



Indian Agriculture During Post Reform Period: Issues & Reforms

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Abstract

The arrival of the New millennium has been heralded by Numerous vision documents about the Long Term Prospects of Indian economy. There is considerable anxiety about the likely course of agriculture scenario in the country, No doubt, Agriculture is the backbone of Indian economy. It is the most important sector of Indian economy from the Perspective of Poverty alleviation and Employment generation.

“Agriculture sector accounts for about 20% of India’s National Income. The share of Agriculture in National Income has been declining from 56.5% in 1950-51 to 20% in 2009-10 while the work force engaged in a agriculture has exhibited only a marginal decline.

This paper intends to study the impact of economic reforms on Indian Agriculture. This paper tries to analyze why the Agriculture sector decelerated in Post reform period. To carry out this analysis some measurements are considered and studied as the size of average yield changes, use of Agriculture inputs like Hyv, chemical fertilizer and their impact on income of Agriculturalist, the change in crop pattern. The paper also examines and explains how these changes have influenced the Indian Agriculture and, thus, tries to explain how to channelized these economic reforms so that critical issues regarding Agriculture Sector can be resolved.

Key Words: Agriculture sector, Growth Rate, Change in land yields, input and agricultural output, Electric Power Consumption Cropping Pattern.

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1. INTRODUCTION

The Serious Foreign Exchange crisis in 1990 led to number of economic reforms in early 1990's. Although no direct reference was made to agriculture. The reforms had an impact on Agriculture through the central government's efforts to withdraw the fertilizer subsidy and place greater emphasis on Agriculture Exports. This in turn, was supposed to promote exports leading to rapid agricultural growth.

In the mid-1990s, it was expected that agriculture would continue to be the most important sector of the economy for the rest of the decade in terms of the proportion of GDP. However, even when it is not the sector providing the largest share of GDP, the importance of agriculture is not likely to diminish because of its critical role in providing food, wage, goods, employment, and raw materials to industries.

Only a few among number of Researchers tried to study the impact of reforms on Indian agriculture. The present study analyzes the impact on Agriculture during post reforms period. The Critical issues and reforms regarding these issues are studied.

2. RESEARCH OBJECTIVE

Indian economy has also undergone structural changes during the plan period and economy has now put itself on the high growth path. Only few studies are available on the Agriculture growth during Post reform period. In this paper minor effort is done whether economic reforms have positive or negative impact on Agriculture. If positive how can we sustain it? If negative what are issues and how can be resolved.

3. REVIEW OF LITERATURE

However, the economic reforms were meant only for Industrial sector but directly, indirectly it affects Agriculture. Lots of studies are available regarding the impacts of economic reforms on various fields except Agriculture, only few Researchers tried to study the impact of economic reforms on Agriculture. Present study is based on analysis the impact on Agriculture during post reforms period.

A chronological description of the literature and findings are enlisted as follows :

- **Economic liberalization and Indian Agriculture:** A state wise Analysis. By **GS Bhalla, Gurmail Singh**. This article constitutes a part of the Jawaharlal Nehru Planning commission project, "Agricultural Growth in India- A District-Level Analysis".
- **Gopalan (2001)** in his article "Sustainable food production and consumption" showed that the current methods of food production and consumption are imposing a severe burden on the environment and the constituent natural resources.
- **Indian Agricultural:** Issues and Reforms with Gopal Naik, (Professor in the area of Economics and social sciences and chair person of the centre for Public Policy at IIM Bangalore).
- "A comparative study of Indian economy in Pre and Post Reform Period: An econometric Analysis "by Shivani Gupta. Research Paper Published in Global international Journal for Research Analysis Volume: 3 Issue: 21 Feb 2014.

Only a few among number of Researchers tried to study the impact of reforms on Indian agriculture. The present study analysis the impact on Agriculture during post reforms period. The Critical issues and reforms regarding these issues are studied.

Only Industrial development can't feed huge population the pace and pattern of Agriculture development are Largely conditioned by the growth of infrastructural facilities of irrigation, road, market, power, cold storage etc.

Infrastructure plays a critical role on both input and output side.

4. RESEARCH METHODOLOGY

The study is entirely based on secondary data have been obtained from Published as well unpublished sources. Collected from the various issues of "Economic" survey, "Agricultural statistics at Glance", RBI-"Handbook of statistics on Indian Economy".

Agriculture growth region and state wise, change in Average yield, Input and Agricultural output, data Regarding change in cropping Pattern, Relative crop share has been examined and analyzed to know the ultimate position of Agricultural during post reform period.

This paper is divided into two sections. In first section change in Agriculture sector due to economic reforms or State of Agriculture during Post Reform period has been studied in second section. Critical issues of Agriculture sector and reforms regarding to resolve these issues have been examined.

5. INDIAN AGRICULTURE DURING POST REFORM PERIOD

5.1 Declination in Agriculture

Agricultural growth during post reform period 1993 -94 to 2003-06 declined sharply at the all India level and in all regions, not at national level but also at regional level during the same period the growth rate declined from 3.55 % to 1.58 % in north western region from 3.41 % to only 0.48% in southern region.

