Overcoming Agrarian Crisis

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ABSTRACT

It accounts for nearly 18 per cent of country's GDP and provides employment to almost 44 per cent of India's total workforce. Agricultural sector affects the economic well-being of half of the India's population. Among all other exporting member countries of International Grain council, India is evolving for the third consecutive record wheat harvesting country. Past national income estimates not only show the dominance of agriculture but also its constant decline since last few decades. Ministerial data of financial year 2019 also indicate that contribution of agriculture in Indian economy is much higher than the world's average. India has been predominantly an agriculture oriented country with its remarkable contribution to GDP of Indian economy and one of the biggest provider of occupation despite increase in industrialization forming the backbone of Indian economy. It is interesting to note here that despite being prominent contributor to the economy, its share has been decreasing steadily. Indian agriculture being largest producer of various items also plays an important role in international trade of India. For one thing, shortage of food grains within country raised the prices and led to rise in wages and other costs. It is necessary to note that it is a failure on agricultural front which has upset the whole system of planning. Main agricultural products exported by India are tea, sugar, oilseeds, tobacco and spices. For, increased exports help the country to pay for the increased imports of machinery and raw material.

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I. INTRODUCTION

Agriculture plays a crucial role in India, contributing significantly to its GDP and providing employment to a large portion of the population. Although industrialization has grown, agriculture still remains the backbone of the Indian economy. The sector accounts for 18% of the country's GDP and employs 44% of the workforce, despite its declining share in recent decades. India is a major player in international trade as the largest producer of several agricultural products, including millet, chickpea, and pulses, and the second largest producer of wheat, rice, and sugarcane. However, lack of storage infrastructure limits access to 60% of the total produce. Agricultural exports, such as tea, sugar, oilseeds, and spices, have significanteconomic benefits.

However, farmers face many challenges, including climate change, soil degradation, and competition for land. The government has launched several initiatives to address these issues and improve agricultural productivity, including PM-KISAN, PMKSY, PMFBY, and e-NAM¹. Despite being a record wheat harvest country, farmers face income insecurity, lack of good cultivable land, poor transport, lack of storage, lack of access to modern technologies, and inadequate irrigation. Improving the livelihood of farmers is essential for achieving theSustainable Development Goals, which include alleviating poverty and improving the livelihood of small and medium scale farmers.

II. DECLINE IN AGRICULTURE SECTOR

Agriculture is the cornerstone of the Indian economy and continues to play a prominent role, even with the growth of industrialization. Agriculture and related industries contribute around 18% to the country's GDP and provide livelihood for 49% of the population, which has increased due to unemployment during COVID-19 lockdowns. The sector has undergone changes in terms of technology, input value, and infrastructure investment. However, there are significant challenges that need to be addressed, including: (i) the lack of political will for a national agri-market; (ii) hurdles in promoting corporate investment due to ineffective land acquisition laws; (iii) need for fine-tuning labor laws to promote industrial farming; (iv) lack of investment in farm mechanization; (v) low private sector investment in research and development; (vi) absence of proper supply chain management for agri-goods; (vii) insufficientcommodity trading; (viii) need to strengthen the farm sector to compete with the developed world; (ix) making farming more remunerative to prevent farm crisis². To address these challenges, there must be a high degree of federal cooperation and increased farmer awareness, along with government support to prevent farm distress.

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Decline in workforce/ Agriculture as a source of livelihood

Agriculture serves not only as a source of food for the nation but also as a source of employment, savings, a market for industrial goods, and foreign exchange. It is a crucial component of overall economic development. Historically, agriculture was the primary source of income and occupation in India, with around 70% of the population engaged in agriculture at the time of independence. However, this figure has declined over time, with only 50% of the rural population and approximately 15% of the urban population now involved in agriculture. A recent report from the Periodic Labour Force Survey shows a drastic decline in the workforcein both male and female sectors in agriculture. Nevertheless, the COVID-19 pandemic has resulted in an unprecedented loss of employment for migrant laborers, and many are expected to turn to agriculture as a form of employment, leading to an increase in the workforce.

