INDIA'S AGRICULTURE: CHALLENGES FOR GROWTH & DEVELOPMENT IN PRESENT SCENARIO

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ABSTRACT:

Agriculture is the backbone of Indian Economy. About 65% of Indian population depends directly on agriculture and it accounts for around 22% of GDP. Agriculture derives its importance from the fact that it has vital supply and demand links with the manufacturing sector. During the past five years agriculture sector has witnessed spectacular advances in the production and productivity of food grains, oilseeds, commercial crops, fruits, vegetables, food grains, poultry and dairy. India has emerged as the second largest producer of fruits and vegetables in the world in addition to being the largest overseas exporter of cashews and spices. Further, India is the highest producer of milk in the world.

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The history of Indian agriculture:

The post-Independence history of Indian agriculture can be broadly grouped into four periods. Before describing them, I should mention that during the colonial era famines were frequent and famine commissions were abundant. The growth rate in food production during the 1900-1947 periods was hardly 0.1 per cent. Most of the important institutional developments in agriculture emanated from the recommendations of famine commissions. The great Bengal Famine of 1942-43 provided the backdrop to India's Independence.

The first stage 1947-64

This was the Jawaharlal Nehru era where the major emphasis was on the development of infrastructure for scientific agriculture. The steps taken included the establishment of fertilizer and pesticide factories, construction of large multi-purpose irrigation-cum-power projects, organization of community development and national extension programes and, above all, the starting of agricultural universities, beginning with the Pant Nagar University established in 1958, as well as new agricultural research institutions, as for example the Central Rice Research Institute, Cuttack, and the Central Potato Research Institute, Shimla.

During this period, the population started increasing by over 3 per cent a year as a result of both the steps taken to strengthen public health care systems and advances in preventive and curative medicine.

The growth in food production was inadequate to meet the consumption needs of the growing population, and food imports became essential. Such food imports, largely under the PL-480 programme of the United States, touched a peak of 10 million tonnes in 1966.

The second stage 1965-1985

This period coincides with the leadership of Lal Bahadur Shastri and Indira Gandhi, with Morarji Desai and Charan Singh serving as Prime Ministers during 1977-79. The emphasis was on maximising the benefits of infrastructure created during step-I, particularly in the areas of irrigation and technology transfer. Major gaps in the strategies adopted during step-I were filled,

as for example the introduction of semi-dwarf high-yielding varieties of wheat and rice, which could utilise sunlight, water, and nutrients more efficiently and yield two to three times more than the strains included in the Intensive Agriculture District Programme (IADP) of the early 1960s. This period also saw the reorganisation and strengthening of agricultural research, education and extension, and the creation of institutions to provide farmers assured marketing opportunities and remunerative prices for their produce. The National Bank for Agriculture and Rural Development (NABARD) was set up. All these steps led to a quantum jump in the productivity and production of crops such as wheat and rice, a phenomenon christened in 1968 as the Green Revolution. C. Subramaniam (1964-67) and Jagjivan Ram provided the necessary public policy guidance and support.

The Green Revolution generated a mood of self-confidence in our agricultural capability. The gains were consolidated during the Sixth Five Year Plan period (1980-85) when for the first time agricultural growth rate exceeded the general economic growth rate. Also, the growth rate in food production exceeded that of the population. The Sixth Plan achievement illustrates the benefits arising from farmer-centred priorities in investment and in the overall agricultural production strategy.

The third stage: 1985-2000

This was the era of Rajiv Gandhi, P.V. Narasimha Rao and Atal Bihari Vajpayee, with several other Prime Minister serving for short periods.

This phase was characterised by greater emphasis on the production of pulses and oilseeds as well as of vegetables, fruits, and milk. Rajiv Gandhi introduced organisational innovations like Technology Missions, which resulted in a rapid rise in oilseed production. The Mission approach involves concurrent attention to conservation, cultivation, consumption, and commerce. Rain-fed areas and wastelands received greater attention and a Wasteland Development Board was set up. Wherever an end-to-end approach was introduced involving attention to all links in the production-consumption chain, progress was steady and sometimes striking as in the case of milk and egg production. This period ended with large grain reserves with the government, with the media highlighting the co-existence of "Grain Mountains and hungry millions." This period also

saw a gradual decline in public investment in irrigation and infrastructure essential for agricultural progress as well as a gradual collapse of the cooperative credit system.

