
Evaluating The Levels Of Agricultural Development In Haryana: A Regional Analysis (1998-2018)

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ABSTRACT

Haryana is one of progressive states of India. Since its year of formation, year 1966 the state has experienced a steady growth in its overall economy. The majority of the state population, engaged in agricultural and allied activities. It is one of state, where the 'Green Revolution' has been experienced as a result, and a considerable growth in state, contributed significantly by the agriculture itself. One the other hand, the agricultural productivity is characterized with considerable regional disparity, which has been affected by various socio-economic and institutional factors. The present paper examines the various levels of agricultural development in the state. In order to analyses, this regional variability, a cause-effect relationship has been developed to get the desired objectives of the study.

Key words: *Green revolution, agricultural productivity, regional analysis, cause-effect relationship, desired results.*

INTRODUCTION:-

Haryana state is one of progressive states of India. Since the year of its formation, November 01, 1966 the state has experienced a steady growth in agriculture, industries and infrastructural development throughout the state. In case of agricultural development, Haryana was one of pioneer states, which has switch over the 'Green revolution' since its formation, a steady growth in food grains and had a good rank among other agricultural states. In this context, various authors such as Prof. **G.S.Bhalla** and Prof. **G.K.Chadda**, carried out various studies on Haryana's 'Green Revolution' and drawn some of significant inferences from their respective studies from time to time. On the basis of their studies, it has been observed that the effects of 'Green Revolution' have not been uniform throughout the state, but there has been considerable regional disparity in the agricultural productivity in the state.

However, **Kulshreshththa, and Tiwari** (1987) have tried to establish a 'cause-effect relationships between agricultural productivity and the factors behind the low level of agricultural productivity of some of the states of India. The reasons of low agricultural productivity can be divided in to three categories: (i) General (ii) Institutional, and (iii)

Technical. Social environment of the rural areas has been major constraints and responsible for low level of agricultural productivity in India. It has been pointed out that the Indian farmers are illiterates, superstitious, conservative and unresponsive to new agricultural techniques. On the face of it, this seems to be correct. However, the fact is that given in limitation of present production relations, the unassuming ignorant looking farmers use his resources efficiently. On the basis of the study, carried out by **W. Davis Hopper**, concluded that within his limitations, the Indian farmers use his resource efficiently. A part from the general factors, a chronic population pressure on land resources, where 45 per cent of the country's population, still depend upon the agriculture and allied activities. Though there has been significantly declining trends has been observed since the year of independent. It is due to significantly diversification of occupational structure and tremendous growth in secondary and tertiary sector in the country. The other causes, including institutional factors which are comprised of land tenure system, lack of credit and marketing facilities are some of the significant factors which have given rise to low level of agricultural productivity in the country. The studies of **Raj Krishna, Hopper and Stern** have clearly pointed out that the Indian farmers reacts on rationally on economic environment which have been directly or indirectly affecting the agricultural productivity in the country. However, various researchers have taken in to account of the output factors for measuring the level of agricultural development by using the composite index as standard scores (Bhalla & Tyagi, 1989).

Darshana (1991) has attempted to identify the special variability in terms of agricultural development which is affected by land, labours, capital or prevailing land use, cropping pattern and the other technological, institutional and infrastructural factors which have given rise to regional variability in agricultural productivity in various regions of India. In case of Haryana, **Sinhmar** (2000) has examined the transformation of state agriculture by comparing the agricultural productivity data for different districts, taken for carrying out the study. **Sinhmar** suggested for judicious regional planning in terms of natural and manmade resources availability within the specific region. The levels of agricultural development has been measured in terms of technical factors, such as fertilizer, irrigation, high yielding variety of seeds and the implements used for agronomic practices. The dynamic of agricultural development were measured at the two points of period; as a result give the precise results of agricultural productivity per acre or

hectare (Shafiullah, 1999). Hence, it is obvious that the researchers, belonged to various streams have highlighted various objectives and the subjective views on agricultural production and productivity of different regions of India.

OBJECTIVES OF THE STUDY:-

The study has dual objectives which are as follows:

1. To evaluate the agricultural productivity at district level in Haryana;
2. To suggest some of recommendations to reduce the regional disparity in agricultural productivity in the state.

MATERIAL AND METHODS:-

In order to analysis the regional variability in levels of agricultural development, it is essential to be taken in to socio-economic and cultural factors indicators to get the desired results. It is therefore, there were 20 variables which have been selected which are as follows:

1. The cropping intensity.
2. Irrigation intensity.
3. Canal irrigation.
4. Number of tractors per thousand hectares of net area.
5. Chemical fertilizers consumption in Kilograms per hectare of total cropped area.
6. Pesticides consumption in Kgs. per hectare of total cropped area.
7. Area under HYV seeds and its percentage to total area under HYV.
8. Average yield per hectare (Rice).
9. Average yield per hectare (Jowar).
10. Average yield per hectare (Bajra).
11. Average yield per hectare (Maize).
12. Average yield per hectare (Wheat).
13. Average yield per hectare (Barley).
14. Average yield per hectare (Total pulses).
15. Average yield per hectare (Total Oil seeds).
16. Average yield per hectare (American cotton).

17. Average yield per hectare (Desi cotton).
18. Average yield per hectare (Sugercane).
19. Productivity of major crops in money value in rupees per hectare.