Decline in agriculture share in GDP/ share of agriculture in the national income

The contribution of the agriculture and allied sectors to India's GDP has been declining constantly over the years. In 1950-51, the sector contributed 51.88% to the GDP, withagriculture alone accounting for 45.44% of the share. However, this share continued to decrease over the years and was recorded at 15.4% in recent times⁴. Despite being a focus of several five-year plans for agricultural development, the decline in the sector's contribution to the GDP persisted.

The recent COVID-19 pandemic has had a profound impact on the global economy, and whileevery sector is expected to suffer, agriculture is expected to see a sudden increase in its share. The think tank of the Indian government, NITI AYOG, believes that agriculture could prove to be a saving grace for the Indian economy and contribute 3.7% growth, with a share of 17% in the economy. This is higher than the manufacturing sector and is expected to add more than 0.52% to the growth rate of the Indian economy as markets remain intact and prices have not fallen.

Agriculture Overshadowed by the Industry

Over time, the priority of industrialization overshadowed the agriculture sector in the planning process. Despite the emphasis on agriculture in the plans, the industrial sector and public sector undertakings were prioritized to such an extent that the agriculture sector lacked resources and time. This resulted in food insecurity for the country and those who relied on agriculture for their livelihood could not improve their purchasing power. Even today, industrial growth in India is dependent on agricultural growth.

The Tenth Five-Year Plan recognizes agriculture as the core element of development, which marks a change in the planning strategy. While industries can now sustain themselves, the agriculture sector needs special attention from the government to benefit those who earn their livelihood from it. The failure to do so will render globalization ineffective for the masses⁵. Many farmers are driven to suicide due to the lack of loan sanction from banks. In response, some state governments have implemented loan waiver schemes. However, the banks are still reluctant to give loans to farmers, even though they grant huge amounts to sugar factories and other private commercial establishments. The banks are lenient in processing loans for these establishments but stringent when it comes to farmers, often requiring them to jump through numerous hoops and collect hundreds of documents. This approach only discourages farmers from seeking loans from banks⁶.

III. INSTANCES OF SUFFERINGS

The Indian economy is primarily agrarian, with 70% of its population depending on agriculture for livelihood directly or indirectly, despite the growth of the secondary and tertiary sectors 7. The Green Revolution has made India self-sufficient in food grain production, but not everything is ideal in Indian agriculture. 87.5% of farmer suicides in the country occur in sevenstates: Maharashtra, Telangana, Karnataka, Chhattisgarh, Madhya Pradesh, Tamil Nadu, and Andhra Pradesh, with Maharashtra having the highest number. Small farmers are also committing suicides, and even Punjab, which benefited the most from the Green Revolution, has had farmer suicides, with 4,687 reported from 1995 to 2015, including 1334 in the districtof Mansa.

The main causes of farmers' suicides in India include:

- 1. Rise in input costs, including seeds, chemicals, agricultural equipment, and labour
- 2. Loan distress, with 2474 of 3000 researched farmer suicides in 2015 due to unpaid loansfrom banks
- 3. Lack of direct market integration, despite innovative government schemes like eNAM
- 4. Lack of awareness among farmers, especially marginal and small ones, due to literacyand digital divide
- 5. Water crisis, with a concentration of suicides in water-deficient regions and conflictover water resources
- 6. Climate change affecting agriculture, including uncertain monsoon systems and croplosses
- 7. India's urban consumer-driven economic policies, which limit the profit margins offarmers and hinder their ability to break the debt cycle

8. Loan waivers as a populist measure, instead of reinvestment and restructuring measures to improve the primary sector.8

Overall, there are several challenges in Indian agriculture, and it is crucial to address these issues to improve the lives of farmers in the country.

