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CONSTRAINTS ENCOUNTERED BY THE PADDY GROWERS IN THE ADOPTION OF RECOMMENDED PADDY CULTIVATION TECHNOLOGIES

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Abstract

Paddy is the main food crop in India contributing to more than 40 percent of total food grain production and cultivated area across the country. Paddy is commonly grown in a traditional way by majority of the farmers in Manipur. So, they were not much aware of the paddy farming technologies. Keeping this point in mind, this research study was undertaken to identify the constraints encountered by the paddy growers in the adoption of recommended paddy cultivation technologies. The study was conducted in Kakching block of Thoubal District in Manipur State with a sample size of 120 paddy growers were selected through proportionate random sampling from six villages in the Kakching block. This study revealed that 'Occurrence of heavy weed growth', 'non-availability of credit facilities', 'lack of conviction in the new technology' and 'insufficient training programmes' were the foremost constraints faced by the paddy growers in the adoption of recommended paddy cultivation technologies, respectively.

Key words: Constraints, Recommended paddy technologies, Paddy growers.

Introduction

Paddy crop plays a vital role in our national food security and is a means of livelihood for millions of rural households. India is the home to paddy and the largest paddy growing and second largest paddy producing and consuming country. In India, paddy is cultivated in an area of 42.90 million hectares producing 112.76 million tons with a productivity of 3.94 t / ha (World Agricultural Production, 2019).

Manipur State of India characterized by crested hills and widely spaced valleys, has about 10 percent area under cultivation. Rice is the staple food in Manipur. The State has 0.236 million ha under paddy cultivation with a productivity of 2.57 t / ha.

Agriculture is the most important source of livelihood for the people of Thoubal District in Manipur. More than 70 percent of the total population of the district directly or indirectly depends on agricultural activities. Paddy accounts for above 90 percent of the total land area under cultivation in Thoubal District.

The paddy growers in this District have limited infrastructure and have been facing difficulties regarding the information about innovations due to the unavailability of information centre and lack of awareness. They are also unable to achieve the potential yield since they are not adequately informed about the available technology and are not convinced to accept available paddy technologies. Hence, a study was undertaken to identify the constraints encountered by the paddy growers in the adoption of recommended paddy cultivation technologies.

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Materials and Methods

The study was conducted in Kakching block of Thoubal District in Manipur State. A sample of 120 paddy farmers was selected through proportionate random sampling from six villages in the Kakching block. Data collection was made from the selected respondents with the help of a well- structured and pre-tested schedule through personal interview. The collected data were properly analysed using statistical procedures and the results are tabulated.

Results and Discussion

The findings on the constraints experienced by the

paddy growers in adopting paddy technologies are presented in this paper. The constraints were ranked according to their number of respondents who mentioned the constraints and the salient findings are given in Table 1.

Bio-physical constraints

It could be seen from Table 1 that occurrence of heavy weed growth was ranked first and the foremost bio-physical constraint (91.67 percent) by more than ninety percent of the respondents. There is always shortage of weedicide application due to lack of awareness of weedicide technologies. Hence majority of the respondents would have perceived the above constraint.

Heavy pest and disease incidence was ranked as the second important constraint by more than eighty percent (89.17 percent) of the respondents. Some of the respondents faced heavy damage due to the pests *viz*., stem borer, gall midge, leaf folder, brown plant hopper etc., in their cultivation and this resulted in poor yield. Many of the farmers were not adopting the recommended plant protection measures due to the lack of complete knowledge, non-availability plant protection equipments and lack of trained labour. These might be the probable reason for the above given constraint. Similar findings were also reported by Mullaivendan (2012).

Complexity of new practices was ranked as the third important constraint reported by sixty percent (60.00 percent) of the respondents. Most of the respondents revealed that the adoption of new practices would require specialized skills and require trained labour. This complexity may lead to either over adoption or under adoption of practices. Hence, they might have reported this as a constraint. This finding is in line with the findings of Zote (2001).

