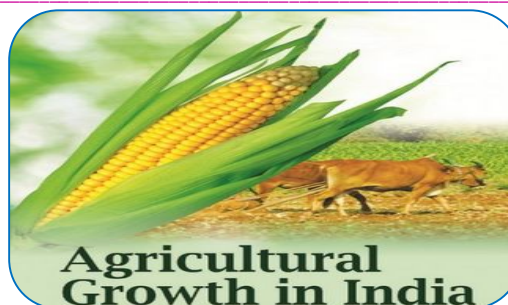




“THE STUDY OF AGRICULTURAL OUTPUT YIELD, COST PATTERN & TRENDS IN INDIA”

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ABSTRACT:

Agricultural growth has been fairly volatile over the past decade, ranging from 5.8% in 2005-06 to 0.4% in 2009-10 and -0.2% in 2014-15. The agriculture sector's contribution to the Gross Domestic Product (GDP) decreased from 54% in 1950-51 to 15.4% in 2015-16. As of 2009-10, more than half of the total workforce (53%) of the country, i.e. 243 million persons were dependent on agriculture. This Statistical data shows the dark picture of economic inequality of the Indian society. After the new economic reforms periods in India agricultural market has been more liberal. Due to this there is huge fluctuation in agricultural output prices, especially in all state, Agricultural output prices are slowly increasing than the cost of cultivation (C2). In India, Government had closed the financial support of cultivation inputs and also reduced the public investment in irrigation therefore the prices of inputs rapidly rises so that the cost of cultivation has tremendously risen in post reform period. This was inverse impact on the agricultural output yield. After the 1965 years Indian farmer has adopted High Yield Technology (HYT) in land cultivation. Initially there was available financial support to the cost of cultivation which was slowly increasing between 1970 to 1980 decades but after the post reforms period prices of inputs increase rapidly & also expansion to the consumption or use of these inputs. The trends and pattern of cultivation cost after post reform periods show that the farmer's dependency on commercial & rental inputs has also increased to the great extent therefore cost of cultivation is high. The above all components are discussed in this paper.

KEYWORDS: *Agricultural growth, Economic inequqlity, Economic Reforms, High Yield Technology.*

INTRODUCTION-

Agricultural growth has been fairly volatile over the past decade, ranging from 5.8% in 2005-06 to 0.4% in 2009-10 and -0.2% in 2014-15. The agriculture sector's contribution to the Gross Domestic Product (GDP) decreased from 54% in 1950-51 to 15.4% in 2015-16. As of 2009-10, more than half of the total workforce (53%) of the country, i.e. 243 million persons were dependent on agriculture. This Statistical data shows the dark picture of economic inequality of the Indian society. After the new economic reforms periods in India agricultural market has been more liberal. Due to this there is huge fluctuation in agricultural output prices, especially in all state, Agricultural output prices are slowly increasing than the cost of cultivation (C2). In India, Government had closed the financial support of cultivation inputs and also reduced the public investment in irrigation therefore the prices of inputs rapidly rises so that the cost of cultivation has tremendously risen in post reform period. This was inverse impact on the agricultural output yield. After the 1965 years Indian farmer has adopted High Yield Technology (HYT) in land cultivation. Initially there was available financial support to the cost of

cultivation which was slowly increasing between 1970 to 1980 decades but after the post reforms period prices of inputs increase rapidly & also expansion to the consumption or use of these inputs.

OBJECTIVE:-

- 1) To find the impact of New Economic Reform on agricultural Output Yield in India.
- 2) To study the trends & patterns of cultivation cost of Indian Agriculture after the Post Reforms Period.
- 3) To understand the dependency of Indian farmers on rented agricultural inputs after the implementation of High Yield Technology (HYT).

RESEARCH METHODOLOGY-

The Statistical & Informative data has been collected from secondary sources like EPW, books, Newspaper, Reports of Directorate of Economics & Statistics, CSO & NSSO Survey Reports, & internet-Websites.

