

Growth of Indian Agriculture and the Building of Agrarian Crisis: Diabolic Implications and Corrective Policies

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Abstract

The agricultural progress was not satisfactory since independence but the continuous efforts by the Government in different plan periods had made Indian agriculture grow at the rate of 2.6 per cent per annum in the post independence era. This was the result of the different development programmes and institutional changes introduced by the Indian Government i.e. Land Reforms, Agricultural Price Commission, new agricultural strategy, investment in research and extension services, credit facilities and improved rural infrastructure etc. Despite these, there were several constraints and disturbing features which led to the decadence of agriculture. The erratic growth in agriculture is not only associated with the vagaries of nature, but in addition, disease and pests, poor returns as a consequence of low prices and increasing cost, spurious inputs, greater demand for credit to have access over the necessary inputs have added to misery. Thus, there are multiple risks in agricultural income, yield, price, input technology and credit. In the First Five Year Plan, it was stated that the increase in agricultural production represented the highest priority in the Planning over next few years and the agrarian economy had to be diversified and brought to a higher level of efficiency. To fulfill this objective, it was necessary to remove several impediments to agricultural production. There was a strong opinion that the first requisite was the transformation in the agrarian structure in India for stimulating better farming. The Government had also initiated some programmes to regenerate Indian agriculture which had stagnated during the British period such as the Community Development Programme, decentralised planning and the Intensive Area Development Programme.

Although the different development schemes were introduced as a structural response by the Union Government with support from the State Governments and there was a positive outcome such that agricultural growth rate was 3.7 during 2005-06 to 2010-11, but it was still short of the 4 per cent plan target set in the successive plans from the Ninth Plan onwards. While other sectors such as industry and services had been increasing at faster rate, agriculture had been lagging behind. The slower growth of agriculture had widened the gap between rural and urban incomes and increased poverty in the economy because of dividing employment opportunities in other sectors of the economy. Consequently, they failed to reduce dependence on the agriculture. All these were the indication of an impending agrarian crisis in economy. The crisis manifested in the stressed natural resources, inadequate

rural infrastructure, technology fatigue, rundown delivery systems in credit, extension and marketing services and insufficient agricultural planning at district and lower levels. The present paper attempted to study the evolution and growth of Indian agriculture since independence and the inherent dynamics of building of an agrarian crisis due to the failures and adverse implications of the different policy measures including land reforms, green revolution, crop diversification and in general, the contemporary economic reforms and other schemes.

Keywords: Agriculture, Diabolic, India, Agrarian Economy, Crisis.

Introduction

In an agrarian economy like India, the state of the agricultural sector determines the state of economy as a whole. This is so, because not only the vast majority of labour force is engaged in agriculture but also different sectors like industry, transport, commerce, construction and services depend on it for raw materials (Bhatia, 1988). At the time of independence, it contributed nearly 50 per cent of India's national income and around 72 per cent of the total workforce. After 67 years of independence, although the share of agriculture in total income has declined but still, it continues to be the dominant sector of Indian economy (Tripathi and Parsad, 2009). This is evidenced by the fact that agriculture is contributing about 13.9 per cent of the Gross Domestic Product (GDP) in 2013-14 and about half of the total work force is dependent on agriculture and allied activities like forestry, logging and fishing. Over the last few decades, Indian agriculture has shown an impressive growth. The production of food grains has increased to 251.12 million tonnes in 2014-15, from 50.8 million tonnes in 1950-51 (Government of India, 2014)a. Despite, of the predominance of the agriculture in the Indian economy, there are several deficiencies in the agricultural sector which adversely affect the agrarian productivity and also the socio-economic conditions of the Indian farmers. The agricultural growth is not adequate enough to make any significant impact on the problems of poverty, inequalities, unemployment and hunger. The gains in productivity have remained confined to selected areas (Bhatia, 1988).

This paper attempts to examine the dynamics of agricultural growth and its attendant problems in India, snowballing into an agrarian crisis since independence with the following specific objectives:

1. To study the growth and development of Indian agriculture since independence and the problems embroiling the Indian agriculture.
2. To examine the manifestations of agrarian crisis viz. unremunerative agriculture due to high input cost, low public expenditure, problem of crop diversification, holding size etc.

