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The Pharma Innovation

ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2023; SP-12(12): 1815-1818

www.thepharmajournal.com
Received: 02-09-2023
Accepted: 06-10-2023

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Adoption of rice cultivation practices in eastern Uttar Pradesh

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Abstract
The adoption of scientific rice cultivation practices by the farmers in eastern Uttar Pradesh, India were discussed. The study was conducted in randomly selected twelve villages of Ayodhya, Barabanki, and Sultanpur district of Uttar Pradesh and 240 rice growers were selected through random sampling technique. Maximum rice growers were large farmers and reported agriculture as main occupation. The majority of respondents were of middle age group of 37 to 51 years and about 57.08 percent were having no participate in any organizations and having medium level of farming experience of 14 to 24 years. Majority of farmers were having no training from any formal sources. The percent for knowledge by the farmers regarding scientific rice cultivation techniques was highest in soil, field preparation, seed spacing, weed control practices and post-harvest seems to be satisfied. The important problem observed were about unavailability of information centers, lack of marketing facilities of rice, lack of awareness about adequate information and information not given in local language respectively. Basic suggestions to overcome the mentioned constraints are, establishment of good marketing channels and rural centers and also popularization of contract farming of rice cultivation should be done.

Keywords: Randomly selected, respondents, popularization, contract farming

Introduction
Rice (*Oryza sativa*) is one the important cereal crop grown all over the world. It is warm season crop of the tropical and sub-tropical regions. The cultivation of rice is the main source of livelihood for rural people in developing countries where the important objectives are to achieve self-sufficiency in rice production and maintaining price stability. As a staple food it provide basic security, employment opportunities and income for rural population. It gives approximately 22 percent of the sector deliver of energy and 17 percent of the proteins. Maximum vicinity beneath rice is in Asia. Among the rice developing international locations India has the most important area (44.8 million hectares) followed by China and Indonesia. In regards to common yield consistent with hectares Egypt ranks first accompanied through USA. Average rice yield of India is simplest 2929 kg consistent with hectare.

Uttar Pradesh is the fourth largest state in the country. State covers an area of approximately 2, 46, 413 sq. km and own various topographic capabilities starting from simple to Vindhyan hills. The state has favorable and appropriate climate, huge regions of fertile soil, sunshine and adequate water resources. The cropping depth is 153%. The state ranks second withinside the country in manufacturing of rice. From cultivation view factor Gangetic plains cowl main part of the kingdom, whereas the productivity of the eastern districts is 87 percent of that of whole state. (1972 – 73).

Rice manufacturing multiplied 130 percent from 257 million tons in 1966 to 598 million tons in 1999. Average rice yield will increase from 2.1 to 3.9 ton per hectare for the during the same period of 2000, common in step with capita meals availability became 18 percentage better than in 1966. According to the International Food Policy Research Institute, rice manufacturing have to growth 38 percent through 2025 to feed four billion rice consumers. The region below rice cultivation is declining due to stress of urbanization and industrialization, availability of water for agriculture is declining and labors are shifting in the direction of industries.

Keeping in view the above facts into consideration, this study has been designed to undertake entitled ‘’Study on Adoption of Rice Cultivation Practices in Eastern Uttar Pradesh’’ with the objective to explore the problem faced by the farmers in finding information and its use in scientific rice cultivation practices and suggestions to remove them.

Materials and Methods

Study area

The study was conducted in eastern region of Uttar Pradesh. In Uttar Pradesh 70% of the total geographical area that is around 16.81 million ha is the net cultivated area. The irrigated area is over 73% and cropping intensity is 153%. There are 28 districts in Eastern Uttar Pradesh which are divided into three agro-climatic zones namely, North Eastern Plain Zones (NEPZ), Eastern Plains Zones (EPZ), and Vindhyan Zone (VZ). The districts Ayodhya, Ambedkar Nagar, Sultanpur, Jaunpur, Azamgarh, Ghazipur, Mau, Ballia, Barabanki and Pratapgarh comes under eastern plain region of Uttar Pradesh.

