



## Research Article

# AN OVERVIEW OF AGRARIAN DISTRESS IN HARYANA

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**Abstract:** Agriculture is the principal source of Income for more than 50 per cent of population. Haryana is an agricultural developed state but the peasantry in Haryana is under tremendous burden of debt, falling profits, disintegration of land holdings, rising pressure of population on agriculture sector and saturation in productivity and production. The symptoms of agrarian distress have been seen in Haryana. Keeping this in view, the present paper attempts to analyse the overview of agrarian distress in Haryana. For this study, data have been taken from secondary sources such as Statistical Abstracts of Haryana, Agriculture Census of India and the NSSO data. Data have been taken for period of 1985-86 to 2021-22. For analysing the results descriptive statistical analytical tools were used and annual compound growth rate for agricultural production, productivity and agriculture expenditure was also used by fitting exponential function. The study found that the level of agrarian distress among farmers increased due to predominance of small number of farmers which have not reap the benefit of economies of scale. The growth rate of agriculture and allied activities remains unstable from last two decades. The burden of debts as well as stress of payments of debts was increased on farmers. The declining trends in the plan expenditure on agriculture and allied activities in Haryana may affect the overall long term development of agriculture sector in Haryana.

**Keywords:** Agriculture Sector, Production, Agrarian Distress

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## Introduction

Haryana is the one of smallest states of India with 4.4 million hectares of land, but agriculturally important state. Haryana is second biggest contributor in Central Food Grain Pool of the Country [1]. The average yield of Wheat and Rice were 4687 kg and 3334 kg per hectare respectively in 2019-2020 as against 3421 kg and 2705 kg per hectare at the national level. The net Irrigated area tremendous increased from 37.8 per cent (irrigated area as percentage to net area sown) in 1966-67 to 90.89 per cent in 2018-19 and per hectare consumption of fertilizers and manure has fivefold increased since 1980-81 as per Statistical Abstracts of Haryana data. The per capita income of Haryana was rupees 2,35,707 for the year 2020-21 as against rupees 1,26,855 at national level [2]. Despite the share of agricultural and allied sector in the gross domestic product of the state has fallen from 60.7 per cent of GSDP (Gross State Domestic Product) in 1969-70 to 16.9 per cent of the gross state value added (at constant price of 2011-12) in 2021-22 but still, it is important contributor of GSDP. Agriculture provides employment opportunities for more than half of population in State. According to NSSO data of 70<sup>th</sup> round, cultivation and livestock are the principal sources of income for 69.1 per cent of agriculture households in Haryana.

For the development of economy structural transformation from agriculture to industry and service sectors is necessary. That is why, it seems to be understood that declining share of agriculture sector is considered an indicator of development of economy. The agriculture sector does not get as much importance as it required. So that, even the relatively good performance of agriculture sector as mentioned above, the farming profession became unviable. Different researchers find out different reasons for this unviability like Sidhu (2002) [3], Bhalla and Singh (2009) [4] pointed out that agrarian crises caused by decline the yield and output of agriculture sector. Jayati Ghosh writes down in her article that agrarian distress is the outcome of lower harvest due to bad weather conditions, difficulties faced by farmer in accessing credit at reasonable rates, The inadequate generation of properly remunerative employment in the economy, sharp fall in capital investment

in agriculture. Centre for Study of Developing Societies (CSDS) found out in study that farm crises were deepen due to benefits of government schemes and policies are being mostly given to big farmers.

The peasantry in Haryana is under tremendous burden of debt, falling profits, disintegration of land holdings, rising pressure of population on agriculture sector and saturation in productivity and production which showed that Haryana agriculture has been under distress. This agriculture distress has been increased with the time if corrective measures were not adopted.

Keeping this in view, the present paper attempts to analyse the basic reasons of agrarian distress in Haryana so that on the basis of concrete analysis of prevalent situation, suitable suggestions for intervention at various levels have been taken for reducing the distress in agriculture sector [5-9].

