Indian agriculture and food security: problem and prospects

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Indian Agriculture and food security: Problem and Prospects

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Abstracts

Agriculture plays an important role in the process of economic development of less developed countries like India. Besides providing food to nation, agriculture releases labour, provides saving, contributes to market of industrial goods and earns foreign exchange. Agricultural development is an integral part of overall economic development. In India, agriculture was the main source of national income and occupation at the time of Independence. Agriculture and allied activities contributed nearly 50 per cent to India's national income. Around 72 percent of total working population was engaged in agriculture. Though Indian agriculture is very important, but it largely depends on the climate and weather conditions. India has Monsoon climate in which a year has been divided into two distinct seasons of summer and winter. Rainfall occurs mainly in summer. Solar radiation, temperature, and precipitation are the main drive of crop growth; therefore, agriculture has always been highly dependent on climate patterns and variations. 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.

Key words: Agriculture, Climate, Foodgrains, Agricultural Finance, Agricultural Exports and Imports

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Introduction:

Agriculture plays an important role in the process of economic development of developing countries like India. Besides providing food to nation, agriculture releases labour, provides savings, contributes to market of industrial goods and earns foreign exchange. Agricultural development is an integral part of overall economic development. At the time of independence, agriculture was the main source of national income and occupation in India. Agriculture and allied activities contributed nearly 50 per cent to India's national income. Around 72 per cent of total working population was engaged in agriculture. These confirm that Indian economy was a backward and agriculture based economy at the time of Independence. After 61 years of Independence, the share of agriculture in total national income declined from 50 per cent in 1950 to 18 per cent in 2007- 08. But even today more than 60 per cent of workforce is engaged in agriculture. In spite of this, it is also an important feature of agriculture that growth of other sectors and overall economy depends on the performance of agriculture to a considerable extent. Because of these reasons agriculture continues to be the dominant sector in Indian Economy.

Agriculture is the backbone of Indian Economy. About 65per cent of Indian population depends directly on agriculture and it accounts for around 18 per cent of GDP. Agriculture derives its importance from the fact that it has vital supply and demand links with the manufacturing sector. During the past few 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. We are talking about the second GREEN REVOLUTION; 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.

Climate and Agriculture:

India has Monsoon climate in which a year has been divided into two distinct seasons of summer and winter. Rainfall occurs mainly in summer. Solar radiation, temperature, and precipitation are the main drive of crop growth; therefore agriculture has always been highly dependent on climate patterns and variations. Since the industrial revolution, humans have been changing the global climate by emitting high amounts of greenhouse gases into the atmosphere, resulting in

higher global temperatures, affecting hydrological regimes and increasing climatic variability. Climate change is projected to have significant impacts on agricultural conditions, food supply, and food security.

Overall, climate change could result in a variety of impacts on agriculture. Some of these effects are biophysical, some are ecological, and some are economic, including:

- A shift in climate and agricultural zones towards the poles
- Changes in production patterns due to higher temperatures
- A boost in agricultural productivity due to increased carbon dioxide in the atmosphere
- Changing precipitation patterns
- Increased vulnerability of the landless and the poor

However, agriculture is itself responsible for an estimated one third of climate change. It is generally agreed that about 25 per cent of carbon dioxide emissions, are produced by agricultural sources, mainly deforestation, the use of fossil fuel-based fertilizers, and the burning of biomass. Most of the methane in the atmosphere comes from domestic ruminants, forest fires, wetland rice cultivation and waste products, while conventional tillage and fertilizer use account for70 per cent of the nitrous oxides. According to the Intergovernmental Panel on Climate Change, the three main causes of the increase in greenhouse gases observed over the past 250 years have been fossil fuels, land use, and agriculture.

Over the past centuries, human ingenuity has led to technological advances in agriculture that have allowed substantial increase in crop yields, in part stimulated to meet population growth. Intensive agricultural methods are reported to have detrimental effects on the environment.