Sampling of respondents

Through the random sampling method the selection of districts, blocks, villages and rice farmers were done. The research was conducted in Ayodhya, Barabanki, and Sultanpur district which have total 41 blocks. Six blocks from these three districts were selected randomly (two blocks from each district) and a total number of twelve villages were selected from these six blocks (two villages from each block). Further 20 respondents from each village makes a total of 240 respondents that were selected.

Analytical procedure

Innovative proneness: Innovative proneness may be defined as the socio-psychological orientation of an individual respondent to get linked or closely associated with the change, adopting innovative ideas and practicing it. The scale developed by Feaster (1960) [18] was used to measure the innovative proneness of the respondent. Eight statements were included and the responses were categorized into three categories as 'yes', 'undecided' and 'no.

Scientific orientation: The scale developed by Supe (1969) [19] was be used to measure the value orientation consisting of six statements with some modification, which were all positive. The scale was on five points scale *viz*., strongly agree, agree, undecided, disagree and strongly disagree. The scores were assigned as 5, 4, 3, 2, and 1, respectively for all the statements. The respondents will be categorized into three categories such as low, medium and high. On the basis of total scores obtained such as low ±, medium and high obtained by the respondents, following procedure was followed (i) Mean- S.D. (Low), (ii) Mean ± S.D. (Medium) and (iii) Mean + S.D. (High).

Economic motivation: Scale developed by Supe (1969) [19] was used to measure the economic motivation with some modifications. There were five statements in the economic motivation, bearing five points continuum *viz*., strongly agree, agree, undecided, disagree and strongly disagree. The scores assigned to the points were 5, 4, 3, 2, & 1 respectively. On the basis of scores, the respondents were grouped into three categories based on (i) mean -S.D. (low), (ii) mean ± S.D. (medium) and (iii) mean ± S.D. (high).

Risk orientation: Risk orientation may be defined as the degree to which the farmer is oriented towards risk and uncertainty in facing problems in farming. In this study, risk orientation of respondents was measured with the help of scale developed by Supe (1969) [19] was used for measuring the risk orientation consisting of six statements with modification in which five were positive and one was negative. The scale was on five point scale *viz*., strongly agree, agree, undecided, disagree, strongly disagree. The scores were assigned as 5, 4, 3, 2 and 1, respectively for all positive statements and 1, 2, 3, 4 and 5, respectively for negative statements. Based on the total score obtained by the respondents on risk taking ability, the respondents were grouped into three categories on the basis of mean and standard deviation.

Description of variables used in analysis

Knowledge level of farmers about rice cultivation practices

To measure the knowledge of the farmers about rice cultivation practices scale developed by Jha and Singh (1970) [20] was used. Scoring was done on the basis of the procedure prescribed in the original scale. Score allotted here were 1 for 'yes' and 0 for 'no'. The data was further arranged on the basis of mean and standard deviation.

Adoption level towards rice cultivation practices of farmers

To calculate the level of adoption towards paddy cultivation practices the scale developed by T. Sengupta (1967) [21] was used in this present study. Scoring was done on the basis of the procedure prescribed in the original scale. Score allotted here were 1 for 'yes' and 0 for 'no'. The data was further arranged on the basis of mean and standard deviation

Constraints faced by rice farmers in seeking information

To study the constraints of rice farmer during seeking the information, the open ended response was noted down from individual respondent keeping in view the different activities under taken the farmer in the study area. The individual farmer was asked to tell as maximum as constraints about seeking information in the study area. At last the constraints were listed and frequency distribution was made and interpreted accordingly.

Results

Table 1: Adoption level of farmers about rice cultivation practices.

