



Trends & Challenges of Agricultural Productivity in India

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Abstract: *Agriculture still contributes a major share in the GDP of India. Agriculture, with its allied sectors, is unquestionably the largest livelihood provider in India, more so in the vast rural areas. It also contributes a significant figure to the Gross Domestic Product (GDP). Generation of surplus from agricultural production will ultimately depend on increasing the agricultural productivity. Various studies have been conducted related to agricultural productivity. Therefore. There is a dire need to analyze the trend and patterns of agricultural productivity of main food grains, causes of low productivity. Although, the government has devised various schemes and policies in this regard but a significant change on the ground level is yet to be seen. Moreover, there is a low pace of agricultural productivity as well as there is lack of finances. Scientific farming and genetically modified seeds are the two important aspects that need to be promoted in Agriculture in India.*

Keywords: Indian Economy, Agricultural Productivity, National Income, Agriculture Sector.

Introduction: Agriculture constitutes a large share of the Indian economy. It accounts for about 34.8 percent of the national income and provides livelihood to 66.7 percent of the working population of the country. Agriculture is commonly grouped with farming, mining, forestry and fisheries under the head of primary industries. The importance of agricultural sector of the economy, rich/poor, is borne out by the fact that it is primary sector of the economy which provides the basic ingredients necessary for the existence of mankind. History of economic development of various advanced nations shows that development of their secondary and tertiary sector to some extent was preceded by the development of agriculture. Agriculture is the backbone of our country. Major part of country's income /population earns its livelihood from agriculture. It has also been the source of raw materials to our leading

industries such as sugar, cotton, jute, textiles, hydrogenated oils, soap and other agro-based industries which together accounts for 50 percent of the income generated in the manufacturing sector in India. A sustained and wide spread agricultural growth is pre condition of development of a country like India which is an agrarian economy. The slow growth in agriculture whether allied or non-allied can be of great strain for the economy. While agriculture's share in India's economy has progressively declined to less than 15% due to the high growth rates of the industrial and services sectors, the sector's importance in India's economic and social fabric goes well beyond this indicator. First, nearly three-quarters of India's families depend on rural incomes. Second, the majority of India's poor (some 770 million people or about 70 percent) are found in rural areas. And third, India's food security depends on producing cereal crops, as well as increasing its production of fruits, vegetables and milk to meet the demands of a growing population with rising incomes. To do so, a productive, competitive, diversified and sustainable agricultural sector will need to emerge at an accelerated pace. India is a global agricultural powerhouse. It is the world's

largest producer of milk, pulses, and spices, and has the world's largest cattle herd (buffaloes), as well as the largest area under wheat, rice and cotton. It is the second largest producer of rice, wheat, cotton, sugarcane, farmed fish, sheep & goat meat, fruit, vegetables and tea. According to a report by the world bank, the country has some 195 m ha under cultivation of which some 63 percent are rain fed (roughly 125m ha) while 37 percent are irrigated (70m ha). In addition, forests cover some 65m ha of India's land

Research Methodology:The present study is based on secondary data and most of the data is collected from various reports, RBI reports, Ministry of agriculture reports, books, economic survey of India and reputed journals. To pace the study the researcher has also used some observational facts.

Research Objectives:The present study includes the following objectives:

- To highlight some major determinants of agricultural productivity in India.
- To assess the emerging trends and pattern of agricultural productivity.

- To determine the causes of low productivity in agricultural sector.
- To examine the challenges of agriculture sector.

A Review of Literature: There is a plethora of literature about the pattern and emerging trends in agriculture sector in India and so many studies have been conducted related to challenges and problems faced in agriculture. The researcher has reviewed some previous studies to pace the present study as:

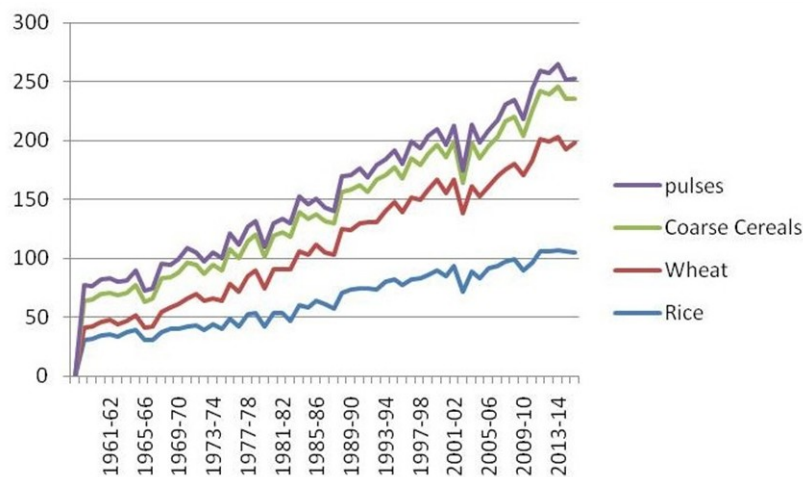
- Y. Indira Kumari & Others (2003) in their study have analyzed the concerns and new issues of agriculture on environment. The study suggested the need to arrest the concern centres and reverse the process of land degradation, groundwater depletion and chemical pollution.
- M. Lathika & Ajith Kumar (2005) in their study have concluded about the growth trends in area, production and productivity of coconut in India primarily based on the secondary data. The study revealed that area effect had greater role in output growth by almost all concerned states of the country, except Kerala and Orissa.
- Lopamudra (2015) in her study has concluded a linkage between the structural technological and institutional policy reforms and sustainable agricultural development. She has also depicted the fact that India has achieved a significant growth rate but still suffers from agricultural distress. In this paper it was tried to assess the present trend of agricultural productivity and its future aspects. It is observed that with the support of government and private interference the goal of sustainable agriculture can be achieved.
- Amarender Reddy (2009) in his study has highlighted the factor productivity and marketed surplus of major crops in India by analysing the total factor productivity growth in Orissa agriculture. Divisia-Tornqvist Index was used in the study for computing the total factor productivity for the crop sector by district, agro-economic region and sub-regions. The total factor productivity growth rate showed that except paddy, jute and groundnut, all other crops recorded negative growth.

