

WTO and Growth of Indian Agriculture**Dr. Shishir Kumar Verma,**

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India is an agrarian economy; agriculture is an important pillar of economy and development strategy. Agricultural development is important as it provides economic sustenance and builds up a strong industrial base. Capital formation and the level of economic activity depend upon the agriculture production. Thus, the development of agriculture is an accelerator of the overall economic progress of a country. Agricultural sector, which contributes nearly 18.5 percent of the GDP and provides employment to 52 percent of population in 2006-07, remains the backbone of the Indian economy. Indian agriculture is still the biggest sector in terms of employment and income generation.

Indian agriculture is at crossroads as due to globalization; the farmers of India have faced many challenges like hike in the price of food grains, loss of livelihood for farmers, unemployment, shortage of supply of raw material for agro-industries, etc. It would be worth to analyze the structural and policy induced changes in agriculture since 1991. This will help to unveil the major factors impeding higher growth in agriculture making it globally competitive. World Trade Organization (WTO) has also played a significant role in the process of globalization. WTO was formed on 1 Jan. 1995 as a successor organization for the General Agreement of Tariffs and Trade (GATT). Indian agriculture under the new wave of globalization, liberalization and second green reform has developed very well but it is also facing various challenges for rationalizing its all activities and global competition under terms and references of WTO. Agricultural sector is required to improve its efficiency through cost reduction and increase in productivity. The reduction in tariff and non-tariff barriers encourages the imports of agricultural products. They have now become additional challenges for the development of agricultural sector. Already the agricultural sector in India is facing the problem of declining public investment, inadequate facility, low institutional credit, low labor productivity, fluctuation in prices of agricultural commodities in domestic and international market and several other problems. Problems of agricultural sector are increasing especially after liberalization and removal of subsidies after implementation of Agreement on Agriculture (AoA) of WTO. AoA recognizes free and market-oriented trading system of agricultural sector.

Review of Literature:

A number of research works are available in economic literature on the impact of WTO on various aspects of agriculture and implications of AoA on Indian agriculture. [Baljindar Kaur, R.S. Khatry, Ramesh Chandra (2004), A.K. Singh (2003) and so on.] However, the growth of agricultural sector, trend of production, shift of cropping pattern, employment generation, investment trend and subsidy pattern of Indian agriculture under WTO regime has not been studied together much in the available literature.

Data and Research Methodology:

Different data of agriculture sector are required for the study. Study is totally secondary database. These data are collected from the various issues of Economic Survey and of Economic and Political Weekly Publications and published data of Agricultural Ministry of India on agriculture time to time.

This paper shows growth performance, food production pattern and shift in cropping pattern employment generation, share of agriculture in GDP, investment and subsidy trend in agriculture of India under the regime of WTO.

Trends in Food Production:

Traditional pattern of Indian agriculture has low productivity per hectare and per worker. Due to low productivity, agriculture merely provided subsistence to the farmers and had not become commercialized. New agricultural strategy is of increasing production and productivity of agriculture by using high technology and reform in agricultural inputs.

The decade 1980's witnessed the fastest food grains production growth ever since the green revolution. The decade 1990s could not maintain that tempo and consequently the growth rate of food grain output falls from 2.85% per year in 1980s to a mere 1.66% in 1990s. In fact, it has become negative (-0.69% a year) between 2000-01 and 2002-03. Though it recovered in 2003-04. It again fell in 2004-05 and production of food grain declines to 198.4 million tons but it still increases in 2005-06 and 2006-07. Production of food grains was 217.3 million tons in 2006-07 and there is an increase of 4.2% over 2005-06.

