A STUDY ON CONSTRAINTS AS PERCEIVED BY FARMERS IN ADOPTION OF RECOMMENDED CULTIVATION PRACTICES OF PADDY

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ABSTRACT
The present study was conducted purposively in Mandya district of Karnataka State during the year 2016. The results indicate that majority of the farmers (83.33%) opined that high cost of labour and non availability of trained labour were the major (rank I) constraints in adoption of recommended cultivation practices of paddy. Since, availability of the labour is less the wage rate is more. Farm mechanization needs to be promoted in paddy cultivation to overcome the constraint. The other constraints include Unawareness of government supplies and services at proper time (76.67%) which is ranked II. Hence, the concerned development department needs to organize publicity specific to paddy cultivation which may provide the suitable information about the time to time government policies regarding services and supplies. If the farmers have proper information the adoption rate of recommended cultivation practices may increase. The results indicate that high cost of inputs (73.33%) which is ranked II was the other constraint in adoption of recommended cultivation practices in paddy I. hence; the development department arranges to provide the required inputs at subsidized rate and also to regulate the sale of inputs at cheaper rate which will increase the rate of adoption.

KEYWORDS: non availability, trained labour, high cost, inputs, adoption, paddy.

INTRODUCTION
Agricultural growth in terms of increased agricultural productivity and production is need of the hour meet, the needs of ever growing population in India. The Green Revolution has been the foundation of India's agricultural achievement during the late 1970s. Thereafter, the agriculture sector in India has been successful in keeping pace with increasing food demand. Food grains production has increased more than five folds since 1950s from 51 million tons to 264.23 million tons in 2013-14 (Anonymous, 2014). Currently India is producing surplus cereals particularly wheat and rice capable of exporting to other countries. Even though nation has achieved self sufficiency in food production, the livelihood condition of the farmers is waning year after year, large chunk of the farmers want to leave farming and look for opportunities in non-agriculture sectors. Therefore, it is appropriate and timely to know why farmers are losing interest in farming and what the remedial measures are.

Rice (*Oryza sativa* L.) is considered as a first cultivated crop of Asia. India positions second with 154.6 million tonnes of paddy next to China (FAO, 2015). With the world population projected to about 8.2 billion in the year 2030, the global rice demand will rise to approximately 765 million tonnes (FAO, 2014). Since the Green Revolution, the rice yield growth rate has declined to 1.1% (Riveros and Figures, 2000). In spite of various efforts of extension education institutes such as KVKs, SAUs, and other research centre the gap between the farmer's adoption and the technologies generated is remained wide. The adoption gap influencing the wide gap results in decline in productivity and the production. Looking into the growing demand for rice production it is affirmative to take necessary action to increase their global rice production. With this background, the study was formulated to know the Adoption level and to know perceived constraints in adoption of recommended cultivation practices of paddy and to document the suggestions given by the farmers.

MATERIALS & METHODS
The present study was conducted purposively in Mandya district in Karnataka State during the year 2016. The Extension Education Unit of University of Agricultural sciences, Bangalore had conducted trainings on paddy production. Thirty participant farmers and another 30 control group of paddy growing farmers were randomly selected for the study. These farmers were interviewed with the help of pre-tested schedule. The research design followed in the study was ex-post facto research. Information on eleven personal and socio-psychological characteristics of paddy farmers was collected using a standard schedule with suitable scales. The collected data were tabulated and analyzed using frequency, percentage and rank.

RESULTS & DISCUSSION
The socio-economic, psychological, communication and extension characteristics of paddy growing farmers are presented in Table 1. The results indicate that most (40%) of the participants were old aged followed by young aged (33.33%) and middle aged (26.67%). The results on education level of the farmers indicate that most (43.33%) of the farmers had medium level of education followed by low (36.67%) and high (20.00 %).
The results regarding land holdings of farmers indicate

that majority (66.67%) were medium farmers followed by small (20%) and large farmers (13.33%). Data on annual income of the farmers indicate that half of the farmers belonged to medium level of income category followed by high (36.67%) and low (13.33%). The results regarding farming experience indicate that majority (53.335) found under medium level of farming experience followed by high (30%) and low (16.67%). The data regarding mass media participation indicate that, majority (46.67%) of the farmers found to have high level mass media contact followed by low (33.33%) and medium (20%).