ANALYSES:-

India's economic reforms have a negative effect on the agricultural economy of the country. The survey of agricultural ministry of India shows that more than 40 percent of Indian farmers do not want to live in agriculture but they have no choice, to spend their lives in agriculture. According to economists of the country, technical failure is the reason for the crises in agriculture. However, the technical failure of reduced the growth of the agricultural sector is not only the and main cause but the failure of the policy should be understood as the main reason behind this. You must realize that agriculture is a business and cannot run without profit. Production costs and prices are two factors which determine profits for agricultural business. The decline in agricultural production for the last two decades is considered to be the problem of technical failure, but the governments various committees which was related to the agricultural policies were ignored for such many factors, due to the Quality of land, inappropriate facility of irrigation, irrational behavior of the farmers to use the HYT and the changed weather. During the period of new economic post reforms in India, there is a sharp fluctuation in agricultural GDP growth rates indicate in table no-01 the performance of the agricultural sector during the last decade, in since 2004-05 is divided into two—the first period between 2004-05 and 2007-08 and the second period between 2008-09 to 2013-14. The annual average growth rate of the agriculture sector was 5 per cent between 2004-05 and 2007-08, but fell to 3 per cent between 2008-09 and 2013-14. During the same periods, the economy grew at an annual average of 9 per cent and 7 per cent, respectively.

Table No - 1

Year	Over all GDP Growth Rate (%)	Agriculture GDP Growth Rate (%)
2005-06	9.50	5.10
2006-07	9.60	4.20
2007-08	9.30	5.80
2008-09	6.70	0.10
2009-10	8.60	0.80
2010-11	8.90	8.60
2011-12	6.70	5.00
2012-13	4.50	1.40
2013-14	4.70	4.70

Source – Report of state of Indian Agriculture

After the post reforms periods public investment is decelerated in Indian Agriculture Sector but private investment is slowly increased. After the post economic reforms has been implemented by the

Indian government, which shows that the rate of increase in the agricultural sector has slowed. Due to rapid decline in central and state government investments, the rate of agricultural production in the country is declining. Not only the yield from agriculture decreased in agricultural production, often the farmers did not get the enough prices in the market. The farmer did not cover the cost of farming due to the low prices of production therefore farming business tremendously beaked.

Agricultural Output value and Yields condition after reform Periods -

Yields of the farm production are depending of the factors such as quantities of Production, prices and costs of production. After the Green Revolution in India, since 1960, the production of certain crops (Wheat & paddy)rose rapidly till 1985, but the rate of agricultural production growth was much less by 1980 to 2013. After the 1990s, the expansion prices of the farm product became slow and uncertain, so that farmers expected production value from agriculture production was reduced. (Report of Gol-2017) The main objective of the price policy in India is to control the fluctuation in the price of the commodity. This can reduce the risk of investment by reducing agricultural product price fluctuations. Agriculture Price Policy protects farmers and consumers from high fluctuations in market prices of agricultural commodities. However, government handling in the wrong direction of the agricultural pricing policy, it has a negative impact on the farmer’s yields which is also main reason of low growth rate of Indian agricultural sectors. Through the Agricultural Price Policy, the government determines the minimum support price of the agricultural commodities, but these prices of farm products are very less in comparison to the cost of production. Thus, it is a fact that low prices of the agricultural commodities does not covered agricultural production cost though the Government adopted to the minimum support price policy in India. Deceleration in agricultural growth is the main cause of policy fatigue. (A.Narayanamoorthy- june23, 2007)

Table No -2 Increase (No of Times) in Cost (C2) and Value of Output in Selected Crops

Crops	Agricultural Production Cost (C2) increase			Agricultural Output Value increase		
	1975-76 to 1985-86	1985-86 to 2001-02	2001-02 - to 2009-10	1975-76 to 1985-86	1985-86 to 2001-02	2001-02 - to 2009-10
Cotton (Maharashtra)	1.83	8.99	11.02	1.98	5.57	7.53
Paddy (Andhra Pradesh)	2.41	5.11	7.14	2.61	5.17	7.11
Wheat (Panjab)	2.05	4.26	6.32	2.41	4.90	6.26
Sugar Cane (Maharashtra)	2.16	3.77	5.41	1.75	2.74	5.38
Groundnut (Karnataka)	1.65	5.68	7.43	2.89	1.87	4.17
Gram (MadhyaPradesh)	2.21	5.87	7.51	2.67	5.61	7.13

Note- The selected state are one of the largest production in the respective crop. Source- 1) EPW- june23, 2007, Article- Deceleration in Agricultural Growth -A.Narayanamoorthy. 2) Computed Using CACP (Various Year)