S. No.	Particulars	Respondents		Rank
		f	%	
A.	Soil and field preparation	154	64.16	VIII
B.	High yielding varieties	83	34.58	XVI
C.	**Production**			
a.	Nursery management	142	59.16	X
b.	Seed Treatment	131	54.58	XII
c.	Selection of varieties	82	34.16	XVII
d.	Seed rate	129	53.75	XIII
e.	Green manuring	157	65.41	VII
f.	Seed spacing	176	73.33	II
g.	Fertilizers	75	31.25	XVIII
h.	Bio fertilizers	69	28.75	XIX
i.	Micro-nutrients	86	35.83	XV
D.	**Plant protection**			
a.	Major weeds	169	70.41	III
b.	Major weedicide	139	57.91	XI
c.	Weedicide application time	121	50.41	XIV
d.	Major pest	168	70.00	IV
e.	Pest control measures	158	65.83	VI
f.	Major diseases	157	65.41	VII
g.	Disease management methods	149	62.08	IX
E.	Post-harvest	187	77.91	I
F.	Marketing	167	68.33	V

From table 1, the adoption level of farmers about the improved rice cultivation practices in the study area are the adoption level of post-harvest practices was highest with a frequency of 77.91 percent, followed by seed spacing with 73.33 percent frequency, adoption of major weed management practices with 57.91 percent, adoption about major pest management practices with a frequency of 70.00 percent, adoption of marketing facilities with 68.33 percent frequency, adoption of pest control measure with 65.83 percent frequency, adoption of major disease management practices and green manuring was 65.41 percent frequency each, adoption of soil and field preparation practices with 64.16 percent frequency, adoption of diseases management methods with 62.08 percent frequency adoption of nursery management practices with 57.16 percent frequency, adoption of proper weedicide application time with 57.91 percent frequency, adoption of seed treatment method with 54.58 percent frequency, adoption of recommended seed rate 53.75 percent, adoption of recommended weedicide application time 50.41 percent frequency, adoption of micro-nutrients 35.83 percent, application of recommended high yielding varieties 34.58 percent, selection of varieties 34.16 percent, application of recommended doze of fertilizers with 31.25 percent and application of bio-fertilizers with 28.75 percent frequency.

Table 2: Correlation coefficient (r) between different independent variables and adoption level of improved rice cultivation practices.

S. No.	Independent Variables	Correlation Coefficient
1.	Age	0.09319
2.	Education	0.15782
3.	Marital status	0.06492
4.	Caste	0.03129
5.	Type of family	0.1148
6.	Size of family	-0.08315
7.	Size of land holding	0.088052
8.	Occupation	-0.16571
9.	Material possession	0.010049
10.	Housing pattern	-0.04882
11.	Social participation	-0.05974
12.	Annual income	-0.17079
13.	Farming experience	0.057018
14.	Innovative proneness	0.002899
15.	Training received	0.016962
16.	Scientific orientation	0.077.85
17.	Economic motivation	0.044523
18.	Risk orientation	-0.11264

From table 2 the adoption of improved rice cultivation practices were found positively correlated and non-significant with various independent variables like age, education, marital status, caste, type of family, size of land holding, marital possession, farming experience, innovative proneness, training received, scientific orientation, and economic motivation.

On the other side size of family, occupation, housing pattern, social participation, annual income, and risk orientation were non-significant and negatively correlated.

Conclusion

The most observed scenario of eastern Uttar Pradesh rice growers was that the traditional system of agriculture practicing was still done from years. There are the agro – climatic conditions that are very much suitable for the rice crop which are in maximum area of cultivation. However, scientific cultivation of rice crop will largely depend on the capacity of the farmers to effectively seek information from various sources and channels of information and utilize it properly. At the same time farmers should be given access to efficient market facilities through value added and certified products that might enable them to get genuine price for their agricultural produce. Therefore, it is worthy to invest in development of infrastructure that may provide the opportunity to the farmers to effectively seek information related to improved cultivation practices efficiently utilize them for further development of the agricultural system in eastern Uttar Pradesh. Traditional methods with modern means of scientific rice cultivation in eastern Uttar Pradesh may definitely lead to the benefits in uplifting the living environment of the farmers, both in terms of the financial and health aspects. With the proper integration of agriculture and technology, the farmers may achieve self – sufficiency in production of rice crop with great nutritional value and livelihood security. The developed strategy will help the farmers to improve their adaptive capacity to changing climatic conditions.