## Material and Methods

For proper understanding of the agriculture distress, development indicators should be understood. The sustainability of a sector is depending on its stable growth rate and the production, productivity and population dependency seems to be the main driving forces for development of a sector. Thus, for analyzing the density of distress, trend in growth rate, production and productivity of main crops have been find out as well as compound growth of production and productivity of main crops of agriculture sector has also been used. The productivity of agriculture sector is also depending on agriculture credit and size of land holding. So, trends in both indicators also studied in this paper. The agricultural activities mainly based on the nature, so changes observe in environmental and ecological factors may affect the stability in the agriculture sector. For development of agriculture sector, the dependency on natural factors like shortage of rainfalls and declining soil fertility should be minimized. For analyzing dependency on natural factors trends in irrigation facility and use of fertilizers has been studied. For overall development agriculture sector trends in development expenditure has been studied.

Thus, agrarian distress has been analyzed on the basis of the development indicators such as agriculture credit, size of operational holdings, growth rate of agriculture and allied activities, relation of percentage share of agriculture and allied activities in GSDP and percentage of workforce, trends and growth rate of production and productivity, trend and growth rate of agriculture expenditure. The farmers have been categorized in to marginal farmers (0 to 1 hectare), small farmers (more than 1 to 2 hectares), semi-medium farmers (more than 2 to 4 hectares), medium farmers (more than 4 to 10 hectares) and large farmers (more than 10 hectares). This criterion has been used by NSSO for Agriculture Census of India. The required data have been taken from secondary sources such as Statistical Abstracts of Haryana, Agriculture Census of India and the NSSO data. Data have been taken for period of 1985-86 to 2021-22. For analysing the results descriptive statistical analytical tools were used and annual compound growth rate for agricultural production, productivity and agriculture expenditure was also used by fitting exponential function. The Compound Growth Rates (r) is equal to  $(\text{Antilog } B-1) \times 100$  [10-15].

## Results and Discussion

The findings of the study have been analyzed and presented under subheads based on different indicators mentioned above.

### Agriculture Credit

Agriculture credit is one of the main causes of agrarian distress in Haryana as well as in India because it is the essential source for land development, acquisition of farm assets and agriculture inputs. In Haryana, 39.6 per cent of agricultural households are indebted according to 77th round of NSSO (2019). For reducing agriculture distress, the proportion of institutional credit should be large enough because high differences exist between interest rates of institutional and non-institutional credits. The following table explains that proportion of institutional credit was decreasing over the long period of time. It means cultivators have to borrow large part of their borrowing from non-institutional sources at exorbitant interest rate. The share of non-institution credit was increasing till 70th round in Haryana. Thus, agrarian distress has been increased in Haryana in the point of view agriculture credit.

Table-1 Shares in Total Debt of Cultivator Households in Haryana (Credit Distribution by Different Source wise)

| Source of debt                | 1981-82 | 1991-92 | 2001-02 | 2011-12 | 2018  |
|-------------------------------|---------|---------|---------|---------|-------|
| Institutional                 | 75.8    | 68.9    | 49.9    | 52.4    | 48.98 |
| Cooperative Societies / Banks | 22.7    | 23      | 22.7    | 24.5    | -     |
| Commercial Banks              | 46.6    | 43.5    | 25.7    | 24      | -     |
| Others                        | 6.5     | 2.4     | 1.5     | 3.9     | -     |
| Non-institutional             | 24.2    | 31.1    | 50.1    | 47.6    | 20.95 |
| Money lenders                 | 14.1    | 12.6    | 41.5    | 39.1    | -     |
| Relatives and friends         | 6.3     | 2.1     | 3       | 5.8     | -     |
| Landlord                      | 2.2     | 7.8     | 1.3     | 0.1     | -     |
| Others                        | 1.6     | 8.6     | 4.3     | 2.6     | -     |
| Both sources                  | -       | -       | -       | -       | 30.07 |
| Total                         | 100     | 100     | 100     | 100     | 100   |

