

## AGRICULTURAL PRODUCTIVITY TRENDS IN INDIA - ITS FUTURE PROSPECTS

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### Abstract:

Agricultural productivity in India has seen significant changes over the years and continues to be a topic of great importance. Several factors influence these trends, and the future prospects depend on various dynamics, including government policies, technological advancements, climate change, and market conditions. Here's an overview of agricultural productivity trends in India and its future prospects: This paper is to establish a connection between the institutional, technological, and structural policy changes that have contributed to the success of the development of sustainable agriculture. India still experiences agricultural distress despite recent achievements in terms of growth rate. Therefore, this paper present the current agricultural productivity trend and its prospects for the future. The economic development of this nation is heavily dependent on agricultural activities, agriculture is the foundation of the Indian economy. In addition to supplying the population of the country with food, agriculture creates opportunities for employment, savings, contribution to the market for industrial goods, and earning foreign currency. Various activities involved in moving agricultural products from the point of production to the point of consumption are referred to as marketing of agricultural products. India's agricultural production system is distinguished by small-scale production, seasonality in supply and demand, and many other factors.

**Keywords:** Agriculture, Growth, Productivity, Farm, Reforms

### Introduction:

India's already large population is expected to become the world's largest in the next 20 years, while its economy will soon overtake Japan's to become the world's third largest. The resulting increase in the demand for food will need to be met through higher agricultural productivity or by increasing food imports. This article discusses some of the key areas of progress and challenges for India's agricultural sector, including: productivity, water management, government policies and programs, and food distribution and storage.

In a nation's process of economic development, the agriculture sector is crucial. Both developed and underdeveloped nations have benefited greatly from its contributions to their economies. Particularly in developed countries, agricultural development has contributed more to the process of their industrialization. Similar to this, a number of underdeveloped nations are currently developing their economies with the aid of the agricultural sector. It implies that agricultural output and production play a role in the overall economic growth of nations with a large agricultural sector. Additionally, agricultural production can be increased more quickly with less capital investment. It is possible to boost productivity without raising capital. The country's overall economic development will be significantly aided by the rising agricultural productivity. (Desai, 2017).

### **Historical Trends:**

**Green Revolution:** India experienced a significant increase in agricultural productivity during the Green Revolution of the 1960s and 1970s. The introduction of high-yielding crop varieties, increased use of fertilizers and pesticides, and improved irrigation methods led to higher crop yields.

**Crop Diversification:** In recent decades, there has been a shift towards crop diversification, with a focus on high-value crops like horticulture, floriculture, and cash crops, alongside traditional staples like rice and wheat.

**Mechanization:** The adoption of mechanization in agriculture, including tractors and modern farming equipment, has increased productivity by reducing labor requirements and improving efficiency.

The agriculture sector of India is passing through a dynamic phase in the recent era of development. It provides 65% of employment opportunities for the working population of India. Since post-independence period, the Government of India has been initiating its policy framework for the structural, technological and institutional changes for agriculture. During 1st five year plan (1951-56), the special address was for the agriculture sector to deal with the food crisis. Since then there is found continuous decline in the composition of GDP from the agriculture and allied activities. With the concern of agricultural crisis and lower productivity, the 11th five year plan (2007-08 to 2011-12) made a target to reverse the deceleration in agriculture growth and productivity. On 12th five year plan the main focus is for the rapid and inclusive growth of the agriculture. Although the farm productivity is low as

compared to other developed countries, some improvements have been found due to certain developmental activities. These include, technological advancement, adoption of (High yielding Varieties) HYVs of seeds, usage of improved quality of fertilizers, insecticides, pesticides, new cropping pattern, new irrigation facilities, farm research and management practices.

Numerous initiatives were also started to aid in the development of the agricultural sector. The financial institution has significantly increased its lending to the rural sector over the years. In which the ratio of export is higher than the import. Various studies are conducted with the different objectives like analyzing the trend of agricultural productivity, role of government in achieving goal of sustainable agriculture, put light on various government initiatives made, role of technology. But present paper deals with trend and pattern of productivity, area under cultivation of food grains and to give suggestions for policy implications.

### **Major Drawbacks of Farm Sector in India**

The growth rates of productivity in agriculture sector are far below than the global standards.

- The productivity levels of rice and wheat have declined .
- Due to declining fertilizer-use efficiency there is found gradual decline in the soil fertility. Also, the food subsidy has increased substantially in the past few years.
- According to the survey, GDP declined to 15.2% during the Eleventh Plan and then further decreased to 13.9% in 2013-14.
- There also has been decrease in the number of cultivators from 127.3 million (Census 2001) to 118.7 million (Census2011).
- Indian agriculture is still dependent on rainfall. About 60 per cent of the total food grains and oilseeds produced being grown in the kharif season, and with just about 35 per cent of the total area being irrigated.
- Currently, India is in an anomalous situation of being essentially self-sufficient with large stocks of food grains on the one hand and recording high food inflation. Artificial scarcity has become the major cause for the high inflation rate.