Judicial notice of increasing farmer suicide in recent cases

The courts have acknowledged the challenges faced by farmers through various cases. They understand the exploitation faced by farmers in every aspect of their life. In the case of M/S Nandan Biomatrix Ltd. vs S. Ambika Devi, the Supreme Court expressed concern, stating thatmost Indian farmers own small plots that require expensive inputs but don't generate enough output to cover the costs. The influence of seed companies over small farmers is minimal but when farmers enter agreements with these companies, they do so in the hope of earning some profit to offset their costs and provide income for their households. However, these agreementsoften result in failed crops and severe financial hardship due to the intensive use of labor and

machinery, and the cost of defective seeds. The problem of debt only worsens the farmer's situation, often leading to suicides. While farmers have the option of seeking remedies such ascivil suits and relief under the Seeds Act, excluding them from the 1986 Act would undermine the statute's purpose. The farmers also face problems with late payment of FRP and interest ontheir loans, which leaves them unable to repay their loans from banks and societies. The lack of loan sanctions for subsequent crops only adds to the farmer's burden, leading to a rise in suicides. Despite being aware of these circumstances, the Sugar Commissioner and other concerned parties take no action due to the influence of factory owners, many of whom are inpolitics.

IV. INTERNATIONAL SCENARIO AMIDST CORONA PANDEMIC

The Food and Agriculture Organisation (FAO) warns of a potential global food crisis if countries do not prevent hunger and malnutrition in vulnerable populations and unclog food supply chains. The Covid-19 pandemic has also been identified by the United Nations as a potential cause of food shortages around the world. The World Food Programme (WFP) has noted that the crisis is already threatening millions of people already struggling with food insecurity and malnutrition. The Ebola outbreak in Sierra Leone (2014-16) was a major contributor to the rise of hunger and malnutrition. Small and marginal farmers may also be affected if they are unable to work their land, earn fair prices for their products, and access markets for purchases or sales.

Agricultural prices, including rice and wheat, are showing signs of increasing since the third week of March 2020, partly due to stockpiling by households and export restrictions imposed by countries such as Vietnam, which is the world's third largest rice exporter and has stopped exports, potentially reducing global exports by 15%. If India and Thailand also ban exports, rice prices could rise sharply. The largest wheat exporter and supplier to North Africa, Russia, is expected to restrict exports and Kazakhstan, one of the largest sources of wheat flour, has already banned exports. This trend is also seen in other crops, with Serbia stopping the export of sunflower oil. There are questions on whether this signals the beginning of a "wave of foodnationalism" that could disrupt established trade flows since the 1990s.

However, prices of crops such as corn have dropped in the US, due to low oil prices and reduceddemand for ethanol. Despite this, world supplies of rice and wheat are expected to besatisfactory with a projected record 1.26 billion tons produced this year, surpassing the combined annual consumption of rice and wheat. Inventory is also expected to increase to a record 469.4 million tons by the end of the year. This assumes normalcy in the supply chains. According to USDA data, many countries have inventories of rice sufficient to feed their populations for one to two months. If the lockdown continues beyond that, these countries, primarily rice importers, will face difficulties.

In the US, there are shortages in the supply of eggs, milk, and meat leading to increased retailprices. Wholesale egg prices have risen by 180% since the beginning of March 2020, with customers purchasing 44% more eggs in the week ending March 14, 2020 than in the corresponding week in 2019. Milk imports in China, a major importer, are expected to fall by 19% in 2020, while production is increasing in exporting countries such as New Zealand, Australia, and the EU. As a result, global milk prices are expected to decline, causing concern for milk producers in these countries. Local supply chain bottlenecks may also keep upward pressure on retail milk prices in most countries.

The meat sector has been hit by two factors, widespread safety concerns regarding meat consumption and the African Swine Fever. The fever hit large parts of China by the end of 2018, killing about 50% of the country's pigs and causing a shift from pork to beef consumptionand an increase in beef prices. The Covid-19 pandemic has led to a decrease in beef consumption in China and other major markets, including the US. However, there was an increase in retail demand and panic buying of beef in March 2020, leading to a rise in beef and live/feeder cattle prices. This rise has primarily benefited meat processors and packers, causing concern among meat farmers who are asking for government intervention. Amidst corona pandemic, agriculture has also been impacted globally by labour shortages.

