Available online at www.elixirpublishers.com (Elixir International Journal)

Agriculture

Elixir Agriculture 96 (2016) 41898-41900

ISSN: 2229-712X

Constraints in Adoption of Improved Rice Production Technologies in Chatra District of Jharkhand

R.K.Singh D.Oraon, V.K.Pandey V.P. Rai, U.K. Singh, Z. Alam and R.P. Singh 'Ratan'
Krishi Vigyan Kendra, Chatra Birsa Agricultural University, Ranchi.

ARTICLE INFO

Article history:
Received: 20 May 2016;
Received in revised form:
24 July 2016;
Accepted: 30 July 2016;

Keywords
Rice Production,
Poor Fertility,
Lack of improved
implemetns.

ABSTRACT

After several promotional activities carried out by different stakeholders the improved rice production technologies have not reached the farmers field. A study was conducted to identify the constraints faced by farmers in adoption of the improved rice production technologies. The study was conducted in five purposively selected blocks of Chatra district. In five randomly selected, one each from the selected blocks, villages 40 rice growers were selected randomly as respondents for each village covering 200 respondents in the study. Constraints identified by the respondents were grouped into six categories i.e. ecological, technological extension – related, infrastructural, economic & socio- cultural constraints. Results indicated that undulated topography and gravelly soil (94.5%) high fertilizer requirement in HYVS (89%) fragmented and scattered holdings (94.5%) inadequate advice and guidance by the charge agents (41%), low price of produce (98%) and open grazing of cattle (92%) perceived to be important constraints which diminished the adoption of improved rice production technologies.

Introduction

Technology generation, development, assessment, transfer and utilization are all parts of an interactive and mutually reinforcing continuum in India, lot of technologies have been developed and successfully applied for increasing productivity of rice. Despite the promotional efforts undertaken by the Krishi Vigyan Kendras (KVKs), State Departments of Agriculture , ATMA, private sectors , business organizations and non- government organizations, the farmers do not fully the use improved technologies. There are many reasons for this, but one of the reasons of this gap may be farm level constraints. The present study aims at investigating the field level constraints.

Methodology

The study was undertaken in Chatra district of Jharkhand. The district was purposively selected for the study because so many efforts was done by the KVK and other line departments of the district to transfer improved rice production technologies in farmers field.

The study was conducted in five purposively selected blocks (Kunda, Partappur, Tandwa, Gidhour, Pathalgada) covering 5 village i.e. Kunda, Sijuwa, Raham, Gidhour and Seema one each from the selected block respectively. Where higher area coverage of rice, forty rice growers were selected randomly from each selected village covering 200 respondents for the study.

Constrains identified by the respondents were grouped into six categories i.e. ecological, technological, extension-related, infrastructural, economic and socio culture constraints, which were measured through employing a structured interview schedule.

Results and Discussion

Ecological constraints

The data on ecological constraints indicated that the respondents were confronted with the undulated topography and gravelly soil (94.5%) which was perceived as the most important ecological constraints in adoption of improved rice production technologies. This constraints was followed by very low and unpredictable rainfall during Kharif season (89%), low water holding capacity of soil (78.5%) and poor fertility of soil (26%).

These finding are in consonance with those of Ganguly and Singh, (2001), who reported that in rain-fed condition undulated topography and gravelly soil and unpredicted rainfall during Kharif was the important production constraint in rice cultivation.

Table 1. Ecological constraints perceived by th respondents in adoptionof improved rice production technologies.

Constraints	Frequency (N=200)	Percentage	Rank
Poor fertility of soil	52	26.00	IV
Low water holding capacity of soil	175	82.50	III
Undulated topography and gravelly soil	189	94.50	I
Unpredicted rainfall during Kharif season	178	89.00	II

Technical constraints.

The data on technological constraints revealed that dearth of high fertilizer requirement HYVs (89%) and a very few varieties of rice suitable for late sown condition (52.5%) were perceived as the most important technological impediments in adoption of improved rice production technologies followed by unavailability of less water requiring varieties of rice (41%) and dearth of short duration varieties of rice suitable for mid land (37.5%) and low effectiveness of plant protection chemicals (32.5%)

In their study Siddayya and Singh (2005) reported that non- availability of varieties and well as infestation of pest

Tele: 09431338380
E-mail address: chatrakvk@gmail.com

and diseases were the constraints faced by pigeon pea cultivators.

Table 2. Technological constraints perceived by the respondents in adoption of improved rice production technologies.

Constraints	Frequency (N=200)	Percentage	Rank
Unavailability of less water requiring varieties	94	47	III
Dearth of short duration varieties of rice suitable for mid land.	75	37.5	IV
A very few rice varieties suitable for late sown conditions	105	52.5	II
High fertilizer requirement for HYVs.	178	89	I
Low effectiveness of plant protection chemicals	65	32.5	V

Infrastructural constraints

Table 3. Infrastructural constraints perceived by the respondents in adoption of improved rice production technologies.

Constraints	Frequency (N=200)	Percentage	Rank
Fragmented and scattered holdings	189	94.50	I
Lack of timely availability of institutional credit	184	92.00	II
Unavailability of quality inputs at proper time and price.	169	84.50	III
Lack of soil testing facility	105	52.50	IV
Lack of improved agricultural implements and tools	104	52.00	V
Lack of adequate irrigation facility.	184	92.00	II

Table – 3 shows that under infrastructural constraints majority of the respondents (94.5%) perceived that fragmented and scattered holdings as the most important infrastructural constraint in adoption of improved rice production technologies followed by lack of timely availability of institutional credit (92%), unavailability of quality inputs at proper time and price (84.5%), lack of soil testing facility (52.3%) lack of improved agricultural implements and tools (52%).