The above figures show that, farmers of different states are sad, because they hadn’t fill up the production cost due to lack of adequate market prices of the various production of crops. Commission for Agricultural cost & Prices (CACP) Statistical report indicate that, Prior to the period of economic

reform during the decade 1975 to 1985, the value of agricultural production was higher in respect of generally all crops production cost. Even though the cost of production of agricultural cultivation (C2) was rising, in this period, the prices of all agricultural products could have covered to the cost of production. But after the new economic reforms, the cost of production in the period 1985 to 2002 & 2002 to 2010 of agricultural production seems to be increasing rapidly. During the period 1985 to 2002 & 2002 to 2010, the cost of agricultural production (C2) increased rapidly over six crops, the production cost was nine times more during this period. However, it appears that the prices of agricultural products has not increased in the cost of production. Increasing agricultural production cost (C2) became unbearable due to the less value of agricultural product, resulting in the decline in private investment in agriculture, which has resulted in decline in agricultural growth. Substantial increase in input cost of materials has led to a decline in crop income over the year. This has resulted in the purchasing power of farmers not improving even though there was an increase in farm output. "By and large, the per hectare real value of output increased for most crops during the period 2004-05 to 2013-14, but the rise in input cost was much higher than the increase in the value of the output this resulted in lowered net income from the cultivation of most crops" said the draft report of the committee on doubling farmers income released recently. According to Ashok dalwai, CEO of the National Rained Authority, comparing trends in the wholesale price index (WPI) of food commodities such as rice & wheat with that of purchased farm inputs such as fertilizers, diesel & electricity, the report reveals that for most of the years the WPI of food articles was lower than that of farms inputs materials. Draft report of the committee explained annual growth in income of agricultural households was much lower than GDP growth. The annual growth rate of the income of agricultural households was a mere 3.6% in constant Prices in 2002-03 & 2012-13 significantly lower than the GDP growth rate in real terms.

Trends in Cost of Cultivation and changing patterns of inputs use after post reform periods:-

According to the Table No-03, various states average expenditure of the agricultural production, showed that, the average cost of agricultural production in the 1970 to 1980 these a decade was steady increase. However, the average production expenditure was increasing rapidly 1980 to 1990 in this a decade. When considering the previous decade of 2001 to 2010, the average cost level appears to be increasing rapidly. The average production cost of Indian agriculture was less than that of 1980, because the inputs subsidy was provided by the government. The government adopted the new economic policy after 1991, with the result of closed the subsidy given on agricultural inputs, that is one of the reason behind the average cost of agriculture production increased by three times in the 2,001 to 2010 in this decades, from 2005 to 2010 period this cost increased four times.

Table No- 03 Average Cost of Cultivation (Rs.& Per Hect.)

year	1970-71	1970-81	1981-91	1991-2001	2001-2010	2005-2010
All states	1417.05	2100.57	4291.48	12669.42	19269.48	20910.52

Source: EPW- June 2008 & Directorate of Economics & Statistics, Ministry of Agriculture.

The average production cost of agriculture can be divided into two parts: 1) Fixed production cost 2) operational cost.

Trends in Fixed Production cost -

During the new economic reforms, the fixed production cost tapers off and operational cost increased rapidly. There are two factors behind the low fixed cost, first, Farm prices face long term recession so that value of land is declined in land market therefor fixed cost value is stagnant in agricultural average cost and second, there had been a declined in the private investment in fixed assets, the present value of which is the basis for imputing the interest cost'. (M Raghavan)

Trends in Operational Production cost -

During period of the new economic policy, subsidy on agricultural resources was discontinued and the market of crucial agricultural inputs was further liberalized as the result that, the operational cost of production of Indian farming increased tremendously. Here we will see the trends & nature of various physical inputs and their costs during the reform periods.

Wages & Employment-

Wage cost is core cost in agricultural cost therefore let us discuss it firstly. According Narayanmoorthy-2007, "The cost of cultivation of crops has been increasing over the years because of increases in wages rate of labour, input prices and other managerial costs" Wage cost is depended on wage rate and working hour of labour. The use of labour is also depended on intensity of farm cultivation, when farm cultivation intensity is high in which period then cultivator used machine labour to substitute farm labour. Here one fact important is that relationship between machine labour to farm labour is negative.