Table-2 Number of farmers in Different Farm Size Categories

| Years   | Marginal Farmers | Small Farmers | Semi-Medium Farmers | Medium Farmers | Large Farmers |
|---------|------------------|---------------|---------------------|----------------|---------------|
| 1970-71 | 27.40            | 18.90         | 22.50               | 23.10          | 8.10          |
| 1990-91 | 40.70            | 19.90         | 22.00               | 14.50          | 3.00          |
| 2000-01 | 46.00            | 19.30         | 18.20               | 13.20          | 3.30          |
| 2010-11 | 48.10            | 19.50         | 17.60               | 12.00          | 2.80          |

Table-3 Area of Cultivable Land with Different Farm Size Categories

| Years   | Marginal Farmers | Small Farmers | Semi-Medium Farmers | Medium Farmers | Large Farmers |
|---------|------------------|---------------|---------------------|----------------|---------------|
| 1970-71 | 3.50             | 7.20          | 17.00               | 38.10          | 34.20         |
| 1990-91 | 7.90             | 12.50         | 25.40               | 35.00          | 19.10         |
| 2000-01 | 8.90             | 11.90         | 22.00               | 34.10          | 23.10         |
| 2010-11 | 9.90             | 12.70         | 22.30               | 32.50          | 22.60         |

### Size of Operational Holdings

Another reason of distress in agriculture sector is uneconomical small size of land

holdings in which increasing trend was found over the period. This reason can be discussed through the [Table-2] and [Table-3]. The [Table-2] reveals that number of marginal and small farmers was increased considerably and number of large and medium farmers decreased. [Table-3] shows that area of cultivable land with small and marginal farmers was increased and with medium and large farmers it was decreased. Thus, level of agrarian distress among farmers increased due to predominance of small number of farmers which were not reap the benefit of economies of scale.

### Unstable Growth Rate

Increasing distress in agriculture sector also increased due to unstable growth rate of agriculture sector. The findings of the study on growth rate of agriculture and allied activities have been shown in [Table-4] and [Fig-1]. The findings reveal that growth rate of agriculture and allied activities remains unstable from last two decades. The fluctuations in growth rate were very fast, it came year after year. Due to these fluctuations in growth rate of agriculture and allied activities income of the farmers also fluctuated. Thus, agriculture sector never provided the stable source of income to farmers that's why farmers more dependent on debts for purchasing agriculture inputs. The burden of debts as well as stress of payments of debts was increased on farmers.

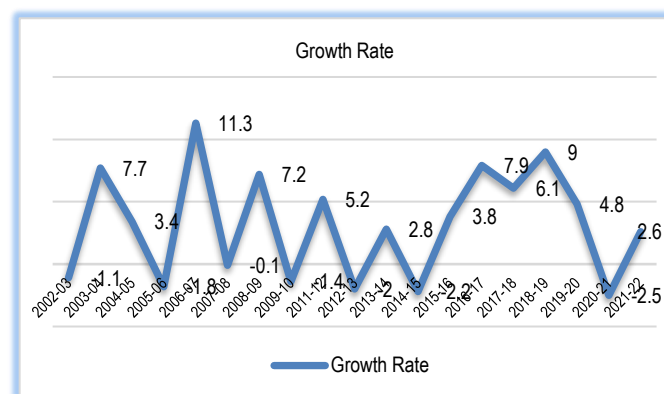


Fig-1 Trend in Growth Rate of Agriculture and Allied Activities

### Relation of Percentage Share of Agriculture and Allied Activities in GSDP and Percentage of Workforce

In developed countries the percentage share of agriculture and allied activities in gross domestic product was decline considerably with simultaneously decreased the percentage of workforce depend on agriculture sector. Thus, for the development point of view it seems to be that relation between percentage share of agriculture and allied activities in gross domestic product and the percentage of workforce depend on agriculture sector should be gone in the same direction. Through this relation the excess burden of population on agriculture sector may be reduced. The findings of the study on this aspect have been given in [Table-5]. The findings clearly reveal that there has been a considerable increase the gap between percentage share of agriculture and allied activities in gross domestic product and percentage of workforce depend on agriculture sector in Haryana. The excess burden of population on agriculture sector was going on increased because other industry and service sectors of economy was not sufficiently generating the employment opportunities and can be absorbed the workforce depend of agriculture sector.