V. ECONOMIC IMPACT ON AGRICULTURE AMIDST CORONA PANDEMIC: INDIA

Before the Covid-19 pandemic, India's economy was already facing a rise in food prices. Datashows that food inflation had increased from mid-2019, reaching levels seen in 2013-14 by January 2020. Vegetable prices, driven by onions, potatoes, and tomatoes, contributed to the rise in the wholesale price indices (WPI) for food articles. Despite a decrease in onion prices, vegetable prices remained high in February 2020. According to the RBI's 7th bimonthly monetary policy statement, the actual inflation outcomes were running 30 basis points above projections due to the onion price shock. However, the RBI believes food inflation will fall due to a weakening aggregate demand caused by the Covid-19 crisis. Consumer price indices (CPI)for food also indicate a similar trend of rising after August 2019, with some weakening in January and February 2020. India's food grain output is projected to be 292 million tonnes in 2019-20, an increase of 2.4% from 2018-19, and food stocks with the FCI are at 77.6 MMT. AMUL's procurement of milk from 36 lakh farmers is proceeding smoothly, with 1.50 lakh litres distributed daily across India.

Despite the overall supply situation of essential food items being stable, there are concerns at the ground level, particularly with the supply chain and farm operations. The crisis in harvesting and marketing crops at the farm level is due to disruptions in procurement by government agencies, collection by private traders, a shortage of workers, drivers, blockades in commodity movement, limited operations of APMC mandis, and shutdowns in retail markets. This has resulted in a crisis in crops such as wheat, grapes, watermelons, bananas, muskmelons, chana, cotton, chillies, turmeric, cumin, coriander, onions, and potatoes. The bottlenecks have caused a fall in farm prices for several commodities, with tomato growers inMaharashtra receiving only Rs 2 per kg, grape growers facing a loss of Rs 1000 crore, and wheat prices in Madhya Pradesh falling from Rs 2200/Q to Rs 1600/Q by March 25, 2020. Despite these price rises, the benefits are expected to flow to wholesale and retail traders and middlemen, not farmers.

The return of many migrant workers to their homes has led to a disruption of harvest operations and many farmers leaving crops in the field, leading to high losses. Lockdown regulations and a shortage of drivers/operators for harvesters and mechanics have disrupted the use of mechanical harvesters. Labour shortages are also being experienced in milk processing plants, cold storage units, and warehouses. The supply chains for a range of commodities have also been disrupted across the country due to the ill-thought-out official notification on lockdowns, which excluded a number of essential items from the list.

VI. LEGISLATIVE INSTRUMENTS

WTO AND INDIAN AGRICULTURE

The World Trade Organisation (WTO) was established as a replacement for the General Agreement on Tariff and Trade (GATT) and expanded its operations to include services, intellectual property rights, and other trade-related issues. Every country, regardless of size orwealth, has equal voting power, although in practice, stronger economies have more influence. The WTO has a dispute settlement body that resolves trade disputes between countries. Unlikethe GATT, which allowed for optional participation in agreements, WTO membership requiresparticipation in all 29 agreements negotiated in the Uruguay Round.

The liberalization of trade in agriculture and removal of quantitative restrictions (QRs) under the WTO regime has made Indian agriculture vulnerable to competition in the global market. The new environment presents both opportunities and threats to farmers, and there are ongoing debates about the impact of the Agreement on Agriculture (AoA) on Indian farmers, their ability to compete, the impact of Trade-Related Intellectual Property Rights (TRIPs) and patenting on access to advanced farm technologies, and other related issues.

The Doha Declaration Agreement (DDA) in agriculture placed emphasis on food security, rural development, and addressing non-trade concerns in negotiations under the WTO Agreement on Agriculture (AoA)¹⁰. The Doha Declaration also called for phasing out domestic support foragriculture and export subsidies in developed countries and expressed concern about the potential negative effects of reforms on least developed countries and net food importing developing countries. Special and Differential Treatment (S&DT) was considered an integral part of agricultural negotiations.