## Problem Areas in Agricultural Marketing

**Small and scattered holding:** In the Indian agricultural system, there are farmers with sparse, small holdings. As a result, the cost of producing and shipping agricultural products rises, and the profit margin drops.

**Lack of warehousing and storage facilities (cold storage or otherwise):** Because there aren't enough warehouses and storage facilities in India, farmers are forced to sell their produce as soon as it is ready. The farmers end up receiving low prices as a result. The vast majority of the currently in use storage facilities are of extremely poor quality and are therefore negatively affecting the quality of the agricultural products.

**Lack of transportation facilities:** Lack of transportation infrastructure, such as all-weather roads, vehicles suitable for transporting perishable goods, and a lack of link roads to mandis, primarily affects the agricultural sector. As a result, the amount of money spent on transportation is increased.

**Lack of Uniformity in Grading and Standardization:** Lack of proper facilities for grading agricultural products and standardized methods for categorizing them at the farmer level results in weak bargaining power and the sale of produce at a lower price.

**Poor Handling, Packing, Packaging, and Processing Facilities:** Lack of appropriate tools for handling and processing agricultural products, as well as a lack of scientific packaging methods, cause significant wastage and financial loss for farmers. The product is vulnerable to significant physical damage and quality degradation due to improper handling and packaging.

**Lack of market information:** In general, proper infrastructure is not present in rural areas. Information and communication technology still cannot reach many villages. As a result, farmers are unaware of the current and projected prices for their products in major markets. As a result, they are forced to accept any price that middlemen offer for their produce.

**Presence of large number of middlemen:** Farmers are compelled to sell their produce at the source because there aren't adequate transportation, warehousing, or infrastructure facilities. Since farmers are not connected to consumers directly, this expands the market for middlemen. Customers are abruptly charged high prices for these agricultural products by

these middlemen, who also engage in unethical business practices like hoarding and black marketing.

**Lack of Farmers' Organization:** In India, farmers are dispersed and used to market their products separately. As a result, agricultural products are distributed in small quantities at high transportation costs. In addition, farmers lack a recognized organization to lead and safeguard their enterprises. However, because they are organized, traders are better able to bargain for lower prices. Farmers are typically taken advantage of in such circumstances and do not receive fair prices for their produce.

**Inadequate Research on Marketing:** The government makes every effort to increase agricultural production, but it has placed less of an emphasis on conducting new studies to create innovative marketing, storage, warehousing, and preservation techniques. Additionally, research is required on handling, packaging, and consumer preferences.

### **Recommendations for Agriculture Development and its Future Prospects**

India is traditionally known as the agrarian country as more than 60% people depend on the agriculture both directly and indirectly for their livelihood. So far the key challenges and priorities are concerned, Indian Agriculture can attain the global standard if we can have proper coordination between policy frame work and its implementation. We can have following policy recommendation, those can go a long way for catering accelerated agricultural growth.

### **Innovative And Sustainable Farming**

Various innovative farming have been set up to meet the challenges of food shortage, natural hazards and poverty in India. The organic farming has grown almost 29 fold during the last five years and have successfully met the challenges. It has created the options for debt free, quality based profitable livelihood. With the theme of consumer-centric and new market controlled agricultural system, it has grown 25-30% every year. Similarly greenhouse technology of farming has enhanced farm productivity by 3-4 times ahead of normal farming pattern. In the same way poly house farming has raised the agriculture output at about 10 times higher than the previous time due to cost efficiency, absence of insecticides and pesticides and with temperature controlled atmosphere. These success stories of different innovative farming pattern can enhance agriculture productivity with the government and

various institutional support. In order to face the climatic challenges, India has organized a document namely the National Action Plan (NAP) on Climate Change. It provides a direction for changes at the national level in policy, planning and public-private partnerships. It has open up the global vision for modifying longer time trends for sustainable development.

### **Infrastructure Development**

MNREGA, RGGVY, REDB, IAY, DRDAs are some of the government based initiatives to bring infrastructural development in the villages of India. It is essential on the part of the government to consolidate various schemes as per the requirements for which there will be ideal utilization of fund and control of corrupt practices in various layers. The impact of rural infrastructure has greater role to play for the eradication of poverty as per the millennium development goals (1990-2015). The rural infrastructure development fund (RIDFs) has provided the implementation support by NABARD up to the extent of 90% of total support and budgetary support by the remaining portion of the cost.