The agricultural sector has become one of the main driving forces in gas emissions and land use effects. For example, agriculture contributes to greenhouse gas increases through land use in different ways:

- CO_2 emissions linked to deforestation in temperate regions: where forests and woodlands are cleared to make room for fields and pastures.
- Methane emissions from rice cultivation and enteric fermentation in cattle
- Nitrous oxide emissions from fertilizer applications

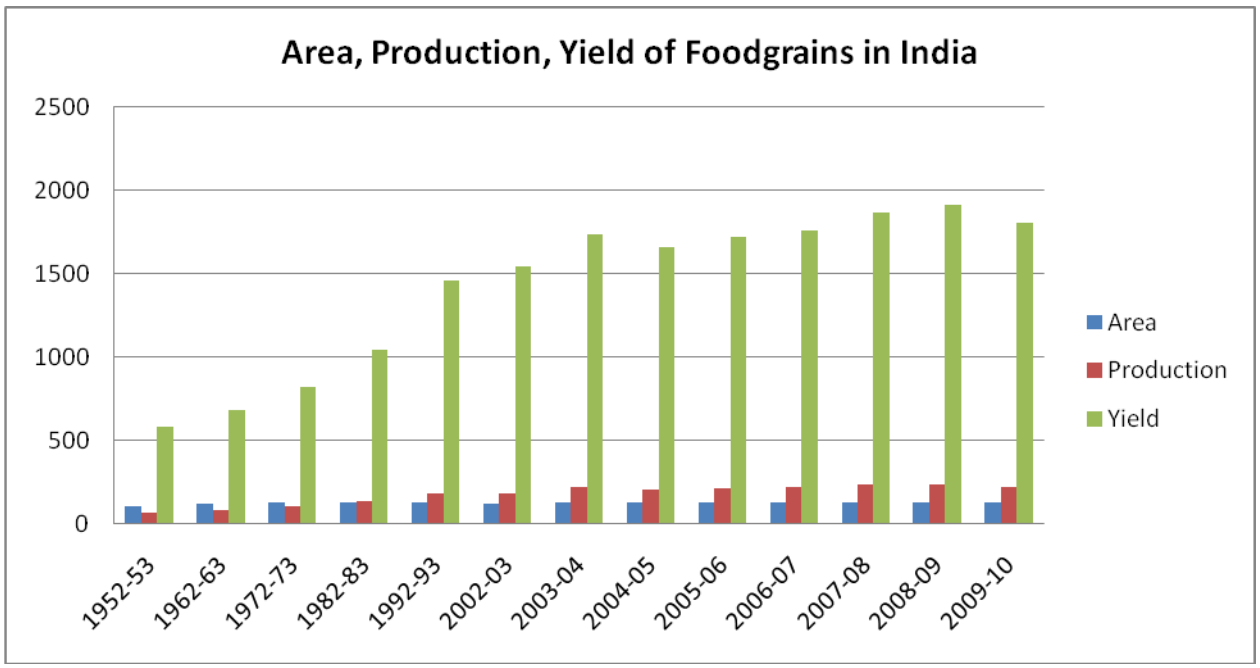
Together, these agricultural processes comprise 54 per cent of methane emissions, roughly 80 per cent of nitrous oxide emissions, and virtually all carbon dioxide emissions tied to land use. Deforestation for land cleaning purposes also affects regional carbon reuptake, which can result in increased concentrations of CO_2, the dominant greenhouse gas.

Major Crops:

Rice, Wheat, Sugarcane, Oilseeds, Pulses, Cotton, Jowar, Bajra, Ragi, Tea, Coffee, Coconut, Cashew, Rubber, Spices, Cauliflower, Onion, Cabbage, Mango, Banana, Sapota, Acid lime are the major crops. India is among the world's leading producers of paddy rice, wheat, buffalo milk, cow milk and sugar cane. It is either the world leader or the second largest producer in eight out of its top ten products. Some of these are widely traded while others are more specialist products.

