

INFLUENCE OF SELECTIVE QUALITIES OF FARMERS IN MITIGATING THE LABOUR ADVERSITIES OF PADDY PRODUCTION THROUGH FARM MECHANIZATION

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ABSTRACT

A study was undertaken in the coastal belt of Udupi district to understand the Operationalization of selective qualities of farmers that influenced the level of mechanized Paddy Production. The studies highlighted the need for attracting and retaining the youth and educated in agriculture for its sustenance in future as their overall participation remained just at 8.33% level. The present scenario of overall majority of farmers being in the mid age group (62.5%) with medium level education (about 31%) was reflected in overall medium level qualities covering extension contact (70%) and participation (60.8%), mass media participation (58.3%), innovative prowess (66.7%) and medium achievement motivation (65%) in mechanized paddy production. However, their high-level orientation to scientific orientation (45%) could still be harnessed through more and more techno savvy exposers and demonstrations and elevate other qualities in a desired way for mechanized paddy production.

Keywords: farm mechanization; labour scarcity; selective farmer qualities; mechanized paddy production; coastal karnataka

INTRODUCTION

Under the Neo-Global order with overwhelming influence of the corporate sector, migration of people from rural to urban has become a phenomenal. Under such a mass migration scenario, it is the agricultural sector that faced the brunt of labour scarcity with soaring labour cost. Therefore today, agriculture is said to be at cross roads in Coastal Karnataka, with future looking grim. The ever-blooming education and service sectors in the area has succeeded in mesmerizing the youth in a big way and created an unprecedented void in labour force of agriculture sector. Udupi district being located at the mid of the coastal zone of Karnataka, projected an ideal representation of the whole zone. The overall economy of the district is more an agrarian reliant than any other sectors. Agriculturists making up 34.4% and agricultural labourers 27.44%, together signify (61.8%) the work force of agriculture for a net cultivated area of 96,714 ha. Large joint- families making way for nucleus families, is ubiquitous in this district and is responsible for creation of vast number of land fragmentation, with a majority (about 80%) being in marginal and small holdings. Understanding the complexity of agriculture in such areas of baffling interests and the strategizing the future always remained a matter of curiosity for the researchers. Therefore, a study on farmers way of mitigating adversities in agriculture, specifically in

paddy cultivation with respect to mechanized production was made during the year 2017-18.

OBJECTIVE

To examine the influence of selective personal, socio-psychological, and communicational qualities of farmers on the adoption of farm mechanization for mitigating labour adversities in paddy production

METHODOLOGY

Udupi and Kundapur Taluks of Udupi district were selected for the assessment of knowledge and adoption level of farmers through mechanization in mitigating the labour adversity in agriculture under the circumstances of mass migration of youth towards urban area. The study area with a literacy rate of 93.89% has mastered the all-round development in education, art, culture, business and service sectors. In spite of this, here agriculture still remained a major profession for majority of the people in providing the livelihood. At a time, when the sector is tottering to meet its labour requirement and high wages issues, the implementation of Government sponsored Custom Hiring Service Scheme (CHSC) has come as a blessing. The programme to promote farmers in reaping higher benefits through services of hi-

tech machines and equipment on rental basis at affordable rates through CHSCs called Yantra dhare” started in the district in the year 2014-15. The concept of rapid coverage of area to facilitate timely operation with little dependance on labour, minimum production costs, service of implements at reasonable rent and higher returns is expected to be a boon for marginal and small farmers. In this context, the study was designed to assess the adoption level of mechanization in paddy cultivation.

The personal qualities that influence the final result covering Age, Education, Scientific orientation, extension contact, Extension participation, Innovative prowess and Achievement motivation of paddy growers were considered for gauging in paddy production by mechanization.

Scientific orientation, referred as degree to which the respondent oriented to scientific decision making, was measured in line with the scale developed by Supe (1965).