All states except Gujarat and Maharashtra had sharp decline in Agricultural output growth rate in post reform period. Gujarat registered output growth rate 5.33% p.a. because of the very rapid spread of BT cotton in the state.

Reason for sharp decline in growth of agricultural output was low investment in irrigation and rural infrastructure managing water bodies has been critical issue for Indian agriculture. We have problem like water logging at the head part of water bodies and deficit at the tail ends. Now there is time to resolve these basic issues.

5.2 Agricultural production and Changes in Land yield

This Change occurs during the green revolution, only reason behind the growth of Agricultural output is increase in size of average yield.

During the pre green revolution period the contribution of area growth to output growth was 50.16% while that of yield growth was only 38.2%. During the post reforms period the yield growth accounted upto 86% of growth of output. While the contribution of area growth was only 13.9%.

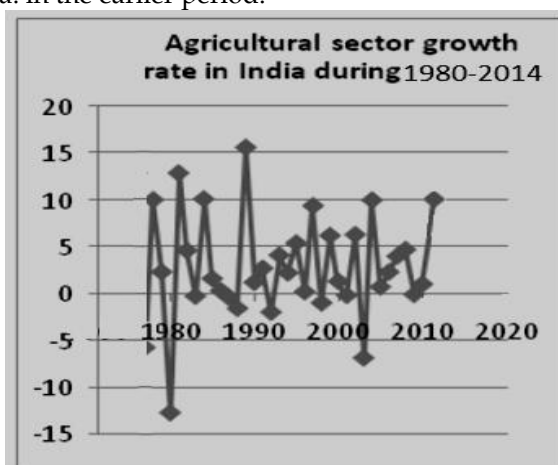
Table 1: All India Area, Production and Yield of food grain's along with coverage under irrigation Area-Million Hectors Production-Million tons Yield-Kg/Hectare

Year	Area	Production	Yield	Area under irrigation %
*1980-90	126.77	171.04	1349	35.0
1990-91	127.84	176.39	1380	35.1
1991-92	121.87	168.38	1382	37.4
2008-09	122.83	234.47	1909	48.3
2009-0	121.33	218.11	1798	47.8
2010-11	126.67	24.49	1930	47.8
2011-12	124.75	259.29	2078	49.8
2012-13	120.78	257.13	2129	49.5
2013-14	126.04	264.77	2101	50.2

Source:- Directorate of Economic and statistics, Department of Agriculture & Cooperation.

* 1980-90-Average of figures during this period.

During the post-liberalisation period, the growth rates of both agricultural output and of land yields slowed down as compared with the pre-liberalisation period. At the all-India level, while the output growth rate declined to 1.74% pa from 3.37% p.a., the yield growth rate declined to 1.52% p.a. from 3.17% p.a. in the earlier period.



Since the yield growth rates are now the predominant source of growth of agricultural output, a steep decline in the growth rates of yields in most parts of India should be a matter of great concern for the policymakers. A major reason seems to be the decline in public investment in irrigation and non-availability of yield-raising cost-reducing new technology.

Comparing Pre Reform Period and Post Reform Period clear from above Table that area under registered a Marginal increase. Due to economic reforms a very optimistic environment create towards growth and development. While agricultural production registered a minor increase. Positive thing is that Area under irrigation registered increase to great extent as compared to Pre Reform Period.

5.3 Inputs and Agricultural Output

5.3.1 Use of chemical fertilizer

During post reform period high yield variety (HYV) seeds, use of modern inputs like fertilizer result in achieving much higher yield level. This clearly depicts the association between the level of land productivity and use of modern inputs.

Table 2: All-India Consumption of fertilizers

Year	Thousand Tonnes
1980-90	11568.2
1990-91	12546.2
1991-92	12728.2
2008-09	24909.3
2009-10	26486.4
2010-11	28122.2
2011-12	27790.0
2012-13	25536.2
2013-14	24482.4
2014-15	25560.2

Sources: Department of Agriculture & Corporation

Table clearly depicts that use of chemical fertilizer increased to a great extent, however, it indicates oscillating trend in the consumption of fertilizers. No doubt production increase but have adversely effect the health & quality of soil.

5.3.2 Use of fertilizer state and region-wise.

Table 3: Use of fertilizer statewise (Thousand Tones)

State & Region	2011-12	2012-13	2013-14
Haryana	1428.05	1350.20	1164.67
Punjab	1918.06	1972.24	1713.27
U.P.	4257.75	4650.98	3842.04
North West Region	792237	8284.84	7030.97
Assam	275.65	275.65	273.04
West Bangal	1617.20	1560.40	1226.85
Eastern Region	3983.41	3775.01	3078.25
Gujarat	1733.06	1341.97	1564.91
Rajasthan	1355.78	1344.20	1217.64
Central Region	8607.24	7636.30	8042.24
Andra Pradesh	3342.35	2747.10	3119.43
Tamil Nadu	1264.91	946.82	905.66
Southern Region	7266.62	5519.08	6004.82

Sources: Department of Agricultures & Corporation.