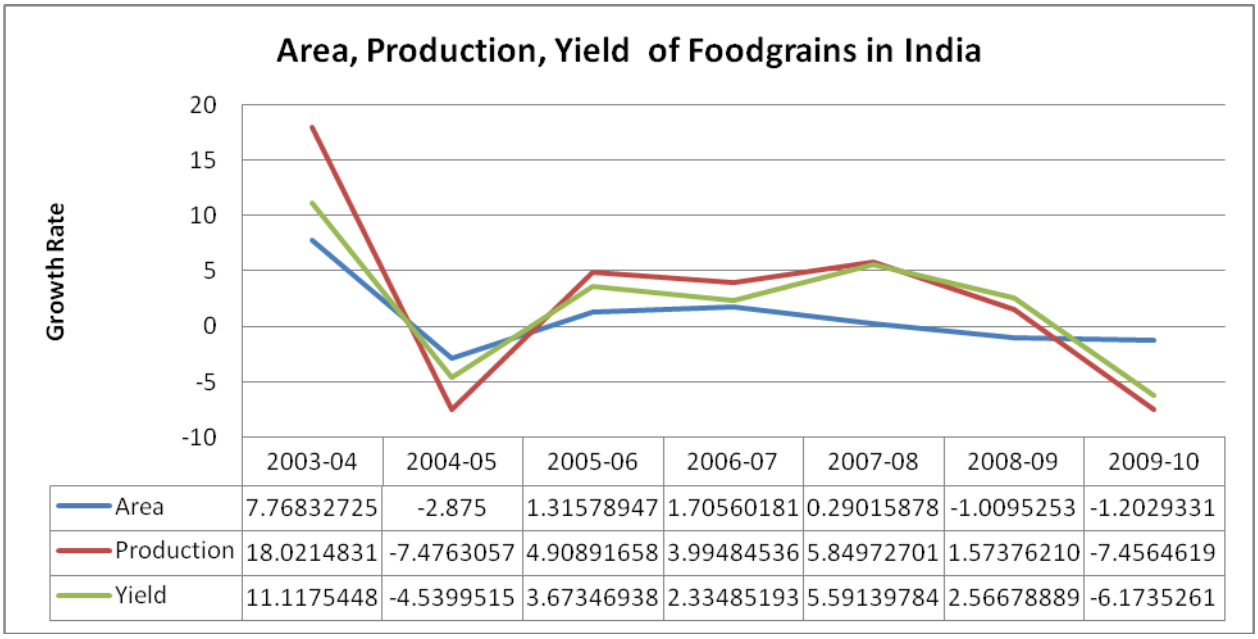
PRODUCTION, YIELD:

The trend in the area, production, and yield and irrigation coverage under food grains during 1952-53 to 2009 -10 is described in the graph given below.



Source: (a) Ministry of agriculture, Government of India, 2008 & 2010 (b) Economic Survey, 2009-10

During 1952-53, 102.02 million hectares were covered under food grain. The total foodgrain production achieved in 1952-53 was 59.2 million tonnes with a per hectare yield of 580 kg/hectare. Between 1952-53 and 2009-10 only 98.28 million hectares were added to the existing area under food grain cultivation. However, due to impact of green revolution and the use of modern agro services, the total production increased from 59.2 million tones in 1952-53to 218.20 million tones in 2009-10 and yield increased from 580kilograms /hectare to 1,798 kilograms/hectare in the intervening period. While 18.1 percent area under food grains had assured irrigation in 1952-53, the irrigation coverage increased to 46.8 percent by 2007-08. It is evident from the graph that since 2003-04, the area under foodgrain has remained more or less stagnant with relatively stagnated yield rate. These stagnant trends have been shown by their growth rates from the year 2003-04 to 2009-10.



	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Area	7.76832725	-2.875	1.31578947	1.70560181	0.29015878	-1.0095253	-1.2029331
Production	18.0214831	-7.4763057	4.90891658	3.99484536	5.84972701	1.57376210	-7.4564619
Yield	11.1175448	-4.5399515	3.67346938	2.33485193	5.59139784	2.56678889	-6.1735261

Source: Calculated from Table 1

There was positive growth in area, production and yield in 2003-04 but it is clear from the graph that in subsequent year, 2004-05, there has been negative growth. Again in 2009-10, area, production and yield have registered negative growth. Concluding from the graph we can say that there has been a continuous fluctuation in the area, production and yield of foodgrains in India.

The table given below shows the growth rates of Area, Production and Yield for foodgrains during post 1990 period. The year has been divided into two periods 1990-91 to 1999-00 and 2000-01 to 2007-08.

Table 2: Rate of Growth of Area, Production and Yield for foodgrains (in Percent)

Crops	1990-91 to 1999-00			2000-01 to 2007-08		
	Area	Production	Yield	Area	Production	Yield
Rice	0.7	2.0	1.3	-0.1	1.9	2.0
Wheat	1.7	3.6	1.8	1.3	1.4	0.1
Pulses	-0.6	0.6	0.9	1.9	3.4	1.7

Source: (a) Ministry of agriculture, Government of India, 2008 & 2010 (b) Economic Survey, 2009-10.

The rate of growth in areas under rice cultivation was 0.7 per cent during the period 1990-91 to1999-00. The area under wheat registered a growth rate of 1.7 per cent while pulses marked a negative growth rate in areas by -0.6 per cent during the same period (Table2). An analysis of the production and yield growth of food crops under irrigation between 1990-91 to 1999-00 and 2000-01 to 2007-08 indicates that the rice production between 1990-91 and 1999-00 has recorded an annual growth of 2 per cent vis-à-vis a growth rate of 1.9 per cent between 2000-01 and 2007-08. The rate of growth of production wheat and pulses during 1990-94 to 1999-2000 was 3.6 per cent and 1.4 percent, respectively during 2000-01 to 2007-08. A comparison of growth registered in the area under major crops their yield and production and the growth in the area during 1990-91 to 1999-00 and 2000-01 to 2007-08 paints a grim picture in maintaining the soaring staple food demand in the backdrop of the country's burgeoning population growth. In the absence of a continuous follow up to the green revolution of 1960s and the dearth of a suitable technological breakthrough in Indian agriculture in the post-green revolution era, there has been a continuous decline in the total factor productivity of Indian agriculture.