Under the WTO, there are 25 agreements covering most aspects of trade across all sectors of the economy. In agriculture, there are nearly 2500 items, of which nearly 300 items in India were subject to quantitative restrictions. Key elements of free global trade in agriculture underthe WTO include:

- Guaranteed minimum market access to imports with initial minimum access requirements of 2% for developing countries, rising to 3.33% over 10 years, and 3% to 5% for developed countries over 6 years.
- Exporting states must receive the same treatment as Most Favored Nations (MFN) and NationalTreatment for the purchase of goods.
- Export subsidies are to be reduced, with subsidized volume reduced to 21% and value reduced to 36% over 6 years.

- Import restrictions can only be made for balance of payments and not for protecting domestic agriculture.
- Import restrictions must be price-based and quantitative restrictions and other non-tariffbarriers must be converted into tariffs.
- Tariffs must be reduced by 36% over 6 years.
- Domestic support for agriculture is divided into two categories: "Green" for policy support forresearch, development, environment, infrastructure, etc., and subsidies for small and resource- poor farmers, and "Amber" for all other forms of support to agriculture. Limits for "Amber" support is 10% for developing countries and 5% for developed countries.

Trade-Related Intellectual Property Rights (TRIPs) exclude plants and animals from patenting but provide protection for plant breeders through the International Union for the Protection of New Varieties of Plants Convention (UPOV). This restricts farmers from using their own produce from patented seed/plant varieties for further production or sale in non-commercial markets.

The Agreement on sanitation and phyto-sanitary measures governs permissible limits of hazardous chemicals, etc. in agriculture products.

Steps by Indian legislature

In recent years, India has seen a shift in its agricultural policies and priorities. With an estimated population of 1.6 billion by 2035, the per capita availability of land, water, and other natural resources is expected to decline, and water stress will likely worsen due to climate change. Toensure sustainable profitability, the agricultural sector needs to be reformed in terms of production, agribusiness, value chains, and investment priorities. The Ministry of Agriculturehas taken steps towards the government's goal of "double income by 2022" by increasing productivity while minimizing expenses.

The unpredictable climate in recent decades has posed a major threat to farmers who must produce more with less land and inconsistent rainfall. The over-extraction of groundwater has also added to these challenges. To overcome these obstacles, the public and private sectors must work together to benefit the farming community.

With the success of the green, blue, and white revolutions, India has reduced food insecurity and is now focusing on improving the livelihoods of small and marginal farmers. This involves addressing the various challenges and threats faced by farmers, such as the introduction of eNAM, Soil Health Cards, and new research initiatives. The current policies prioritize "farmerlivelihood" rather than just "production."

Reforms in the agricultural sector in India are underway, with a focus on four fronts: improving farmer livelihood, enhancing the efficiency of land, soil, and water, helping farmers adapt to changing weather and increasing climate threats, and promoting competition in the market.

VII. THE EXTENT OF REALIZATION OF THE FOUR REFORM FRONTS THROUGH VARIOUS POLICIES

The Union government has pledged to double farmers' income by 2022 and has initiated severalprograms towards this goal. The PM-KISAN program was launched to provide financial assistance to small and marginal farmer families, with an initial allocation of Rs. 6000/- per year. However, some have criticized this amount as being insufficient for a farmer to live and cultivate their crops. Another program, PM-Maan Dhan Yojna, provides a minimum pension of Rs. 3000/- per month to eligible small and marginal farmers once they reach 60 years of age. The scheme is voluntary and involves contributions from both the farmer and the government.

India has lagged in adopting direct benefit transfers for both consumers and producers, although this trend has been seen in many countries transitioning from low to middle-income status. The National Food Security Mission and Mission for Integrated Development of Horticulture aim to increase agricultural production through improved productivity. However, these programs have faced criticism for neglecting farmers without land holdings and not adequately increasing the productivity of protein-rich foods.