Data and Methodology

Data for the present study have been taken from the Reports of Planning Commission and Ministry of Agriculture, Economic Survey of India, Statistical Abstract of India, CMIE reports, Five Year Plan drafts etc. All nominal data have been deflated using an appropriate GNP deflator. In order to study the pattern and trends in growth, Compound Annual Growth Rate (CAGR) has been computed by estimating the exponential relation:

$$Y_t = a b^t e^{\mu t}$$

Transforming the equation in linear form:

$$\text{Log} Y_t = \log a + t \log b + \mu t$$

$\text{Log} Y_t$ = value of dependent variable, whose growth rate is to be computed

t = trend/time variable

μ = stochastic disturbance term a & b are constant

From the estimated value of regression co-efficient 'b' the compound growth rate was calculated as follows:

$$r = \text{antilog}(b-1) * 100$$

Where, r = compound growth rate

b = estimated value of the ordinary least square (OLS)

Indian Agriculture since Independence: A Specter of Compounding Problems and Constraints

The agricultural progress was not satisfactory since independence but the continuous efforts by the Government in different Plan periods had made Indian agriculture grow at the rate of 2.6 per cent per annum in the post independence era, which was only 1 per cent per annum earlier during the period of fifty years before independence. The main source of growth in the period of fifties and sixties was expansion of area and after that the increase in productivity became the main source. The perceptible progress in agriculture was realized in terms of self sufficiency in food grains, diversification in output and yield, and structural changes in the agrarian sector. These developments were the results of a series of steps taken by the Indian Government i.e. Land Reforms, Agricultural Price Commission, new agricultural strategy, investment in research and extension services, credit facilities and improved rural infrastructure etc. (Tripathi and Prasad, 2009).

Since independence, the Central Government had been playing an advisory and coordinating role in land reforms because these reforms had been a core issue for creating a sustainable base for the industrial and tertiary sector's overall growth (Prasad, 2012). The land reforms undertaken by Government of India were in three spheres: (a) abolition of intermediaries (b) tenancy reforms (c) ceiling on land holdings.

The abolition of the intermediaries was the most significant achievement of the land reforms policy which gave land titles to the actual cultivators so that they put their best to boost up production on their land (Tripathi and Prasad, 2009). The consolidation of holdings also equipped into improve productivity of land by bringing small and fragmented land holdings together, but it was confined to only a few states. The overall failure in implementation of land reforms was due to the lack of political will. (Kapila, 2010). The Government policy of reforming Indian agriculture since independence, notwithstanding, the dynamics of Indian agricultural programmes have been riddled with problems- both of internal and external nature. These problems have compounded into agrarian crisis.

(a) Pattern of Land Holdings and Increasing Landlessness

Table 1: Number of Holdings and Operated Area of Holdings in India.

