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# Agricultural growth and productivity in India

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## ABSTRACT

Post-independence, Government of India focused on the agriculture development because there was huge mass of population was involved in this sector and their highest contribution in the Gross Domestic Product in that era. The present study has confined to analyze the trend and pattern of Agriculture in India. The present study based on the objective to analyze the trend and patterns of agricultural worker, agriculture productivity, share of agriculture in GDP, Gross Capital formation in Agriculture and its share in GDP and Export and Import and providing suggestions for policy implications. Data is collected from secondary sources. The present study reveals that participation level of agriculture worker decline, share of agriculture in GDP has also shown decline result, productivity of foodgrains increase and trade of agricultural commodities has also improved. The present study suggests some suggestion to improve the agriculture.

**Key Words :** Agriculture, Agriculture development, Agriculture workers, Gross domestic product, Trade, Gross capital formation

## INTRODUCTION

Agriculture sector plays a strategic role in the process of economic development of a country. It has played a significant role in the economic development of developed as well as under-developed countries. Agricultural development has helped to a greater extent in the process of their industrialisation especially in developed nation. Similarly, various under-developed countries of the world now engaged in the process of economic development with the help of agriculture sector. It means that agriculture output and production contribute to an overall economic development of the predominantly agricultural countries. Moreover, agricultural production can be raised more rapidly with lesser amount of capital investment in it. Productivity can be increased even without addition capital. The increasing agricultural productivity will make substantial contributions to the general economic development of the country (Desai, 2017). The significance of agriculture in India arises after the independence by knowing the fact that the development in agriculture is an essential condition for the development of the national economy. So, first five year plan of India was focused on the agricultural development and one of the main objectives of first five year plan was to develop the agriculture sector. Various initiatives taken by government of India to improve the agriculture production and their result shown as foodgrains production increased from 51 million

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tonnes in 1950-51 to 176.22 million tonnes in 1990-91. Since the 1960s, government provide support to farmers in the form of subsidies seed, fertilizer, and water, as well as through grain market support prices to shape by heavily invested in specific commodities and is highly regionalized (Shreedhar *et al.*, 2012). Indian farmers appear to be diversifying production to meet these new growth opportunities, the share of area planted to primary food grains declining in each decade since the 1980s (Singh and Pal, 2010). Singh and Paul examine the changing pattern and sources of agricultural growth in India. It was seen that there was an increasing trend towards commercialisation and diversification of agriculture. It was observed that most of the output growth in recent years was realized through productivity growth. They also suggested that continued government support for agriculture, research and development and higher public investment in infrastructure are welcome step in increasing agricultural productivity. Various programmes were also launched to facilitate the development of agriculture sector. Lending by the financial institution in the rural sector has been increased significantly throughout the years. Trade of agriculture commodities has also been increased from 472.29 US million tonne dollars in 1980 to 1326.41 US million tonne dollars in 1990. In which the ratio of export is higher than the import. Various studies are conducted with the different objectives like analyzing the trend of agricultural productivity, role of government in achieving goal of sustainable agriculture, put light on various government initiatives made, role of technology. But present paper deals with trend and pattern of productivity, area under cultivation of food grains and to give suggestions for policy implications.

**Need and significance of the study :**

As we know that industries playing a very important role in economy of India, but still the agriculture productivity contribution is the most important factor in the development of Indian economy.

Although there were so many research studies were conducted in this field as some discuss in introduction but through this study the authors were point out some important facts and figures that play an important role in Indian economy like

- Agriculture influence on national income
- Plays vital role in employment generating factors
- Contribution to capital formation
- Contribution in Government budget also.

For the present study authors were used secondary data that collected from various governments of India reports, Ministry Of agriculture and farmer welfare, books, articles and economic survey of India. In this paper the main efforts were to discuss the entire phenomenon that affects the productivity of agriculture and suggestions for the future improvement in the agriculture of India for the development of Indian economy.

**Objectives:**

The present study is based on the following objectives:

- To analyze the trend and pattern of Indian agriculture.
- To provide suggestions to overcome the problem faced by the agriculture.

## RESULTS AND DISCUSSION

**Agriculture workers:**

In 1951, around 69.7 per cent of working population was involved in the agriculture in which

the percentage of cultivator (cultivator are those who are engaged in cultivation of their own land) is higher than the agricultural labour (agriculture labour are those person who are works on another person's land for wages in money or share) shown in Fig. 1. This percentage of working population in this sector was subsequently decline *i.e.* in 1981 was 60.5 per cent and in 2001 this fell to 58.2 per cent and in 2011 this population fell to 54.6 per cent. On the cultivator side, there population was 71.9 per cent in 1951 but this population was also declined throughout the decades. But Fig. 1 show that agriculture labours was increase throughout the decades *i.e.* 28.1 per cent in 1951 and in 2011 this population reached to 54.9 per cent.