### Trend and Growth rate of Agricultural Production and Productivity

Production and productivity of a sector is the base of development of any sector. The increasing trends in agricultural production and productivity and in its growth, rate may provide the opportunities of increasing the income level of the farmers. The findings related this aspect have been given in [Table-6], [Table-7] and [Fig-2 and 3]. The results of regarding trends ([Fig-2 and 3] reveal that production and productivity of wheat crop considerable increased but positive trends in production and productivity of rice, total foodgrains, total pulses and total oilseed was less than wheat crop.

The findings related to compound growth rates of production and productivity of wheat crop rice, total foodgrains, total pulses and total oilseed show that growth rates were declining over period of time. The compound growth of production declined over first period (1985-86 to 1995-96) to third period (2006-07 to 2016-17) from 1.24 to 2.37 for rice crop, 3.32 to 2.14 for wheat crop, 2.24 to 1.83 for total food grains, -4.12 to -12.58 for pulses and 10.53 to 5.10 for oilseeds. The same trend was also found in growth rate of the productivity wheat crop rice, total food grains, total pulses and total oilseed. The findings of [Table-7] reveals that compound growth of productivity declined over first period (1985-86 to 1995-96) to third period (2006-07 to 2016-17) from -2.26 to -.50 for rice crop, 1.8 to 1.7 for wheat crop, 2.30 to 1.69 for total food grains, 2.14 to -0.94 for pulses and 5.41 to 4.72 for oilseeds.

So, declining trend was found in growth rate of agricultural production and productivity. The stress on agriculture sector is increasing because surety in agricultural income was not found due to declining trend in growth rate of agricultural production and productivity in Haryana.