| Year | Marginal (less than 1 hectare) | | Small (1 to 2 hectare) | | Semi-Medium (2 to 4 hectare) | | Medium (4 to 10 hectare) | | Large (Above 10 hectare) | | All Sizes | |
|---------|-----------------------------------|--|---------------------------|--|---------------------------------|--|-----------------------------|--|--------------------------------|--|---------------------|--|
| | No. (in '000) | Area Operated (in '000 hectare) | No. (in '000) | Area Operated (in '000 hectare) | No. (in '000) | Area Operated (in '000 hectare) | No. (in '000) | Area Operated (in '000 hectare) | No. (in '000) | Area Operated (in '000 hectare) | No. (in '000) | Area Operated (in '000 hectare) |
| 1970-71 | 36200 (50.98) | 14599 (8.99) | 13432 (18.92) | 19282 (11.88) | 10681 (15.04) | 29999 (18.48) | 7932 (11.17) | 48234 (29.72) | 2766 (3.90) | 50064 (30.84) | 71011 (100) | 162318 (100) |
| 1980-81 | 50122 (56.39) | 19735 (12.05) | 16072 (18.08) | 23169 (14.14) | 12455 (14.01) | 34645 (21.15) | 8068 (9.08) | 48543 (29.64) | 2166 (2.44) | 37705 (23.02) | 88883 (100) | 163797 (100) |
| 1990-91 | 63389 (59.44) | 24894 (15.04) | 20092 (18.84) | 28827 (17.42)A | 13923 (13.06) | 38375 (23.19) | 7580 (7.11) | 44752 (27.04) | 1654 (1.55) | 28659 (17.32) | 106637 (100) | 165507 (100) |
| 2000-01 | 75408 (62.88) | 29814 (18.70) | 22695 (18.92) | 32139 (20.16) | 14021 (11.69) | 38193 (23.96) | 6577 (5.48) | 38217 (23.97) | 1230 (1.03) | 21072 (13.22) | 119931 (100) | 159436 (100) |
| 2010-11 | 92826 (67.10) | 35908 (22.50) | 24779 (17.91) | 35244 (22.08) | 13896 (10.04) | 37705 (23.63) | 5875 (4.25) | 33828 (21.20) | 973 (0.70) | 16907 (10.59) | 138348 (100) | 159592 (100) |

Source: Government of India (2014) b. *All India Report on Number and Area of Operational Holdings*, New Delhi: Ministry of Agriculture, Agriculture Census, 2010-11.

Note: Figures within parenthesis are percentages to all sizes.

(b) Inequalities in Incomes and Consumption of Agricultural Households

The different size class of holdings led to differences in farm incomes. Farmers with larger land holdings earned more incomes than the small and marginal farmers. The stagnation in agricultural incomes was also because of the declining agricultural production, which had a serious repercussion on national economy and the main brunt was borne by the rural poor (Vyas, 2003).

It can be seen from the table 2 that incomes of the marginal

Table 2: Income and Expenditure of per Agricultural Households in India (2012 – 2013)

| Farm Size Classes | Income (in Rs.) | Consumption Expenditure (in Rs.) | Savings (in Rs.) |
|-------------------|-----------------|----------------------------------|------------------|
| <0.01 | 4561 | 5108 | -547 |
| 0.01-0.40 | 4152 | 5401 | -1249 |
| 0.41-1.00 | 5247 | 6020 | -773 |
| 1.01-2.00 | 7348 | 6457 | 891 |
| 2.01-4.00 | 10730 | 7786 | 2944 |
| 4.01-10.00 | 19637 | 10104 | 9533 |
| 10 & above | 41388 | 14447 | 26941 |
| All Sizes | 6426 | 6223 | 203 |

Source: Government of India (2014)c, *Annual Report of Nabard*, New Delhi: Ministry of Finance.

Although significant changes were taking place in India's agrarian structure, indicated by changes in pattern of land holdings, but the basic agrarian structure has not changed much. There was only a slight tilt towards the expansion of small land holdings, over the years. Thus, the Indian agriculture has remained primarily dominated by the small and marginal holdings (Vyas, 2003). The table 1 shows that the number of marginal and small holdings increased from 36200 in 1970-71 to 92826 in 2010-11 and from 13432 in 1970-71 to 24779 in 2010-11 respectively, whereas the number of medium and large holdings declined from 7932 to 5875 and 2766 to 973 respectively. The semi-medium holdings witnessed an increasing trend from 1970-71 to 2000-01 and in subsequent decade it showed decline. The same trend has been seen in the area operated under these holdings.

holders of land upto 1 hectare are lower than the large farmers. But the consumption expenditure of marginal holders is more than their income, so they have to borrow to fulfill their consumption needs because their savings are negative. The report of NSS, 70th Round revealed that on an average, a farmer earned Rs. 6426, and spent Rs. 6223. After which he left with only Rs. 203 which is a very small amount (Government of India, 2014)c. This gap increased the incidence of poverty and indebtedness among the Indian farmers.