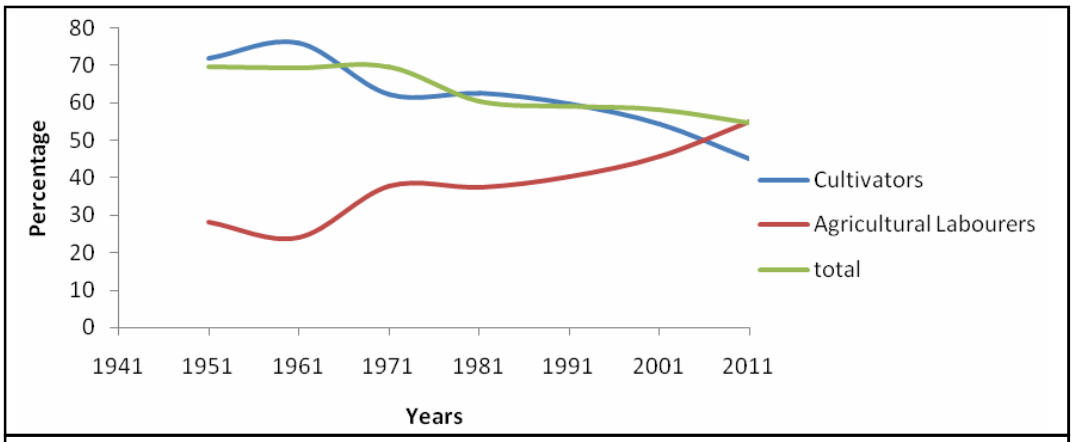



**Fig. 1 : Population and agricultural workers**

## Gender wise involvement:

In India, male working population is more involved in the agriculture sector in comparison to female working population. Around 69.6 per cent and 57.3 percentage of male were involved in the cultivation as cultivator and agriculture labour which is more than the females.

## Agriculture share in GDP:

In 2004-05, the percentage of share of agriculture was 16 and fell to 14.7 per cent in 2006-07. Further it fell to 12.4 per cent in 2010-11 shown in Fig. 2.

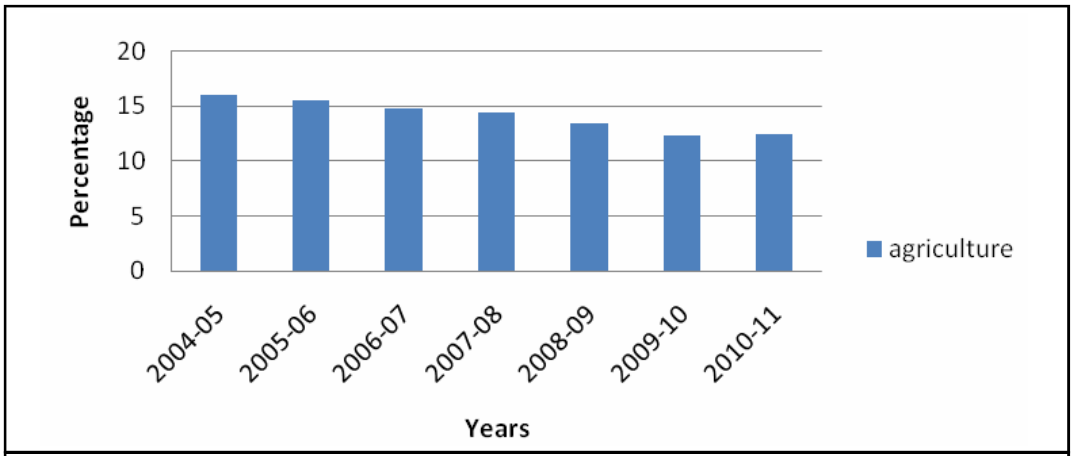



**Fig. 2 : Percentage share of gross domestic product (GDP) at 2004-05 Prices**

**Growth of agriculture in GDP:**

The percentage of agriculture growth in India shown in the Fig. 3 revealed that it is fluctuated *i.e.* in 2005-06 it is 5.5 per cent and in the next financial year it came down 4.1 per cent. This percentage fell to -0.3 per cent and 0.4 per cent in 2008-09 and 2009-10. But this percentage shows tremendous growth *i.e.* 9.5 per cent in 2010-11.

