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INDIAN AGRICULTURE: PERFORMANCE AND WAY AHEAD

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ABSTRACT:

Agriculture is a critical sector of the Indian economy. Though its contribution to the overall Gross Domestic Product (GDP) of the country has fallen from about 30 percent in 1990-91 to less than 15 percent in 2011-12, a trend that is expected in the development process of any economy, agriculture yet forms the backbone of development. An average Indian still spends almost half of his/her total expenditure on food, while roughly half of India's work force is still engaged in agriculture for its livelihood. Being both a source of livelihood and food security for a vast majority of low income, poor and vulnerable sections of society, its performance assumes greater significance in view of the proposed National Food Security Bill and the ongoing Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme. The experience from BRICS (Brazil, Russia, India and China) countries indicates that a one percentage growth in agriculture is at least two to three times more effective in reducing poverty than the same growth emanating from non-agriculture sectors. Given that India is still home to the largest number of poor and malnourished people in the world, a higher priority to agriculture will achieve the goals of reducing poverty and malnutrition as well as of inclusive growth. Since agriculture forms the resource base for a number of agro-based industries and agro-services, it would be more meaningful to view agriculture not as farming alone but as a holistic value chain, which includes farming, wholesaling, warehousing (including logistics), processing, and retailing. Further, it may be noted that in the last two Five Year Plans, it is clearly mentioned that for the economy to grow at 9 per cent, it is important that agriculture should grow at least by 4 per cent per annum.

Key Words: Agricultural development, Drivers of agricultural sector, cropping pattern.

INTRODUCTION:

Agriculture is a critical sector of the Indian economy. Though its contribution to the overall Gross Domestic Product (GDP) of the country has fallen from about 30 percent in 1990-91 to less than 15 percent in 2011-12, a trend that is expected in the development process of any economy, agriculture yet forms the backbone of development. An average Indian still spends almost half of his/her total expenditure on food, while roughly half of India's work force is still engaged in agriculture for its livelihood. Being both a source of livelihood and food security for a vast majority of low income, poor and vulnerable sections of society, its performance assumes greater significance in view of the proposed National Food Security Bill and the ongoing Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme. The experience from BRICS (Brazil, Russia, India and China) countries indicates that a one percentage growth in agriculture is at least two to three times more effective in reducing poverty than the same growth emanating from non-agriculture sectors. Given that India is still home to the largest number of poor and malnourished people in the world, a higher priority to agriculture will achieve the goals of reducing poverty and malnutrition as well as of inclusive growth. Since agriculture forms the resource base for a number of agro-based industries and agro-services, it would be more meaningful to view agriculture not as farming alone but as a holistic value chain, which includes farming, wholesaling, warehousing (including logistics), processing, and retailing. Further, it may be noted that in the last two Five Year Plans, it is clearly mentioned that for the economy to grow at 9 per cent, it is important that agriculture should grow at least by 4 per cent per annum.

Achieving an 8-9 percent rate of growth in overall GDP may not deliver much in terms of poverty reduction unless agricultural growth accelerates. At the same time 'growth with inclusiveness' can be achieved only when agriculture growth accelerates and is also widely shared amongst people and regions of the country. All these factors point to just one thing: that agriculture has to be kept at the centre of any reform agenda or planning process, in order to make a significant dent on poverty and malnutrition, and to ensure long-term food security for the people. The present research paper briefly reviews the status and performance of agriculture, especially during the last two decades, and also presents what could be the way forward, given our objectives of accelerated growth, inclusiveness and the reducing of poverty and hunger.

OBJECTIVES:

1) To study growth and performance of agricultural sector in India.
2) To review the major parameters involved in agricultural development of India.