(C) Agricultural Workforce – A Scene of Increasing Dispossession of Land

Rising poverty and indebtedness of the farmers lead them to shed land and forced the agricultural cultivators to regress into themselves to the status of agricultural labourers for their survival. The table 3 illustrates the still much dependence on agriculture although agricultural share has

been declining in GDP. It shows that in 1951, out of total agricultural workers 71.9 per cent were cultivators and rest 28.1 per cent were agricultural labourers which declined to 45.1 per cent and increased to 54.9 per cent respectively in 2011. The all India National Sample Survey (59th Round on Situation Assessment Survey) pointed out that the reason behind the farmers turning to casual labour is the low and uncertain returns from agriculture (Rao, 2009).

Table 3: Share of Agriculture and Allied Sectors in Gross Domestic Product.

| Year | Share of Agriculture in GDP(%) | Agricultural Workers | | |
|---------|--------------------------------|-----------------------|----------------------------------|-----------------|
| | | Cultivators (Million) | Agricultural Labourers (Million) | Total (Million) |
| 1951-52 | 55.40 | 69.9 (71.9) | 27.3 (28.1) | 97.2 (100) |
| 1961-62 | 46.25 | 99.6 (76.0) | 31.5 (24.0) | 131.1 (100) |
| 1971-72 | 40.47 | 78.2 (62.2) | 47.5 (37.8) | 125.7 (100) |
| 1981-82 | 35.35 | 92.5 (62.5) | 55.5 (37.5) | 148.0 (100) |
| 1991-92 | 28.54 | 110.7 (59.7) | 74.6 (40.3) | 185.3 (100) |
| 2001-02 | 22.42 | 127.3 (54.4) | 106.8 (45.6) | 234.1 (100) |
| 2011-12 | 14.37 | 118.7 (45.1) | 144.3 (54.9) | 263.0 (100) |
| 2012-13 | 13.95 | 110.1 (37.7) | 181.8 (62.3) | 291.9 (100) |
| 2013-14 | 13.94 | 101.5 (31.6) | 219.3 (68.4) | 320.8 (100) |

Source: 1. Government of India (2014)d, *Annual Report*, New Delhi: Planning Commission.

2. Dalwai, A (2012), “ *Dynamics of Agricultural Growth in India* ”, *Indian Journal of Agricultural Economics*, Vol. 67, No. 1, PP. 27 -45.

3. Government of India (2014)a, *Agricultural Statistics At a Glance*, New Delhi, Ministry of Agricultur.

(d) Declining Share of Agriculture in Gross Domestic Product

The dwindling share of agriculture in GDP is evident from table 3 which illustrates that the share of agriculture and allied activities is decreasing over the years, it was 41.66 per cent in 1970-71 and by 2013-14, it declined to 13.94. One of the possible reasons, behind the declining share of agricultural sector in domestic product, could be relatively lower investment made both by the public and private sector (Ramasamy, 2004).

(e) Food Crisis and New Agriculture Development Strategy

Despite the Indian Government's introduction of different development programmes and institutional changes, India remained dependent on foreign countries for food grains (Tripathi and Prasad, 2009). Thus, from mid 1950s India began to rely on food imports for the food grains. India signed the agreement under Public Law 480 (P.L. 480) in 1956 with United States for food aid, mostly in the form of

wheat (Gulati and Fan, 2008). The two consecutive droughts of 1965-66 had pummeled the country into unprecedented food crisis and food production fell from 89 million tonnes to 72 million tonnes (Gulati, 2000).

India remained a food deficit country for about two decades after independence but the situation improved after the mid 1960s with the introduction of high yielding varieties of crops and infrastructure for irrigation, input supply, storage and marketing. These high yielding varieties of wheat and rice had motivated the farmers to adopt new technology with the consumption of water, fertilizers and agrochemicals. After that, there was a substantial increase in the production of various crops over the years. However, despite these achievements there were several constraints and disturbing features and stumbling blocks which led the poor growth of agriculture (Government of India, 2002).