Plantation:

Tea, Coffee, and Natural rubber are the main plantation crops in India that contribute in Indian export to a considerable extent. India is the largest producer and consumer of tea in the world. It contributes 4 per cent to global coffee production and enjoys a niche market by producing both Arabica and Robusta coffee. In rubber also, it ranks third in production and fourth in consumption of natural rubber in the world.

Horticulture:

India has a great potential in the production of horticultural crops, which includes fruits, vegetables, spices, floriculture, and plantations. Acreage under horticulture is around 20 million hectares. India is the second largest producer of both fruits and vegetables in the world. It occupies first position in the production of cauliflower, second in onion, and third in cabbage. Trends in area Production of horticultural crops have been given below. (Source-National Horticultural Mission)

Allied sectors:

Dairy: India ranks first in the world in milk production, which was around 100 million tonnes in 2006-07.Strong networks of Milk Cooperatives, have been instrumental in this phenomenal performance of dairy sector in India. Presently, 1.13 lakh village level cooperative societies spread over 265 districts in the country form part of the national Milk Grid. This Grid links milk producers throughout India and consumers in 700 towns and cities. De-licensing of dairy sector in 1991 has directed considerable amount of private funds both from inside and outside country in this sector especially in manufacturing facilities while investment in cooperative sector are concentrated largely in procurement and processing of milk.

Livestock: Livestock sector contributes about 27 per cent of the G.D.P. from agriculture and allied activities. This sector has excellent forward and backward linkages, which promote many industries and increase the incomes of vulnerable groups of the society such as agricultural labourers and small and marginal farmers. India possesses the second largest livestock population in the world. Production and export of poultry products have shown considerable growth in the recent decades. Export of such products to countries including Bangladesh, Srilanka, Middle East, Japan, Denmark, USA, and Angola augers well for this industry.

Fishery: Fishing, aquaculture and a host of allied activities are a source of livelihood to over 14 million people and a major source of foreign exchange earner. In 2005-06, this sector contributed about 1 per cent of G.D.P. and 5.3 per cent of G.D.P from agricultural sector.8, 118 km. of coastline gives geographical basis for the development of marine fishery sector and cultural factor boosts the inland fishery sector in India.

Agricultural Finance:

Credit: Availability of adequate credit is vital for every sector and agriculture is not an exception. In India, Commercial Banks, Cooperative Banks, and Regional Rural Banks (RRBs) are responsible for smooth flow of credit to agricultural sector. Besides there is a huge unorganized market that exists for credit to agricultural sector in India, which provide timely fund to this sector but at the exorbitant rate of interest. Among organized credit disbursement to agriculture commercial banks play a vital role with a share of about 70 per cent where as

cooperative sector and RRBs contribute 20 per cent and 10 per cent respectively. Kisan Credit Card (KCC) scheme was introduced to provide adequate and timely support from the banking system to the farmers for their cultivation needs. This scheme has made rapid progress and more than645 lakh cards issued up to October 2006.

The 'Farm Credit Package' announced by the Government of India in June 2004 stipulated doubling the flow of institutional credit for agriculture in ensuing three years. Annual targets for this package are being surpassed in the two consecutive years from its introduction and it is likely to surpass in the third year also.

Agricultural Insurance:

Insurance is a prime necessity to mitigate uncertainty that persists in agriculture. In India, agriculture is still affected by such factors, which are beyond the control of human being. So, there is a great need for agricultural insurance in India. Keeping this in mind, Government of India in coordination with the General Insurance Corporation of India (GIC) had introduced National Agricultural Insurance Scheme (NAIS) from rabi 1999-2000 season. The main objective of this scheme is to protect the farmers against losses suffered by them due to crop failure on account of natural calamities. Agricultural Insurance Company of India (AICIL) which was incorporated in December 2002 took over the implementation of NAIS. AICIL introduced Rainfall Insurance Scheme called 'Varsha Bima' during 2004 southwest monsoon period. Varsha Bima provided for five different options suiting varied requirements of farming community:

1. Seasonal rainfall insurance based on aggregate rainfall from June to September.
2. Sowing failure insurance based on rainfall between June 15 and August 15.
3. Rainfall distribution insurance with the weight assigned to different weeks June and September.
4. Agronomic index constructed on the basis of water requirements of crops.
5. A catastrophe option covering extremely adverse deviation of 50 per cent and above in rainfall during the season.