The fourth stage: 2001 to the present day

Despite the efforts of Prime Ministers Atal Bihari Vajpayee and Manmohan Singh, this phase is best described as one characterised by policy fatigue, resulting in technology extension and production fatigues. No wonder that the farmers, who keep others alive, are now forced to take their own lives and 40 per cent of them want to quit farming, if there is an alternative option.

The agricultural decline is taking place at a time when international prices of major foodgrains are going up steeply, partly owing to the use of grain for ethanol production. Land for food versus fuel is becoming a major issue. For example, the export price of wheat has risen from $197 a tonne in 2005 to $263 a tonne in 2007. Maize price has gone up from about $100 a tonne in 2005 to $166 a tonne now. International trade is also becoming free but not fair. Compounding these problems is the possibility of adverse changes in rainfall, temperature, and the sea level as a result of global warming. Melting of Himalayan ice and glaciers will result in floods of unprecedented dimensions in north India. If agricultural production does not remain above the population growth rate and if the public distribution system is starved of grain, there is every likelihood of our going back to the pre-Independence situation of recurrent famines. The grain mountains have disappeared and we are today in the era of diminishing grain reserves, escalating prices, and persistence of widespread under-nutrition.

India GDP Composition Sector Wise

Let us have a look at India's GDP Composition Sector Wise (2009-2010)

Sector	GDP Contribution
Agriculture, Forestry & Fishing	876,563.00
Mining and Quarrying	129,671.00
Manufacturing	799,513.00

Construction	437,768.00
Hotel, Transport, Communication & Trade	1,274,534.00
Real Estate, Insurance, Financing, & Bus Service	700,943.00
Social, Personal & Community, Services	690,373.00

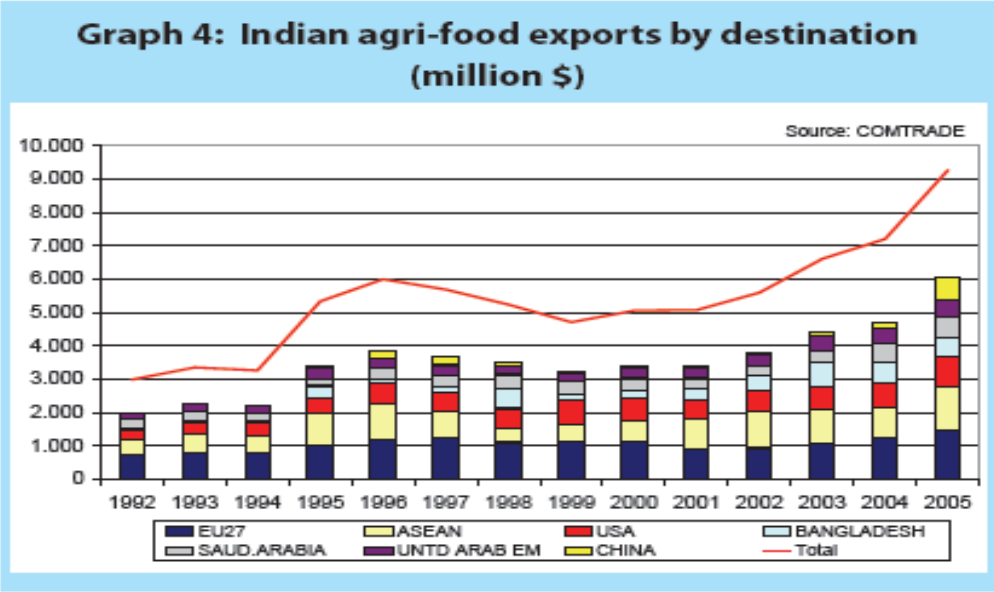
Trade of agricultural products:

Reforms introduced in India in the early 1990s have greatly increased overall trade flows. However it has consistently run a trade deficit unlike China and Brazil (US$35 billion in 2004-2005).

The EU (27) ranks as India's largest trading partner accounting for about 21% of total Indian trade in 2005, ahead of the United States and China. Meanwhile India is the EU's tenth largest trading partner accounting for 1.8% of total trade. In 2005 its trade deficit with the EU was about €2 billion. Turning our focus to trade in agricultural and food products, these account for a relatively small share of overall Indian trade. Agricultural exports represent 9% of the value of total exports while the share of agriculture in total imports is just 5%.

