

AGRICULTURE ISSUES AND CHALLENGE: A CASE STUDY WITH SPECIAL REFERENCE TO FARMERS OF BAHRAICH DISTRICT, UTTAR PRADESH

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Abstract

In every country, sectors majorly contributing to GDP are prospering and flourishing. Thus, agriculture being the major contributor to India's GDP and particularly the farmers majorly covering are populace should be happy and prosperous, but the irony is that the reality is exactly opposite to it. What a pity to see that the "food providers of our country" face huge difficulties in earning themselves a living. Most of the farmers are simple, hardworking and sincere people who had to remain at the mercy of nature and god. The present study attempts to explore the issues of farmer with empirical data of the study area. The study is based on both primary and secondary data. Farmers of the Bahraich are taken as sample unit and they were selected through random sampling method. The finding of the study reveals the six major issues are highlighted as costly agricultural inputs, inadequate irrigation facility, factor affecting direct selling, problems in repayment of credit and problems in obtaining institutional credit.

Key words: *costly agriculture input, irrigation, direct selling, farmers and credit*

1. Introduction

Agriculture is continually the India's biggest contributor to its GDP. It plays a critical job in the development of Indian economy. Agriculture is regarded as backbone of Indian economy. India is the biggest producer of wheat, pulse, rice, spice and spice related product (Madhusudhan, L., 2015). It is the essential and primary source of employment for a large part of the India's populace. An enormous populace and rising urban and rural income are

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driving the demand while outer interest is driving the expansion in horticultural fares from India. There is a consistent rise in demand at faster rate for agricultural produce and allied services like cold storage and warehousing.

The social viewpoints around agribusiness have been witnessing the evolving patterns. The feminization of agriculture is increased due to migration of men towards urban area and rise in the generation of money crops which are labor intensive in nature. Women perform critical jobs in agricultural as well as at household and their cooperation in the part is expanding, however, their work is treated as an augmentation of their family work. The Indian government additionally set up Ministry of Food Processing Industries to invigorate this sector of Indian economy and make it progressively worthwhile. Indian agriculture is highly dependent on monsoon season. Considering this reality, a second Green Revolution is probably going to be shaped to defeat such limitations. In today's scenario, rich is getting richer and poorer is facing worse situation. This paper determines the issues and challenges in agriculture sector of farmers of Bahraich region of Uttar Pradesh

2. Literature Review

Agriculture is contributing a significant role in Indian economy and contributing approximately 14 percent (Das, P., 2015). Further agriculture comprises of 20 percent of total export of the nation (Madhusudhan, L., 2015). The government is promoting through enhanced investment in this sector as well as reassuring the private investment (Kapur, R., 2018). Rural societies in the country can acquire definite strategies for shielding their existence, culture and livelihood (Joshi, P.A., 2015). The women are now considered as backbone of workforce in the field of agriculture (Srivastava, S.P. and Srivastava, S.P., 2017).

India has one of the most complex agrarian research frameworks (Borthakur, A. and Singh, P., 2012). Farming practice are unscientific and adoption rate of modern technology is slow in India (Sudhakar, B., 2016). Farmers problem are consistently increasing day by day because of land holding with most of the farmer is less than one. Further poor

marketing facilities is another major issue (Das, P., 2015). Moreover, farmers are burdened with debts because of their unduly high Interest rate (Subramanian, R. and Shivananjappa, S., 2017). Author inferred in his study that the agrarian credit needs of farmers are day by day increasing with the increased cost of input (Subramanian, R. and Shivananjappa, S., 2017). The issues and challenges face by the agriculture sector due to green revolution (Singh, G., 2016). Author suggested that exploring better ways to reach the marginal farmers and giving them technical support (Ray, P. and Chowdhury, S., 2015). Singh, G., (2016) in his study found that issues of farmer need to be reduced, but they are consistently increasing. Farmers are remained serfdom (Das, P., 2015).

Public investment in irrigation, seeds, and agriculture extension services is reduced has enormously influenced yield (Thangamani, 2016). Author demonstrates that market orientation reforms are not adequate and government mediation and other help are required for marginal farmers (Dev, S.M., 2015). Author found in her study that there is a low pace of agrarian productivity and absence of finance (Sakshi, Khajuria, S., 2015). Hence, to avail the benefit of agriculture produce, farmer must be aware and have the knowledge of market (S. Jerome, 2017). India can accomplish magnificence in higher agricultural education with sensible political will (Tamboli, P.M. and Nene, Y.L., 2013).

3. Objective of the Study

- a. To explore the issues and challenges faced by the farmer in current scenario in Bahraich district.
- b. To offer suggestions based on findings in order to address the issues of farmer.