Table-04 All states Variable Inputs Cost

Labour Use & Wage cost						
Year	1970-71	1970-80	1981-91	1991-2001	2001-05	2005-2010
Human Labour Hours Per Hectare	463.83	573.86	499.05	446.12	417.75	389.23
Bullock Labour Hours Per Hectare	192.27	184.56	101.11	41.47	18.88	15.41
Total wage Cost (RS/ Per hectare)	230.56	368.56	758.16	2400.07	3011.66	3238.74
Wage Cost as % of Operational Cost	30.72	27.69	25.57	32.05	26.37	23.42
Casual Wages as % of Total Wages	21.3	28.8	36.3	34.0	34.0	33.70
Fertilizer Use & Fertilizer Charges						
Fertilizer Use (Qtl/Hectare)	46.06	62.19	102.36	132.81	152.51	158.41
Fertilizer Charges (RS/ Hectare)	100.75	227.89	533.85	1339.3	1754.82	1808.53
Cost of Insecticides						
Cost of Insecticides (RS/Hectare)	0.22	0.89	25.01	90.92	278.84	418.21
Machine Labour Charges						
Total Machine Labour Charges (RS/Hectare)	35.77	98.95	434.38	1281.87	25220.07	2974.89
Hired as % of Total Machine Labour Charges	69.42	60.45	68.52	83.92	81.44	83.16
Cost of seeds						
Cost of seeds (RS/Hectare)	92.44	141.83	289.16	1040.17	1040.17	1435.23
Irrigation Charges						
Irrigation Charges(RS/Hectare)	83.99	134.56	297.98	832.29	1724.32	3041.87

Interest Costs						
Interest on Working Capital (RS/ Hectare)	15.12	31.32	73.29	178.12	284.49	368.47
Interest on Working & Fixed Capital (RS/ Hectare)	93.34	166.32	434.08	1070.38	1781.36	1841.14
Cost of cultivation of selected Purchased Inputs						
Cost of cultivation of selected Purchased Inputs (RS/ Hectare)	292.85	560.58	1502.64	4451.95	7110.15	8652.83

Sources- M.Raghavan, EPW, June 28,2008 & Directorate of economic & statistics, Ministry

In the places where human labour is used with the help of bullock, human labour is widely used in an hour. Men's labour is widely used in these places. However, after the 1970s, the use of labour force will be reduced for production of food grains, hence labour employment has decreased. However, after the 1970s, the use of labour intensive, food production has reduced so that labour employment has decreased. Considering all the states, in the year 1970-71, the use of human work was 463.83% per hectare and it was 446.12 working hours in 1991-2001. In the years 2004 to 05, the use of labour was 362.56 working hours, which reduced to 322.40 workers in 2009-10. The use of bullock farming has decreased intensely. Considering the cost of salaries at the total cost of change, in all states, the wage cost decreased by 27.69% from 30.72 percent in the decade of 1970 to 81, but this expenditure was increased by 32.05 percent in 1991-2001. In the period between 2004 and 2010, the percentage of wage expenditure decreased to 23.42% in total cost of variable cost. There is a form of total workers in the field of seasonal and permanent labour in agriculture. The demand for intermediate workers increases greatly during the agricultural production season (kharif and Rabi) due to various acceleration of farming. In this seasonal work, the salary rates of seasonal workers who work in agriculture grow relatively however, the wage rate of the committed workers remains much lower than the wage rates of the seasonal workers. Payments made by the bonded laborer were given in the form of cash and old clothes, old shoes, free living space, financial assistance for wedding ceremony. Border workers have to do this in farming and other household work; this has led to the demand for seasonal workers. Study of seasonal workers' wages in the agriculture sector of all states that the wage ratio for the total labour expenditure increased from 36.8% to 28.8% in the 1970s and 80s, However, in the year 2009 to 10, the provisional labour was 33.7% of the total wage expenditure, it is clear that the expenditure on seasonal wages during the new economic reforms remained steady.

CHEMICAL FERTILIZERS & PESTICIDES:-

The share of the cost of production of chemical fertilizers in agricultural production is second largest term. After the 1960s, in India, the use of high yielding technology has been used for green revolution to increase agricultural production. Therefore, the breed of hybrid crop of higher yielding crops was cultivated, the crops of these crops were cultivated in large numbers. Chemical fertilizers have been used to produce hybridized crops. Ignorance about the use of new technologies of farmer community has resulted in the increased use of fertilizers as well as chemical in 2010 without using 4: 2: 1 ratio of fertilizers. Due to the use of chemical fertilizers, the weeds in the field, the aggravated insect and parasitic growth of crops increased rapidly, resulting in the increasing use of pesticides and herbicides. Researchers have proved that in areas where there are irrigation facilities in the fields and where more irrigation is done than needed, the effect of fertilizers in both states is negative. Due to changing weather, the nature of the irrigation facility became uncertain Varied of high yielding hybrid crops are produced in a short period of time, so the production costs are increasing due to the product being used in large quantities. In the case of Punjab and Haryana considering the use of chemical fertilizers at 3.23 kg per hectare in 1950-60, it increased to 102.00 kg in 1980, 133 kg in 1990, and