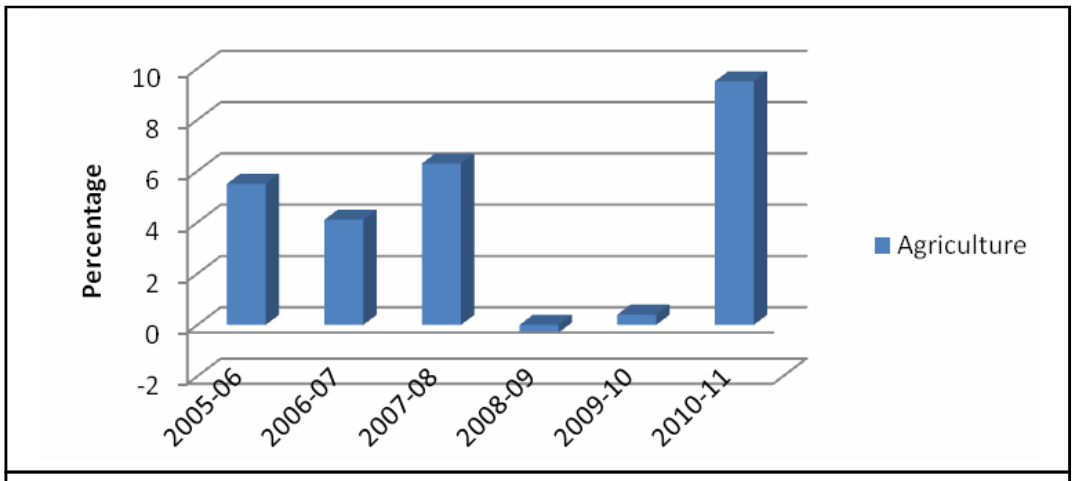



**Fig. 3 : Percentage growth of gross domestic product (GDP) at 2004-05 Prices**

**GCF in agriculture and allied sector:**

Fig. 4 shows that Gross capital formation in agriculture and allied sector has been increased throughout the years. But capital creation by the private sector is higher than the public sector.

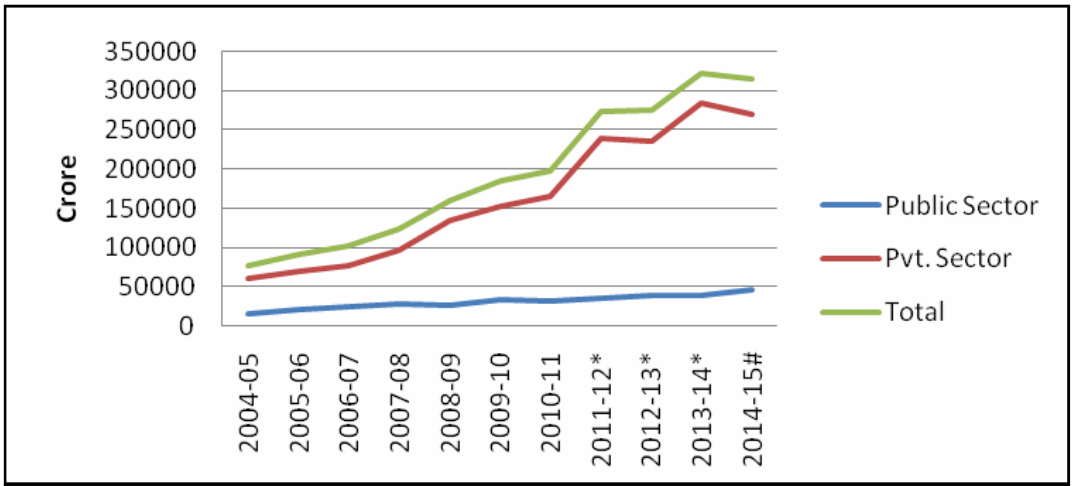



**Fig. 4 : Gross capital formation in agriculture and allied sector (at current prices, 2004-05 series)**

**Public and private investment in agriculture and allied sectors in total GDP:**

Table 1 suggest that public and private investment have increased subsequently year by year but in respect to GDP, their share of investment is very low in which the private investment is large than the public sector.

