MSP to improve farmers income, particularly in the backdrop of export ban on non-basmati rice and rice being sold below the economic cost under the Open Market Sale Scheme (OMSS) since February to address domestic inflation are not reasonable which adversely impact the farmers' price realization in open market (Gulati et al., 2023; Das, Gupta and Gulati, 2023). Furthermore, concern arise regarding the unequal distribution of MSP benefits among states, potentially leading to a spatial disintegration of prices. Also, if other states demand for bonuses over rice and wheat MSP that will further increase the food subsidy bill of the nation.

Towards Development

Given these promises of manifestos are fulfilled, the course of policies in agriculture remains centred around doles rather than investing for development. It is crucial to recognize that the real impetus for growth lies not in the short-term allure of subsidies but in the substantive investments directed towards development. Increased investments in areas such as education, healthcare, skill development, irrigation and other infrastructure contribute substantially to the growth of the states. In Telangana state budget, the share of expenditure in education as a percentage of total expenditure is at 7.6 per cent in 2023-24 BE, whereas the all-India average for all states is at 14.8 per cent. The situation is the same for health and rural development sector, where the shares were 5 per cent and 3.5 per cent, respectively compared to the average of all states at 6.3 per cent and 5.7 per cent. The agricultural growth in Madhya Pradesh has been phenomenal by a 7 percent rate of growth between 2005-06 and 2022-23 through expansion of ground water irrigation, efficient procurement system, and crop diversification (Gulati, 2023). However,

the promise to augment bonuses for wheat by 27 percent above the MSP raises concerns of promoting a mono-cropping pattern, potentially counteracting the diversification efforts that have contributed to the state's agricultural success. Rather than that spending on value-chain of horticulture, food processing sector, rural development might make the state's agriculture development more sustainable.

What does it say for the upcoming national election?

The recent state elections in Chhattisgarh, Telangana, Madhya Pradesh, and Rajasthan provide a telling preview of the upcoming national election in this year. The prevailing policy focus on MSP bonuses, while seemingly beneficial for farmers, has raised concerns due to the consequential surge in the food subsidy bill and impact on crop diversification.

As the nation gears up for the impending election, the drums of doles and promises of crop-specific MSP increases are set to dominate the discourse. While these electoral strategies may carry short-term political advantages, their long-term implications for the sustainable development of the country's agriculture sector need careful consideration. Balancing the doles for welfare of farmers with a broader vision for agricultural sustainability will be critical in the upcoming national election manifesto.

References

- Agmarknet (2022). Price trend. DMI. Ministry of Agriculture and Farmers Welfare. Retrieved from https://agmarknet.gov.in/
- Das, R. Gupta, S. Gulati, A (2023). "A Balancing Act in Pricing for Producers and Consumers". G20 to G21, One Earth, One Family, One Future, AFTAB, Vol 3, Issue 2, October 2023.
- DES. (2022). Advance Estimates. Retrieved from Ministry of Agriculture and Farmers Welfare. Retrieved from https://eands.dacnet.nic.in/
- Food Corporation India (FCI). GOI. Retrieved from Food Corporation of India (fci.gov.in).
- Gulati (2023, December 11). BJP's success in MP is the story of farming success. *The Indian Express*.
- Gulati, A. Das, R. Gupta, S, Kumar, M (2023). Tackling Food Inflation. *Economic and Political Weekly*. Vol 58. Issue 44.
- Kumar, A. G., Gulati, A., & Summings, J. R. (2007). Food-grains Policy and Management in India: Responding to Today's Challenges and Opportunities. New Delhi: IFPRI.
- The Election Manifestoes of Different Political Parties in Four States (Chhattisgarh, Madhya Pradesh, Telangana, Rajasthan).
- The State Budget of Chhattisgarh. Government of Chhattisgarh. Retrieved from Chhattisgarh Government Budget (cg.gov.in).
- The State Budget of Madhya Pradesh. Government of Madhya Pradesh. Retrieved from Finance Department Madhya Pradesh (mp.gov.in).
- The State Budget of Telangana. Government of Telangana. Retrieved from Telangana State Finance Portal.

APSI in the field

Project: Re-aligning Agriculture Policies to Encourage Sustainable Agriculture

People and Planet Positive Sustainable Agriculture

Field Trips and focused group discussions were done to understand the ongoing and future agriculture initiatives of Haryana and Uttar-Pradesh, particularly with respect to environmental sustainability and climate change.

Building Consensus

Consultation with stakeholders for people and planet positive sustainable agriculture (PPPSA) provides opportunity for discussion and consensus on (i) state of unsustainability in agriculture; (ii) why and where the harmful practices are coming; and (iii) how can policies be improved; and alternatives implemented.

