



Review Paper

Agricultural Reforms in India: The Quest for Sustainable Development

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Abstract	Manuscript Information
<p>Despite being the backbone of the Indian economy, farmers are facing many problems that are impeding its full potential. This paper examines the historical and contemporary landscape of agrarianism in India. It provides an overview about the impacts of agricultural reform on farmers, food security, and environment sustainability. This paper identifies the key areas in which further reform activities are required to achieve sustainable agricultural development in the 21st century. Various secondary data sources have been explored to meet the objective of this paper. It is concluded that agricultural reforms have played a vital role in shaping the trajectory of Indian agriculture. But many challenges still exist such as small and fragmented land holdings, declining soil quality, lack of awareness among farmers, impact of climate change and the need to increase farmers' income are major concerns. This paper may be useful for agriculturists, researchers, policy makers and social activists.</p>	<ul style="list-style-type: none"> ▪ ISSN No: 2583-7397 ▪ Received: 11-06-2024 ▪ Accepted: 10-07-2024 ▪ Published: 25-07-2024 ▪ IJCRM:3(4); 2024: 73-76 ▪ ©2024, All Rights Reserved ▪ Plagiarism Checked: Yes ▪ Peer Review Process: Yes
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KEYWORDS: Agricultural Reform, Food Security, Environment Sustainability, Green Revolution, Farmers' Income.

1. INTRODUCTION

Globally, agriculture sector is among the most ancient and crucial sectors. India's agricultural sector continues to be a key economic pillar. It is contributing significantly to national food security. Although, the sector is associated with many debates, including being less productive than developed countries, stagnant farmers' income, and growing economic concerns. Still, it is a major source of livelihood in India. About 58 percent of the population relies on agriculture. Its contribution in country's GDP is about 17-18 percent.^[1] The country has a very large population and agriculture is the main source of food for most Indians. It provides livelihood to millions of Indians. Nation's

food security depends on agriculture. Moreover, it is an important source of export earnings for India. The country exports various agricultural products including millets, wheat, rice, cotton, sugar, fruits, and vegetables. It is also important for rural development in India. It provides employment and income opportunities in rural areas and helps in reducing poverty. But it is also true that this sector is facing numerous challenges today. It includes low productivity, inefficiency, instability, and fragmented landholdings.^[2] There are number of factors responsible for this including poor irrigation facilities, outdated farming practices, lack of access to credit, lack of access to

modern technology, high cost of inputs, fragmented land holdings, changing weather conditions, crop diseases, and fluctuations in market prices. Without overcoming these challenges sustainable development cannot be achieved. There are certain ways that can be used to make improvement in this sector like investment in irrigation, promotion of modern technology, restructuring of land holdings, addressing market volatility, providing access of credit to farmers, etc. All these will help the farmers in increasing their crop yields and getting better price. It helps the farmers in income augmentation and making a positive impact in Indian economy also. ^[3]

2. OBJECTIVES

The objectives of this paper are as following:

- (i) To analyze the history and impact of agricultural reforms in achieving food security, enhancing farmers' livelihoods, and promoting sustainable agricultural practices.
- (ii) To identify key areas requiring further reform efforts to ensure long-term growth and environmental sustainability in the Indian agricultural sector.
- (iii) To offer recommendations for policy interventions that can create a more efficient and equitable agricultural system that benefits both farmers and consumers.

3. Historical Background of Agricultural Reforms in India

During British colonial rule, agriculture was primarily designed to serve the economic interests of the British Empire. Policies were implemented to maximize revenue through agriculture, leading to exploitative practices and widespread rural poverty. Land was heavily taxed, and many farmers became landless. After independence in 1947, India has implemented several agricultural reforms. ^[5] At that time, most of the country's population depended on agriculture, but productivity was at a low level. Therefore, it was very important for the newly independent India to bring reforms in the agricultural sector. Therefore, the first wave of reforms in the 1950s and 1960s focused on increasing agricultural productivity and self-sufficiency.

➤ Land Reforms

At the time of independence, India's land ownership system was irregular and unreliable. Farmers were largely exploited by estate managers and middlemen. The following adjustments were made by the government to address this problem:

- **Abolition of Zamindari System:** Most of the states passed laws to abolish the zamindari system in the 1950s. At the time of independence, the land ownership structure in India was conflictual and unstable. Large-scale home overseers and brokers exploited the peasants. ^[8]
- **Land Ceiling:** The government placed limits on how much land a person could own. It aimed at getting landless peasants more land from the big landowners.
- **Tenancy Reform:** Laws were passed to protect the rights of sharecroppers and tenant farmers. However, this strategy failed in many states. These included provisions for

minimum residence, reasonable tenancy, and protection from eviction.