Table -1
Annual Average Growth Rate
(Percent)

Five Years Plans	Growth Rate Agriculture & Allied Sector
1985-90	3.2
1990-92	1.3
1992-97	4.7
1997-02	2.1
2002-03	-6.9
2003-04	10.0
2004-05	0.7
2005-06	2.3

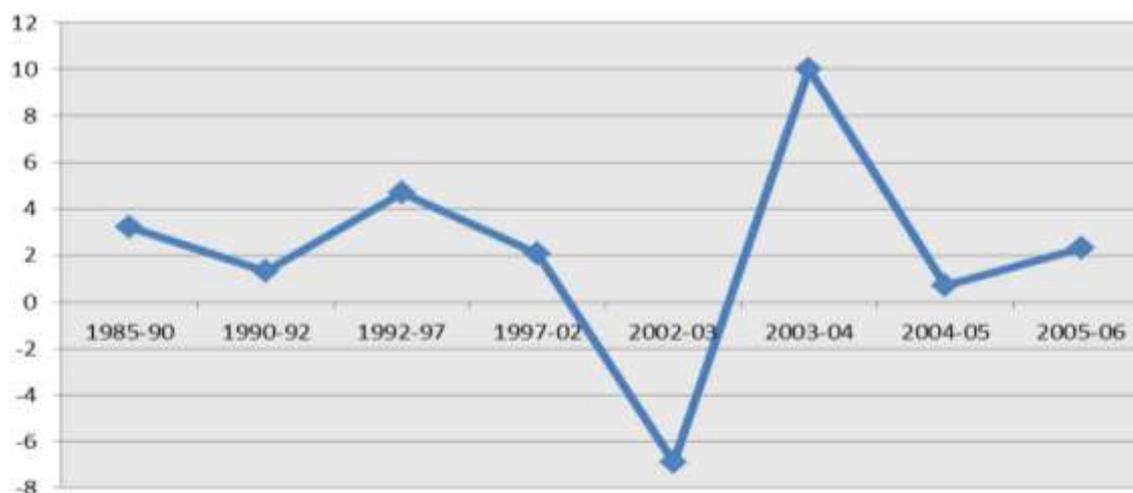
Source – Central Statistical Organization, India

Annual average growth rate before 2001 was based at old series 1993-94 prices and after 2002, it was based at new series 1999-2000 prices.

Figure -1

Annual Average Growth Rate (Percent)

Growth Rate Agriculture & Allied Sector



Source –Based on Table -1

Figure-1 shows that in decade 1980's food grains production growth rate was increased due to green revolution. The decade 1990s could not maintain that tempo and the growth rate of food grain output falls and it became negative (-0.69% a year) between 2000-

01 and 2002-03. Although it recovered in 2003-04. It again fell in 2004-05 and there was a decline in production of food grains but it still increases in 2005-06 and 2006-07. WTO affects production and productivity due to free trade and global competition. Growth rate of agriculture output also reduced since the implementation of AoA of WTO.

Shift in Cropping Pattern Structure:

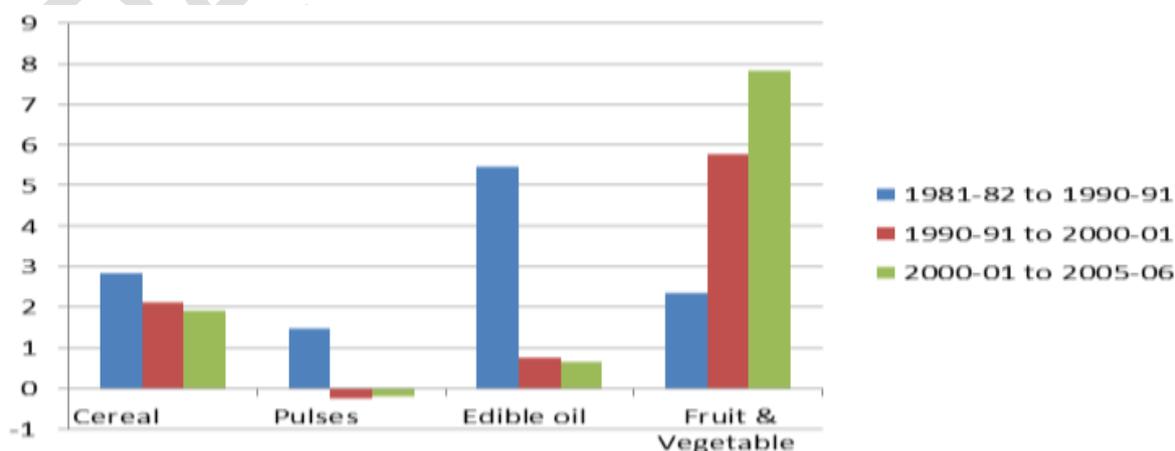
WTO not only affects the production rate of agriculture but it also made complete change in Indian traditional pattern. Predominance of food crops over non food crops (cash crops) is the main feature of Indian agriculture. Because of globalization the Indian cropping pattern shift towards food crops to cash crops. Net growth rate of food grains output had fallen considerably and growth rate of production of fruit and vegetable increases under the regime of WTO.