During kharif 2006, this Varsha Bima scheme is being implemented in around 150 districts covering 16 states across the country. AICIL is also piloting another weather related insurance product for mango and coffee.

Rural Infrastructure Development Fund (RIDF): RIDF was announced by the Government of India in 1995-96 to boost public sector investment in agriculture and rural infrastructure. The Fund is raised from the commercial banks to the extent of their short fall in agricultural lending as priority sector. The activities, which have been made eligible for loans from RIDF, include rural roads and bridges, irrigation, mini and small hydel projects, community irrigation wells, soil conservation, watershed development and reclamation of waterlogged areas, flood protection, drainage, forest development, market yard, godowns, apna mandi, rural haats and other marketing infrastructure, cold storages, seed/agriculture/horticulture farms, plantation and horticulture, grading and certifying mechanisms such as testing and certifying laboratories, fishing harbors/jetties, revering fisheries, animal husbandry, modern abattoir, drinking water supply, infrastructure for rural educational institutions, public health institutions, construction of toilet blocks in existing schools and 'pay and use' toilets in rural areas, village knowledge centers, desalination plants in coastal areas, infrastructure for information technology in rural areas, and construction of anganwari centers.

Micro Finance: Micro finance scheme has been introduced by National Bank for Agriculture and Rural Development (NABARD), the apex bank for agriculture and rural development in India, to improve the access of the rural poor to formal institutional credit and other financial products. In all 547 banks, which include 47 commercial banks, 158 RRBs, 342 cooperative banks are now actively involved in the operation of Self Help Group (SHG)- Bank Linkage Programme to spread the facility of micro finance to the needy small and marginal farmers and tiny entrepreneurs. The programme has enabled nearly 329 lakh poor families in the country to gain access to micro finance facilities from the formal banking system.

Market for Agricultural Products:

Agricultural markets in India are dominated by the existence of unorganized and unregulated agricultural mandies with the presence of a large number of middlemen and widespread prevalence of malpractices. Absence of proper warehousing facilities in the villages, lack of proper transportation facilities and infrastructure such as rails and good quality all weather roads and ignorance about the market prices of the products are some of the important factors for exploitation of farmers from middle men. They are forced to sell their products to middlemen at the farm gate at throwaway prices.

Agricultural Market Reforms in India:

Ministry of Agriculture had formulated a model law on agricultural marketing in consultation with State/Union territory governments to bring about marketing reforms in line with emerging trends. This model act enables establishment of private markets/yards, direct purchase centers, consumers/farmers markets for direct sale, and promotion of public-private partnership (PPP) in the management and development of agricultural markets in the country. It also provides for exclusive markets for onion, fruits, vegetables, and flowers. Regulation and promotion of contract farming arrangement has also been made a part of this legislation. A provision has also been made for constitution of State Agricultural Produce Standard Bureau for promotion of grading, standardization, and quality certification of agricultural produce. So far, 15 States and 5 Union Territories have amended their Agricultural Produce Marketing Committee (APMC) Act to derive the benefits of market reforms.