➤ **Green Revolution:** In the 1960s, India ushered in the Green Revolution, which transformed the agricultural landscape of the country. Its main parts were:

- **High-Yielding Varieties (HYV):** High-yielding varieties of wheat and rice were created and spread among farmers. These varieties led to a significant increase in productivity. ^[7]
- **Expansion of Irrigation Facilities:** Attention was paid to large and medium-sized irrigation projects. Waterways, dams, and cylinder wells were constructed, which expanded the submerged area.
- **Use of Manures and Pesticides:** The use of artificial manures and pesticides was promoted. Government had a significant involvement in both manufacturing and delivering them. ^[4]
- **Automation of Horticulture:** Use of modern farm implements like tractor, harvesters, seed drill, etc. were encouraged. It helped in making the agricultural operations more effective.
- **Horticultural Credits and Sponsorships:** Ranchers were given modest credits and sponsorships for various agricultural inputs, which helped them to take on new advances.

➤ Institutional Reforms

- **Co-operative Societies:** Government established the cooperative societies for elimination of middlemen. Also, marketing societies were set up for providing better prices to farmers.
- **Agricultural Universities and Research Centre's:** Agricultural Universities and Research Centre's were set up all over the country. The Indian Board of Agricultural Research (ICAR) was set up in 1929. Development of new technologies and agricultural research were its aim. ^[6]
- **Agricultural Extension Services:** Several extension agencies and Krishi Vigyan Kendra's (KVKs) were set up to provide access to new technologies and information to farmers.

➤ Market Reforms (1990s)

The liberalization of the Indian economy resulted in several important changes in agricultural policy in the 1990s. ^[9] The ban on exports was lifted and farmers were encouraged to plant cash crops. This opened new opportunities, but it also put small farmers at risk for price changes around the world.

➤ Price Support and Marketing Reforms:

- **Minimum Support Price:** To protect farmers from market fluctuations and for ensuring their minimum income; government introduced a policy in 1960 namely Minimum Support Price Policy.

- **Price Support Modifications for Marketing and Pricing:** To create controlled markets, the State Governments passed the Agricultural Produce Marketing Committee (APMC) Acts. Their goals were to ensure a minimum price for commodities and shield farmers from shifts in the market.
- **Diversification and Commercialization:**
 - **Milk Revolution:** 'Operation Flood' was launched in the 1970s. It revolutionized milk production in the country and made India the largest milk producer in the world.
 - **Horticulture Development:** Schemes like National Horticulture Mission were launched to promote the production of fruits, vegetables, and crops.
 - **Fisheries and Animal Husbandry:** Special programmes were launched for the development of these sectors, thereby diversifying the income of farmers.
- **Water Management Reforms:**
 - **Water Harvesting:** Various programmes were launched for rainwater harvesting and water conservation. Many of these programmes were community based.
 - **Micro-Irrigation:** Micro-irrigation techniques like sprinkler and drip irrigation system were promoted. These made efficient use of water possible.
- **River Valley Projects:** Major River valley projects were initiated by the government. These projects helped in making improvement in irrigation and power supply.
- **Agricultural Insurance and Loan Waiver:**
 - **Kisan Credit Card:** Kisan Credit Card Scheme was introduced in 1998, which helped farmers to get loans easily and at low interest. ^[15] It helped in fulfilling the credit needs of individuals who involved in agricultural sector.
 - **Loan Waiver Programme:** From time-to-time farmers loans were waived off by government to get them out from the trap of debt. However, this policy faced criticism always.
 - **Crop Insurance Schemes:** Various crop insurance schemes were introduced to protect farmers from the risk of natural calamities and crop failure.
- **Modern Technology and Digitalization:**
 - **Kisan Call Centers:** Kisan Call Centers were launched in 2004 where farmers can access agricultural information on a toll-free number.
 - **e-Choupal:** For providing agricultural information and services to farmers an initiative taken by private sector namely e-Choupal. Under this initiative, awareness is creating among farmers through the internet in rural areas.
- **Soil Health Cards:** The Soil Health Card Scheme was launched in 2015 to provide information to farmers on the quality of their soil. Under this scheme millions of farmers land sample has been collected and soil health card has been provided to them to make improvement in quality of soil. ^[10]
- **Agriculture Apps:** Various mobile apps were developed by the government and the private sector to provide information on weather, market prices, and agricultural techniques to farmers.
- **Recent Steps taken by Indian Government to Reform Agriculture Sector**
 - **Agricultural Export Policy:** A new agricultural export policy was announced by Indian government in 2018 with the aim of doubling agricultural exports by 2022. ^[11]
 - **Farmer Producer Organizations (FPOs):** FPOs are being promoted to unite small and marginal farmers, giving them a better position in the market.
 - **Agriculture Laws 2020 and Withdrawal:** Three new agriculture laws were introduced in 2020, which aimed to liberalize the agriculture market. However, these were withdrawn in 2021 after widespread protests.
 - **Organic Farming and Natural Farming:** While paying concern towards environmental issues, government is promoting organic and natural farming. Government is aiding the farmers who are involved in organic farming through various schemes.