References

1. Bapu PR. A study on extent of knowledge and adoption levels of paddy farmers in east Godavari district of Andra Pradesh. M.Sc. (Agri.) Thesis, Acharya N.G. Ranga Agricultural University, Hyderabad; c2014.
2. Bhosle US. Participation of rural youth in paddy farming in Anand district of Gujrat state. M.Sc. (Agri) Thesis, AAU, Anand; c2010.
3. Dhenge SA. Knowledge and adoption of integrated pest management practices by paddy growers. M.Sc. (Agri) Thesis, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, (M.S.); c2013.
4. Gajbhiye S. A study on technological gap in relation to hybrid rice production practices among the hybrid rice growers of Rewa block of Rewa District M.P. M.Sc. (Agri) Thesis, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur; c2014.
5. Kamarudin HD, Abd Aziz NE, Zani MK, Ariff NZZM. Exploring Knowledge sharing practices among paddy farmers towards building a foundation of knowledge creation. International Journal of Social Science and Humanity. 2015;5(1):112.
6. Karangami RS. Adoption of recommended rice cultivation practices by the farmers from Palghar district. M.Sc. (Agri) Thesis, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli; c2017.
7. Karamjit Sharma, NS Dhaliwal and Ajay Kumar. Analysis of adoption and constraints perceived by small paddy growers in rice production technologies in Muktsar District of Panjab State. Indian Research Journal of Extension Education. 2015;15(2):20-30.
8. Kacchiapatel VA. A critical analysis of motivational factors in adoption of agricultural technology in South Gujrat. M.Sc. (Agri) Thesis (Unpublished), NAU, Navsari; c2007.
9. Meena SL, Lakhera JP, and Sharma KC. Knowledge level and adoption pattern of rice production technology among farmers. Rajasthan Journal of Extension Education. 2012;20:133-137.
10. Maheriya HN. Technology utilization behavior of paddy growers in Annand District of Gujrat State. M.Sc. (Agri) Thesis, AAU, Annand; c2013.
11. Parmar PB. A study on knowledge and extent of adoption

of paddy growers about recommended paddy production technology in Khambhat taluka of Anand District. M.Sc. (Agri) Thesis, AAU, Anand; c2006.
12. Sasane KL, Patil PA, and Suthar PP. Knowledge and adoption of paddy cultivation practices among farmers in north Kashmir. Asian Journal Extension Education. 2012;23(2):46-51.
13. Singh KK and Pandya ML. Knowledge and adoption behavior of paddy growers. Agriculture Extension Review. 2012;6(2):22-23.
14. Tambat RG. Study on Knowledge and adoption of recommended rice cultivation practices by summer rice growers. M.Sc. (Agri) Thesis, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli; c2007.
15. Thiyagarajan M. Impact ANALYSIS of System of Rice Intensification (SRI) among the paddy farmers of Coimbatore District, M.Sc. (Agri) Thesis, Tamil Nadu Agricultural University, Coimbatore, India; c2011.
16. https://www.indiatoday.in
17. https://timesofindia.indiatimes.com
18. Hernandez HH, Feaster JF. Optical Density of Tomato Serum from Concentrates as a Measure of Heat lnduced Changes. Food Technology; c1960.
19. Super DE. Vocational development theory: Persons, positions, and processes. The counseling psychologist. 1969 Mar;1(1):2-9.
20. Jha CS, Singh JS. Composition and dynamics of dry tropical forest in relation to soil texture. Journal of Vegetation Science. 1990 Dec 1:609-614.
21. Gupta ST, Crowson RA. The systematic position of Eicolyctus Sahlberg (Coleoptera: Languriidae). In Proceedings of the Royal Entomological Society of London. Series B, Taxonomy Oxford, UK: Blackwell Publishing Ltd. 1967 Jun;36(5-6):87-93.