TABLE 1. Profile of participant Farmers   (n=30)

Sl. No.	Independent variables		Participants	
			Percent	Number
1	Age	Young aged	10	33.33
		Middle aged	8	26.67
		Old aged	12	40.00
2	Education	Low	11	36.67
		Medium	13	43.33
		High	6	20.00
3	Land holdings	Small	6	20.00
		Medium	20	66.67
		Large farmers	4	13.33
4	Annual income	Low	4	13.33
		Medium	15	50.00
		High	11	36.67
5	Farming experience	Low	5	16.67
		Medium	16	53.33
		High	9	30.00
6	Mass media participation	Low	10	33.33
		Medium	6	20.00
		High	14	46.67
7	Extension participation	Low	7	23.33
		Medium	16	53.34
		High	7	23.33
8	Social participation	Low	4	13.33
		Medium	16	53.34
		High	10	33.33
9	Extension contact	Low	8	26.67
		Medium	16	53.33
		High	6	20.00

The results on extension participation indicate that majority (53.34%) found to have medium level of Extension Participation followed by high (23.33) and low (23.33%). Results on social participation indicate that majority (53.345) were under medium level of social participation followed by high (33.33%) and low (13.33%). The data regarding extension contact indicate that, majority (53.34) were under medium level of extension contact followed by high (26.67%) and low (20%).

Adoption of recommended practices of paddy cultivation

The result on overall level of adoption of recommended practices in paddy cultivation is presented in Table 2. The data show that majority (53.33%) of the participants had medium level of adoption followed by low (26.67%) and high (20%). The adoption level of control group farmers indicate that, most (43.35 were under low level of adoption followed by medium (40%) and high (16%). The possible reasons for low level of adoption in case of control group could be lack of knowledge on specific recommended cultivation practices of paddy. Since, the knowledge is the catalyst for adoption, the participants who attended training programme had gained the knowledge found to have better level of adoption compared to control group farmers.

TABLE 2: Distribution of the respondents according adoption of recommended practices of paddy cultivation (n=30)

Sl. No.	Category	Participants		Control group	
1	Low	8	26.67	13	43.33
2	Medium	16	53.33	12	40.00
3	High	6	20.00	5	16.67
	Total	30	100.00	30	100.00

Perceived constraints in adoption of recommended cultivation practices of paddy

The results regarding perceived constraints in adoption of recommended cultivation practices of paddy is presented in Table 3. The results indicate that majority of the farmers (83.33%) opined that high cost of labour and non availability of trained labour were the major (rank I) constraints in adoption of recommended cultivation practices of paddy. Since, availability of the labour in less the wage rate is more. Farm mechanization needs to be promoted in paddy cultivation to overcome the constraint. Besides the small equipments sprayers weeders may be made available in order to overcome the labour unavailability

The other constraints include Unawareness of government supplies and services at proper time (76.67%) which is ranked II. Hence, the concerned development department needs to organize campaign for paddy cultivators which may provide the suitable information about government

policies regarding services and supplies. If the farmers have proper information the adoption rate of recommended cultivation practices may increase.

The results indicate that high cost of inputs (73.33%) which is ranked III was the other constraint in adoption of recommended cultivation practices in paddy cultivation. Hence, the development department and line department arrange to provide the required inputs at subsidized rate and also right time to regulate the sale of inputs at higher rate which will increase the rate of adoption.

Lack of timely supply of fertilizers (66.67%) which is ranked IV is the one other constraints constraint. Regulation of fertilizer sale and ensuring the availability of fertilizer in required quantity may enhance the adoption rate. Lack of proper irrigation facility (60%) which is ranked V, high incidence of diseases (53.33%) and high weed infestation (53.33) both are ranked VI, and High incidence of insect pests (36.67%) was ranked VII.

(n=30)

Sl. No.	Constraints	Number	Percentage	Rank
1	High cost of labour	25	83.33	I
2	High cost of inputs	22	73.33	III
3	High incidence of insect pests	11	36.67	VII
4	High incidence of diseases	16	53.33	VI
5	High weed infestation	16	53.33	VI
6	Lack of knowledge regarding recommended varieties	6	20.00	XI
7	Non availability of trained labour	25	83.33	I
8	Lack of timely technical guidance	10	33.33	VIII
9	Unawareness of government supplies and services at proper time	23	76.67	II
10	Lack of timely supply of fertilizers	20	66.67	IV
11	Lack of proper irrigation facility	18	60.00	V

CONCLUSION

The data shows that majority (53.33%) of the participants had medium level of adoption followed by low (26.67%) and high (20%). The adoption level of control group farmers indicate that, most (43.35 were under low level of adoption followed by medium (40%) and high (16%). The results indicate that majority of the farmers (83.33%) opined that High cost of labour and non availability of trained labour were the major (rank I) constraints in adoption of recommended cultivation practices of paddy. Since, availability of the labour in less the wage rate is more. Farm mechanization needs to be promoted in paddy cultivation to overcome the constraint. The other constraints include Unawareness of government supplies and services at proper time (76.67%) which is ranked II. Hence, the concerned development department needs to organize publicity specific to paddy cultivation which may provide the suitable information about the government policies regarding services and supplies. If the farmers have proper information the adoption rate of

recommended cultivation practices may increase. The results indicate that High cost of inputs (73.33%) which is ranked II was the other constraint in adoption of recommended cultivation practices in paddy. Hence, the development department arranges to provide the required inputs at subsidized rate and also to regulate the sale of inputs at higher rate which will increase the rate of adoption.

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