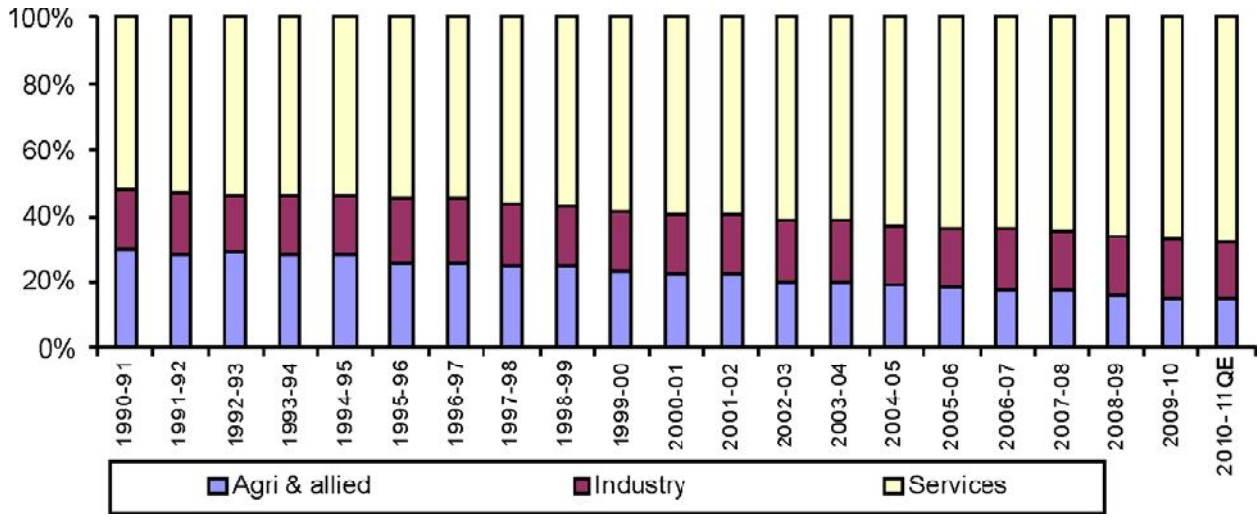
DATABASE AND METHODOLOGY:

The present study is entirely based on secondary data. The secondary data is collected from census report published by Government of India, Vital Statistics, Published and unpublished records. The data collected through different sources was processed and represented by statistical techniques.

STRUCTURE AND STRUCTURAL TRANSFORMATION OF INDIAN AGRICULTURE:

The agriculture sector in India has undergone significant structural changes in the form of decrease in share of GDP from 30 percent in 1990-91 to 14.5 percent in 2010-11 indicating a shift from the traditional agrarian economy towards a service dominated one. This decrease in agriculture's contribution to GDP has not been accompanied by a matching reduction in the share of agriculture in employment. About 52% of the total workforce is still employed by the farm sector which makes more than half of the Indian population dependant on agriculture for sustenance (NSS 66th Round). However, within the rural economy, the share of income from non-farm activities has also increased. The following figure shows the sectoral composition of Indian economy.

Figure 1. Sector Composition of GDP



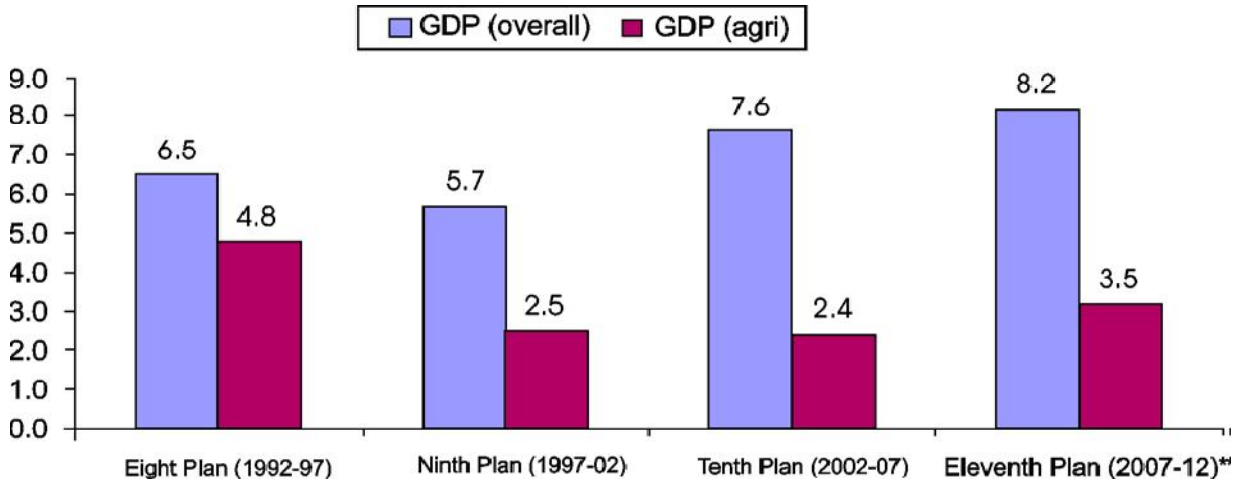
Source: CSO

GROWTH PERFORMANCE OF AGRICULTURE:

1. Overall Growth:

The growth performance of the agriculture sector has been fluctuating across the plan periods. It witnessed a growth rate of 4.8 per cent during the Eighth planperiod (1992–97). However, the agrarian situation saw a downturn towards the beginning of the Ninth plan period (1997–2002) and the Tenth plan period (2002–07), when the agricultural growth rate came down to 2.5 percent and 2.4 percent respectively. This crippling growth rate of 2.4 percent in agriculture as against a robust annual average overall growth rate of 7.6 per cent for the economy during the tenth plan period was clearly a cause for concern. The trend rate of growth during the period 1992-93 to 2010- 11 is 2.8 percent while the average annual rate of growth in agriculture & allied sectors-GDP during the same period is 3.2 percent.

Figure 2. Growth Rates: GDP (overall) and GDP (Agriculture & Allied Sectors)



*Note: * Figures for the Eleventh Plan show growth rates for the first four years of the Plan. Source: CSO.*

2. Crop-Specific Growth:

During 2010-11, foodgrains production was 244.78 million tonnes, comprising of 121.14 million tonnes during Kharif season and 123.64 million tonnes during the Rabi season. Of the total foodgrains production, production of cereals was 226.54 million tonnes and pulses 18.24 million tonnes. As per 2nd advance estimates for 2011-12, total foodgrains production is estimated at a record level of 250.42 million tonnes which is 5.64 million tonnes higher than that of the last year production. Production of rice is estimated at 102.75 million tonnes, Wheat 88.31 million tonnes, coarse cereals 42.08 million tonnes and

pulses 17.28 million tonnes. Oilseeds production during 2011-12 is estimated at 30.53 million tonnes, sugarcane production is estimated at 347.87 million tonnes and cotton production is estimated at 34.09 million bales (of 170 kg. each). Jute production has been estimated at 10.95 million bales (of 180 kg each). Despite inconsistent climatic factors in some parts of the country, there has been a record production, surpassing the targeted production of 245 million tonnes of foodgrains by more than 5 million tonnes during 2011-12. Growth in the production of agricultural crops depends upon acreage and yield. Given the limitations in the expansion of acreage, the main source of long-term output growth is improvement in yields. A comparative picture in average annual growth rates of area, production, and yield of different crops for two periods 1990-91 to 1999-2000 and 2000-01 to 2010-11 is given in Table 3. In the case of wheat, the growth in area and yield have been marginal during 2000-01 to 2010-11 suggesting that the yield levels have plateaued for this crop. This suggests the need for renewed research to boost production and productivity. The following table indicates the crop-wise production and yield in India.

Table 1. All India Average Annual Growth Rates of Area, Production and Yield of Principal Crops (%)

Crops/ crop groups	1990-91 to 1999-2000			2000-01 to 2010-11		
	A	P	Y	A	P	Y
Rice	0.70	2.09	1.36	-0.39	1.32	1.47
Wheat	1.62	4.52	2.87	0.57	1.39	0.73
Maize	0.85	2.24	1.37	2.68	7.12	4.13
Coarse Cereals	-2.42	-0.08	2.03	-0.13	5.0	4.64
Total Cereals	-0.12	2.29	2.38	-0.09	1.82	1.69
Gram	0.88	3.86	2.97	4.31	6.39	1.19
Tur	-0.45	1.89	2.03	2.58	1.89	0.65
Total Pulses	-0.91	1.06	1.82	2.30	4.02	1.21
Total Foodgrains	0.27	2.19	2.43	0.34	1.95	1.37
Groundnut	-2.25	-2.40	-0.30	-1.08	13.13	12.76
R & M	2.28	4.82	2.96	2.76	6.26	2.72
Soyabean	11.01	16.37	4.67	4.15	8.31	4.17
Oilseeds	0.75	2.53	1.76	1.27	7.00	5.18
Sugarcane	2.25	3.16	0.91	1.95	2.12	0.03
Cotton	1.42	0.93	-0.54	2.66	12.12	9.15