High cost of high yielding variety seeds was expressed as a constraint by nearly half the proportion (45.00 percent) of the respondents. Most of the respondents reported that they were not having enough quantity of seeds for future use. It was ascertained from the extension workers of the Department of Agriculture that the high yielding variety seeds produced and marketed that the high yielding variety seeds produced and marketed by the State Government and other agencies are priced higher due to high production cost. Hence the farmers might have reported this constraint. This is in accordance with the findings of Arunachalam (2000).

Table 1: Constraints encountered by the respondents in adoption of the recommended paddy technologies. (n=120).

Sl.No.	Constraints	No. of respondents	Per cent	Rank
I.	Bio-physical constraints			
a.	Occurrence of heavy weed growth.	110	91.67	I
b.	Heavy pest and disease incidence.	107	89.17	II
c.	Complexity of new practices.	72	60.00	III
d.	High cost of high yielding variety seeds.	54	45.00	IV
e.	Non-availability of suitable high yielding varieties.	40	33.33	V
II.	Socio-economic constraints			
a.	Lack of credit facilities.	67	55.83	I
b.	Non-availability of trained labour in time.	59	49.16	II
c.	Lack of reasonable support price.	56	46.67	III
d.	High cost of inputs.	54	45.00	IV
e.	Lack of subsidy for inputs.	48	40.00	V
f.	High cost of labour.	43	35.83	VI
III.	Technological constraints			
a.	Lack of conviction in the new technology.	73	60.83	I
b.	Lack of awareness about technologies.	62	51.67	II
c.	Non-availability of desired technology.	40	33.33	III
IV.	Institutional constraints			
a.	Insufficient training programme	97	80.83	I
b.	Unawareness of supplies and services offered by the govt.	83	69.17	II
c.	Lack of proper communication system.	64	53.33	III
d.	Lack of regulated market.	52	43.33	IV
e.	Lack of transport facilities.	43	35.83	V

Non-availability of suitable high yielding varieties was the least important constraint reported by one-third (33.33 percent) of the respondents. During data collection, most of the respondents reported that the seeds of high yielding varieties were not available in time either in local markets or in Agriculture office. They further had revealed that the high yielding variety seeds were not available in adequate quantity to fulfill their needs during many of the cropping seasons. The cost was also very high due to high production cost and non-availability of subsidy. This finding is in line with the findings of Mullaivendan (2012).

Socio-economic constraints

Lack of credit facilities was the major and foremost constraint expressed by more than half of the respondents (55.83 percent). The poor annual income of the farmers made them to depend on credit institutions for financial assistance to pursue agricultural operations. But the farmers could not avail the adequate credit due to the tedious procedure involved in getting loans and the unfair treatment of bank officials. Also the respondents mainly depend on private money lenders, fertilizer shop owners and co-operative society to borrow money for the cultivation. This situation would have enabled the respondents to report this constraint. Similar finding was reported by Balakrishnan (2010).

Non-availability of trained labour in time was revealed as the constraint by nearly half (49.16) of the respondents. Most of the respondents reported that the available farm labourers were not properly trained. Since most of the cultivation practices in paddy farming right from sowing to post harvest were highly skill oriented and they require skilled labourers for doing these operations. As the experienced labourers are engaged in high wage earning works like construction work, factory work etc., they were not available at the proper time for doing important operations in rice farming. This might be the reason for the reported constraint. This finding is in line with the findings of Rajivgandhi (2010).

Lack of reasonable price support was the constraint reported by around fifty percent (46.67 percent) of the respondents. Some of the respondents felt that the cost of the crop production is increased every year. This is due to the increasing labour charges and input cost. It is quite understandable that farmers would have anticipated increased price for their produce so as to meet out the production cost and can get more net profit. This finding is in line with the findings of Jeyalakhsmi (2008).

High cost of inputs was the fourth important socio-economic constraint reported by more than two-fifth (45.00 percent) of the respondents. The cost of inputs like seeds, plant protection chemicals and fertilizers changes every year and the cost was very high. As majority of the respondents possessed low annual income, they could not afford the cost of inputs. Hence, this constraint was reported. This finding is in accordance with the findings of Suhirdha (2009).

