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Recent Development Experience and Challenges of Low Income States in India: With Special Reference to UP and Uttarakhand



THEME 2

Indian Economy: Its Employment Dimension



THEME 3

Doubling Farmer's Income: Improving Agricultural Viability and Farmer's Income in India

Uttar Pradesh - Uttarakhand Economic Association

Giri Institute of Development Studies, Aliganj, Lucknow

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THEME 3

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Trends in Agriculture Production of Principal Crops in Uttar Pradesh

Vishnu Verma & Keshav Tekam***

Introduction

The economy of Uttar Pradesh is the second largest of all the states of India. According to the state budget for 2017-18, Uttar Pradesh's gross state domestic product is ¹ 16.89 lakh crore (US\$240 billion). The largest Indian state, Maharashtra, has an urban population of 50,818,259; while Uttar Pradesh has an urban population of 44,495,063. A rise in production can be attributed to input growth and total factor productivity growth. The level of Total Factor Productivity (TFP) can be measured by dividing total output by total inputs. When all inputs in the production process are accounted for, TFP growth can be thought of as the amount of growth in real output that is not accounted for by growth in inputs. Productivity is often defined as the efficiency¹ with which output is produced by a given set of inputs. If a firm is efficient, it is said to be operating on the production frontier where the production frontier is defined at some point in time with reference to a particular set of firms. Productivity growth, however, encompasses not just changes in efficiency but also changes in the best practice. A rise in efficiency implies either more output is produced with the same amount of inputs or that less inputs are required to produce the same level of output. Equally, the outward shift of a production frontier implies productivity growth.

Uttar Pradesh is a major contributor to the national food grain stock. In 2013-14, this state produced 50.05 million tonnes of food grain, which is 18.90% of the country's total production. This is partly due to the fertile regions of the Indo-Gangetic plain and partly due to irrigation facilities such as canals and tube-wells. Western Uttar Pradesh is more advanced in terms of agriculture as compared to the other regions in the state. The majority of the state's population depends upon farming activities. Wheat, rice, pulses, oilseeds and potatoes are major agricultural products. Sugarcane is the

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most important cash crop throughout the state. Uttar Pradesh is one of the most important states in India as far as horticulture is concerned. Mangoes are also produced in the state.

India has made impressive strides on the agricultural front during the past three decades. Much of the credit for this success should go to the several million small farming families that form the backbone of Indian agriculture and Indian economy. Policy support, production strategies, public investment in infrastructure, research and extension for crop, livestock and fisheries have significantly helped in increasing the agricultural productivity, food production and its availability.

Total Factor Productivity (TFP)

Total Factor Productivity (TFP) is the portion of output not explained by the amount of inputs used in production. As such, its level is determined by how efficiently and intensely the inputs are utilized in production. The ratio of an index of aggregate outputs to an index of aggregate inputs. Specifying the index equal to 100 in a particular year and accumulating the measure based on equation provides the TFP index. This index was calculated for the crop sector as a whole. The total factor productivity (TFP) index was computed from TOI and TII as under: $TFP_t = \{TOI(t)/TII(t)\}$.

The TFP can be used as an approximation of technological progress, assuming that producers behave competitively, that the production technology is input-output separable, and that there is no technical inefficiency (Antle and Capalbo, 1988)

An Assessment of Factors Contributing to Agricultural Growth

The pattern of agricultural growth in Uttar Pradesh probe into the factors that are generally believed to contribute to improvement in agricultural production and productivity. The factors that are generally believed to contribute to the growth of agricultural sector are many and some of the most important factors are examined here, grouping them as:

1. Physical and Technical factors,
2. Historical factors,
3. Social factors.
4. Economic factors.
5. Technological factors and
6. Policy factors

At any given time the crop pattern of a country is given by the history. Whatever may have been the position in Uttar Pradesh, in the past, there is very clear indication that the farmers are influenced by economic factors among which, price and income maximisation, farm size, availability of inputs played the leading role. Many empirical studies have brought out the relation between price movement and crop pattern. It seems that price influence the acreage under the crops in two ways. One is that the variations in the inter-crop price parities led to shift in acreage as between the crops. Another is that the maintenance of a stable level of prices for a crop provides a better incentive to the producer to increase the output, than what a very high level of price does. Fixed procurement price of rice and wheat and other government controls have

induced farmers to shift to each crops like sugarcane, coconut etc. Income maximisation pull has greatly influenced in changing the crop pattern.

