

An Analytical Study of Ideal Fixation of Prices of Agricultural Crops in India

(With Special Reference to Uttar Pradesh)

Rajesh Singh Chauhan^{a*}, Mohd. Mohsin Qureshi^b

^aDepartment of Economics, National P.G. College, Bhongaon District Mainpuri, U.P., India
E-mail: drrajeshsinghchauhanndc@gmail.com

^bDepartment of Commerce & Business Administration, Meerut College, Meerut, U.P., India
E-mail: qureshimohsin@rediffmail.com

Abstract

On the lines of an ideal National Agriculture Policy and National Highway, National Irrigation Highway can give rise to a new Green Revolution. The prosperity of the country depends on the prosperity of the farmers here. The worth of farmers largely depends on the rewards of their produce. Therefore, the ideal fixation on agricultural prices is of great importance. According to Sir Jogendra Singh, "A farmer should not be expected to increase production if the monetary value of the farmer's labour decreases due to increased production." There is a need for study and improvement in the perspective of various problems like growth, easy access to agricultural equipment, increase in production through diversification, hybridization of crops, sale of crops at reasonable prices, and a proper export system if more production occurs. Agriculture is the main occupation in underdeveloped countries, is the largest source of national income, the primary source of employment and livelihood, the basis of industrial development, commerce, and trade. Poor and developing nations cannot achieve a high economic growth rate with limited resources unless they develop a primary agricultural industry. The study results reveal that in the case of crops, the increase in MSP is significantly less than the inputs like fuel, labour, and fertilizer, which have increased drastically. It shows that these factors increase production costs, which puts pressure on the farmers.

Key Words: National Irrigation Highway, New Green Revolution, Crop rotation, Ideal Agricultural Prices, Compensation.

PAPER/ARTICLE INFO

RECEIVED ON: 19/05/2021

ACCEPTED ON: 03/06/2021

Reference to this paper
should be made as follows:

Chauhan, R.S. & Qureshi, M.M. (2021), "An Analytical Study of Ideal Fixation of Prices of Agricultural Crops in India (With Special Reference to Uttar Pradesh)", *Int. J. of Trade and Commerce-IIARTC*, Vol. 10, No. 2, pp: 323-332

*Corresponding Author

DOI: 10.46333/ijtc/10/2/11

1. Introduction

1.1 An Indian Agricultural Trade

Agriculture is considered the mother of all industries, the nutrient of human life, an indicator of progress and prosperity. All the developed and developing countries of the present dynamic world oriented towards rapid economic development are making conscious and continuous efforts for quantitative and qualitative improvement in agricultural products and progressive and commercial agriculture development by utilizing their available resources as best as possible according to their circumstances and capabilities.

Agriculture in India has long been a way of life and not a means of livelihood or employment. Along with this, agriculture as an integral part of the socio-cultural activities of the people of our country continued till the advent of the British in the form of a tradition going on for centuries. Even today, agriculture is the means of livelihood for seventy percent of the country's people, so our Agriculture has particular importance.

The agriculture industry has an important place in the economy of developed countries. The raw materials needed to run the advanced sectors of these countries are met through agriculture. Over time the importance of agriculture has also increased. Various efforts have been made to expand the agricultural industry and increase its efficiency to meet the demand for food and other agricultural-related to the growing industrial society. Nowadays, agriculture is the largest sector of employment and contributes to a large part of the national income. The fluctuations in agricultural prices determine the available prices, and on these, the standard of living is determined.

Under-developed or developing countries have their particular problems, due to which the importance of agriculture in their economy is different from that of developed countries. The population of these countries increases rapidly, and the national income is low. For the growing population, the demand for agricultural essential commodities increases, and for meeting this demand, these countries have to increase their imports. If excessive imports increase, the import-export balance starts getting affected by industrialization. In such a situation, it becomes necessary to increase the domestic production and export of agriculture.

Exporting agricultural produce has helped producers take advantage of international markets and farmers to get better prices for domestic products. India has successfully exported many important crops like sugarcane, rice, cotton, spices, cashew, tea, fresh vegetables, meal cakes, castor oil, and coffee to developed countries. It has helped the farmers get better prices through domestic products, essential for the Indian economy.