(f) Declining Production of Foodgrains

The gains from Green Revolution had reached a plateau by the end of the Eighth Plan, causing decline in per capita food

grains production thereafter. Agriculture diversified towards horticulture, animal husbandry and non-food crops and the importance of food grains had declined relatively. The production of food grains had fallen and area under food grains also declined which resulted in increased area under other crops and most beneficiary were oilseeds during the decade of 1980s (Dalwai, 2012).

It is evident from the table 4 that the production of food grains grew by 2.33 per cent in the period 2010/11-2013/14, while it rose by 4.25 per cent in the period 1950/51-1959/60. The growth rate of wheat production in the period 1960/61-

1969/70 was 6.82 per cent which was the green revolution era, and after that it had a declining trend. The crops like rice, oilseeds, sugarcane and groundnuts also had a declining trend but in 1980s, these crops record a higher growth rate of 3.62 per cent, 5.45 per cent, 2.71 per cent and 3.76 per cent respectively than the previous decade. The period of 1980s was the period of diversification which led to the fast growth of non food crops (Tripathi and Prasad, 2009). This shift towards the non food crops is the result of the demand pattern which is in favour of high value crops. To meet this growing demand for high value crops, farmers are gradually shifting production mix (Dalwai, 2012).

Table 4: Growth of Production and Yield per hectare of Major Crops in India (%)

| Group/ Commodity | 1950/51 to 1959/60 | | 1960/61 to 1969/70 | | 1970/71 to 1979/80 | | 1980/81 to 1989/90 | | 1990/91 to 1999/00 | | 2000/01 to 2009/10 | | 2010/11 to 2013/14 | |
|-----------------------------|-----------------------|-------|-----------------------|-------|-----------------------|-------|-----------------------|------|-----------------------|-------|-----------------------|-------|-----------------------|-------|
| | P | Y | P | Y | P | Y | P | Y | P | Y | P | Y | P | Y |
| Food grains | 4.25 | 2.26 | 1.85 | 1.32 | 2.07 | 1.60 | 2.73 | 2.97 | 2.09 | 2.17 | 1.90 | 1.60 | 2.33 | 2.83 |
| Coarse Cereals | 3.66 | 2.33 | 1.51 | 0.91 | 1.11 | 2.00 | 0.35 | 1.71 | 1.25 | 2.14 | 2.39 | 3.17 | -0.72 | 2.94 |
| Pulses | 4.10 | 0.94 | -1.29 | 0.03 | -0.39 | -0.98 | 1.49 | 1.59 | 0.65 | 1.26 | 2.71 | 1.94 | 2.38 | 4.31 |
| Rice | 4.46 | 3.15 | 1.19 | 0.36 | 1.90 | 1.01 | 3.62 | 3.19 | 2.02 | 1.34 | 1.59 | 1.61 | 3.18 | 2.70 |
| Wheat | 5.17 | 1.08 | 6.82 | 4.46 | 4.31 | 1.87 | 3.58 | 3.10 | 3.57 | 1.82 | 1.90 | 0.69 | 2.86 | 0.67 |
| Jowar | 4.31 | 3.27 | 0.75 | 0.61 | 5.67 | 6.05 | 0.28 | 1.76 | -3.07 | 1.68 | -0.29 | 2.90 | -8.68 | -1.90 |
| Maize | 7.30 | 4.03 | 4.14 | 0.73 | -0.63 | -0.51 | 1.91 | 2.10 | 3.29 | 2.26 | 5.29 | 2.28 | 3.71 | 0.83 |
| Bajra | 3.31 | 1.62 | 3.86 | 2.41 | -3.18 | -1.36 | 2.26 | 1.07 | 0.95 | 2.38 | 1.70 | 2.13 | -5.14 | 2.53 |
| Gram | 6.54 | 1.95 | -2.14 | 0.75 | -0.59 | -0.40 | -0.79 | 0.64 | 2.96 | 1.69 | 5.98 | 1.60 | 7.13 | 3.52 |
| Tur | -0.62 | -1.09 | 0.44 | -0.45 | 0.60 | -0.31 | 2.86 | 0.54 | 0.95 | 1.60 | 1.61 | 1.47 | 5.66 | 9.89 |
| Oilseeds | 4.10 | 1.56 | 0.29 | -0.12 | 0.74 | 0.33 | 5.45 | 2.95 | 2.25 | 2.09 | 5.14 | 2.61 | 0.75 | -0.72 |
| Groundnuts | 8.44 | 1.03 | -0.13 | -1.03 | 1.25 | 0.99 | 3.76 | 2.08 | -1.25 | 1.07 | 0.77 | 1.75 | 0.81 | 3.68 |
| Sugarcane | 4.35 | 1.72 | 1.82 | 0.73 | 2.56 | 0.64 | 2.71 | 1.23 | 2.73 | 1.05 | 1.21 | 0.47 | 0.10 | -0.59 |
| Cotton ^a | 4.30 | 1.23 | 0.30 | 0.44 | 3.68 | 3.30 | 2.80 | 4.10 | 2.29 | -0.41 | 13.61 | 11.34 | 2.86 | 1.84 |
| Jute and Mesta ^b | 5.72 | -0.03 | -2.18 | -0.69 | 2.59 | 1.06 | 0.14 | 3.10 | 1.78 | 1.11 | 0.14 | 1.79 | 2.20 | 3.37 |
| Potato [#] | 3.95 | -0.56 | 6.28 | 2.17 | 9.17 | 3.71 | 5.17 | 2.19 | 5.44 | 1.53 | 4.86 | 0.04 | 2.28 | -0.56 |