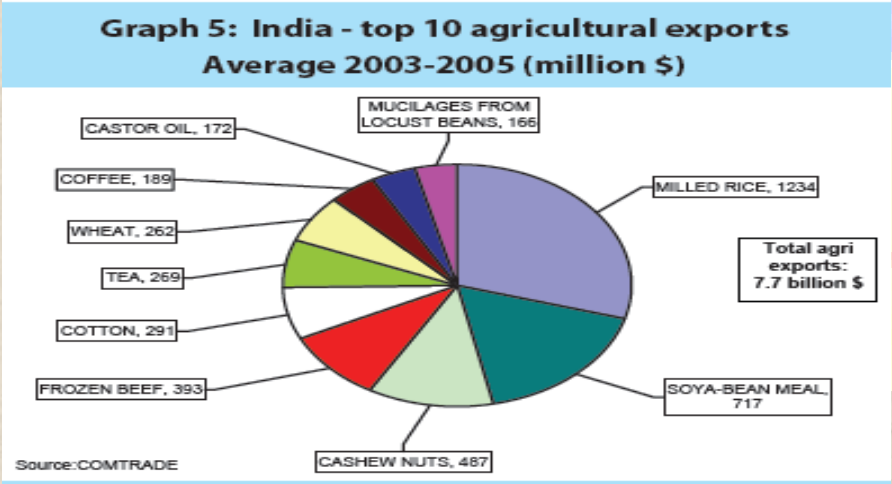
India's main export partner:

India is diversifying its export markets (graph 4). The EU remains its top market, accounting for 16% of the value of export sales in 2003-2005, although this is a decline from 21% a decade ago. ASEAN is in 2nd place with 14%, although its share has also fallen.



The single biggest export is milled rice, accounting for 16 % of the value of exports in 2003-2005 (see graph 5).

Graph 5: India - top 10 agricultural exportsAverage 2003-2005 (million $)



Two other commodities, cotton and wheat, are also within the top 10 exports. Soybean meal, an intermediate product, is the second most important export with 9% of sales. However 6 out of the

top 10 are final products, including cashew nuts, beef, coffee and tea which together represent around 14% of the value of exports.

Indian Agriculture: Issues and Prospects:

While there are a number of factors responsible for the present state of agriculture in India, the following seven issues merit attention on priority:

1. Declining Productivity and Increased Variability: Indian agricultural production, of late, has been characterized by sharp variations due to unpredictable nature of monsoon. For instance, food grains production in the country varied between 174.19 million tonnes in 2002-03 (the lowest in the last 12 years) and 212.20 million tonnes in 2003-04, (the peak production attained so far). Similar variations can be observed in the production of non-food grains as well. It turns out that the variability of agricultural production in the 1980s was as much as five times the average variability recorded in the overall GDP during 1992-93 to 2002-03. Such wide variations in agricultural production underline the rain dependence of the Indian agriculture, thereby underscoring the need for improving the irrigation facilities. In 1998-99 only 39.2 per cent of the gross cropped area in the country was under irrigation.

2. Decline in Capital Formation: During the 1990s, a steady downturn in investment rates was experienced by the agricultural sector, mainly in public investment. The ratio of public sector capital formation in agriculture to Gross Public Sector Capital Formation declined from 17.7 per cent in 1980-81 to only 4.1 per cent in 2000-01. Although the private sector capital formation in agriculture has been on the rise during the past decade, it has not been able to meet the shortfall on account of the corresponding decline in public investment. The inadequacy of new capital formation has slowed the pace and pattern of technological change in agriculture with adverse effects on productivity. To rejuvenate agricultural growth, the declining trend in public investment needs to be corrected.

3. Inadequate Credit Delivery: Although the ratio of agricultural credit to agricultural GDP has increased from 5.4 percent in 1970s to 8.7 per cent in 2001-02, it may be noted that agricultural credit as a proportion to total credit has declined from 20.5 per cent to 10.5 per cent during the same period indicating lower deployment of credit in agriculture. Moreover, the extent of credit

deployed from out of deposits mobilized in rural areas has fallen rapidly as reflected in the Credit-Deposit ratio which declined from 65 per cent in mid-1980s to around 42 per cent now.