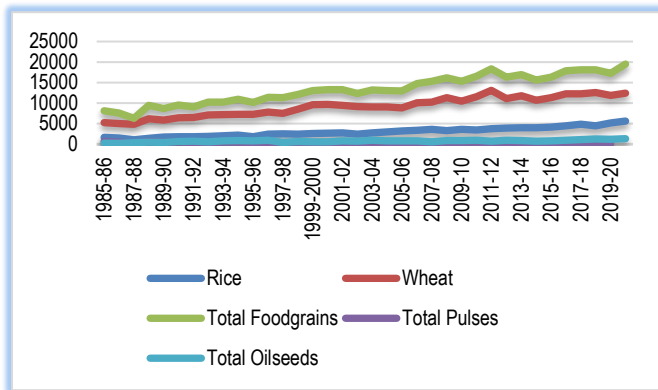


Fig-2 Trend in Production of Food Grains, Pulses and Oilseeds

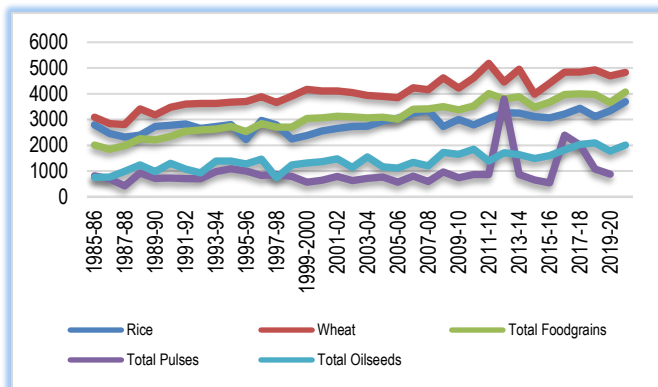


Fig-3 Trend in Productivity of Food Grains, Pulses and Oilseeds

Table-4 Growth Rate of Agriculture and Allied Activities

| Year    | Growth rate of Agriculture and Allied Activities |
|---------|--------------------------------------------------|
| 2002-03 | -1.1                                             |
| 2003-04 | 7.7                                              |
| 2004-05 | 3.4                                              |
| 2005-06 | -1.8                                             |
| 2006-07 | 11.3                                             |
| 2007-08 | -0.1                                             |
| 2008-09 | 7.2                                              |
| 2009-10 | -1.4                                             |
| 2011-12 | 5.2                                              |
| 2012-13 | -2.0                                             |
| 2013-14 | 2.8                                              |
| 2014-15 | -2.2                                             |
| 2015-16 | 3.8                                              |
| 2016-17 | 7.9                                              |
| 2017-18 | 6.1                                              |
| 2018-19 | 9.0                                              |
| 2019-20 | 4.8                                              |
| 2020-21 | -2.5                                             |
| 2021-22 | 2.6*                                             |

Table-5 Percentage Share of Agriculture and Allied Activities in GSDP and Percentage of Workforce

| Year    | Percentage Share of Agriculture and Allied Activities in GSDP | Percentage of Workforce | Gap    |
|---------|---------------------------------------------------------------|-------------------------|--------|
| 1980-81 | 53.76                                                         | 65.13                   | -11.37 |
| 1990-91 | 44.10                                                         | 61.44                   | -17.34 |
| 2001-02 | 31.10                                                         | 51.56                   | -20.46 |
| 2004-05 | 23.1                                                          | 54.08                   | -30.98 |
| 2009-10 | 16.1                                                          | 44.11                   | -28.01 |
| 2021-22 | 16.9                                                          | 44.96*                  | -28.06 |

#### Trends in Net Irrigated area and in NPK ratio

The trend in net irrigated area under government canals and tubewells is shown in the [Fig-4]. The [Fig-4] shows that the net irrigated area under tubewell were increased faster rate that area under canal and canals irrigated area declined over the period. [Fig-5] shows the trends in NPK ratios. It shows that imbalance from the standard ratio 4:2:1 has been observed in consumption of NPK (Urea, Phosphate and Potash). The cost of Urea is comparatively low due to higher subsidy as compared to other fertilizers. This cost difference creates imbalance in the consumption of NPK. So decreasing area under Government Canals and imbalance consumption of NPK decline the soil fertility as well as increased the cost of production.