increased from 153 kg, in 2001 to 05 to 2006-10 During this period, there was a huge increased of 155 kg. However, considering the state of Rajasthan and Madhya Pradesh, the consumption of chemical fertilizers in the state remain relatively low. In India, the increase in the use of chemical fertilizers per hectare in the year 1980 was reduced to 2.1% in 2009-10. The fertilizer costs had increased rapidly since the cost of fertilizer increased in all states in the state after 1990. The cost of fertilizer had increased rapidly in the year 1970. In 1970, Rs 228 per hectare was spent on fertilizer, Rs.1339 in 1990. In the year 2004-05, the increase was increased by Rs 1755. In 2009-10, the rate of fertilizer would increase to 2180 rupees per hectare. From this it is clear that the use of fertilizers was 4% since 1980 and the rate of increase in fertilizers was 4.5%. However, after 1999, fertilizer consumption was 2.1% and the cost of fertilizers was 6.2%. The growth rate of fertilizer prices and fertilizer consumption in the 1970s and 1980s were the same because of the subsidy given for agricultural production and the protection given to the country's fertilizer industry. Since 1990, after accepting new financial policy, market control of fertilizers has been freed, so that the consumption of fertilizers due to the beneficiaries of private sector fertilizer has been increased by the adoption of new fertilizers for determining the price of fertilizers. Fertilisers induce attacks of insect-pests, weeds and plant parasites. Weeds compete with wheat crops for space, light, water and fertilizer nutrients. According to Indian Council of Agricultural Research, while insect-pests, like termites, stem borer, weevils and wheat-aphids render grain unfit for human consumption, plant parasites (nematodes) cause huge crop losses every year. Weeds in a hectare of wheat field are estimated to remove at least 20 kg of fertiliser nutrients and reduce a minimum of 12 kg in yields [ICAR 1997]. Considering this the use of these chemical elements increased the use of pesticides, weedicides, fungicide, due to unhealthy use of fertilizers, huge expenditure was made in the cost of its product; in 1970, the cost per hectare was only Re.1. It was Rs 25 in 1980. However, between 2001 and 2005, it was Rs. 278.84. Rs. 418.06 in 2009-10 grew up between 1990 and 2010, the cost of pesticides increased by 6%.

Machine labour Cost:-

In the year 1970-71, the share of mechanical labour was less than 4% in the cost of change, which increased rapidly, 23% in 2004-05 and 28% increase in mechanical labour in 2009-10. Due to modern farming, mechanical labour has been used for various farming work. If you consider the reasons behind the increase in mechanical labour costs, you understand the basic reason for the increase in fuel prices. In the year 1970, an average of Rs 435 The mechanical cost per hectare is Rs. 2520 in 2004-05. If I did, Rs. 3860 in 2009-10 so huge mechanical cost escalated. After the late 1990s, the prices of machinery for increased machinery increased the use of the machine on rent basis due to the reductions in purchasing of its own machinery. From the 1970s to the 80s, the use of mechanized equipment for rental was 65% of the total cost of equipment and it increased to 80% after 1990. The cost of using the device in the field of irrigation has expanded a lot.

Seeds cost:-

Farmers of India traditionally used to buy seeds through selected seeds of their own fields or exchange of items in the fields of their neighbors, relatives, so that the cost of production of seeds should be much less until the 1970s. Many 80% of the farmers in India still use traditional seeds in the field of farming. However, after the new reforms, the dependency on the market of hybrid seeds, which gave rise to the farmers, increased their dependency. Prices of hybrid seeds are high due to farmers need to buy more seeds for the extra cost. Changes in the weather, due to the uncertainty of the monsoon, there is a danger of sowing again, which also increases the cost of farmers. The economic crisis created in agriculture has become more intense so that the production from hybrid seeds has decreased in recent times.

Irrigation Cost:-

The cost of irrigation depends on the nature of the irrigation. This cost depends mainly on the prices of pump sets, diesel rates, electricity rates, and water supply rates. The irrigation cost of all the states in the year 1980 was Rs. 298 per hectare which increased to Rs. 832 in 1990. So Rs. 1725 in

2004-05 it increased so much. Irrigation cost is different as per the state. In Punjab, the cost of irrigation is less but in Rajasthan, Uttar Pradesh it is higher, by 154% and 116% respectively.