4. Research Methodology

4.1 Research design

The examination is descriptive and cross-sectional study. It utilized unstructured data gathering instrument and, explicitly intended to identify the issues and challenge faced by the farmers. The statistical software SPSS

23.0 were utilized. Simple statistical tools were used. The statistical method includes exploratory factor analysis.

4.2 Universe

The present study targets the farmer community of Bahraich district of Uttar Pradesh. According to the census 2011, Bahraich had a total population 34.8 lakhs of which male and female were 18.4 and 16.4 lakhs respectively. Agriculture is the main occupation of the residents of this district. About 82.0 per cent main workers are engaged in agriculture directly or indirectly. Around 67.0 per cent of reporting area comes under net area sown. The main crops are wheat, paddy, masoor, pea and sugar cane. The district is adversely affected with flood during monsoon season and this damage the crops.

4.3 Sample size

The target sample sizes included 400 respondents from farmer communities, however only 317 samples has been completed in all regard and found valid.

4.4 Data Collection

For this study data was collected from both primary and secondary source. Primary data was collected from the respondent with the help of questionnaire as data gathering instrument. Questionnaires were circulated to respondents under the supervision of researcher and explanation for filling it. Secondary details collected from various sources such as, published research paper, scholarly article and so on.

A detailed structured questionnaire was prepared to collect data from the respondents to explore the issues and challenges faced by the farmers. It is based on five-point Likert scales (Strongly disagree-1, disagree-2, neutral-3, agree-4, strongly agree-5). The researcher was available to help the farmers to fill the responses and providing. Instrument was in both language i.e. Hindi and English to record the data effectively. It is necessary to assess with the help of data gathering instrument that indicator discussed below are endorsed by the respondent.

5. Results and Analysis

5.1 Demographic Profile of the Respondents

Table 1 presents the demographic characteristics of the selected farmer respondents. Their responses related to demographics were analyzed using percentage and frequency distribution. Perceptions of respondent were broken down by utilizing the frequencies. The researcher portrayed respondent profile as gender, age group and education qualification. A summary of data identified with such classifications, are referenced beneath. As we can analyze in the 'gender classification' the participation of male is relatively more to that of females. Male respondent is 273 (86.1 %) where female are 44 (13.9 %) which uncovers that there is higher level of male respondent.

The majority of the respondents are in the age beginning from 20 to 30 years of age are 89 (28.1%), followed by those of above 50 years old are 82 (25.9%) respondent, 30-40 years are 77 (24.3%) respondent and 40-50 years 69 (21.8%) respondent respectively. In case of education qualification of respondent, 117 (36.9) % of respondents have qualified above class XII, 109 (34.4%) respondent had completed class X -XII, 65 (20.5%) respondent got education upto class VIII – X and 26 (8.2 %) respondent studied upto VIII class only.

Table – A Demographic Profile of Respondent

Particular	Frequency	Percent
Gender		
Male	273	86.1 %
Female	44	13.9 %
Age Group		
20-30 years	89	28.1 %
30-40 years	77	24.3 %
40-50 years	69	21.8 %
50 years and above	82	25.9 %
Educational Qualification		
Below VIII Class	26	8.2 %
VIII – X Class	65	20.5 %
X -XII Class	109	34.4 %
Above XII Class	117	36.9 %

5.2 Test of Sampling Adequacy

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) is an index used to examine the sampling adequacy for analysis. It compares the magnitudes of observed correlation coefficients to magnitude of partial correlation coefficients. The KMO varies from 0 to 1. High value (0.5 to 1.0) indicates that the sample size is adequate and is suitable for analysis. As shown in table 2, the KMO value is 0.860 which is greater than 0.5, hence exploratory factor analysis is suitable for this dataset.

The method of determining the appropriateness of the factor analysis examines the entire correlation matrix. The Bartlett's test of sphericity is a statistical test for measuring the presence of correlations among the variables. It tests the null hypothesis that the variables are uncorrelated in the population. As shown in table 2, the Bartlett's test of sphericity $p < .005$ satisfies the required condition and indicates that correlations between items were sufficiently large for PCA.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin (Measure of Sampling Adequacy)		Required
Bartlett's Test of Sphericity	Significance	.000
	Required	$P < 0.01$

5.3 Factor Analysis

Exploratory factor analysis is a method used to portray the variability among observed variable as far as lower number of unobserved variables which is called as called factors. In latent root criterion method, eigenvalue greater than value 1 are retained. A principal component analysis was conducted on 28 item with orthogonal varimax rotation. Total variance explained 54.175% shown in Table - B.