According to WTO Trade Statistics (2018), the share of India's agricultural exports and imports in world agricultural trade is 2.15% and 1.54%, respectively. The share of agricultural exports as a percentage of agricultural GDP has come down to 8.3% in the year 2019-20 as compared to 9.9% in 2018-19. The share of agricultural imports as a percentage of agricultural GDP has declined from 4.9% to 4.8% during the same period.

The agricultural exports in India's total exports increased from 10.9% in 2019-20 to 14.4% in 2020-21. Agriculture and Allied exports increased by 15.87% Rs. 1,87,874.42 crores. The growth in agriculture and allied exports during the year 2020-21 is primarily due to raw cotton (140%), rice except for basmati (118%), sugar (72%), oil meal (32%), basmati rice (13%), fresh vegetables. High growth was observed in exports of crops like (12%) and spices (8%).

The major importing countries of India's agricultural and allied crops are the United States, Vietnam, United Arab Emirates, Bangladesh, Saudi Arabia, Iran, China, Malaysia, Indonesia, Nepal, Netherlands, Japan, Pakistan, Thailand, and United Kingdom.

The value of the top 10 agricultural export crops of India between the year 2017-18 to 2020-21 has been as follows -

Exports of Major Indian Crops (Value in Rs. Crore, Quantity '000' Tonnes)

S.	Crop	2017-18		2018-19		2019-20		2020-21	
		Qty.	Price	Qty.	Price	Qty.	Price	Qty.	Price
1	Rice-Basmati	4056.9	26870.7	4414.6	32804.3	4454.8	31026.3	3047.5	20026.7
2	Rice (Except Basmati)	8818.5	23437.2	7648.0	21171.2	5056.3	14400.3	7025.1	19779.8
3	Spices	1096.3	20084.9	1133.9	23217.8	1193.4	25642.0	1021.7	19093.8
4	Buffalo meat	1350.3	26035.2	1233.4	25091.4	1152.3	22661.1	705.2	15489.2
5	Sugar	1757.9	5225.6	3989.7	9523.1	5798.5	13981.6	4569.8	12121.4
6	Raw cotton excluding waste	1101.5	12200.1	1143.1	14627.6	657.8	7539.5	597.3	6085.5
7	oil miles	3570.8	7043.2	4493.3	10557.5	2655.8	5861.4	2190.9	5241.6
8	Castor oil	697.1	6730.0	619.4	6170.1	593.9	6323.8	485.7	4367.7
9	Fresh Vegetables	2448.0	5297.7	3192.5	5679.1	1930.5	4617.3	1772.7	3826.7
10	Mixed Processed Items	0.0	3549.0	0.0	4613.4	0.0	4586.8	0.0	3769.3
Total		25156		27457		25297		18787	
Agriculture & Allied Exports		4.0		1.3		6.1		4.4	

Source: Annual Report 2020-21, Dept. of Agriculture, Cooperation and farmers welfare, Govt. of India, Krishi Bhawan, New Delhi. www.agric.nic.in

1.2 Study Area and its Characteristics

The prosperity of a country directly depends on the development of agriculture and industry. But agricultural production requires operating power, credit technology, fertilizers, transport facilities, etc. Industrial production requires machinery and plant and skilled human resources,

management, energy, banking, and insurance. Besides these marketing facilities, transport services are also needed, including railways, roads, shipping, communication facilities, etc. All these facilities and services are collectively termed infrastructure, and their overall development becomes essential for increasing agricultural and industrial production in a country. For which the infrastructure (socio-economic) needs to be strengthened further. Like-

- (i) Energy: coal, electricity, oil, and other non-conventional sources;
- (ii) Transport: railways, roads, shipping, and civil transport;
- (iii) Communications: Posts and Telephones, Telephones, Tele-Communications, etc.;
- (iv) Banking, finance, and insurance;
- (v) Science and technology; and
- (vi) Social overheads: health, sanitation, and education.