### **Technological Advancements**

According to the Indian government's department of science and technology, grants are given to 21 science-based nonprofit organizations operating at the village level. This will promote research and development efforts in fields related to technology creation and transfer for rural areas' sustainable livelihoods. Additionally, it has promoted thematic networking and coordination between different field groups with a science and technology focus. In order to increase 20 million tonnes of food grains during the 11th plan period (10 million tonnes for rice, 8 million tonnes for wheat, and 2 million tonnes for pulses), the National Food Security Mission (NFSM) was established in 2007. It has already shown some results by increasing yields in different regions. The ATMA (Agricultural Technology Management Agency) scheme was launched in 2005 to support state governments' efforts to revitalize the extension. This scheme gives an opportunity to improve extension system. The returns to investment on research and extension will be much higher on agricultural growth as compared to other investments.

### **Enhancing Trade Policy**

India is regarded as the world's second-largest producer of food. Despite having all of the potential for increased agricultural productivity, only 0-9% of the global food trade is exported from this country. However, the following action plans have been suggested for enhancing trade and the supply of agricultural goods in light of the report from the prime minister's council on trade and industry.

- Unwavering attention to industries that produce goods for export, such as tea, spices, rice, mangoes, grapes, and floriculture.
- Every year, permit regulated exports of certain surplus commodities; respect international contract terms.
- All ports and airports should upgrade their cold storage facilities and make them accessible.
- A rise in the freight subsidy
- Agro and Food Development and Export Promotion Council will be established as a single, central organization.
- Make a specific announcement regarding the horticulture and floriculture units.
- Offer 9% annual interest-rate term loans for processing units as well as grading, packing, and cold chain units.
- A three-year moratorium on term loan and interest repayment
- NABARD will offer banks and other financial institutions 100% refinance for the purpose of financing the export of horticulture products.

#### Future Prospects:

**Technology and Innovation:** The future of Indian agriculture depends on continued technological advancements. Research and development in crop science, biotechnology, and precision agriculture can lead to improved crop yields, reduced wastage, and more efficient resource use.

**Sustainable Farming Practices:** There is a growing emphasis on sustainable farming practices to ensure long-term agricultural productivity. This includes organic farming, crop rotation,

and the use of bio-fertilizers and bio-pesticides to reduce the environmental impact of agriculture.

**Climate Change Resilience:** Climate change poses a significant challenge to agriculture. India needs to adapt to changing weather patterns and adopt drought-resistant crops, water management practices, and other measures to mitigate the impact of climate change.

**Market Access and Infrastructure:** The future prospects of Indian agriculture are closely tied to market access and infrastructure development. Improved transportation, storage facilities, and market linkages can reduce post-harvest losses and help farmers get better prices for their produce.

**Government Policies:** Government policies play a crucial role in shaping the future of Indian agriculture. Initiatives like Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) and the National Mission on Sustainable Agriculture (NMSA) aim to support farmers. Policy decisions regarding subsidies, crop insurance, and trade regulations also influence agricultural productivity.

**Education and Skill Development:** Enhancing the skills and knowledge of farmers through training programs and education is essential for improving agricultural practices and productivity.

**Private Sector Engagement:** Encouraging private sector investments in agriculture can lead to technology transfer, better access to credit, and improved supply chain management.

**Digital Agriculture:** Leveraging digital technologies for precision farming, soil health monitoring, and access to market information can boost productivity.

## **Conclusion**

India's agricultural sector is still very important to the Indian economy, although its share of the economy has decreased over the past 50 years. India has made significant advances in agricultural production in recent decades, including the introduction of high-yield seed varieties, increased use of fertilizers and improved water management systems. Reforms to land distribution, water management and food distribution systems will further enhance productivity and help India meet its growing demand for food.



In conclusion, the future prospects of agricultural productivity in India depend on a holistic approach that combines technological advancements, sustainable practices, climate resilience, policy support, and infrastructure development. By addressing these aspects, India can ensure food security, increased income for farmers, and overall economic growth in the agricultural sector.

India is expected to achieve the ambitious goal of doubling farm income by 2022. The agriculture sector in India is expected to generate better momentum in the next few years due to increased investments in agricultural infrastructure such as irrigation facilities, warehousing and cold storage. Furthermore, the growing use of genetically modified crops will likely improve the yield for Indian farmers. India is expected to be self-sufficient in pulses in the coming few years due to concerted efforts of scientists to get early-maturing varieties of pulses and the increase in minimum support price. The agri exports from India are likely to reach the target of US\$ 60 billion by the year 2022.

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