4. Impact of Agricultural Reforms on Environment Sustainability

Agricultural reforms in India, while aimed at improving productivity and incomes, have also had several negative impacts. The Green Revolution marked a transformative period in Indian agriculture. During this period high-yielding variety seeds were introduced and these technologically advanced seeds promised significant increases in crop yields. Government initiatives promoted the use of fertilizers and irrigation facilities to increase productivity. Extension services provided training to farmers on modern agricultural techniques and pest control methods. However, some unintended consequences of green revolution came into existence which impacted the environment sustainability. Intensive use of fertilizers and pesticides led to soil degradation, and water pollution. Improved irrigation facilities incentives the farmers to shift towards water intensive crops which created water scarcity in many areas. Additionally, farmers are giving preference to high yield varieties. It leads to loss of biodiversity. ^[12] Moreover, for earning maximum profit farmers are indulged in unsustainable agricultural practices which makes changes in natural environment. Resultant, it leads to climate change. And climate change is responsible for low production due to harvest losses. Also, post-harvest losses and inefficiencies in supply chains remain significant issues today. Often, benefits of reforms are unevenly distributed, leading to increased economic disparity between large farmers and small-scale farmers. While reforms pushed for increased production

but lack of adequate infrastructure such as storage facilities, transportation, and market access negated the potential benefits. Rising costs and inefficiencies in the marketing system caused farmers' incomes to remain stagnant despite increased production, leaving many farmers in debt.^[16] Corruption, lack of cooperation among government agencies, ineffective reform implementation, and a lack of awareness among farmers all contributed to the ineffectiveness of agricultural policies. Overcoming all these negative impacts requires a balanced strategy that considers the needs of small farmers, protects environmental resources, and ensures equitable distribution of the benefits of agricultural reforms.^[13]

5. Recommendations Regarding Sustainable Agriculture Sector

Extensive and diversified farming can help farmers to protect crop from pest attacks and to increase the quality of the soil. Organic manure must be used by farmers to keep soil in good condition. Cut back on tillage should be done to prevent soil erosion. Farmers should establish farming practices and other sources of revenue to reduce financial risk. They should avail government grants and programs that are helpful for farmers. Make use of farming methods that are better for the environment. Subsidies for organic farming, tax breaks for using renewable energy and penalties for practices that are harmful to the environment are examples of policies that the government can develop and implement to promote sustainable farming practices.^[14] More funds should be allocated by government for promoting research into sustainable development. Infrastructure should be developed to support sustainable agriculture. Educational programs that teach farmers and agriculture industry professionals about sustainable practices should be supported by the government. Implementing these strategies can lead to an agricultural system that is more resilient and sustainable.

6. CONCLUSION

Agricultural reforms have resulted in a significant expansion in Indian agriculture. Even though the Green Revolution and subsequent initiatives achieved self-sufficiency in food production for some time, unintended consequences such as environmental degradation and stagnant incomes of farmers created the need for a shift to sustainable practices. With recent reforms in agriculture India can aim for a resilient and inclusive future of agricultural sector. It prioritizes sustainable practices, invests in infrastructure, empowers farmers through market reforms and technology access. However, many obstacles remain as it is. The need to increase farmers' incomes, the impact of climate change, deteriorating soil health and small size of land holdings are major concerns. Additionally, the contribution of women in agriculture must be recognized and empowered. Furthermore, agriculture sector must be prepared for dealing with the impacts of climate change.

In conclusion, it can be said that Indian agriculture has made remarkable progress since independence, but this progress is ongoing. To meet new challenges in the future and make the

Indian agriculture sector more sustainable and prosperous, new and creative solutions will be needed.

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