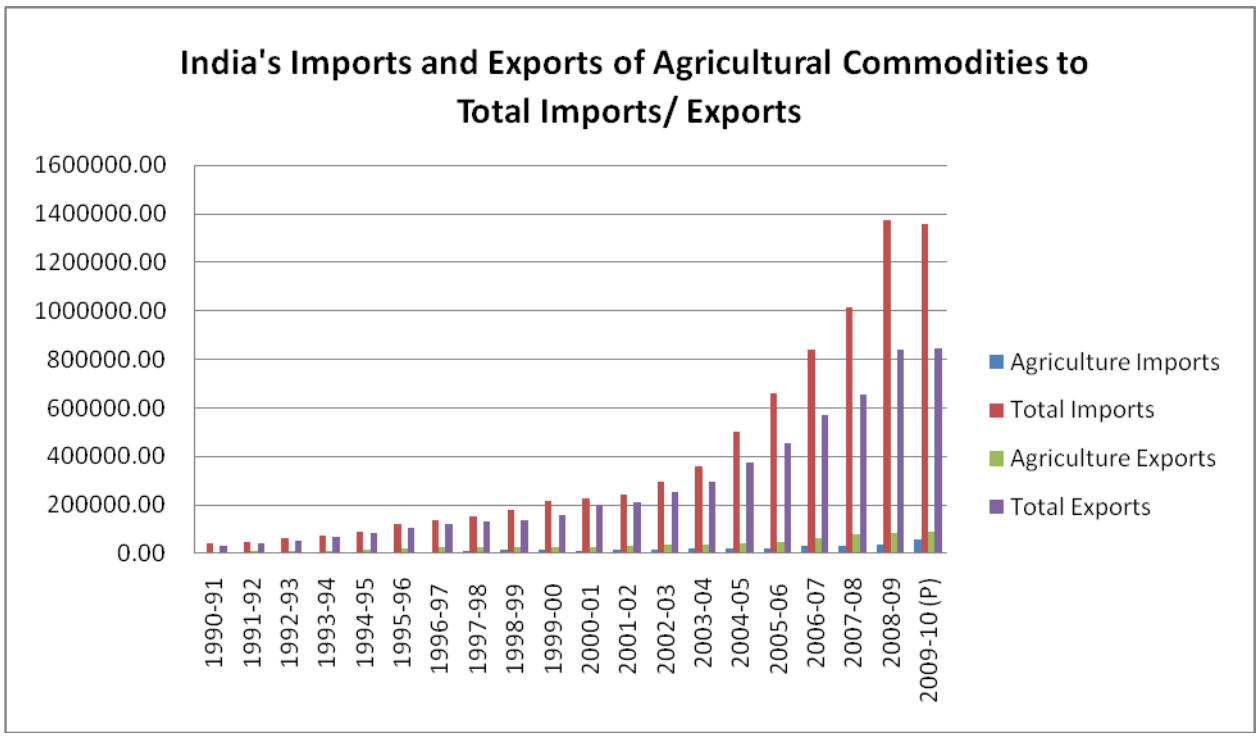
E-Chaupal: E-Chaupal is a business platform consisting of a set of organizational subsystems and interfaces connecting farmers to global markets. It has been initiated by International Tobacco Company (ITC) who are quite active in agricultural sector in India. This e-chaupal business platform consists of three layers each of different level of geographic aggregation. Each of the three layers is characterized by three key elements

1. the infrastructure (physical or organizational) through which transaction takes place
2. the entity(person or organization) orchestrating the transactions , and
3. the geographical coverage of the layer.

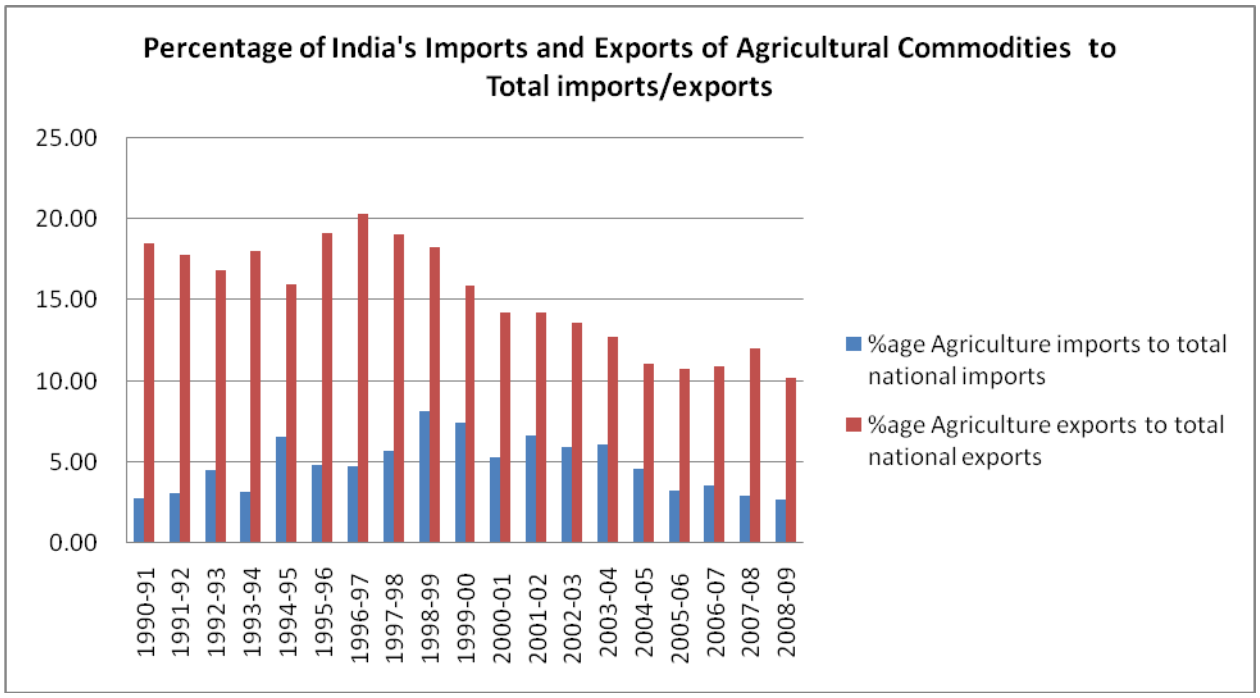
The first layer consists of the village level kiosks with internet access (e-chaupals), managed by an ITC trained local farmer and within walking distance(I- 5 kilometers) of each target farmer. Each cluster of five villages gets an e-chaupal, which is justified by sparse population in rural India. The second layer consists of a brick and mortar infrastructure called hubs managed by the traditional intermediary who has local knowledge/skills called a Samayojak and within tractorable distance (25-30 kilometer) of then target farmer.