Interest Cost:-

There is a need for short, medium and long term capital in farming business. Indian farmers mainly gain short, medium and long term capital through financial institutions and non-institutional factors. The interest cost to the farmers on this capital has to be paid. Considering the cost of this interest expenditure can be classified into two categories, it is clear that considering the condition of the cost of fixed capital interest expenditure and the current capital interest expenditure, it is clear that after the year 1990 the fixed capital interest expenditure has remained stable in India, because there is a reduced private investment in real asset like land. Interest expenditure on current capital of Rs. 73 only in the 1970s and 80s this was increased by 4 times per hectare in 2004-05. The objective of implementing the process of nationalization in India was to expand the financial institution and distribution of capital to the small farmer in the rural areas. As a result, in the 1970's, the central bank obliged banks in India to prioritize the agricultural sector, and 18% of the credit from the accumulated credit was made mandatory by the 4% interest rate to the agriculture industry. However, after financial reforms in the banking sector, 18% of the total credit accumulated by the banks increased the interest rate of 4.5% to the primary sector, and increased the interest rates. Irrigation and machinery industries, companies operating in rural areas, agricultural processing industries, warehousing, cold storage building firms food processing firm, milk products and processing industry. This resulted in the benefits of financial services by a large professional and rich landlord, however, the small land holder farmers are deprived of this financial supply support.

Banks began granting loans at **15 to 18%** to poor farmers. If the repayment of the loan does not occur in time, the banks will get the loan amount from the farmer by imposing up to **24%** of the penalty. This led to a large increase in the current capital interest expenditure. When institutional financial debt becomes difficult, the farmers go to the relatives or the money lenders to get easy loans. Loans from relatives are at the expense of zero interest. The interest rate from the money lender is very high.

According H.T. IIEF Rural Financial Credit survey Report of Study on Rural Credit (**2004**), **70%** of the gross financial credit in **2004** is still by the private money lender to the marginal farmers. Only **10%** of financial credit is provided by the public banks on market lending rate. This is because the farmers who do not get loans at **4.5%** interest during new financial reform compared to the decades of **1970s** and **80s**, do not reach the small farmers.

CONCLUSION:-

The Indian government saw only the growing population as the food requirement of the farming community. Indian Government emphasized the goal of agricultural production only, but the efficient use of inputs in agriculture has been neglected. After the 1960s, the government made agricultural inputs available to the farmers at low prices, till the late 1990s farmers started using the ingenious inputs. This increased productivity and the cost of production was lower due to the subsidized price, hence the yield from the agricultural produce increased. Farmers were given the chemical and hybrid food technology that produced modern excesses, but the training to use these huge cost-effective technologies was ignored. During the period from 1970 to 80, the new technology used to increase production, but due to the availability of chemical fertilizers, hybrid seeds, low cost credit and wage rates the cost of agriculture was reduced. Though, lower increase in the prices of farming production, but the yield from agricultural output increased because of lower production costs. During the economic reforms, the agricultural production and input market became more liberal resulting in huge fluctuations in agricultural goods prices, the average farming market prices were much lesser. During this period, the government stopped supporting agricultural inputs. The farmers had increased dependency in the open market for agricultural inputs. By taking advantage of this, the industries which produce agricultural inputs, they have increased rapidly in the prices of agricultural inputs. Thus, the cost of agricultural production increased rapidly, resulting in lower yields from agricultural output.

According to Narayanamoorthy "Farmer in most of the region in India are fed up with crop cultivation because they have not been able to recover even the cost of cultivation in the past several years now. The SAS data clearly acknowledges this fact"

Considering the cost of agricultural production, the main reason for the steady fixed capital cost in agriculture during the time of economic reforms is that the closed subsidy on agricultural inputs can be given. The reduction of government public investment resulted in the decline in private investment because of the decline in production yield from agricultural products. Fixed capital investment in agriculture has reduced due to the large magnitude increased current operational cost of agricultural sector in various states after reforms periods.

It is clear from the fact that during the post-reforms period the casual labour working hours of the land cultivation decreased rapidly, it indicates that the recession of agriculture does not only affect the cultivator household but also has a negative effect on the farming dependent.

Considering the operating cost of farming in all states, it seems that the huge dependence on farmer's on chemical fertilizers, pesticides, rental machinery, hybrid seeds, has increased tremendously, so even if the government grants subsidies on inputs it is impossible to double the yield of the farmer.

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