Source: Government of India (2014)^a, *Agricultural Statistics At a Glance*, New Delhi, Ministry of Agriculture.

- Note: 1. Growth is Compound Growth Rate.
2. (#) Plantation Crops.
3. P= Production and Y= Yield

(g) Plummeting Public and Private Investment in Agriculture

The next phase in Indian agriculture came with the process of diversification started in 1980s which led to the fast growth of non-food grains and also there was a tremendous increase in subsidies but the investment of public sector in agriculture had started declining (Tripathi and Prasad, 2009). To accelerate the agricultural growth and for the development of infrastructure such that irrigation, agriculture research, electricity, markets and communication etc., the public investment was required more than the private sector. The data on public investment had shown a declining trend since 1980 (Dalwai, 2012).

It is apparent from the table 5 that there is a decline in public investment since 1980-81, except the year 2005-06 and 2009-10. It was 17.7 per cent in 1980-81 which turn down to 4.7 per cent only in 2012-13. The private investment shows a fluctuating trend but it has also been declined from 14.6 per cent in 1970-71 to 7.7 per cent in 2012-13. During the early green revolution period, government initiatives in capital formation were high but in the later period excessive burden of agricultural subsidies and funds diverted from irrigation to anti poverty programmes had been the cause of declining public capital formation in agriculture (Rao, 2002).

Table 5: Public and Private Investment in Agriculture and Allied Activities.

| Year | Share of Public Investment of agriculture in Total Public Sector Investment of Economy (%) | Share of Private Investment of agriculture in Total Private Sector Investment of Economy (%) | Share of Total Investment of agriculture in Total Investment of Economy (%) |
|---------|--|--|---|
| 1970-71 | 13.8 | 14.6 | 14.3 |
| 1975-76 | 12.2 | 15.1 | 13.9 |
| 1980-81 | 17.7 | 13.6 | 15.4 |
| 1985-86 | 10.2 | 9.5 | 9.8 |
| 1990-91 | 7.1 | 11.9 | 9.9 |
| 1995-96 | 7.1 | 5.9 | 6.2 |
| 2000-01 | 4.9 | 8.2 | 7.7 |
| 2005-06 | 7.1 | 7.4 | 7.3 |
| 2006-07 | 7.1 | 6.6 | 6.7 |
| 2007-08 | 6.1 | 6.7 | 6.6 |
| 2008-09 | 4.8 | 9.4 | 8.1 |
| 2009-10 | 5.0 | 8.6 | 7.7 |
| 2010-11 | 4.2 | 7.5 | 6.7 |
| 2011-12 | 4.6 | 8.3 | 7.5 |
| 2012-13 | 4.7 | 8.6 | 7.7 |

Source: 1. Government of India (2002), *Tenth Five Year Plan, Sectoral Policies and Programmes*, Volume 2, New Delhi: Planning Commission.