International Trade & Indian Agriculture:

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 per cent 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 per cent of total trade. In 2005 its trade deficit with the EU was about €2 billion. India is one of the leading members of the G-20 within the DDA negotiations. It has a preferential trade agreement with Mercosur since 2005. It is also part of the South Asia Free Trade Agreement (SAFTA) covering seven nations (India, Bhutan, Nepal, Sri Lanka, Pakistan, Bangladesh and the Maldives) which came into effect in January 2006 with the aim of reducing tariffs for regional trade. And it is currently negotiating Free Trade Agreements with the EU and ASEAN. Turning our focus on trade in agricultural and food products, these accounts for a relatively small share of overall Indian trade. Agricultural exports represent 9 per cent of the value of total exports while the share of agriculture in total imports is just 5 per cent. When compared with other main players on world markets and considering the size of the country, Indian agricultural trade flows appear relatively modest. As the key goal of agricultural policy since independence has been to achieve self-sufficiency, trade has been relatively limited. However technological developments and macroeconomic policy reforms have brought increased liberalization, following the implementation of the Uruguay Round Agreement, and have contributed to changes in agricultural trade. Indian agricultural exports totalled $9.3 billion in the year 2005 while imports were worth roughly $5.5 billion



Source: - Director General of Commercial Intelligence & Statistics, Ministry of Commerce, Kolkata.



Source: - Director General of Commercial Intelligence & Statistics, Ministry of Commerce, Kolkata.

In 1990-91 Total import of India was Rs 43170.82cr and the share of agricultural import was Rs 1205.86cr and percentage of agricultural import to total import was only 2.79 per cent. On the other hand the total export of India was 32527.28cr and total agricultural export was 6012.76cr, percentage share of agricultural export to total export of India was 18.49 during the same period. In 1997-98 total import of India was Rs 154176.29 and total agricultural import was Rs 8784.19 and percentage share of agricultural import to total import was 5.7. On the other hand the total export of India was 130100.64 and percentage share of agricultural export to total export was 19.09. Total volume of trade increased by Rs 111005.47cr 1990-91 to 1997-98 and percentage share of agricultural import to total import also improved 2.79 to 5.70 during the same period. In 2008-09 the total import of India was Rs 1374435.55 and agricultural import of India was Rs 37183.03 but the percentage share of agricultural import to total import declined by 2.99 per cent it was only 2.71 percent. On the other hand total export of India was 840755.06 in 2008-09 and agricultural export of India was 85951.67 during this period, percentage share of agricultural export to total export of India also declined by 8.87 it was only 10.22 per cent during this period.

W.T.O. & Indian agriculture:

India and other developing countries have been insisting that special and differential treatment for developing countries must be integral to all aspects, including to negotiated outcome, on agriculture under the Doha Round in the WTO. Mitigating the risk facing the low income, resource poor, and subsistence farmers associated with price declines, price volatility, and predatory competition and other market imperfections, including the huge amount of production and trade-distorting subsidies provided by some developed countries to their agricultural sector, remains paramount. Therefore, along with other developing countries, particularly it's alliance partners in the G- 20 and G-33, India has been emphasizing that the Doha agricultural outcome must include at its core:

1. Removal of distorting subsidies and protection by developed countries to level the playing field, and
2. Appropriate provisions designed to safeguard food and/or livelihood security, and to meet the rural development needs in developing countries.