Table – B Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.397	19.273	19.273	5.397	19.273	19.273	3.502	12.507	12.507
2	4.093	14.618	33.891	4.093	14.618	33.891	3.297	11.773	24.280
3	3.228	11.529	45.421	3.228	11.529	45.421	3.216	11.484	35.764
4	1.404	5.013	50.433	1.404	5.013	50.433	2.825	10.090	45.854
5	1.048	3.742	54.175	1.048	3.742	54.175	2.330	8.321	54.175

Extraction Method: Principal Component Analysis.

Table -C shows the factor loadings after rotation. This component shows various issues and challenges faced by the farmers. The item that cluster in same component or construct shows the relation between variable and underlying factor.

Component 1 represents “costly agricultural inputs” which includes inadequate supply of fertilizer, high price of fuel like diesel used in agriculture purpose, high price of seeds, hike in labor cost due to unavailability labor and transportation cost. Internal consistency of this component, cronbach’s $\alpha = 0.882$.

Code	Indicator	Factor loading
A_1	Hike in labor cost due to unavailability labor	0.782
A_2	High price of fuel like diesel used in agriculture purpose	0.802
A_3	Inadequate supply of fertilizer	0.806
A_4	High price of seeds	0.795
A_5	Hike transportation cost	0.716

Component 2 represent “inadequate irrigation facility” which includes cost of irrigation increased, inadequate irrigation facility provided by government, climate change with reference to monsoon threaten the agriculture, inadequate availability of suitable equipment related to irrigation and inadequate water availability and quality. Internal consistency of this component, cronbach’s $\alpha = 0.867$.

Code	Indicator	Factor loading
<i>B₁</i>	Inadequate irrigation facility provided by government	0.817
<i>B₂</i>	Cost of irrigation increased	0.824
<i>B₃</i>	Inadequate water availability and quality	0.785
<i>B₄</i>	Climate change with reference to monsoon threaten the agriculture	0.815
<i>B₅</i>	Inadequate availability of suitable equipment related to irrigation	0.791

Component 3 represent “factor affecting direct selling” which includes corruption at mandis/cooperative societies of government, lack of market information, lack of storage, lack of direct selling technique and lack of skill and knowledge of selling agriculture produce digitally. Internal consistency of this component, cronbach’s $\alpha = 0.859$.

Code	Indicator	Factor loading
<i>C₁</i>	Lack of market information	0.776
<i>C₂</i>	Lack of skill and knowledge of selling agriculture produce digitally	0.684
<i>C₃</i>	Lack of storage	0.774
<i>C₄</i>	Lack of direct selling technique	0.735
<i>C₅</i>	Corruption at mandis/cooperative societies of government	0.780

Component 4 represent “problems in repayment of credit” which include failure of crop failure, failure of natural climate such as monsoon, lower yield of crop, increase in input cost, income of family, lower quality of produced product and higher rate of interest. Internal consistency of this component, cronbach’s $\alpha = 0.729$.

Code	Indicator	Factor loading
<i>D₁</i>	Increase in input cost leads to non-payment of credit	0.596

<i>D₂</i>	Lower quality of produced product	0.558
<i>D₃</i>	Crop failure	0.677
<i>D₄</i>	Higher rate of interest	0.556
<i>D₅</i>	Lower yield of crop,	0.630
<i>D₆</i>	Failure of natural climate such as monsoon	0.486
<i>D₇</i>	Income of family,	0.570

Component 5 represent “problems in obtaining institutional credit” which includes high documentation charges, lack of knowledge to procure loan, delayed in disbursement of loan, complicated formalities related to loan, delay in processing of document for sanction and higher rate of interest. Internal consistency of this component, cronbach’s $\alpha = 0.694$.

Code	Indicator	Factor loading
<i>E₁</i>	High documentation charges	0.758
<i>E₂</i>	Lack of knowledge to procure loan	0.626
<i>E₃</i>	Complicated formalities related to loan	0.497
<i>E₄</i>	Higher rate of interest.	0.450
<i>E₅</i>	Delayed in disbursement of loan	0.607
<i>E₆</i>	Delay in processing of document for sanction	0.469

Hence, five major variable or issues are identified and endorsed by respondents with the help of principal component analysis (PCA) with orthogonal rotation (varimax) such as costly agricultural inputs, inadequate irrigation facility, factor affecting direct selling, problems in repayment of credit and problems in obtaining institutional credit.