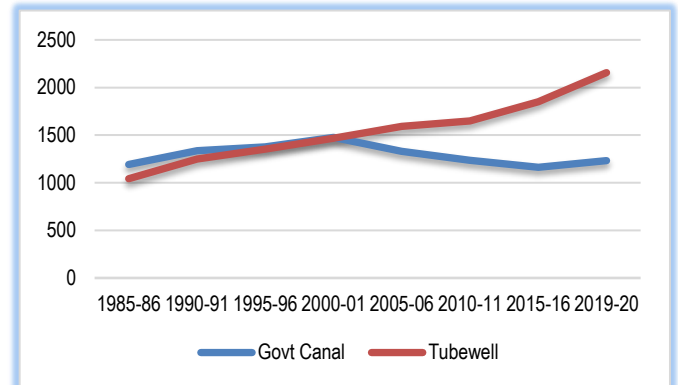


Fig-4 Trends in Net Irrigated area under Government Canals and Tubewells

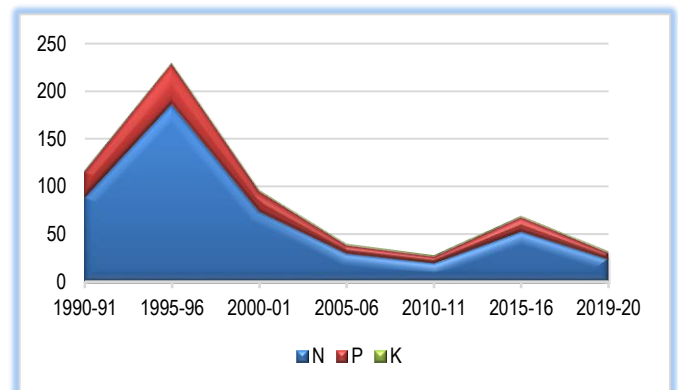


Fig-5 Trends in NPK ratio in Haryana

#### Trends in Agriculture Expenditure

Increasing trends in agriculture expenditure specifically in capital expenditure is the necessary conditions for increasing the income of agriculture sector with multiplier effect. The results related to this aspect discussed in the [Table-8], [Table-9] and [Fig-6]. The data in [Fig-6] reveal that revenue expenditure increased over the time period but capital expenditure not increased even it declined over the time period of 1985-86 to 2021-22. The declining trends in the capital expenditure showed that development of infrastructure in the agriculture sector was not the priority of Haryana government policy. These trends may affect the overall long term development of agriculture sector in Haryana.

The results related to trends in growth of revenue and capital expenditure show that compound growth rate of revenue expenditure was increased marginally over first period (1985-86 to 1995-96) to third period (2006-07 to 2016-17) from 12.32

## An Overview of Agrarian Distress in Haryana

Table-6 Compound Growth Rate of Production in Haryana

| Period             | Production |       |                   |              |                |
|--------------------|------------|-------|-------------------|--------------|----------------|
|                    | Rice       | Wheat | Total Food grains | Total Pulses | Total Oilseeds |
| 1985-86 to 1995-96 | 1.24       | 3.32  | 2.24              | -4.12        | 10.53          |
| 1996-97 to 2006-07 | 3.19       | 2.54  | 2.57              | -8.92        | -1.62          |
| 2006-07 to 2016-17 | 2.37       | 2.14  | 1.83              | -12.58       | 5.10           |
| 2016-17 to 2020-21 | 4.84       | 0.13  | 1.78              | 6.09*        | 7.13           |
| 1985-86 to 2019-20 | 3.27       | 2.29  | 2.10              | -6.34        | 3.99           |

Table-7 Compound Growth Rate of Productivity in Haryana

| Period             | Productivity |       |                   |              |                |
|--------------------|--------------|-------|-------------------|--------------|----------------|
|                    | Rice         | Wheat | Total Food grains | Total Pulses | Total Oilseeds |
| 1985-86 to 1995-96 | -2.26        | 1.8   | 2.30              | 2.14         | 5.41           |
| 1996-97 to 2006-07 | 0.88         | .87   | 1.79              | -0.31        | -0.94          |
| 2006-07 to 2016-17 | -0.50        | 1.70  | 1.69              | -0.94        | 4.72           |
| 2016-17 to 2020-21 | 2.81         | -0.03 | 0.49              | 3.52*        | 1.89           |
| 1985-86 to 2019-20 | 0.49         | 1.16  | 1.67              | 0.21         | 2.40           |

to 12.87 and its decreased for capital expenditure. The trend in percentage of plan expenditure on agriculture and allied activities in Haryana under Five Years Plan was also declining. Thus, development of agriculture sector was not achieved its sustainability because overall trends in expenditure on agriculture and allied activities was declining. So, the agrarian stress increased in Haryana due to non sustainability of agriculture sector.

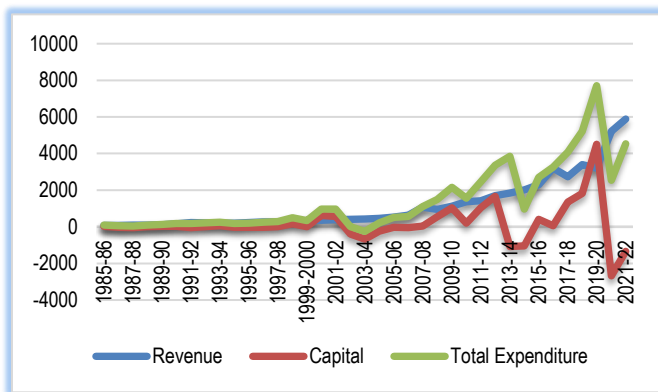


Fig-6 Trends in Agriculture Expenditure in Haryana

Table-8 Compound Growth rate of Agriculture Expenditure in Haryana

| Period             | Revenue | Capital | Total |
|--------------------|---------|---------|-------|
| 1985-86 to 1995-96 | 12.32   | -       | 8.46  |
| 1996-97 to 2006-07 | 8.71    | 7.04    | 8.88  |
| 2006-07 to 2016-17 | 12.87   | 6.46    | 12.71 |
| 2016-17 to 2021-22 | 10.70   | -       | 5.68  |
| 1985-86 to 2021-22 | 12.62   | -212.28 | 11.15 |