Keeping in view above mentioned variables, **Kendall's Rank Order Score method** has been used to get the desired results. In order to get the results of the desired objectives, the total rank of each district is divided by 22 districts that give an average score. In this way, the results are obtained by this method are classified in to different ranges with the help of Standard deviation method. On the basis of development figures, the levels of agricultural development are divided in to five categories vise:-

- (I) Very Highly developed
- (II) Highly developed
- (III) Medium Developed
- (IV) Low developed
- (V) Very low developed.

(i) VERY HIGHLY DEVELOPED AGRICULTURAL PRODUCTIVITY (Below 7 average rank):-

In this category, there are only three districts, including Fatehabad, Karnal and Panipat. The cropping and irrigation intensity within these districts are very high, as a result the agricultural productivity has been remained high during different successive periods. Other spatial infrastructure like electrification, canal networks and other catalyst of agronomic practices are blessed with available favourable natural and manmade resources, cumulatively given rise to very high agricultural productivity within this region.

(ii) HIGHLY DEVELOPED AGRICULTURAL PRODUCTIVITY (7-9 average rank):-

In this category, there are six districts, which includes Kurukshetra, Kaithal, Sirsa, Sonipat, Jind and Hissar. The cropping and irrigation intensity is relatively higher than that of other districts of Haryana. All these factors have given rise to keep high level of agricultural productivity within these districts of Haryana state.

(iii) MEDIUM DEVELOPED AGRICULTURAL PRODUCTIVITY (9-11 average rank):-

In this category, there are seven districts which include Rewari, Faridabad, Palwal, Yamuna Nagar, Rohtak, Ambala and Jhajjar districts where the irrigation resources are

satisfactory, but due to high irrigation intensity, there is thousands of hectares of waste land has been developed within these districts. As a result, the levels of agricultural development remain medium within these districts.

(iv) LOW LEVEL DEVELOPMENT OF AGRICULTURAL PRODUCTIVITY (11-13 average rank):-

In this category, there are two districts which include Mahendergarh and Gurgaon which are characterized with low level of development of agricultural productivity. Lack of rainfall and the canal irrigation system has given rise to low level of agricultural productivity within these two districts. There is rain-fed type of agriculture, practiced by the farmers, belonged to these districts.

(V) VERY LOW LEVEL DEVELOPMENT OF AGRICULTURAL PRODUCTIVITY (Below 13 average rank):-

In this category, there are four districts which include Bhiwani, CharkhiDadri, Panchkula and Mewat districts of Haryana, where the scant quantity of rainfall and unsuitable of ground water has been responsible for very low level of development of agriculture productivity within these four districts of Haryana. Entire agronomic practices depend upon the rainfall which is erratic in nature as a result; dry-land farming is practiced by the farmers. There are is scant marketable surplus of the cash crops by the farmers.

SUGGESTIONS FOR INCREASE THE AGRICULTURAL PRODUCTIVITY:-

In order to increase the agricultural production and the productivity, there are few good suggestions, are to be recommended which are as follows:

- In the dry land areas like southern Haryana, where there is scanty rainfall usually confined to one or two crops in a year. It is there for it become imperative to make use of effective water harvesting techniques to make judicious use of water for cultivating the crops.
- Where there is undulating topography, as a result the soil conservation techniques are to be used in accordance with the prevailing local conditions in the steep slope areas, particularly in the Siwalik region of Panchkula district.

- In order to put a check on depletion of ground water, there should be continuous ground water recharging, so that judicious water may be used in the dry land areas.
- In the southern part of the state, where the rate of water transpiration is relatively higher than that of other parts of Haryana, as a result; mulching of soil should be emphasized to prevent the process of soil moisture evaporation in the dry land agriculture areas.
- In order to meet the demand for the dry-land agricultural areas, the watershed management projects should be implemented, particularly in the Morni hills of *Panchkula* district, and *Aravalli* hills of *Mewat* district of Haryana, so that the additional water resources may be developed in accordance with prevailing local conditions, of a particular areas.
- Lastly, in order to save the water for agriculture irrigation, the farmers should make best use of water by using the sprinkler and drip –irrigation system rather than flood irrigation; so that the irrigation work may be fulfilled with minimum quantum of irrigation water in the dry-land farming areas.

CONCLUSION:-

Haryana is blessed with agrarian economy with its sound agricultural base, which has given rise to steady growth in agriculture in Haryana. Since formation of State 1966, being one of pioneer regions of ‘*Green Revolution*’ of the country, contributed a significant contribution in the national economy. No doubt, the agricultural production and productivity of Haryana has not been uniform during different successive periods, but it has been fluctuating with various physiographic and institutional factors which have given rise to increase the regional disparity in the state. It is therefore, it becomes essential to measure the agricultural production and productivity through an appropriate methodology. In this context, **Kendall’s Rank Order Score method** has been used in accordance with some of variables, taken for the study.

Keeping view the worked out results based on above mentioned method, the result show a ‘*Cause-effect relationships*’ between the reasons affected by the agricultural productions and productivity of district wise study which indicate a regional disparity as

indicated by a composite score, worked out for the periods (1998-2018). As a result, it indicates that this disparity still exist throughout the state. Lastly, there are some of suggestions which have been recommended to increase the agricultural production and the productivities in the dry-land areas of Haryana state, so that the state may lead to attain a sustainable position in terms of productions and productivity of agriculture in the State.

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