Table show Development of Infrastructure Sectors

	Unit	1950-51	2013-14
Energy			
1. Coal	Lakh Tonnes	320	6100
2. Electricity	Generation billion kW.hour	5	1166
3. Petroleum	Lakh Tonnes	4	378
4. Steel	Lakh Tonnes	10	877
5. Cement	Lakh Tonnes	27	3000
Transport and Communication			
1. Railway freight	Lakh Tonnes	730	10510
2. Freight traffic at major ports	Lakh Tonnes	190	5500
3. Telephone	Lakh	-	10020

Source: Government of India, Economic Survey (2014-15)

The considerable investment made by the Government of India in infrastructure can be justified on the ground that it has resulted in the promotion of agricultural development and industrial expansion. Without adequate infrastructure, it would have been impossible to achieve triple growth in farm production and seven times growth in industrial output during the last five decades. Establishing stability in farming prices and infrastructure will act as nurturing for the development of the agriculture sector. Agricultural prices should be kept regular. The prices should fluctuate within a limit because both increases or decreases in prices are not justified.

In 1958, when India produced 170 lakh tonnes of wheat for the first time with an increase of 50 lakh tonnes from 1.2 million tonnes, American scientist Dr. William God called it the beginning of the 'Green Revolution, but in the mid-1960s. Indian scientists developed new high-yielding wheat varieties by hybridization (Dhammapada) from seeds of improved varieties of wheat brought from Mexico in AD, which had a yield potential of 60 to 65 quintals per hectare. Similar was the situation with the rice varieties, which led to the country's 'Green Revolution' in the mid-1960s and, as a result, self-sufficiency in food grains in the country. The credit for this goes to Nobel

Prize-winning agricultural scientists Dr. Norman Borlaug and Dr. M.S. Swaminathan, who successfully conducted the Green Revolution on the recommendations of the Swaminathan Committee, whose results were satisfactory. In the present situation, the Government should fix such agricultural prices to get an ideal minimum price for their crop under any circumstances. In the last decades, various types of farming revolutions have successfully increased the income of farmers in the agriculture sector in India. Which are as follows-

Various Revolutions in the Agriculture Sector in India (for Significant Growth)

Serial No.	Agricultural Revolutions	Area
1.	Green Revolution	food production
2.	milk production	White Revolution
3.	Blue Revolution	fish production
4.	Grey Revolution	fertilizer production
5.	Red Revolution	meat/tomato production
6.	Golden Revolution	Horticulture (Fruiting) Apples
7.	Pink Revolution	Praum Production
8.	Silver Revolution	egg and poultry production
9.	Yellow Revolution	Oilseeds Production
10.	Round Revolution	potato production
11.	Brown/Black Revolution	Non-ventioned Energy

Source: Oja, Shiv Kumar, Indian Economy, Intellectual Publication, Prayagraj, 2020-21, PP. 134-135.

Why can't there be an ideal National Agriculture Policy on the same lines as the above Green Revolutions have been successful in various fields? The fixation policy of agricultural prices ensures the income of a large section of the population. It keeps increasing continuously, due to which the demand for industrial production also remains progressive. It results in the expansion of industry, employment, and income. At the same time, export is encouraged due to stability in agricultural prices. Due to ensuring the demand for industrial production of the majority of the population, the economy remains dynamic.

2. Review of Literature

Kumar D. and Phougat S. (2021) conducted a study on 'e-kharid portal: an initiative of Haryana government for agriculture digitalization.' The study is based on secondary data, which has been taken from various government websites, government reports, newspapers, etc. For analyzing the result, descriptive statistics like tables and graphs are used. The purpose of the study is to examine the status of the e-kharid portal. The study result shows that the major crops of the Haryana state of Rabi season are wheat and mustard. The study result also indicates that the farmers only sold grain on MSP in the Haryana state while other crops were sold to private agencies due to higher prices than MSP. The study results suggest that the government policy maker should fix fair MSP that will help increase the farmer's income.

Swamy P.S.D. et al. (2020) conducted a study on comparative estimation of crops cost of cultivation over minimum support price (MSP). The study is based on secondary data gathered

from agricultural statistics published by the department of agriculture, Ministry of Agriculture, and Government of India. The collected data were analyzed by the author using descriptive statistics. The study result concludes that the decision-makers should follow the standard principle of economics for fixing and announcing the MSP.