Table – 2
Growth Rate in Production of Selected Agricultural Commodities

Years/Crops	Cereal	Pulses	Edible oil	Fruit & Vegetable
1981-82 to 1990-91	2.85	1.49	5.45	2.36
1990-91 to 2000-01	2.11	- 0.25	0.76	5.78
2000-01 to 2005-06	1.92	- 0.18	0.67	7.82

Source- Agricultural Statistics at a Glance, Ministry of Agriculture, Government of India, Various Issues

Figure -2
Growth Rate in Production of Selected Agricultural Commodities



Source –Based on Table -2

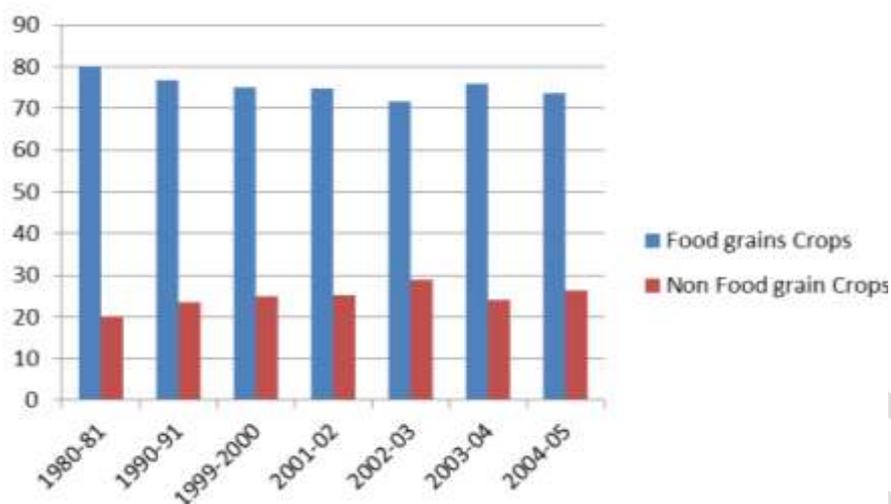
There has been considerable emphasis on crops diversification in favor of horticultural (fruits, vegetable, spices, ornamental crops, medicinal and aromatic plants) plantation crops (rubber, cocoa, tea, cashew, coconut) and allied activities due to increased facility of cold storage, refrigerated transportation, grading, packaging etc. However, the shift in cropping pattern has resulted in decrease in sown area under food grains production. This is an important step towards commercializing of India agriculture and a big problem towards food security.

Table -3
Ratio of Area under Principal Crops (In Percent)

Years	Food grains Crops	Non-Food grain Crops
1980-81	79.8	20.2
1990-91	76.6	23.4
1999-2000	75.06	24.94
2001-02	74.74	25.26
2002-03	71.7	28.93
2003-04	76.0	24.0
2004-05	73.7	26.3

Sources – Economic Survey 2005-06

Table shows the cropping pattern in India which is predominantly of food grain crops, but it shifts gradually to non-food grains over years. Areas under different crops in different years are shown in Table-3 and figure -3. Table and figure show the gradually changing trend in food grain crops to non-food grain crops in different years.