6. Findings and Conclusion

Based on the findings of the study, the various issues and challenges emerging in specified district faced by the farmers were identified. Amongst those, the five major issues are highlighted as costly agricultural inputs, inadequate irrigation facility, factor affecting direct selling, problems in repayment of credit and problems in obtaining institutional credit. According to the finding of the study, seed is a basic and essential contributor for accomplishing higher harvest yields and supported

development in rural creation. Distribution and production of high-quality seed is critical.

Unfortunately, high quality seeds are far from most of the farmers due to high costs. Even though India is the second biggest irrigated nation of the world after China. Irrigation is the most significant rural contribution to a monsoon nation like India where rainfall is not certain. India can't accomplish sustained growth in agriculture except the greater part of the cropped zone is brought under guaranteed irrigation. Agricultural marketing is still in a bad shape in provincial India. Without sound marketing facilities, the farmers need to rely on nearby dealers and brokers for the transfer of their produce which is sold at lower price. In most of the villages and districts, farmers are constrained, under financial conditions, to continue distress sale of their produce.

Further the issues are consistently faced by farmers in relation to obtaining institutional credit and repayment of credit. Government should ensure and use progressive steps towards the issues highlighted to provide relief to the farmers. If issues faced by farmers are resolved or reduced to some level, then doubtlessly it is a leading indicator towards raised standard of living of farmer. It will provide relief to the farmer at both levels i.e. economically and psychologically. Agriculture sector is very crucial but highly influential towards gross domestic product and consequently improvement in agricultural sector determines the country's success.

7. Limitations and Future Research

The study is cross sectional and it requires longitudinal study for more representative and conclusive finding. Study is confined to Bahraich district. The study can be implemented in other district of Uttar Pradesh. The sample size for future research could be larger to generalize the finding as it is limited to 317 respondents.

References

1. Madhusudhan, L. (2015). Agriculture role on Indian economy. *Bus Eco J*, 6: 176.

2. Subramanian, R. and Sunil Shivananjappa. 2017. Investigation on the problems faced by the farmers in obtaining and repayment of agricultural credit in Karaikal district, India. *Int.J.Curr. Microbiol.App.Sci.* 6(11): 3966-3971.
3. Das, P. (2015). Problems of rural farmer: A case study based on the Low phulabor ivillage under the Raha block development area of Nagaon district, Assam". *IOSR Journal of humanities and social science (IOSR-JHSS)*, Vol 20 (1), Ver. IV, PP 40-43.
4. Singh, G. (2016). Problems and challenges of the farmer-agricultural workers in Uttar Pradesh, India. *World journal of agricultural sciences*, 12(3), 210-219.
5. Tamboli, P.M. and Nene, Y.L. (2013). Modernizing higher agricultural education system in India to meet the challenges of 21st century. *Asian Agri-History*, Vol. 17 (3), 251-264.
6. Borthakur, A. and Singh, P. (2012). Agricultural research in India: an exploratory study. *International Journal of social science & interdisciplinary research*, Vol.1 (9), 59-74.
7. Kapur, R. (2018). Progression of agricultural sector in India. *Acta Scientific Agriculture*, Vol. 2(10), 134-138.
8. Ray, P. and Chowdhury, S. (2015). Challenges in Indian agriculture and its implications for organizing extension. *International Journal of Social Science*, Vol. 4 (2&3), pp. 201-215.
9. Dev, S.M. (2015). Small Farmers in India: Challenges and Opportunities. <https://www.researchgate.net/publication/241757590>.
10. Thangamani.(2016). Indian agriculture: performance and challenges - a case study. *Shanlax international journal of arts, science & humanities*, Vol. 3 (3), 134-141.
11. Joshi, P.A. (2015). Challenges of agriculture economy of India. *The business & management review*, Vol 5 (4), 211-218.
12. Sudhakar, B. (2016). Sustainable Agriculture Development in India: Issues & Challenges. *Paripex - Indian journal of research*, Vol 5(7), 293 - 295.
13. Sakshi, Khajuria, S. (2015). Agricultural productivity in India: Trends, challenges and suggestions. *International journal of science and research*, Vol 6 (3), 516-520.

14. Srivastava, S.P. and Srivastava, S.P. (2017). Role of women in Indian agriculture-issues and challenges. *Journal of agroecology and natural resource management*, Vol 4 (1), pp. 37-43.
15. S. Jerome (2017). A Study on Agricultural Marketing Strategies and Challenges Faced by the Ponmalai Santhai (Local Market) Farmers in Tiruchirappalli. *SSRG international journal of economics and management studies*, Vol 4 (9), 15-20.
16. <https://www.ibef.org/industry/agriculture-india/>
17. <http://www.fao.org/india/fao-in-india/india-at-a-glance/en>