- Sudha Narayana (2015) in her study has examined the relationship between formal agricultural credit and agricultural output in India, especially the role of formal agricultural credit in supporting agriculture using the state level panel data covering the period 1995-96 to 2011-12. It was found that over this period all the inputs are highly responsive to an increase in institutional agricultural credit, but study suggests

that success of credit in enabling the increase use of purchased inputs and also changing the face of agriculture in India has not fully translate into agricultural growth.

Trends in Agricultural Productivity: Most of the studies indicate that there is an increase in food production in the recent years. A detailed data has been presented as under:

Figure 1: Trend of production major food grains (million tonnes)

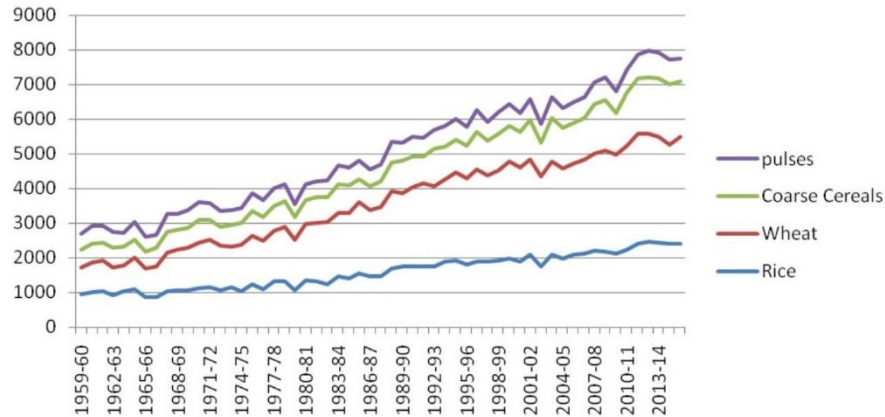


Source: Fourth revised estimates for 2015-16, handbook of statistics and Indian economy

On the basis of figure 1 we can analyze that there is an increase in production of food grains but increasing at a low pace which is one of the problems of agriculture these days,

especially of rice from 1961-2014 as compared to pulses and coarse cereals. Rice is a staple food of a large population of the country and it is therefore necessary to increase the pace of rice production. Though cultivation of rice requires large amounts of water and fertile land but scientific planning can definitely help in achieving this target.

Figure 2: Trend in yield per hectare of major food grains (kg/hectare)

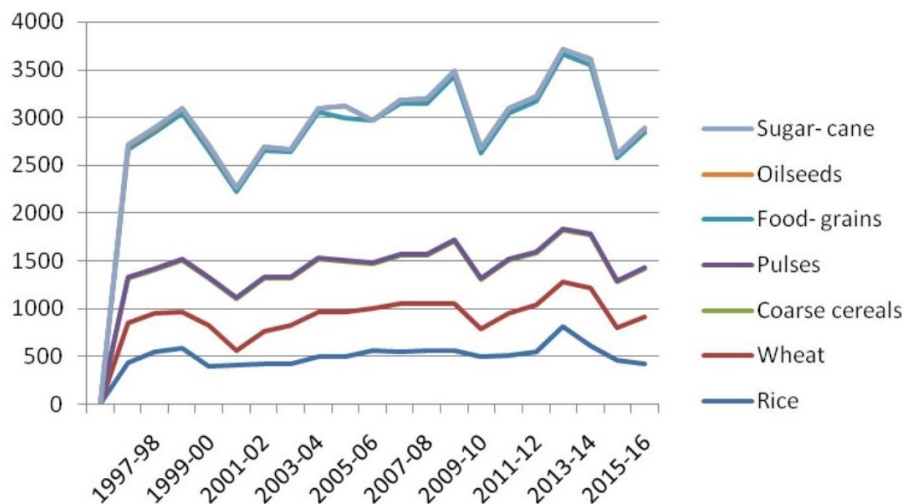


Source: Fourth revised estimates for 2015-16, handbook of statistics and Indian economy

The figure 2 gives us a clear overview that yield per hectare of major food grains has increased from 1960's to 2014 but increasing at a low pace, that is productivity is low again one of the challenge that Indian

economy is facing . As India is agricultural economy, for growth there is need of more production there is need of high productivity. As we can asses from the trend graph that there is low productivity of crops which is in need to tackle/ enhanced with suitable policy or initiatives by the government and support of farmers.