4. Decline in credit to small borrowers: Besides the overall decline in agricultural credit, what is even more worrisome is the decline in the number of small loans (of up to Rupees 25,000). These are essentially informal sector loans which slipped from a peak of 62.55 million in March 1992 to 37.22 million in March 2002. Their share in total bank credit also declined from 25 per cent to only 6 per cent during the same period. Thus, it seems that brunt of credit squeeze in agriculture is being faced by small farmers.

5. Sub-Optimal Use of Inputs and Adoption of Technology

The imperative of stabilizing and augmenting agricultural yields is also evident from the fact that there is less scope for increasing area under cultivation of various crops. Further, apart from the decline in land-holding size, there is increasing cost of production and depletion of ground water. Increase in agricultural production would therefore have to emanate from improvements in productivity from the existing cultivated area through use of location-specific high yielding varieties, balanced fertilizer doses, effective transfer of technology and timely supply of all inputs. There is also an urgent need to increase the availability of farm electricity power to boost productivity.

6. Unsatisfactory Spread of New Technology*:* One of the main reasons for the low levels of yield in Indian agriculture has been the unsatisfactory spread of new technological practices, including the adoption of High Yielding Varieties (HYV) of seeds and usage of fertilizers, inadequate spread of farm management techniques and other practices such as soil conservation and crop rotation.

7. Low availability of farm electricity power*:* The availability of farm electricity power in the country continues to be low. During 2000-01, it was as low as 1.35 kilowatt/hectare in India as compared with some of the developed nations, such as Japan (8.75 kw/ha), Italy (3.01 kw/ha), France (2.65 kw/ha), the United Kingdom (2.5 kw/ha), and Germany (2.35 kw/ha).

8. Distortionary Pricing and Subsidies: The Minimum Support Price (MSP) mechanism was put in place to provide assured incomes to producers. However, during the 1990s, substantial increases in MSPs of rice and wheat have significantly distorted the incentives provided to these crops at the cost of other crops. At the same time, power subsidy provided for irrigation has

further tilted the incentives against rain dependent crops like pulses and oilseeds. These distortions have obstructed efforts aimed at diversification of crops.

9. Untapped Exports Potential

In recent period India has emerged as a leading producer of many agricultural products in the world. India is now the largest producer of coconut, areca nut, cashew nut, ginger, turmeric, black pepper, and the second largest producer of fruits and vegetables. This progress on the domestic front has, however, not been translated into enhanced exports of these commodities. Exports of agricultural products generally displayed a relatively lower rate of growth except for a brief period in mid-1990s. While exports of traditional commodities such as tea, coffee, rice, spices and oil meal have decelerated, sharp expansion was observed in exports of high value and processed agricultural products such as fruits and vegetables, processed fruits, juices, and meat and meat preparation. In order to realize the huge potential of exports which has so far been untapped, particularly in respect of processed foods, it is imperative that domestic controls are removed expeditiously and adequate rural infrastructure is in place which would ensure efficient warehousing, processing, packaging, storage and related research.

It is now agreed that Indian agriculture has vast business potential, especially in the food processing sector, in view of the substantial production of fruits and vegetables and milk and other animal food products in the country. However, tapping this business potential in food processing industry requires that Indian food exports should comply the codex alimentary norms.

7. Employment Absorptive Capacity

Nearly 60 per cent of the population in India is dependant on agricultural income. This is clearly symptomatic of the failure of other sectors *i.e.*, industry and services in absorbing the surplus labor from agriculture. This problem is likely to be even more important in future. The demographic profile of India is currently under a transition. It is expected that the working age population as a proportion of total population would double during the next three decades. This, in turn, would imply a growing proportion of population dependant on agricultural income which would have to be absorbed through creation of adequate employment opportunities within the agricultural sector.

The decline in agriculture in the labor force has not kept pace with its decline in the economy. This stickiness has been attributed to low labor mobility and slow growth

Status of Agriculture in India: In 2007-08, India achieved a record food grain production of 227 million tonnes, posting a growth of 10 to 12 million tonnes in excess of the previous fiscal. With an added two to three million tonnes during the Rabi season, it would touch 230 million tonnes a landmark in food grain production. The agri-biotech sector in India is growing at a whopping 30 per cent since the last five years, and it is likely to sustain the growth in the future as well.