**Table 1 : Public and private investment in agriculture and allied sectors in total GDP at market prices (2004-05 prices) (in Crores)**

| Year | Public investment | Private investment | Total | GDP at market Price | Share (%) in total Public | Share (%) in total Private | Share (%) in total Total |
|---|---|---|---|---|---|---|---|
| 2004-05 | 16187 | 59909 | 76096 | 3242209 | 0.5 | 1.8 | 2.3 |
| 2005-06 | 19940 | 66664 | 86604 | 3543244 | 0.6 | 1.9 | 2.4 |
| 2006-07 | 22987 | 69070 | 92057 | 3871489 | 0.6 | 1.8 | 2.4 |
| 2007-08 | 23257 | 82484 | 105741 | 4250947 | 0.5 | 1.9 | 2.5 |
| 2008-09 | 20572 | 106555 | 127127 | 4416350 | 0.5 | 2.4 | 2.9 |
| 2009-10 | 22693 | 110469 | 133162 | 4790847 | 0.5 | 2.3 | 2.8 |
| 2010-11 | 19854 | 112880 | 132734 | 5282386 | 0.4 | 2.1 | 2.5 |
| 2011-12* | 35715 | 238716 | 274431 | 8736039 | 0.4 | 2.7 | 3.1 |
| 2012-13* | 36078 | 217229 | 253307 | 9226879 | 0.4 | 2.4 | 2.7 |
| 2013-14* | 32472 | 244692 | 277164 | 9839434 | 0.3 | 2.5 | 2.8 |
| 2014-15# | 36061 | 220434 | 256495 | 10552151 | 0.3 | 2.1 | 2.4 |

Source: Department of Agriculture, Cooperation and Farmers Welfare (Government of India) report 2016

## GCF to GDP:

The percentage of share of GCF of agriculture and allied sector to GDP shown in the figure reveals that in 2004-05 the share percentage was 13.5 % and it rise slowly and gradually throughout the years and it reached to 18.5 % in 2013-14 shown in Fig. 5. In 2014-15 this parentage fell to 17.1 per cent.

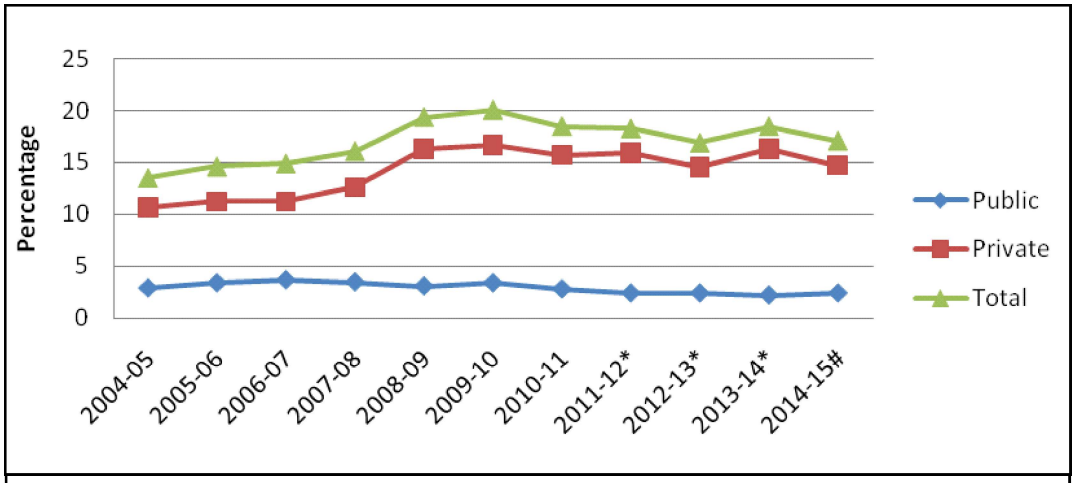
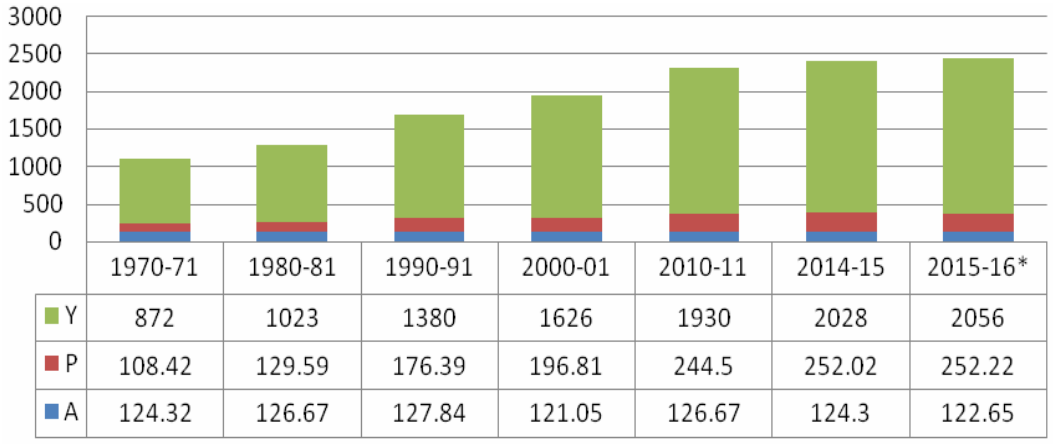