Table-9 Plan Expenditure on Agriculture and Allied Activities in Haryana (Rs in Lakh)

| Plan                            | Expenditure on Agriculture | Percentage of total expenditure |
|---------------------------------|----------------------------|---------------------------------|
| 4 <sup>th</sup> Plan (1969-74)  | 2633                       | 7.35                            |
| 5 <sup>th</sup> Plan (1974-79)  | 4496                       | 6.64                            |
| 6 <sup>th</sup> Plan (1980-85)  | 15753                      | 9.88                            |
| 7 <sup>th</sup> Plan (1985-90)  | 23929                      | 9.53                            |
| 8 <sup>th</sup> Plan (1992-97)  | 45158                      | 9.22                            |
| 9 <sup>th</sup> Plan (1997-02)  | 47620                      | 5.96                            |
| 10 <sup>th</sup> Plan (2002-07) | 59330                      | 4.57                            |
| 11 <sup>th</sup> Plan (2007-12) | 254424                     | 5.89                            |
| 12 <sup>th</sup> Plan (2012-17) | 588000                     | 6.53                            |

### Conclusion

In a concluded way, it can be said that the proportion of institutional credit was decreasing over the long period of time and share of non-institution credit was increasing in Haryana. The number of marginal and small farmers was increased considerably and number of large and medium farmers decreased. The area of cultivable land with small and marginal farmers was increased and with medium and large farmers it was decreased. Thus, level of agrarian distress among farmers increased due to predominance of small number of farmers which have not reap the benefit of economies of scale. The growth rate of agriculture and allied activities remains unstable from last two decades. Due to instability of

growth rate of agriculture and allied activities agriculture sector never provided the stable source of income to farmers that's why farmers more dependent on debts for purchasing agriculture inputs. The burden of debts as well as stress of payments of debts was increased on farmers. There has been a considerable the gap between percentage share of agriculture and allied activities in gross domestic product and percentage of workforce depend on agriculture sector in Haryana. The excess burden of population on agriculture sector was going on increased. The compound growth of agricultural production and productivity declined over first period (1985-86 to 1995-96) to third period (2006-07 to 2016-17). So, declining trend was found in growth rate of agricultural production and productivity. The stress on agriculture sector is increasing because surety in agricultural income was not found due to declining trend in growth rate of agricultural production and productivity in Haryana. The decreasing area under Government Canals and imbalance consumption of NPK decline the soil fertility as well as increased the cost of production. The declining trends in the capital expenditure and plan expenditure on agriculture and allied activities in Haryana under Five Years Plan showed that development of infrastructure in the agriculture sector was not the priority of Haryana government policy. These trends may affect the overall long term development of agriculture sector in Haryana.

**Application of research:** This study can be applied to understand the symptoms of agrarian distress in Haryana as well as the symptoms of agrarian distress in the Indian economy. If the symptoms are clearly notified then the solution can be done timely at Haryana state level and economy level.

**Research Category:** Agriculture Economics

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Research project name or number: PhD Thesis

**Author Contributions:** All authors equally contributed

**Author statement:** All authors read, reviewed, agreed and approved the final manuscript. Note-All authors agreed that- Written informed consent was obtained from all participants prior to publish / enrolment

**Study area / Sample Collection:** Haryana, India

**Cultivar / Variety / Breed name:** Nil

**Conflict of Interest:** None declared

**Ethical approval:** This article does not contain any studies with human participants or animals performed by any of the authors.

Ethical Committee Approval Number: Nil



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