Farm size, Influence of Technology, Irrigation

Methodology

Data

The study was based on secondary data for the period of 2013-14 to 2015-16. Secondary data related to Principal Crops of agriculture Production in Uttar Pradesh information was obtained from state government Reports, Working papers, Research papers and articles. The data set provided a source for measuring agriculture production of Principal Crops in financial years in Uttar Pradesh. The sources of secondary data are State Profile of Uttar Pradesh reports and Agriculture production of Principal Crops in Uttar Pradesh. Its main objectives to show the Trends of Agriculture production of principal crops in Uttar Pradesh State and Overall India Level.

The Agriculture Production of Principal crops in Uttar Pradesh and its total Production in Overall India in financial years from 2013- 14 to 2015-16. From the above table it has been seen that agriculture production of Principals of Crops of India and Uttar Pradesh State production shown in 1000 tonnes. Food grains, Cereals, Rice, jowar, barley, pulses crops have high production of crops in Uttar Pradesh state in compare to others crops production. The food grains is the highest production from all the crops in financial years shown in the above table 50027 tonnes in 2013-14, 39594 tonnes in 2014-15, and 44011 tonnes in 2015-16 in Uttar Pradesh. The productions of crops variations are clearly shown in above table of each financial year. In 2014-15, 17722 tonnes decrease in Rice production in compare to last financial year 2013-14. Again decrease in 2015-16, 559 tonnes of production of rice in compare to previous year 2014-15. Same as in Food grains production there is decreases 10433 tonnes in 2014-15 in compare to base year 2013-14. But there is increases 4417 tonnes in production of food grains in the year 2015-16 as compared to previous financial year 2014-15. So, there are fluctuations in the production of Kharif and Rabi crops in Uttar Pradesh shown in the above table due to the factors productivity of crops used during farming in each year.

Economic Growth and Productivity

Issues related to the regional economic disparities in India received recent attention. Most of these issues are related to or motivated by the variability and volatility in growth rates experienced by the Indian states. Productivity analysis helps to understand the level of economic prosperity, standard of living and the degree of competitiveness of a country or a region. Therefore, it is important to find which factors determine productivity growth in the India level and Uttar Pradesh state Conditions of Agriculture Production of Principal Crops.

Table 1.: Production of Principal Crops in Uttar Pradesh (Production in 1000 tonnes)

	Uttar Pradesh			All India		
	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16
Groundnut	86	84	65	9713	7402	6771
Castorseed	-	-	-	1726	1870	1650
Sesamum	43	64	62	714	828	866
Nigerseed	83	112	165	97	10374	77
Soyabean	15	38	48	11860	434	8592
Sunflower	5	4	19	503	155	331
Linseed	736	582	5	141	90	132
Safflower	10	15	8	113	27511	64
Total Oilseeds	895	787	864	32749	362333	25304
Sugarcane	134688	133061	145385	352141	34805	352163
Cotton	-	-	-	35902	10618	30147
Jute	-	-	-	11083	508	9938
Mesta	-	-	-	606		528
Tea (Mkgs)	-	-	-	1208	1197	1233
Coffee (MT)	-	-	-	305	325	348

Source: Director of Economics & Statistics, Ministry of Agriculture

The above Table 1 has shown the production of Principal crops in the financial years 2013-14 to 2015-16 in the states of Uttar Pradesh. It has been seen from the above table 1 that Sugarcane is the highest production crops in Uttar Pradesh i.e. 145385 tonnes in the year 2015-16, but there is variations in production of sugarcane crops as seen decreases 1627 tonnes in the year 2014-15 in compare to previous year 2013-14. But increases 12324 tonnes in 2015-16 in compare to last financial year 2014-15. It has been seen the Lowest production in Sunflower i.e 5, 4, 19 in respective financial year. Again from the above Table 1 it has been clear that production of each crop has showing variations due to its productivity during farming on land used in particular year in Uttar Pradesh State of India. As we seen from the table some crops has cotton, Jute, Mesta, Tea, and Coffee has not production in the Uttar Pradesh.

Conclusion

This paper discussed about the details of total factor productivity theoretical concept, Background, economic growth and Productions of Principals crops of Financial Year in the state of Uttar Pradesh and its production level in India. From the above discussions it would be conclude that our total production of any crop is basically depends on the factors of production i.e inputs, technology, farming, land fertility etc. to find out the factor of productivity of particular Crops production. Due to the ratio of input - output there is variations shown between respective year in productions of crops in

Uttar Pradesh. This State is highly productive in wheat, Sugarcane, Rice, food grains, total pulses, maize, barley, Jowar crops only.

Policy Suggestions

Government policies often affected crop pattern in a very important way. Policies relating to priorities given to various crops, exports, taxes, supply of credit, development of backward regions, all had their own role in determining the nature of crops and the area under them. The Government's special facilities to farming community, like procurement prices, support prices, subsidies contributed to change the cropping pattern targeted to increase in the productions of principal crops in the State of Uttar Pradesh.

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