**Fig. 5 : Share (%) of Gross Capital Formation (GCF) to Gross Domestic Product (GDP) in Agriculture and Allied Sectors**

## Area, production and yield of food grains:

Production and yield of food grains increased from 108.4 million tonnes and 872 kg/hectare in 1970-71 to 252.22 million tonnes and 2056 kg/hectare in 2015-16. Area under cultivation throughout the years is almost similar to each other.




| | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 | 2014-15 | 2015-16* |
|---|---|---|---|---|---|---|---|
| Y | 872 | 1023 | 1380 | 1626 | 1930 | 2028 | 2056 |
| P | 108.42 | 129.59 | 176.39 | 196.81 | 244.5 | 252.02 | 252.22 |
| A | 124.32 | 126.67 | 127.84 | 121.05 | 126.67 | 124.3 | 122.65 |

Note: A - Area in Million Hectares, P - Production in Million Tonnes and Y - Yield in Kg./Hectare

**Fig. 6 : Season-wise area, production and yield of foodgrains**

## India's imports and exports of agricultural commodities:

Fig. 7 show that Indian agriculture export and import was increased year by year. But in which the value of export was higher than the value of import.

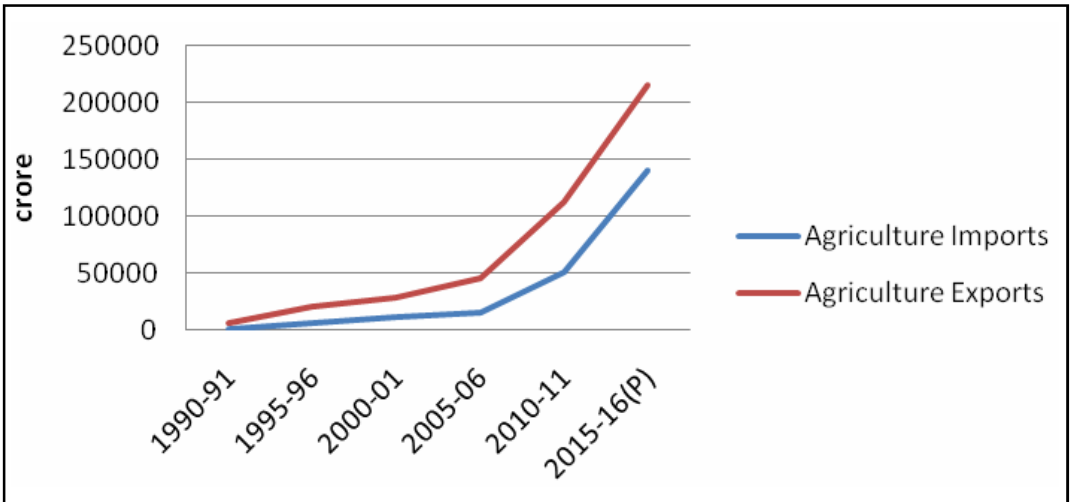



**Fig. 7 : Export and import**

## Export and import:

The percentage of export and import of agriculture to total export and import in 1990-91 was 18.4% and 2.4% shown on Fig. 8. But this percentage fell to 10.02 % in export and 2.42 % in import in 2005-06. This percentage has grown in 2015-16 as 12.55 % in export and 5.63 % in import.