Note: *A: Area, P: Production, Y: Yield*

Source: *Directorate of Economics & Statistics, Ministry of Agriculture.*

DRIVERS OF GROWTH IN AGRICULTURE:

1. Investment:

In recent years, the share of Gross Capital Formation (GCF) of agriculture & allied sector in total GCF has hovered between 6 to 8 percent whereas it was around 18 percent during the early 1980s. This indicates that the non-agriculture sectors are receiving higher investment as compared to agriculture & allied sector over the plan periods resulting in growth disparities. Though this is in line with the overall falling share of agriculture in the overall GDP, and also conforms to the development process observed elsewhere in the developing world, yet keeping in view the high population pressure on agriculture for their sustenance, there is need for substantial increase in investment in agriculture.

2. Irrigation, Seeds, Fertilizers and Credit:

There is no doubt that the overall size, quality, and efficiency of investment are always the key drivers of growth in any sector. In case of *public* investments in agriculture, as defined in the National Accounts Statistics, more than 80 percent is accounted for major and medium irrigation schemes. Even in the case of *private* investments in agriculture, almost half is accounted for by irrigation (minor, primarily through groundwater, but also now increasingly drip, etc.). So irrigation remains the most dominant component in the overall investment in agriculture. Without proper use of water, it is difficult to get good returns on better high yielding seeds and higher doses of fertilizers. Water will remain a critical input for agriculture in the decades to come until science develops seeds that can thrive in dry climate with very little water. The net sown area has remained around 141 million hectares during the last 40 years. The cropping intensity, i.e., the ratio of gross cropped area to net cropped area, has however, gone up from 118 per cent in 1970-71 to 138 percent in 2008-09. Seed is considered to be a catalyst of change in agriculture. The Green Revolution in India during the late sixties and seventies bears witness to this truth. And lately, during the decade of 2000s, Bt cotton seeds and hybrid maize seeds have shown spectacular results. The major difference in the two periods is that earlier these high yielding seeds came from public institutions, but lately they are increasingly coming from the private sector in selected crops. Fertilizer forms another important input in agriculture growth. While the overall consumption of fertilizer has increased from 70 kg per ha in 1991-92 to 144 kg per ha by 2010-11, the N, P, K balance particularly, in high fertilizer use areas (e.g. northwest) is seriously distorted. It is apparent that an integrated nutrient management

approach is required to enable a balanced use of fertilizers for optimum results. Also, the setting up of adequate capacity for soil testing needs to be continued.

3. Trade in Agricultural Commodities:

The policy reforms of the 1990s more or less eliminated the bias against agriculture by lowering industrial tariffs and correcting for the overvalued exchange rates which lead to an improvement in the terms of trade in favour of agriculture. This was followed by a calibrated liberalization of agri- exports and imports. As a result, Indian agriculture has increasingly been opened to global agriculture with the ratio of agricultural exports and imports as a percent of Agricultural GDP rising from 4.9 percent in 1990-91 to 12.7 percent in 2010-11.This is still low as compared to the share of India's total exports and imports as a percent of India's GDP at 55.7 percent India is a net exporter of agricultural commodities with agricultural exports constituting 11 percent of India's total exports. However, the share of agricultural exports in India's overall exports has been declining from 18.5 percent in 1990-91 to 10.5 percent in 2010 11.

4. Public-Private Participation in Indian Agriculture:

The private sector involvement in Indian agriculture is a recent development. This is apparent in initiative such as infusion of new technologies like BT cotton, hybrid seed technology in maize; in a mainstreaming of the fragmented small holders by integration of rural business/ service hubs (RBHs) at the back end and agro-processing industry and organized retailing at the front end. Successful examples like Bt cotton, hybrid maize, pusa basmati rice, etc. suggest beneficial outcomes comes from public sector partnership with the private sector farmer groups and the like. The government has to play a more proactive role as coordinator, facilitator and also as a regulator. Higher investment in basic infrastructure like roads, canal waters, watersheds, check dams, etc. will attract private investment in other areas of the supply chain.