2. Government of India (2014)a, *Agricultural Statistics At a Glance*, New Delhi: Ministry of Agriculture.

(h) Rising Incidence of Indebtedness and Farmers' Suicides

The commercialisation of agriculture and the increasing costs of inputs and other implements had forced the Indian farmers to look for external sources of credit. The peasants were forced to cultivate the cash crops caused by commercialisation and also to get rid of huge burden of debt as the crops gave high returns, but the cultivation of cash crops also a gamble. It would also make them more indebted (Sajjad and Chauhan, 2012). Unfortunately, these were only the moneylenders, financiers and traders in fertilisers,

pesticides and seeds, who gained from the mounting debts of the farmers. This had led to the growth of political influence of these classes, while the farmers were increasingly marginalised. Suicide after suicide in every state revealed the same story of heavy investments on inputs, crop failure, and rising debts (Suri, 2006). The table 6 indicated that the share of institutional resources increased from 7.30 per cent in 1950-51 to 68.80 per cent in 2010-11 and share of non-institutional resources decreased over this period. But the problem of indebtedness is still there and still there are many of the farmers who took loans from non-institutional resources.

Table 6: Share of Institutional and Non-Institutional Finance of Agriculture in India (%).

| Source | 1950-51 | 1960-61 | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 | 2012-13 |
|-----------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) Institutional | 7.30 | 18.70 | 31.70 | 63.20 | 66.30 | 61.30 | 68.80 | 64 |
| a. Co-operative banks | 3.30 | 2.60 | 22.00 | 29.80 | 23.60 | 30.20 | 24.90 | 28.9 |
| b. Commercial banks | 0.90 | 0.60 | 2.40 | 28.80 | 35.20 | 26.30 | 25.10 | 30.7 |
| RRBs' | 3.10 | 15.50 | 7.30 | 4.60 | 7.50 | 4.80 | 18.80 | 4.40 |
| (2) Non-Institutional | 92.70 | 81.30 | 68.30 | 36.80 | 33.70 | 38.70 | 31.20 | 36 |
| a. Moneylenders | 69.70 | 49.20 | 36.10 | 16.10 | 17.50 | 26.80 | 21.90 | 29.6 |
| b. Others | 23.00 | 32.10 | 32.20 | 20.70 | 16.20 | 11.90 | 9.30 | 6.40 |
| Total [(1)+(2)] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Source: 1. Government of India (2014)c, *Annual Report of Nabard*, New Delhi: Ministry of Finance.

2. All India Debt & Investment Surveys, Various Issues, NSSO.

(i) New Economic Reforms and Exalted Expectation

In 1991, the introduction of new economic reforms had put Indian economy in a new phase of deregulation, privatisation and globalisation. The reforms of liberalisation were expected to make terms of trade favourable to Indian agriculture by cutting down the subsidies and support prices

policy for output. Unfortunately, the agricultural data since economic reforms clearly indicated that the Structural Adjustment Programmes of economic reforms had resulted into large scale crisis in India. The economic reforms not only exacerbated the existing problems but also had created new ones. This process was contrary to the stated

expectations and had several adverse effects on the agriculture such as increasing landlessness, inequalities in land holdings, decreasing growth rates of all crops, increasing marginalisation of peasantry, decreasing Food Security Status, diminishing profitability and slowdown of exports etc. (Sahay, 2010).