Field visit to ICAR-Indian Institute of Wheat and Barley Research, Karnal; ICAR-National Dairy Research Institute, Karnal; Chaudhary Charan Singh Hisar Agriculture University, Hisar; New Grain Market, Karnal, Weight Bridge, Farmers Field, October, 2023.

Project: Post Harvest Losses Reduction Policy Initiative

As a part of the project "Assessment of Post-Harvest Grain Management System of FCI and Effectiveness of Private Warehouses to Reduce Food Loss in India," the ICRIER-ADMI Project led by Dr. Ashok Gulati, Dr. Raya Das, and Mr. Sanchit Gupta from APSI team conducted field visit at Moga and Ludhiana districts of Punjab in November 2023. During the visit, the team visited different types of food grain storage and management system of rice and wheat in the state including modern steel silos, Cover and Plinth (CAP) type storage, traditional warehouses of Food Corporation of India (FCI), shellers, private warehouses etc. The team was also engaged in focused group discussion with farmer producer company in Moga district to understand the challenges of storage of grains at farmer level.

The objective of the visit was to understand the different types of storage, storage techniques, duration of storage, and associated post-harvest losses. In modern steel silo, there exists a defined procedure of collecting food grains from the farmers for storage. The farmers bring the produce along with the purchase slip to the silos for the grain to go directly to the storage which is hired by the FCI. If the produce fails the moisture check at the sampling gate, the produce is declined. If accepted, the produce is then unloaded at the unloading dock and through conveyer belts transferred to the smaller silos for pre-silo storage. There have been insights on lower losses of grains in modern silos compared to traditional storage types. During the visit, officials and managers were interviewed on the causes of storage losses, impact of moisture content on losses at farmers and at different types of storages. Cost and benefit analysis of usage of hermetic bag as an alternative to gunny bags was also discussed from different stakeholders during this field visit.

Bibliothèque

Conference/Workshop:

Singh, Reena as a Panelist in Thematic session **'Unlocking Finance for Sustainable Food Systems Transformation'** (led by Shakti Sustainable Energy Foundation). This thematic session is the part of Food Systems Dialogue, India 2023 held in New Delhi, between 18th and 20th December 2023.

Papers / Reports

- Gulati, Ashok and Shyma Jose (October 28, 2023): "India–Africa in G21: The Challenge of Nutrition Security", Volume LVIII, Issue No. 43, published by Economic and Political Weekly.
- Gulati, Ashok, Raya Das, Sanchit Gupta, and Manish Kr. Prasad (November 4, 2023): "Tackling Food Inflation: Is restricting exports and imposing stocking limits the optimal policy?", Volume LVIII, Issue No. 44, published by Economic and Political Weekly.
- Jose, Shyma and Ashok Gulati (November 23, 2023): Prospects of India's Demand and Supply for Agricultural Commodities towards 2030 published in ICRIER.

Op-Eds

- Gulati, Ashok (October 3, 2023): "A plan for the winter crop", The Indian Express, also published in the Financial Express under the title "A new course for rabi crops".
- Gulati, Ashok (October 30, 2023): "Policy to what end, at whose cost", The Indian Express, also published in the Financial Express under the title "Agri-export policy needs fixing".
- Gulati, Ashok (November 11, 2023): "The rice of the matter", The Indian Express, also published in the Financial Express under the title "Seeding clouds of smog".
- Gulati, Ashok (November 27, 2023): "Benefits and bribes", The Indian Express, also published in the Financial Express under the title "Dole danger ahead".
- Gulati, Ashok (December 11, 2023): "The Modi plus in MP", The Indian Express, also published in the Financial Express under the title "Lessons from Madhya Pradesh".
- Gulati, Ashok (December 26, 2023): "Poised for Viksit Bharat", The Indian Express, also published in the Financial Express under the title "India's high income aspirations".

Media Interviews

- Gulati, Ashok (October 20, 2023): Interview on the topic "ICRIER seeks revision of annual transfer limit under PM Kisan scheme to ₹10,000, CNBC TV18
- Gulati, Ashok (December 14, 2023): Interview on the topic "Food inflation may remain sticky at 7-9% on higher MSP, poll promise rollouts", Moneycontrol.
- Gulati, Ashok (December 21, 2023): Interview on the topic "A Farm revolution in MP", StratNewsGlobal: Capital Calculus.

Podcasts

- Gulati, Ashok (November 29, 2023): ICRIER Podcast Episode 1 on the topic "We have overdone wheat and rice and neglected other crops", ICRIER.

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