5. Price Policy:

Though with economic liberalization and gradual integration with the world economy, relaxation of export controls on several agricultural products since 1991 have helped agricultural exports, there are still occasional interventions by the government (for example, export bans on wheat and rice, or limits on the stocking of grains by private trade that dissuade the private sector players from investing in the agri-system. However, one of the main government

interventions in the agricultural markets currently is its policy of minimum support prices (MSP) for agricultural commodities. For procurement of horticultural commodities which are perishable in nature and not covered under the Price Support Scheme, with a view to protect the growers of these commodities from making distress sale in the event of bumper crop during the peak harvesting periods when the prices tend to fall below the economic cost of production, a Market Intervention Scheme (MIS) is implemented on the request of a State /UT Government which is ready to bear 50 percent loss (25 percent in case of North-Eastern States), if any, incurred on its implementation.

6. Marketing and Warehouse Facilities:

In the context of food grains policy, concern has been raised about simultaneous occurrence of high food inflation and large food grains stocks in our granaries. It has been argued (Kaushik Basu, 2011) that, in creating a better food grains policy, it is imperative that the entire system of foodgrains production, procurement, release and distribution is looked at. Besides improving storage facilities there is a need to redesign the mechanics of procurement and release of food grains to the market to ensure that the impact on prices is substantial in the desire direction. An improvement in marketing conditions and encouragement to private sector participation can be achieved by reforming the Agricultural Produce Marketing Committee (APMC) Acts. Appropriate changes in the APMC Acts can boost private sector investment in developing regularized markets, logistics and warehouse receipt systems, futures markets, and in infrastructure (such as cold storage facilities, quality certification, etc.) for imports and exports. This is particularly relevant for the high value segment that is currently hostage to high post-harvest losses and weak farm-firm linkages. The introduction of the Model Act in 2003 was directed towards allowing private market yards, direct buying and selling, and also to promote and regulate contract farming in high value agriculture. Although many states have adopted the new Model Act, with modifications, its impact on farmers in terms of better prices for their produce and a reduction in the high differences between farm harvest prices and consumer prices is not yet visible.

CONCLUDING REMARKS:

In order to strengthen the Indian agriculture and make it very advanced and inclusive, the following remedies are necessary to be implemented.

1. The significance of agriculture sector in India is not restricted to its contribution to GDP, but that on account of its complementarily with other sectors. It has far reaching ability to impact poverty alleviation and rural development. There are several areas of importance for the agriculture sector growth. These include, among others, enhancing public sector investment in research apart from effective transfer of technology along with institutional reforms in the research set up to make it more accountable and geared towards delivery, conservation of land, water and biological resources, the development of rainfed agriculture, the development of minor irrigation, timely and adequate availability of inputs, support for marketing infrastructure, an increase in flow of credit particularly to the small and marginal farmers.
2. Achievement of food and nutrition security and alleviation of poverty and unemployment on a sustainable basis depend on the efficient and judicious use of natural resources (land/ soil, water, agri-biodiversity and climate). Inefficient use and mismanagement of productive resources, especially land, water, energy and agro-chemicals has vastly reduced fertility and damaged the physical, chemical and biological properties of the soil. The limit of land availability for agriculture has already reached. Our continued inability to judiciously use these non-renewable natural resources can have serious implications.
3. The transition from traditional to high value agriculture will be primarily driven by private investments, which are three fourths of total investments in agriculture. However, to ensure that this happens smoothly and rapidly, government policy needs to act as a catalyst by way of providing greater investments in R&D, roads and public irrigation.
4. A strategic vision for agriculture must factor in three important elements: (a) India's comparative advantage; (b) efficient markets at home and freer trade; and (c) environmental sustainability. The agriculture sector calls for major reforms, from marketing to investment and institutional change, especially in water management, new technologies, land markets and creation of efficient value chains.
5. The suitable and effective price policy is an urgent need to give benefits of agriculture to all types of farmers in the country. Agricultural production can be increased by declaring the fair prices and market rates for agricultural commodities. Government's role is very important in this regard.

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