These findings are in accordance with those of Sagar (1993), who reported that fragmented land holdings and lack of soil testing facility were important factors hindering the adoption of improved technology. Thyagarajan and Prabhu (2005) also reported that inadequate water supply and non-availability of credit were the important constraints in adoption of improved technologies of tomato.

Extension-related constraints

Table- 4 shows that among extension - related constraints majority of the respondents (41%) perceived inadequate advice and guidance by the change agents (41%) as the most important constraint in adoption of improved rice production technologies followed by low credibility of change agents (37.5%), lack of adequate and updated information (32%), inadequate technical know how about improved practices (31%) and unconvincing results of demonstrations (25.5%)

These findings are in accordance with those of Ranish *et al*. (2001). They also found that lack of training on recommended practices and technical know-how about improved practices were the main constraints in adoption of improved technologies.

Table 4. Extension- related constraints perceived by the respondents in adoption of improved rice production technologies.

Constraints	Frequency (N=200)	Percentage	Rank
Inadequate advice and guidance by the change agents	82	41	I
Low credibility of change agents	74	37.5	II
Unconvincing results of demonstrations	51	25.5	V
Inadequate technical know how about improved practices.	62	31	IV
Lack of adequate and updated information	64	32	III

Kumar *et al*. (2004) reported that lack of technical information and knowledge about important technologies were the major constraints in groundnut cultivation.

Economic constraints

Table 5. Economic constraints perceived by the respondents in adoption of improved rice production technologies.

Constraints	Frequency (N=200)	Percentage	Rank
High cost of inputs	192	96	III
Poor purchasing power of the farmers	194	97	II
Lack of capital	182	91	IV
Low price of produce	196	98	I

Analysis of economic constraints (Table 5) showed that a large majority of the respondents were confronted with constraints of low price of produce (98%), followed by poor purchasing power of the farmers (97%), high cost of inputs (96%), and lack of capital (91%).Rajput (2001) also reported that low price of farm produce, high price of fertilizers and lack of capital were the important impediments in raising the productivity of major crops.

Socio- cultural constraints

Table 6. Socio-cultural constraints perceived by the respondents in adoption of improved rice production technologies.

Constraints	Frequency (N=200)	Percentage	Rank
Lack of innovations	64	32.00	II
Free grazing of cattle	184	92.00	I
Superstitions and taboos in the way of adoption of new technologies.	35	17.50	III

Table 6 shows that open grazing of cattle (92%) by the farmers was the major socio-cultural constant in adoption of improved rice production technologies followed by lack of innovations (32%) and superstitions and taboos in the way of adoption of new technologies (17.5%).

These findings are in accordance with those of Waghmare and Pandit (1982). They reported that farmers' tendency of not using the new practices until other farmers in their social system had used the same and superstitions and taboos related to new technologies were the main socio-cultural constraints in adoption of wheat technologies by the tribal farmers of Madhya Pradesh.

Conclusion

The finding presented in the preceding paragraphs led to conclude that undulated topography and gravelly soil, high fertilizer requirement in HYVS, fragmentation and scattered holdings, inadequate advice and guidance by the charge agents low price of produce and open grazing of cattle perceived to be important constraints which hindered the adoption of improved rice production technologies.

This constraints need to be removed through assessment and refinement of technology considering bio-physical and socio-economic condition of the farmers, updating extension functnaries with new research information through training, strong linkage with marketing and financial institutions and adoption of appropriate extension strategies so that full potential of scientific rice production technologies could be translated in farmers field.

References

1. Kumar, Satish, Dash, G.D. Tripathy, M.M. and Mohapatra, D. (2004). Groundnut cultivation-constraints in residual soil moisture. *Agricultural Extension Review* 16(1): 26-28.
2. Nikhade, D.M. and Bhople, R.S. (1989). Constraints in adiption of farm technology. *Rural India* 52(10): 249-252.
3. Pandey, A.K. and Chauhan, V.S. (1999). Wheat FLD- an effective approach for technology transfer to farmers in hills of UP. *Indian Farming*, November, pp 11-33.
4. Ranish, V.P., Malik, R.S. and Punia, R.K. (2001). Adoption of repeseed-mustard production technology. *Indian Journal of Extension Education* 37 (1&2): 58-62.
5. Sagar, R.L. (1983). Study of agro-economic, socio-psychological and extension communication variables related with the farmers productivity of major field crops in haringhta block. *An unpublished Ph.D. (ag.) Thesis, Department of Agricultural Extension,* BCKV, Kalyani.
6. Saxena, K.K. and Rajput, A.M. (2001). Productivity and its constraints on tribal farmers in Malwa region of Madhya Pradesh, *Indian Research journal of Extension Education* 1(1): 34-37.
7. Siddayya and Singh, Alka (2005). Adoption constraints of pigeonpea in Gulbarga. *Agricultural Extension Review* 17 (3): 12-14.
8. Thyagarajan, S. and Prabhu. R. (2005). Recommended technologies adopted by tomato growers. *Agricultural Extension Review* 17 (2): 27-30.
9. Waghmzare, S.K. and Pandit, V.K. (1982). Constraints in adoption of wheat technology by the tribal farmers of Madhya Pradesh. *India Journal of Extension Education* 18 (1&2): 95-98.