If we compare data from 2011-12 to 2012-13, it is found that the use of fertilizers declined in all states, however, it is a matter of satisfaction that trend changed and showed upward position in it.

If we see state and region-wise the high use of chemical fertilized in post reform period increase to great extent. High dose in U.P., and then in Punjab. All the high productivity state like Punjab and Haryana in north western region, Kerala, Tamilnadu and Andhra Pradesh in southern region., west Bengal in eastern region Gujarat in central region had been using large doses of modern inputs particular chemical fertilizer.

5.4 Consumption of Electricity for Agriculture purpose (All India). (Table 4)

Year	Percentage share of agricultural consumption to total consumption
1980-90	25.11
1990-91	26.44
1991-92	28.20
2008-09	20.43
2009-10	20.98
2010-11	20.48
2011-12	20.95
2012-13	20.76
2013-14	20.82
* 2014-15	20.85(Advance Estimate)

Source: Central Electricity Authority New Delhi.

The percentage share of agricultural consumption to total consumption increased from 1980-90 to 1991-92. Thereafter, this percentage is showing very lower oscilating trend.

5.5 Change in Crop pattern

Within the food grain sector, substantial change have taken place. Indian Agricultural policy makers have stressed for crop diversification because with rise in per capita income the demand for food grain grow at slower rate, that for oilseeds, fiber sugar cane products is projected to grow at much faster rate. The new technology was able to great positive impact on the yield level of oilseeds, fibre sugar cane resulting in significant cropping pattern changes overtime.

5.6 Relative crop shares in value of output:

In post reform period some states registered a substantial increase in their share of food grains to total value of output during this period e.g., in Punjab and Karnatka both states shifted to produce food grains previously both were producing oil seeds, cotton and sugar cane.

5.7 Share of agriculture in Total Export

The agricultural export in India is being influenced by many factors such as trade openness and Real Effective Exchange Rate of India. After the devaluation of rupees in 1991, the growth rate of exports of agricultural products a bit increased but after the Agreement on Agriculture (AOA) of WTO, its growth rate decreased relatively refer table 5.

Table 5: Share of Agriculture in Exports

Year	% Share of Agriculture Export in Total Exports
1980-90	17.63
1990-91	19.41
1991-92	18.68
2008-09	9.25
2009-10	10.10
2010-11	11.44
2011-12	12.41
2012-13	14.20
2013-14	14.17
* 2014-15	15.02 (Advance Estimate)

Source:- Government of India Economic Survey, Various Issues

Table 5 shows the agricultural exports of India during post-reform period. It is clear from the table that annual average of agricultural exports as percentage of total exports has decreased from 17.63% to 14.17%. Thus, we conclude that economic reforms have adversely affected the agricultural export of India.

6. ISSUES AND REFORMS

- Critical issues in Indian Agriculture is how to manage irrigation infrastructure, so that all the farmers have equal access.
- Another critical issue is about food securities how to feed masses of Indian. Number of policies made by Government are insufficient to solve this problem.
- According to Gopal Naik, a Professor in the area of Economics & Social Sciences and Chairperson for the Centre for Public Policy at Indian Institute of Management, Bangalore, "should we have more of a local focus on food security depending on the requirement and ability to produce food grains? Should we see whether the food grain produced in that area is able to meet the requirement of that area and what could be done on say the technology front so that these cereals could be produced locally and in difficult areas and thus ensure food security".
- Failure at Institutional Level is another issue in field of Agriculture due to lack of funds, and initiatives at government level. Reforms can be done in Agriculture to provide facilities to small and poor farmers and by doing this they can take advantage of policy implemented by government.
- Government should take step to push public interest in this field.
- No doubt there should be mechanization of agriculture.
- Financial institution should take more interest in Agriculture. These role should be redefined.
- Private Sector participation can be another measure to resolve the critical issues in Agriculture.
- Though crop insurance is another way to cover Risk factor in Agriculture MSP (Minimum support price is the way which can helped farmers lot.

7. SUMMARY AND CONCLUSION

Agricultural sector being the most important source of occupation in India if coupled with effective policies then it can stimulate the growth of Indian economy and also help government to deal with issues like poverty and health status by making more than half of the population of India, dependent on agriculture for their livelihood, better off.

As studies reveals that in post reform period there is a serious retrogression both in the matter of levels and growth rates of yield and output. In most states and regions and a slowdown in diversification towards oilseeds.

There are different reasons for slowdown of growth of yield and output in different regions. Low investment in irrigation and water management and in scientific research has adversely affected the profitability of farmers. Over dose of HYV seeds and chemical fertilizer adversely affect soil quality.

No doubt in post reform period in Indian economy there is a acceleration in growth of GDP and per capita income. It should be the matter of great concern that in highly positive environment why only Indian Agriculture face so much declination.

One of the important questions that has been raised is whether it is sustainable in the long run to maintain the tempo of agricultural growth through increasingly higher use of costly and heavily subsidised inputs that not only impose a high fiscal burden, but also lead to soil and environmental degradation.

Question arise is economic reforms fail to boost Agriculture. We have to think “ Whether we are on Right way or not regarding agriculture”?.

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