Moreover, declined expenditure on rural development and agriculture by the Central Government had also slowed down the process of employment generation. After the introduction of Targeted PDS, the PDS coverage had declined and it adversely affected the rural household's food consumption in various parts of the economy. The cut backs in the subsidies on fertilizer, fuel and power had not only increased the cost of cultivation, also the possibility of getting cheated by the spurious inputs increased. The cotton cultivators from Maharashtra, Andhra Pradesh, Karnataka and Punjab had complained that Bt. Cotton plants were not turning out to be pest resistant (Pillai, 2007). Also, Bt. Cotton had claimed to be responsible for the farmer suicides in the country as the cost of seeds of Bt. Cotton are twice as much as ordinary seeds. These higher costs forced farmers to take loans and most of them took loans from private money lenders who charge high rates of interest. The moneylenders compel farmers to pay back their loans at the time of harvesting and the forced farmers sell their produce at lower cost than the market. Thus the costly GMO seeds, extensive use of herbicides, reduction in crop value had left farmers bankrupt, fallen into an endless debt trap, depression, hopelessness and despair. At the end, they commit suicide after left with no choice (Parvathamma, 2016).

Therefore in 2002, the Central Government drafted a model APMC (Agricultural Produce Market Committee) act which provided an institutional framework for contract farming and direct marketing. It aimed at direct links between the farmers and the agro processing industry and to provide farmers an access to better technology, extension services, seeds, credit etc. but there found no positive response from various states. The farmers were deprived of getting fair prices for the produce in the absence of viable pricing mechanism and modernization of agriculture (Sharma, 2008). A report was prepared by the Tata Institute of Social Science (TISS) in Mumbai, which conducted to investigate the Vidarbha agrarian crisis and farmer suicides. This report found that the main reasons behind this crisis were repeated crop failure, rising cost of cultivation and indebtedness. The rising cost of cultivation was not offset by either the Minimum Support Prices or market prices (Barpujari and Biru, 2007). The report argued that among the deceased households, 79 per cent cases were of crop failures (sahay, 2010). Crop failures can lead to the downfall in the economic position and a house which had fall in economic position and heavily indebted were not in a position to take another loans. This led to reduction in yield or crop failures (Mishra, 2007).

(j) Farmers' Suicides: A Consequence of Agrarian Crisis

The first emergence of farmer suicides was witnessed in 1997 (Shiva and Jalees, 2009). According to the National Crime Records Bureau, in 1997, the number of farmer suicides was 13622 which were 14.2 per cent of total suicides in India. It had decreased to 11772 (8.7 per cent of total suicides) in 2013. The total number of suicides in the period 1997-2013 was 272017 and 13.5 per cent of all suicides in India. Nagaraj, 2008 had also observed in his study from 1997 to 2006 that farmers' suicides had kept up more or steady increase over the study period. The major motivating factor behind these suicides was the economic distress which resulted in the acute agrarian crisis in Indian agricultural.

Therefore, the different factors responsible for the increasing agrarian crisis and farmers' suicides are changed pattern of land holdings and cropping pattern, liberalisation policies, heavy dependence on high cost inputs, increasing cost of cultivation, volatility of crop output, market vagaries, indebtedness, fall in public investment, lack of remunerative prices, and individualisation of agricultural operation and many others (Suri, 2006).

Suggestions and Policy Implications

1. The level of public investment should be raised in those projects which are directly undertaken by the Indian Government in the rural areas and which have large complementarities with the private resources of the farmers such as land and labour of the poorer farmers.
2. In order to save the poor farmers from the exploitation of non-institutional sources, the government should simplify the procedure of institutional sources for easy access to loans.
3. It is necessary that the farmers should make investments in other non-farm occupations like poultry, dairy, sericulture, floriculture etc. to generate income and employment in rural areas.
4. MNCs should be reined in undertaking terms of contract with farmers.
5. APMC needs to be amended and regulated.

Conclusion

India faced the specter of poverty, inequality, low productivity and food crisis at the time of independence. Despite of the introduction of land reforms, green revolution and public investment in agriculture, economic reforms of 1990s, the situation could not be improved much. In nutshell, Indian agriculture became unremunerative and unviable for Indian farmers. The different problems of Indian agriculture such as, falling share in GDP, indebtedness, inequalities, declining production of foodgrains, poverty, decreasing share of public investment,

falling share in exports etc. have manifested in an agrarian crisis. Thus, the significant policy measures are required and the Government should play an important role in framing the different policies for the farmers' welfare.

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