Figure-3 Ratio of Area under Principals Crops

Source –Based on Table -3

Area covers 79.8 percent under food grain crops in 1980-81 and only 20.2 percent in non-food grains. After a decade in 1990-91, area gradually shifts towards non-food grains and increased by 3.2 percent. In 2004-05 area covers under food crops is about 73.7 percent and non-food crops are 26.3%. Shift of area under food crops to non-food crops is not significant, but it shows changing pattern.

Employment Generation:

The annual growth rate of employment has decreased considerably from 2.04 percent per annum during 1983-94 to 0.98 percent per annum during 1994-2000. This decrease in overall growth rate of employment was mainly due to stagnation of employment in agriculture. The growth rate of employment was 1.51% during 1983-94 whereas it registered a negative growth of -0.34% during 1994-2000 (Economic Survey 2001-02). Share of agriculture in total employment dropped from 60% in 1993 to 57% in 1999-2000 (Economic Survey 2004-05). Share of agriculture sector in total employment is 52% in year 2006-07 (Economic Survey 2008).

Share of Agriculture in GDP:

As India is an agrarian country. Agriculture has a huge share in national income but the share of agriculture has persistently declined on account of development of secondary and tertiary sectors of the economy. Economic reforms have contributed towards increasing the

rift between agriculture and non-agriculture. A closer look at the distribution of gross domestic production gives the neutral impact of WTO on agriculture of India.

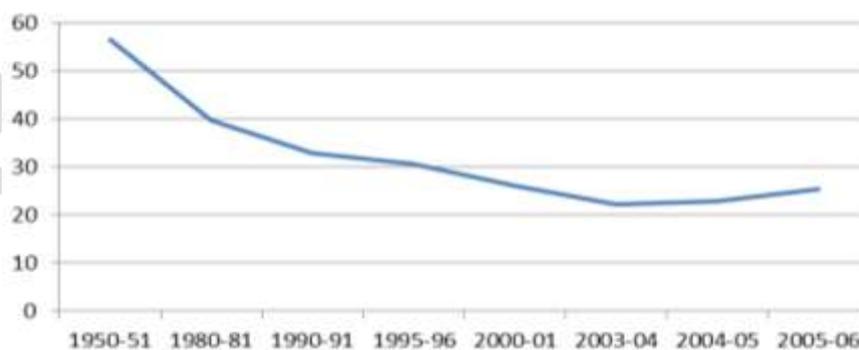
Table- 4
Role of Agriculture in National Income
(Based on production cost) (Percent)

Year	Share of Agriculture in National Income
1950-51	56.46
1980-81	39.60
1990-91	32.91
1995-96	30.60
2000-01	26.16
2003-04	22.1
2004-05	22.97
2005-06	25.38

Source: Arthik Sameeksha 2005-06.

Share of agriculture in national income is shown in table -4 and figure -4. Table and graph show that the share of agriculture in national income decreases year to year since 1950-51.

Figure-4 Role of Agriculture in National Income
(Based on production cost)



Source – Based on table 4

The share of agriculture in GDP is 56.46 percent, it decreases in 1980-81 to 39.60 percent, it further decreases to 32.91 percent in 1990-91. In 2000-01 it decreases to 26.16 percent and in

2003-04 to 22.1 percent. It slightly increased in year 2004-05 and become 22.97 percent and in 2005-06 to 25.38 percent.

Investment Trend in Agriculture:

Investment in agriculture is as the GDP decline from 1.92 percent and 1.28 percent in early 2000. This declining share was mainly due to the stagnation or fall in public investment particularly since the mid- 90s due to globalization. However, there is evidence of a turnaround of this trend of the public sector investment in agriculture reaching the highest level 5249 crore 2003-04. This help to improving share of agriculture sector's capital formation in GDP from 1.28% in 2001-02 to 1.31% 2003-04.