- The food processing sector, which contributes 9 per cent to the GDP, is presently growing at 13.5 per cent against 6.5 per cent in 2003-04, and is going to be an important driver of the Indian economy.
- India is the largest producer of coconuts, mangoes, bananas, milk and dairy products, cashew nuts, pulses, ginger, turmeric and black pepper. It is also the second largest producer of rice, wheat, sugar, cotton, fruits and vegetables.
- Agricultural production is likely to increase significantly during fiscal year 2009. Centre for Monitoring Indian Economy (CMIE) has projected a growth of 3.2 per cent during fiscal year 2009, for the GDP of agriculture and allied sectors.
- The allied sectors comprising livestock, forestry and logging, and fishing are likely to see a growth of 4.8 per cent during fiscal year 2009.

- India's exports of agricultural and processed food products posted a 38 per cent increase in the 2007-08 fiscal, bolstered by an increase in shipments of coarse cereals like maize, jowar and barley.
- Export figures for agricultural products touched US$ 6.59 billion in 2007-08, against US$ 4.79 billion in the previous fiscal.
- Acreage under horticulture which includes fruits, vegetables, spices, floriculture, and plantations was around 20 million hectares in 2006-07- India is the second largest producer of both fruits and vegetables in the world and the National Horticulture Mission (NHM) AIMS at doubling horticulture production by 2012.
- India is the largest producer of milk in the world, and is likely to become the second largest dairy products producer in the coming years.
- It is the second largest producer of fruits and vegetables.
- It is home to the largest number of livestock in the world.

- It is the third largest producer of food grains.
- It has the third largest output offish.
- With above 9500 spices from medicinal and aromatic plants, India is truly a treasure trove of spices, accounting for 25-30 per cent of the world's production.
- India is the largest producer consumer and exporter of spices, with major spices produced being black pepper, cardamom (small & large), ginger, garlic, turmeric, chili etc.

Recent government policies affecting Indian Agriculture:

In the recent Union Budget (2007-08), agriculture has got considerable attention with the various policy initiatives from the side of finance ministry. Some of the important policies are:

During 2006-07 (until December 2006), 53.37 lakh new farmers were brought into the institutional credit system. A target of Rs. 225,000 crore as farm credit and an addition of 50 lakh new farmers to the banking system have been fixed for the year 2007-08. The two per cent interest subvention scheme for short-term crop loans will continue in 2007-08, and a provision of Rs.1, 677 crore has been made for that purpose.

- A special purpose tea fund has been launched for re-plantation and rejuvenation of tea. Government soon plans to put in place similar financial mechanism for coffee, rubber, spices, cashew and coconut.
- Accelerated Irrigation Benefit Program (AIBP) has been revamped in order to complete more irrigation projects in the quickest possible time. As against an outlay of Rs.7, 121 crore in 2006-07, the outlay for 2007-08 has been increased to Rs.11, 000 crore.
- Rs.17, 253 crore had been budgeted for fertilizer subsidies in 2006-07. However, according to the Revised Estimates, this will rise to Rs.22, 452 crore.
- The National Insurance Scheme (NAIS) will be continued for Kharif and Rabi crops during the year 2007-08.
- The two per cent interest subvention scheme will continue in 2007-08.
- Rs. 100 crore have been allocated to new Rain fed Area Development Program.

CONCLUSION:

Agriculture makes the highest contribution to India's GDP. Agriculture contributes almost about 18 percent to the country's GDP. It has been seen in the last few years that the input of the agriculture sector has been declining, but it is still the biggest contributor.

Agriculture occupies a prominent position in Indian policy-making not only because of its contribution to GDP but also because of the large proportion of the population that is dependent on the sector for its livelihood.

The growth in population and wealth has stimulated demand to the extent that domestic production has not always been able to keep up and there is increasing speculation that the Indian economy may be overheating leading to inflation. The downside of the increased import demand and the current commodity boom is that India's food import bill will rise sharply.

However it is clear that India's agricultural sector has made huge strides in developing its potential. The green revolution massively increased the production of vital food grains and introduced technological innovations into agriculture. This progress is manifested in India's net trade position. Where once India had to depend on imports to feed its people, since 1990 it is a net exporter of agri-food products. Its agriculture is large and diverse and its sheer size means that even slight changes in its trade have significant effects on world agricultural markets.

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