



Impact of agriculture transformation on rural development

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Abstract

Agriculture has played an important role in India's economic and social development. At the time of independence, the sector contributed 40% to the national income. Today, the share of agriculture in the Gross Domestic Product (GDP) has gradually declined to 17-18% in the last few years due to structural changes, but it remains significant. The economic reforms that began in 1991 brought about several radical changes in the agricultural sector. Trade liberalization, deregulation, technological modernization, and integration with the global market have given the agricultural sector a proper shape. Indian agriculture has undergone a significant transformation, with India becoming self-sufficient in food grains. There has been diversification into high-value crops such as fruits, vegetables, dairy, and fisheries. Mechanization and adoption of improved technologies in agriculture have begun on a large scale. Irrigation and rural infrastructure have expanded in rural areas. Although there has been important progress in production growth and export performance, concerns remain about stagnant farm incomes, hidden unemployment, regional disparities, and climate vulnerability. Employment dependence on agriculture has not reduced proportionately, leading to a significant gap in productivity between the agricultural and non-agricultural sectors. The main objective of this research paper is to study the impact of transformation in the agricultural sector on rural development process.

Keywords: Indian agriculture sector agriculture transformation, rural development, structural change, diversification, poverty, India

Introduction

Agriculture is the backbone of India's economy, supporting livelihoods, ensuring food security and sustaining rural communities. Although the sector's share in GDP was around 30% in the early 1990s, it has declined to around 17-18% in recent years, but it continues to employ over 40% of the workforce. This research paper highlights the importance of understanding whether agricultural transformation has translated into rural development. The post-1991 economic reforms, led to significant changes in the agricultural sector through liberalisation, globalisation and privatisation. The transformation has been characterised by adoption of high technology, crop diversification, and expansion of irrigation, institutional reforms and increased exports.

Meaning of Agricultural Transformation

Agricultural Transformation means a major structural and technological change in the agriculture sector that increases productivity, income, and overall rural development.

Agricultural transformation is the process by which agriculture shifts from low-productivity, subsistence-oriented production systems to high-productivity, market-oriented, and technology-intensive systems, accompanied by institutional and structural changes that contribute to economic growth and rural development.

Objectives

1. To examine various transformation in Indian agriculture.
2. To evaluate the impact of agricultural transformation on rural.
3. To suggest policy recommendations for rural development.

Research Methodology

This paper is based on secondary data collection. The secondary data was gathered from various published Journals, Various Books, Internet and published research papers.

Types of Agricultural Transformation

Agricultural transformation can be classified into different types based on technology, structure, markets, and institutions.

1. Technological Transformation
2. Structural Transformation
3. Commercial Transformation
4. Diversification Transformation
5. Institutional Transformation

Agricultural Transformation Indicators

Table 1: Shows that India-Specific Agricultural Transformation Indicators

Indicator	2000	2010	2022
Agriculture Share in GDP (%)	23.9%	17.8%	15-16%
Employment in Agriculture (%)	60%	52%	~43%
Rural Poverty Rate (%)	45%	33%	~19%
Food Grain Production (Million Tonnes)	196	244	330+

Sources: World Bank and Ministry of Agriculture, Govt. of India-2023

Decreasing agriculture share in GDP with falling rural poverty indicates structural transformation. Increasing productivity (cereal yield, fertilizer use) shows modernization. Reduction in agricultural employment suggests diversification into non-farm sectors.

Impact on Rural Development

Agricultural transformation has played a very important role in transforming rural areas. It has been seen to have an impact on the social, economic and political aspects of rural areas. This has given a boost to the development of rural areas.

1. Increase in Agricultural Productivity

After independence, the Green Revolution began in India in the true sense. In this Green Revolution, agricultural transformation took place through the use of high-yielding seeds, increasing irrigation facilities, and various extension services. Due to increasing agricultural production, rural income increased and food security was achieved. India became self-sufficient in food grains. Due to the Green Revolution in India, the production of wheat and rice increased and the import ratio decreased.

2. Income and poverty rate decreased

Agricultural transformation helped reduce poverty by increasing the income of people in rural areas. Modern agriculture increased agricultural production, farmers started getting better prices by selling their agricultural produce in the market. Agriculture was commercialized. It helped in improving the living standards of people in rural areas.

3. Increased employment opportunities

Agricultural transformation has created a large number of employment opportunities in rural areas. Agricultural transformation has led to the emergence of many processing industries in rural areas. Employment has been created in services. The mechanization of agriculture has reduced the demand for skilled labor, but the need for skill development has increased.

4. Development of infrastructure facilities

Agricultural transformation has led to the development of many infrastructures in rural areas. Agricultural development has led to the development of infrastructures, e.g. roads, water supply, electricity supply, storage facilities, etc. This benefits overall rural development.

5. Positive Social Impact

Agricultural transformation has also been shown to have a positive impact on social development. As incomes of rural people have increased, education and health facilities have increased. As employment opportunities have increased in rural areas, seasonal migration has decreased. Changes in agriculture have given a boost to women empowerment.

6. Environmental issues

Although agricultural transformation has led to a huge increase in agricultural production, the texture of agricultural land has deteriorated due to excessive use of chemical fertilizers. Lack of precise irrigation techniques leads to a large amount of water depletion. Therefore, sustainable methods of organic farming, precision farming are needed.

Policy Recommendations for Rural Development:

1. The government needs to invest more in rural infrastructure. For example, roads, irrigation, storage and power supply, etc.
2. Farmers need to be trained to adopt modern technology.

3. The government should facilitate financing through banks for agricultural development.
4. Sustainable agriculture needs to be promoted.
5. The value chain system in the country should be strengthened.
6. The government should formulate strong policies on women empowerment, youth participation, and land reform.

Conclusion

The green revolution was a most important step in agricultural transformation in India. Agricultural productivity increased significantly with the use of high-yielding seeds, irrigation facilities and mechanization. This led to increased rural income, food security and India becoming self-sufficient in food grains. However, for sustainable and balanced development, it is necessary to pay attention to the limitations of the Green Revolution.

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