The government has also implemented the recommendations of the Sarangi committee regarding interest subsidies and launched the Pradhan Mantri Fasal Bima Yojana, which offerslow-cost crop insurance to farmers. The Kisan Credit Card scheme was introduced to encourage digital payments and provide credit for agricultural and other needs, later converting to an ATM-enabled RuPay debit card¹¹. However, there have been reports of malpractice in thePMFBY scheme, with insurance firms receiving more funds than farmers in some cases.

For improving the efficiency of land, soil and water, better management practices are necessary to increase productivity and farmer livelihoods. The integrated farming system approach aims to optimize farm development by integrating different enterprises and being more resilient to climate change.

What still lacks? What needs to be done?

The challenges faced by farmers in India can be summarized as:

- 1. Non-availability of fertile land due to soil erosion, overexploitation, and the use of landfor non-agricultural purposes.
- 2. Lack of irrigation water and declining water table levels.
- 3. Insufficient knowledge of quality seeds and fertilizers.
- 4. Limited options for scaling up innovations and technologies.
- 5. Unavailability of low-interest credit.
- 6. Poor market linkages and inadequate storage facilities, with only 60% produce storagecapacity.
- 7. No measures to protect farms from wild animals.
- 8. Low minimum support price (MSP) leading to economic hardship for farmers 12.

To improve the agricultural sector and double farmers' income by 2022, the following changes are recommended:

- 1. Diversification towards high-value crops, with adequate support in terms of price, infrastructure, technology, and farmer training.
- 2. Cost reduction through precision farming, conservation agriculture, micro-irrigation, and integrated nutrient and pest management.
- 3. Scaling up promising technologies, such as biotechnology, conservation agriculture, and precision farming, to increase farm income.
- 4. Harnessing science, technology, and innovations to prioritize research and development in agriculture, including precision agriculture, climate-smart technologies, and biotechnology.
- 5. Increasing investment in agriculture to support innovation and research.
- 6. Improving soil health through the restoration of soil organic carbon and promoting theuse of organic or customized locally produced manure.
- 7. Enhancing market linkages and storage facilities to reduce the involvement of middlemen and enable farmers to sell their produce at MSP¹³.

To achieve these goals, there needs to be a concerted effort from both central and state agencies, along with enabling policy support and reforms. The focus should also be on agroecological land use planning, the role of women and youth, private sector participation, institutional mechanisms, and capacity building.

VIII. CONCLUSION

The agriculture policy must promote the utilization of untapped growth potential, improve resource efficiency, manage water resources, protect soil from urban and industrial expansion, encourage value chains, automate pre and post-harvest operations, and ensure efficient post- harvest management. It should also connect farmers to markets, support agri-business, enhancerural infrastructure, and improve transportation and storage to increase rural employment and provide better living conditions to attract youth to agriculture and reduce migration to urban areas.

Private sector involvement is crucial for the development of wholesale markets, warehouses, cold storages, input delivery, agro-processing, micro-irrigation, and agricultural extension. Thepolicy must also focus on diversifying agriculture, using emerging technologies like precision agriculture, biotechnology, nanotechnology, remote sensing, big data, artificial intelligence, vertical farming, organic farming, and space agriculture.

To effectively address the challenges faced by India's agriculture, the policy must consider natural resource management. India is a natural resource constrained country and its land and water resources are being depleted due to population growth and increasing consumption. Distortionary policies are making the situation even worse, and the threats posed by climate change are adding to the crisis. To ensure the viability of agriculture and the future of the country, policies must discourage over-use and waste of water.

It must also be recognized that long-term improvements in farmers' incomes require growth and employment opportunities outside of agriculture. The majority of Indian farms are too small to provide a viable income, and the only solution to this problem is to create employmentopportunities in non-agricultural channels of production. This idea was proposed more than a century ago by B.R. Ambedkar and is even more relevant today with India's population having quadrupled since then.

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