Table -5

Gross Capital Formation in Agriculture

(Rs. in crore)

Year	Investment of Agriculture			Percent Share		AS GDP Percent
	Total	Public	Private	Public	Private	
1990-91	14836	4395	10441	29.6	70.4	1.92
1995-96	15690	4849	10841	30.9	69.1	1.57
1999-2000	17304	4221	13083	24.4	75.6	1.37
2000-01	16906	3927	12980	23.2	76.8	1.28
2001-02	17219	4169	12250	28.9	71.1	1.24
2002-03	18240	4359	13881	23.9	76.1	1.27
2003-04	20510	5249	15261	25.6	74.4	1.31
2004-05	43123	12591	30532	29.6	70.8	1.70

Source: Central Statistical Organization, India.

Data of 2004-05 based at new price series 1999-2000. Rest all data based on old series 1993-94 prices.

Subsidy: In WTO terminology, subsidies in general are identified by all domestic support which is quantified through the mechanism of total Aggregate Measurement of Support (AMS). AMS consists of two parts –

- Non-product specific subsidies
- Product specific subsidies

Non product specific subsidies refer to total level of support for agricultural sector as whole subsidies on inputs of agriculture. There are three categories of support measures that are not subjected to reduction under agreement and support within specified minimum level is allowed, these exempt support measures are given as Boxes:

- 1- **Green Box-** This measure includes research, post and disease control, training, extension, advisory service, food security, domestic food aid, direct payment to producers for insurance and natural disasters and environmental assistance program.
- 2- **Special and Differential (S&D) Box-** It includes differential treatment investment subsidies and agricultural input subsidies for poor producers.
- 3- **Blue Box:** Direct payment under production, product specific subsidies refer to the total level of support provide for each individual agricultural commodity essentially signified by procurement price in India.

In India agricultural subsidies are just 3 to 6% of total output. Under WTO regime, it is possible to enhance agricultural subsidies up to 10% of total agricultural output. Food subsidy was Rs.23828 Crores in 2006-07 in India which was not sufficient. India also needs to increase product specific subsidy and give major domestic support under Green, Blue and S&D Boxes.

Indian Agriculture under the WTO Regime:

AoA of WTO is bound to influence Indian agriculture positively as well as negatively. The global agriculture trade would likely to become oligopolistic under WTO regime.

Positive effect:

The WTO is for greater market access. Domestic subsidies of Indian agriculture will not be reduced, rather more subsidies can be given as AMS under WTO as current subsidy of India is below the upper limit of 10% of agricultural production of India. On 9 Aug. 2001 Indian Parliament passed the protection over their varieties. The farmer is free to save, use,

resow, exchange, share or sell his farm products including seeds of protected variety in the same manner as before except branded seed.

Negative effect:

1. The productivity of Indian agriculture is already low and growth rate of production has also declined under WTO regime.
2. International quality standards are very difficult to be maintained by Indian farmers in the WTO regime.
3. The patenting of hybrid genetically modified seed under TRIPs would prevent Indian farmers from retaining and exchanging the seeds. Poor farmers cannot afford to purchase seed for every sowing.
4. The slow pace of removing infrastructural bottlenecks such as irrigation, credit, research and development, small size of holdings etc. also creates hindrance.
5. Under the WTO regime, agriculture would lead to diversification of cropping patterns away from cereals and thereby posed a threat to food security.
6. Food prices will rise which would lead to threat to food security.
7. The commitment on the removal of input subsidy may lead to decline of crop output.

Conclusion and Suggestion:

Agriculture sector in India does not gain much from the reform process under WTO regime. India needs to fulfil the objective of self sufficiency in food and it becomes the responsibility of government to safeguard the interest of farmers and design policies to make farming activities economically viable.

Under WTO regime, India need not to go for reduction of subsidies and the abolition of other types of restrictions on a large scale without studying the implications and consequences of WTO agreement on Indian agriculture. Government of India should provide all possible support under permissible categories of AoA to the agricultural sector, to promote the development of this sector.

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