## Conclusion and suggestion:

The present study has discussed the trends and patterns of Indian agriculture. The present

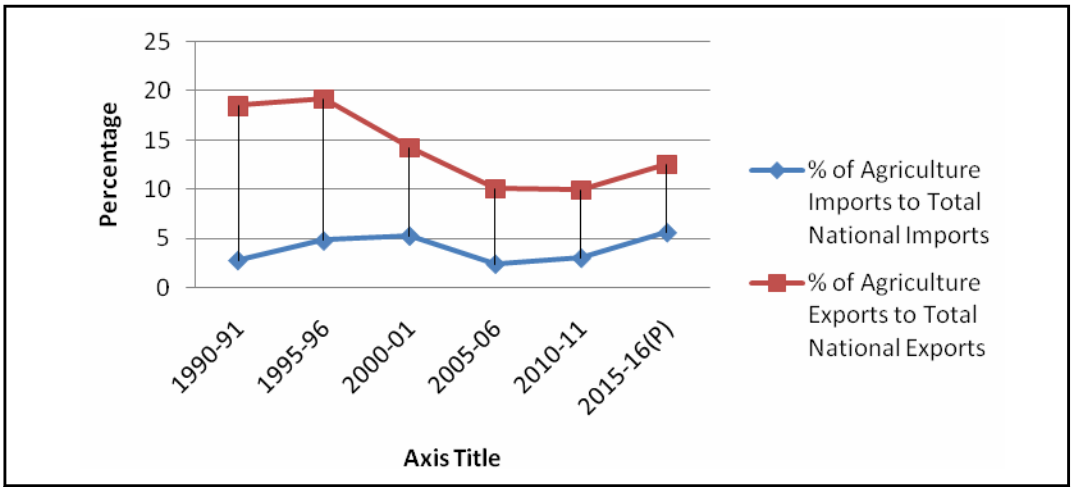



**Fig. 8: Percentage of export and import to total export and import**

study revealed that work participation of agriculture has declined the throughout the year. Share of agriculture in the GDP has also shown declining subsequently. Growth of Agriculture in GDP has shown fluctuated result throughout the year by year *i.e.* in 2005-06 it is 5.5 per cent and in the next financial year it came down 4.1 per cent. This percentage fell to -0.3 per cent and 0.4 per cent in 2008-09 and 2009-10. But this percentage shows tremendous growth *i.e.* 9.5 per cent in 2010-11. Gross capital formation in the agriculture has shown positive result. Further, in investment in agriculture sector has also arise year by year in which the public investment is less than the private investment. But investment in comparison to total GDP has shown constancy throughout the years. The percentage of share of GCF of agriculture and allied sector to GDP shown 2004-05 the share percentage was 13.5 % and it rise slowly and gradually throughout the years and it reached to 18.5 % in 2013-14. In 2014-15 this parentage fell to 17.1 per cent. Production and yield of food grains increased from 108.4 million tonnes and 872 kg/hectare in 1970-71 to 252.22 million tonnes and 2056 kg/hectare in 2015-16. Area under cultivation throughout the years is almost similar to each other. Indian agriculture export and import was increased year by year. But in which the value of export was higher than the value of import. The percentage of export and import of agriculture to total export and import in 1990-91 was 18.4 and 2.4. But this percentage fell to 10.02 % in export and 2.42 % in import in 2005-06. This percentage has grown in 2015-16 as 12.55 % in export and 5.63 % in import.

## Suggestions:

– Credit creations: credit should be created to farmer at the reasonable rates from which the financial requirement of farmer fulfilled easily at the time of cropping of crops.

– Supply of Quality Seeds: quality of seeds should also be provided to the farmer at the subsided rate and inclusion of quality seeds in the Public Distribution System.

– Better irrigation facilities: there is a need to improve the irrigation facilities especially in hill regions of India.

– Decrease pressure of population: majority of population depends on agriculture sector. This pressure leads to leads to sub division and fragmentation of land holdings. There is a need to reduce this pressure on this sector.

– Co-operative farming and Consolidation of Holdings: there is a need to consolidate all the fragmented land into a good size land with the help of co-operative farming and consolidation of holding which gives profitable returns.

– Agricultural marketing: commodities reached easily to the consumer are gives most profitable return and this will be happened only of good marketing. So there is also a need to improve the agriculture marketing especially in the hill regions of India.

– Agriculture education: awareness should be provided to the farmer related to land management, agriculture and natural resources from which it helps the farmer as increased production, conservation of soil and other natural resources etc.

– Storage center and Godowns centers: Storage and Godown centers should be established at district levels so that these centers improve marketing efficiency for various farm produce and influence the farming communities to maximize the production of various high value crops.

– Forecasting and early warning system: Build up weather forecasting and early warning systems and make them farmers oriented. It helps in appropriate training of farmers in operating agriculture practices to reduce losses in disasters and another climate- related risk.

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