Sahana S. et al. (2021) examines the perception of paddy farmers about the minimum support price in Karnataka. The study is based on the primary data taken up to assess the perception of the MSP of paddy growers. The preliminary data was taken from four taluks of the Shivamogga district of Karnataka, and 31 respondents were chosen from each taluk. The result indicates that more than half of respondents have agreed that MSP ensures minimum profit to the farmers. The majority of the respondents agreed strongly that MSP is announced before the sowing season. The author concludes that the farmers have to lack complete knowledge about MSP. There is a need to conduct a training program to consider the farmers' markets and the requirement to overcome the constraints in availing the full benefit of MSP.

Ritu et al. (2020) has examined the impact of agriculture price policy on major food crops in Haryana. The study uses secondary data on Farm Harvest Price (FHP) and Minimum Support Price (MSP) of major food crops collected from the statistical abstract of Haryana for the period 2007-08 to 2017-18. The deviations between FHP and MSP have been examined and classified into positive and negative divergence to know the effectiveness of the price policy during the harvest period. The study results revealed that there is a significant variation in the food crop area due to previous years' minimum support prices of the food crop. Still, there is a non-significant variation in the productivity of food crops.

Reddy S. V. et al. (2012) examines the profitability, problems, and implications of Gherkin cultivation under contract farming in Karnataka. The study is based on primary data collected from 90 Gherkin growing farmers of 10 villages. The study finding reveals that the most common problem for the contractor is that they do not maintain their monopoly in the market, and other buyers appear and offer a better price. The government intervention to make legal contracts and reliability in the payment of produce may improve the contract system and establish better relations between the farmers and the company.

3. Data and Methodology

The present study was based on secondary data. The data on MSP of four major crops (Paddy, Wheat, Jowar and Sugar Cane), diesel prices, wages of labour, and expense of fertilizer (urea) from the year 2015-16 to 2020-21 were collected from various issues of Statistical Abstracts of Uttar Pradesh, Annual reports of Directorate of economics and statistics, Government of India, New Delhi and Indian Oil Corporation Limited. For analysis, descriptive statistics such as percentage growth rate were used to examine MSP of different crops in Uttar Pradesh, increase in diesel prices, increase in fertilizer price, and hike in labour wages.

4. Result and Discussion

Table: 1 (Rupees per Quintal)

Year	Paddy	Wheat	Jowar	Sugarcane
2015-16	1450	1450	1590	280
2016-17	1510	1525	1650	305

2017-18	1590	1625	1725	315
2018-19	1770	1735	2450	315
2019-20	1835	1840	2570	315
2020-21	1888	1925	2640	315
% Growth Rate	30.21	32.76	66.04	12.50

Source: <https://fci.gov.in/procurements.php?view=89>

The data given in table-1 shows the difference in MSP of four crops from the year 2015-16 to 2020-21. In the case of the Paddy crop, the total growth in MSP is Rs. 438/quintal, i.e., 4.38/kg, from the year 2015-16 to 2020-21. This growth is 30.21% during the five-year period, which is an average of 6.04% per year. In the case of the Wheat crop, the difference in MSP is Rs. 475/quintal from the year 2015-16 to 2020-21, which was Rs.4.75/kg. The growth in the wheat crop is 32.76% during five year period, which is more than the growth in the Paddy crop. The difference in the MSP of the Jowar crop is Rs. 1050/quintal from 2015-16 to 2020-21, which was Rs. 10.50/kg. This growth in the Jowar crop is 66.04% during the five-year period, which is an average of 13.21% per year. Sugarcane is also one of the major crops, and the difference in MSP was Rs. 35/quintal which was less than Rs. 1/kg during five year period. The growth in Sugarcane crop was only 12.50% during the year 2015-16 to 2020-21, i.e., 2.50% per year. During the five years, the Jowar crop has recorded the highest growth, which is 66.04%, and the Sugarcane crop has recorded the nominal growth, which is 12.50%, during the five years.