India has also taken the stand that governments must able to foster stable and remunerative prices for domestic producers in order to increase productivity and gradually move away from

dependence on low productivity agriculture. For these, meaningful and effective instruments i.e. Special Products and the Special Safeguards Mechanism is important for developing countries like India. At Hong Kong, where 6th ministerial meeting of the WTO took place it has been argued that Special Products and Special Safeguard Mechanism shall be an integral part of the modalities and the outcome of the negations in agriculture. Moreover, developing countries shall have the right to self designate an appropriate number of special products, guided by indicators based on the three fundamental criteria of food security, livelihood security, and/or rural development needs. These designated products will attract more flexible treatment. Developing country members will also have the right to have recourse to a Special Safeguard Mechanism based on import quantity and price triggers, with precise arrangements to be further defined.

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:

1. 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.
2. 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.
3. Accelerated Irrigation Benefit Programme (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.
4. 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.
5. The National Insurance Scheme (NAIS) will be continued for Kharif and Rabi crops during the year 2007-08.
6. The two per cent interest subvention scheme will continue in 2007-08.
7. Rs. 100 crores have been allocated to new Rain fed Area Development Programme, set up for coordinating all schemes for watershed development.

Conclusion:

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.

How India will develop is still a big unknown, with the picture changing rapidly. Questions have arisen about India's capacity to compete in global markets under the current farm structure and farm policy. As the service economy grows, the share of agriculture will diminish, which may also have implications for India's stance on trade and agriculture policy in the future. The leading forecasting institutions expect that India will play a bigger role in world markets in future. In a number of markets it is expected to consolidate its position among the world's leading importers (vegetable oils) and exporters (rice). Given the size of Indian agriculture, changes in its balance sheets for key commodities have a potentially large impact on world markets.

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Appendix

Table1: Area, Production, Yield and Irrigation Coverage under Foodgrains in India

Year	Area (Million hectares)	Production (Million Tonnes)	Yield (Kg/Hectare)	% Coverage Under Irrigation
1952-53	102.09	59.20	580	18.1
1962-63	117.84	80.15	680	19.8
1972-73	119.28	97.03	813	25.4
1982-83	125.10	129.52	1035	30.8
1992-93	123.15	179.48	1457	37.4
2002-03	113.86	174.77	1535	42.8
2003-04	123.45	213.19	1727	42.2
2004-05	120.00	198.36	1652	44.2
2005-06	121.60	208.60	1715	45.5
2006-07	123.71	217.28	1756	46.3
2007-08	124.07	230.78	1860	46.8
2008-09	122.83	234.47	1909	NA
2009-10	121.37	218.20	1798	NA

Source: (a) Ministry of agriculture, Government of India, 2008 & 2010 (b) Economic Survey, 2009-10

Table: 2 India's Import and Export of Agricultural commodities vis-à-vis total national Imoprt/Export

Year	Agriculture Imports (Rs Cr)	Total Imports (Rs Cr)	%age Agriculture Import to Total Import	Agriculture Exports (Rs Cr)	Total Exports (Rs Cr)	%age Agriculture Exports to Total Exports
1990-91	1205.86	43170.82	2.79	6012.76	32527.28	18.49
1991-92	1478.27	47850.84	3.09	7838.04	44041.81	17.80
1992-93	2876.25	63374.52	4.54	9040.30	53688.26	16.84
1993-94	2327.33	73101.01	3.18	12586.55	69748.85	18.05
1994-95	5937.21	89970.70	6.60	13222.76	82673.40	15.99
1995-96	5890.10	122678.14	4.80	20397.74	106353.35	19.18
1996-97	6612.60	138919.88	4.76	24161.29	118817.32	20.33
1997-98	8784.19	154176.29	5.70	24832.45	130100.64	19.09
1998-99	14566.48	178331.69	8.17	25510.64	139751.77	18.25
1999-2000	16066.73	215528.53	7.45	25313.66	159095.20	15.91
2000-01	12086.23	228306.64	5.29	28657.37	201356.45	14.23
2001-02	16256.61	245199.72	6.63	29728.61	209017.97	14.2
2002-03	17608.83	297205.87	5.92	34653.94	255137.28	13.58
2003-04	21972.68	359107.66	6.12	37266.52	293366.75	12.70
2004-05	22811.84	501064.54	4.55	41602.65	375339.53	11.08
2005-06	21499.22	660408.90	3.26	49216.96	456417.86	10.78
2006-07	29637.86	840506.31	3.53	62411.42	571779.28	10.92
2007-08	29906.24	1012311.70	2.95	79039.72	655863.52	12.05
2008-09	37183.03	1374435.55	2.71	85951.67	840755.06	10.22

Source: - Director General of Commercial Intelligence & Statistics, Ministry of Commerce, Kolkata.