Lack of subsidy for inputs was expressed as a constraint by 40.00 percent of the respondents. The farming inputs were distributed at subsidized rates mostly for small and marginal farmers. The respondents expressed that the subsidy amount given by the State and Central Governments was very low compared to the actual selling price of various inputs. This finding is in line with the findings of Punitha (2005) who also reported the similar constraint among small and marginal farmers in rice cultivation.

The least important socio-economic constraint expressed by one-third of the respondents (35.83 percent) was high cost of labour. Less than half of the respondents expressed that the agricultural labourers were demanding higher wages irrespective of nature of work. In Manipur, most of the agricultural labourers migrated to other places for employment and for earning higher wages. This had led to labour scarcity and in turn had resulted in high cost of labour. This finding is in line with the findings of Mullaivendan (2012).

Technological constraints

Lack of conviction of new technology was the first and the foremost technological constraint expressed by 60.83 percent of the respondents. The technologies like seed treatment, weedicide application, pest and disease management might lead to increased cost of cultivation and risk, especially among the small and marginal farmers there by reducing the net income of the farmers. Hence, most of the respondents were not convinced about the merits of some of the costly paddy technologies and did not adopt them.

Lack of awareness about technologies was the constraint expressed by 51.67 percent of the respondents. Some of the respondents in the study area were not interested to adopt the recommended practices in their field due to lack of awareness about the benefits of new technologies. Due to the poor exposure to media and extension agency contact, they were not aware of many of the recent technologies. This might be the reason for the above constraint. This finding is in line with the findings of Rajivgandhi (2010).

Non-availability of desired technology was reported as a constraint by one-third (33.33 percent) of the respondents in their paddy cultivation. The recommended paddy technologies may not be suitable to all the regions.

The recommendations of State Department of Agriculture for obtaining higher yields may not be relevant to field level conditions. Moreover, the soil and climate factors are also differing from region to region. Hence the farmers are in need of the location-specific technologies. This finding is in line with the findings of Radhakrishnan and Bowen (1991).

Institutional constraints

Insufficient training programmes were the foremost institutional constraint reported by majority (80.83 percent) of the respondents in paddy cultivation. Most of the respondents did not know the actual potentiality and utility of the recommended practices due to lack of training programmes. The farmers need adequate training on some of the aspects *viz*., nursery management, weedicide application, fertilizer application and pest & disease management. The results are in accordance with the findings of Sathasivam (1997).

Unawareness of supplies and services offered by the government was one of the institutional constraints expressed by 69.17 percent of the respondents. The respondents reported that the personnel of the State Department of Agriculture were not taking adequate efforts to create awareness among various sections of the respondents regarding the benefits offered by the Government to boost agricultural production at farm level. This finding is in line with the findings of Mullaivendan (2012).

Lack of proper communication system was reported as a constraint by more than fifty per cent (53.33 percent) of the respondents. The inadequacy of agricultural programmes in radio and television printed publications, farm and home visit etc., this might be the reasons for this constraint. This finding is in line with the findings of Srivastava and Singh (1990).

Nearly half the proportion of the respondents (43.33 percent) revealed that lack of regulated market as a constraint. The entire farming community in the study area depends on private traders for the purchase of the agricultural inputs and for marketing their produce. Due to the absence of regulated markets in village level, farmers were forced to sell their produce to middle men and get only lower price for their produce, in addition to pay variety of charges.

Lack of transport facilities was the constraint reported by 35.83 percent of the respondents. The respondents who were in interior places had to spend more money to secure transport facilities to reach agricultural depots and for the purchase of inputs from towns. In addition, the farmers experienced difficulty of transporting their agricultural produce to concerned marketing places due to the inadequate modes of transport like tractors, tempos, bullock carts etc., This may be the reason for the constraint in their cultivation. This finding is in line with the findings of Mullaivendan (2012).

Conclusion

This study revealed that 'Occurrence of heavy weed growth', 'non-availability of credit facilities', 'lack of conviction in the new technology' and 'insufficient training programmes' were the foremost constraints faced by the paddy growers in the adoption of recommended paddy cultivation technologies, respectively.

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