Figure 3: Trend in area under cultivation of major food grains (million hectares)



Source: Fourth revised estimates for 2015-16, handbook of statistics and Indian economy

The above figure indicates that area under cultivation of major food grains has not increased in the recent decades, which is one the cause of low production of food grains, need to be tackled down.

Major Determinants of Agricultural Productivity: Some of the major determinants of agriculture productivity in India are:

- Adequate credit and finances is unavailable to the farmers.
- Farmers are still unaware of the scientific use of fertilizers and pesticides.
- The use of high yielding variety or GM seeds is still not popular.
- The farms need to be modernized.
- Natural factors like rainfall too play an important role in determining productivity.
- Lack of water and canal system at certain places.
- Inadequate incentives for the farmers.

- Minimum support price is quite less than what is required.
- Consolidation of land holdings.
- Especially in small villages, there is a lack of awareness.
- Farmers still lack the technical knowhow.

Causes of Low Productivity in Agriculture Sector: Some main causes of low productivity are:

- a) **Human Factors:** These factors include social atmosphere and pressure of population. Social climate includes customs and traditions. Indian farmer is illiterate and has no knowledge for latest techniques of production. Heavy pressure of population is also the main cause of low productivity of Indian agriculture. In 1901, 16.30 crore people were dependent on agriculture. The number has gone up to 58.80 crore. So per capita cultivable land had reduced from 0.43 hectare to 0.23 hectare. Heavy pressure has led to subdivision and fragmentation of land holdings.
- b) **Technical Factors:** Technical Factors include techniques and methods of production. Traditional methods of cultivation like manual ploughing, two

crop pattern and old system of irrigation are mainly responsible for low productivity of agriculture. Traditional equipment's like wooden ploughs, sickles and spades are commonly used. Tractors & Combines are not so common in use. Due to the use of these old implements agriculture is backward. Indian agriculture is mainly dependent on rain. Even after 60 years of Independence only 40% of the agricultural land has permanent irrigation facility. Due to improper irrigation facility, farmer can produce one crop only in a year. Indian soil has many problems like soil erosion, water logging, nitrogen deficiency and swamps. These are the reasons for low productivity of agriculture.

c) Institutional Factors: Institutional factors include land holdings and land system. Land holdings in India are of very small size. Average size of holding is 2.3 hectare and 70% of the holdings are even less than 2 hectares. These holdings are fragmented. Due to these small holdings, mechanized cultivation is difficult. Implements and irrigation facilities are not properly utilized. Zamindari system has been an

important factor responsible for the low productivity of Indian agriculture. In this system cultivator is not owner of land. Zamindar is the owner of land and he can evict the tenant any time. So the cultivator does not take interest in the development of land and Zamindar does not take interest in the development of cultivation. Though Zamindari system was abolished after independence yet the position of cultivator has not improved.

Suggestions:

- The Indian agriculture sector need more of mechanization and automation.
- The farmers need to be provided with better credit facilities so that they can be freed from the shackles of local moneylenders.
- Reports have indicated that a majority of crop is decayed in warehouses thus, there is a need for betterment of warehousing and distribution facilities.
- Departmental facilities in both agriculture and allied sectors need to be enhanced for better delivery of services to the farmers.
- The famers should be encouraged to form self-help groups and co-operatives.

- Pest have proved to be a menace in the past and integrated pest management is required.
- Management of soil health and fertility is very important aspect to be paid keen attention to enhance productivity.
- A large population means more burden on the agricultural sector therefor population control policy should be framed.
- Organic farming needs to be promoted in the villages.
- Promotion of use of integrated nutrient management.
- Skill development and capacity building of the farmers is necessary to empower them.
- The technology developed in the research institutes needs to be transferred to the smallest of farmers.
- Block level committees should monitor the scientific progress and awareness of farmers.

Conclusion: To conclude, it can be said that India agriculture is at a crucial stage and there is a dire need of improvement. It is certainly necessary to improve credit facilities to stop the large rate of farmer suicides. Forgiving the loan of defaulters

won't work in the long term and it will only add up to the burden on economy .From our data we have analyzed there is a slow trend of increase of production, fall in area under cultivation, low rate of yield per hectare. These are the issues that Indian agriculture is facing these days most commonly low productivity of crops. These need to be sort out with the support of government by taking new initiatives as well as investments from private sector, cooperation of farmers, awareness campaign and last but not the least spread of education related to crops, seeds, fertilizers, irrigation, diversificationetc. The Indian farmer needs to catch the bus of modernization and scientific farming. Various success stories have proved that scientific farming is the key to prosperity therefor the famers need to be educated in agriculture.

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