Table: 2

Year	Diesel (Rs./Ltr.)	Labour (Rs./Person/day)	Urea Fertilizer (Rs./MT)
2015-16	44.95	199.60	16309.87
2016-17	52.51	211.80	12516.98
2017-18	59.96	229.80	16434.22
2018-19	75.22	247.10	19876.79
2019-20	67.63	258.80	16839.30
2020-21	70.92	274.50	18001.4
% Growth Rate	57.78	37.53	10.37

Source: Indian Labour Journal, Labour Bureau, Government of India, Indian Oil Corporation

Diesel as fuel, workforce, and fertilizer is the three primary cost of agriculture for the farmers. The above data in Table 2 show a significant increase in prices of diesel, labour, and urea fertilizer from 2015-16 to 2020-21. Diesel is used as fuel for irrigation operations of agriculture. The percentage growth rate in diesel prices was 57.78% during the five years. These hikes in the prices of diesel significantly affect farmers' input costs. Nazlioglu & Soytaş, 2011 stated empirical research on the relationship between petroleum and agricultural commodity prices and suggested that the agriculture sector is directly affected by high and volatile oil prices that affect the cost of agricultural production. Labour is required at different stages of crop. The data relating to labour given in table: 2 shows a significant increase in worker wages from 2015-16 to 2020-21. The percentage growth rate in prices of delivery was 37.53%. Vink, 2001 stated that increased labour

costs put pressure on producers and forced them to adopt alternatives. After the cost of fuel and labour, fertilizer plays a significant role in the total cost of crops. For getting the excellent quantity and quality of produce, the farmer uses good fertilizer quality. The data relating to fertilizer given in table- 2 shows an increase in fertilizer price during the period from 2015-16 to 2020-21. The percentage growth in prices of fertilizer was 10.37%. Table: 2 data shows that the diesel price has the highest increase during the five years. The average increase in diesel, labour, and fertilizer prices was 35.23% during the five years.

This comparative study reveals that in the case of agriculture crops, the farmers who grow the Jowar crop get the highest MSP increase and get less pressure than the farmers of other crops. During the five-year study period, the increase in MSP of the Jowar crop was 66.04%, whereas the average increase in the total cost of agriculture was 35.23%. The Sugarcane crop farmers have gotten the highest pressure due to a lower increase in MSP. During the five years, the rise in Sugarcane MSP was only 12.50% which was likely one-third of the rise in the average cost of agriculture during the five years. The farmers of Paddy and Wheat are also under pressure because the increase in the total cost of farming during the five years is high compared to the rise in the MSP of the crops Paddy and Wheat.

5. Conclusion

India is an agricultural country. The prosperity of the country depends on the prosperity of the farmers here. The worth of farmers largely depends on the rewards of their produce. Therefore, the ideal fixation on agricultural prices is of great importance. In the words of the Price Sub-Committee of the Policy Committee on Agriculture, the Minimum Price Giving guarantee of agriculture is a practical step that should be considered as an essential part of agricultural development policy. According to the Co-operative Planning Society, The Government should keep the prices constant within such limits, which are fair to both the producers and the consumers. If this is done, then the arrival of recession will be stopped, and the economy will get stable. An increase in the price of agricultural products increases the cost of industrial products; there is unrest among the workers, and they start demanding an increase in wages. All these have a terrible effect on the economy and create an inflationary situation. Therefore, keeping the ideal fixation of the value of crop yield will increase the farmers' enthusiasm and increase agricultural production.

India being an agricultural country, adequate study and improvement are required to improve this sector. On the lines of an ideal National Agriculture Policy and National Highway, National Irrigation Highway can give rise to a new Green Revolution. First of all, the study of essential texts in the context of various problems like increasing production in agriculture, easy access to agricultural equipment, increasing production by diversification of crops, sale of production of products at reasonable prices, a proper system of exports if there is more production, etc. The information revolution we are talking about is essential when the farmer sitting at home can get all the information related to agriculture from his mobile and can benefit from it, which is not visible yet. The Government can improve the condition of the farmers by giving incentives to the agriculture sector. Still, it can also provide impetus to the demand and supply market system by increasing rural income. The only increase in rural income can increase the consumption of

industrial products, which is an essential part of development. Therefore, achieving growth and stability in agriculture is necessary for sustainable economic development.

The analysis of the past few years' data reveals that in the case of agricultural crops, the increase in minimum support price is significantly less than the inputs like fuel, labour, and fertilizer, which have increased drastically. This shows that these factors increase production costs, putting pressure on the farmers. The study result reveals that the farmers of Sugarcane crop are under higher pressure due to most minor increase in MSP, and farmers of Jowar crop are under the slightest pressure due to the highest increase in MSP during the five years from 2015-16 to 2020-21. The increase in MSP of Sugarcane crop was likely one-third of the growth in the cost of production during five year period. So, the Government may fix the ideal agriculture price of agriculture crops to decrease the burden of farmers.

References:

- [1] Dutt and Sundaram - Indian Economy, 2018, Chapter-6, 69-70
- [2] Joshi, KN, Joshi, Manjula - Principles of Agricultural Economics and Agricultural Development in India, 5 (15), 57-135
- [3] Singhania, R.A. (1977). Effect of Fertilizer on the World Composition and Quality of Sourfurm in India. A Review, Pantnagar.
- [4] Srivastava, P. K. (2017). IFCI : The First Financial Institution of India: An Overview. International Journal of Trade and Commerce-IIARTC, 6 (2), 569-581
- [5] Nazlioglu, S., & Soytas, U. (2011). World oil prices and agricultural commodity prices: Evidence from an emerging market. Energy Economics, 33 (3), 488-496.
- [6] Vink N. (2001). Livelihoods of farm workers in South African agriculture. (Unpublished research report). Stellenbosch: Department of Agricultural Economics, University of Stellenbosch.
- [7] Ali.S.Z, Sidhu. R.S., and Vatta. K (2012). Effectiveness of Minimum Support Price Policy for Paddy in India with a Case Study of Punjab. Agricultural Economics Research Review, 25: 231-242.
- [8] Chand, Ramesh (2003). Minimum support price in agriculture -Changing requirements. Economic and Political Weekly, 38 (29), 3027-3028.
- [9] Acharya, S.S. (1997). Agricultural price policy and development: Some facts and emerging issues. Indian Journal of Agricultural Economics, 52 (1), 1-47.
- [10] Alghalith, M. (2010). The interaction between food prices and oil prices. Energy Economics 32, 1520-1522.
- [11] Kumar D. and Phougat S. (2021). e-Kharid Portal: An Initiative of Haryana Government for Agricultural Digitalization. Asian Journal of Research and Review in Agriculture, 3 (3), 28-34.
- [12] Swamy P.S.D. et al. (2020). A Study on Comparative Estimation of Crops Cost of Cultivation Over Minimum Support Price (MSP) - A Review on Methodological Approach. Multilogic in Science, IX (XXXII), 432-436.
- [13] Sahana S. et al. (2021). Perception of paddy farmers about minimum support price in Karnataka. Journal of Crop and Weed, 17 (1), 183-189.

- [14] Ritu et al. (2020). Impact of Agricultural Price Policy on Major Food Crops in Haryana. *Economic Affairs*, 65 (2), 267-274.
- [15] Reddy S. V. et al. (2012). Profitability, Problems and Implications of Gherkin Cultivation under Contract Farming in Karnataka. *Research Journal of Agricultural Sciences* 2012, 3 (1), 098-100
- [16] Kumar, Narender (2012). A Critical Analysis of Agricultural Regulated Markets A Case Study of Western Uttar Pradesh. *International Journal of Trade and Commerce-IIARTC*, 1(1), 70-89

Chapters in Edited Books

- [17] Ojha, Shiv kumar: Innovative Presentation of Intellectual Publication - Agriculture and Technology, 2020-21, Chapter 11, Page 253.
- [18] Upadhyay, Pawan Kumar, 2021: Agriculture Development in Uttar Pradesh, Goyal Publication, Ansari Road, Dariyaganj, ISBN 978-81-946884-3-3, pp: 49.
- [19] Ojha, Shiv kumar, Indian Economy, Intellectual Publication, Prayagraj, 2020-21, pp: 134-135.

Reports

- [20] Annual Report 2020-21: Department of Agriculture Cooperation and Farmers Welfare, Government of India, Krishi Bhawan, New Delhi. www.agric.nic.in.

News Paper

- [21] Tyagi, KC: Dainik Jagran Editorial, March 25, 2019.