Contact with extension agents or personnel referred to the degree to which an individual developed the contact with them in getting information and was measured in frequencies of contacts, an individual made

with different Extension agencies, Scoring and gauging of respondents was made in accordance with the procedure suggested by Rareddy (1971).

The degree to which the respondents participated in different extension activities were scored and evaluated by following the pattern suggested by Rattaiah (1979)

Mass media use referring to the extent to which the farmer was exposed and used the different mass media channels of communications to share the experience with others were gauged based on the procedure suggested by Trivedi (1963).

The degree to which an individual adopted new ideas relatively earlier than others in his social system that define the Innovative prowess, was adjudged for a period of past 5 to 10 years by the adoption of the scale developed by Rao (1983).

Striving to do a task or self-related good work with a standard of excellence that defined achievement motivation was measured by the scale developed by Reddy,1976.

RESULTS AND DISCUSSIONS

Age and education level

Table-1: Operationalization and measurement of age and education level of farmers on mechanized paddy production (n=120)

Sr. No	Characteristics	Government CHSC (n=60)		Private CHSC (n=60)	
		Frequency	Percent	Frequency	Percent
1	Age(years)				
	Young	05	08.34	05	08.33
	Middle age	40	66.67	35	58.33
	Old	15	25.00	20	33.34
2	Education level				
	Illiterate	0	0	0	0.00
	Primary school	02	03.34	11	18.33
	Middle school	06	10.00	13	21.67
	High school	23	38.33	14	23.33
	P.U.C.	18	30.00	10	16.67
	Above graduation	11	18.33	12	20.00

It was apparent from Table: 1 that majority respondents of government sponsored (66.67 %) and private owned (58.33%) CHSCs belonged to the middle-age (36 to 50 years) group with high school level education, from both government sponsored (38.33 %) and private owned (23.33%) CHSCs. For the time being, though it looked strong for agriculture in the hands of active, efficient, responsible and decision-making group of

people with reasonable education level, its sustenance in a long run, still looked unimpressive. The minimal presence of the younger respondents (8.34%) together with PUC or above (together 36.67%) education level could be the clear-cut pointer for the drift in mindset of young and well educated, away from agriculture. However, the mitigation of current labour adversaries in agriculture could expected to be handled effectively by the involvement of responsible,

mid aged and reasonably (High school level) educated group of respondents, on accession to information from

KVKs and other developmental departments, as predicted by Bhat (2005) and Ninga Reddy (2005).

Selective independent variables of the respondents towards the farm mechanization in paddy production

Table2: Selective independent variables of farmers adopting mechanized paddy production

(n=120)

Sr. No	Characteristics	Government CHSC (n=60)		Private CHSC (n=(60)	
		Frequency	Percent	Frequency	Percent
1	Scientific orientation				
	Low	15	25.00	12	20.00
	Medium	20	33.33	19	31.66
	High	25	41.67	29	48.34
2	Extension agency contact				
	Low	13	21.67	07	11.67
	Medium	42	70.00	42	70.00
	High	05	08.33	11	18.33
3	Extension participation				
	Low	11	18.33	16	26.67
	Medium	34	56.67	39	65.00
	High	15	25.00	05	8.33
4	Mass media participation				
	Low	15	25.00	17	28.33
	Medium	38	63.33	32	53.33
	High	07	11.67	11	18.34
5	Innovative prowess				
	Low	13	21.67	09	15.00
	Medium	41	68.33	39	65.00
	High	06	10.00	12	20.00
6	Achievement motivation				
	Low	10	16.67	07	11.67
	Medium	39	65.00	39	65.00
	High	11	18.33	14	23.33

(a) Scientific orientation

The data indicated a high-level Scientific Orientation among the respondents from both government sponsored (41.67 %) and private owned (48.34%) CHSCs towards mechanized paddy production. Since, majority of the respondents were literates, adoption of farm mechanization in a systematic way could be made possible by such people on convincing the benefits of reduction of drudgery, rapid coverage with reduced labour force, low cost of cultivation, timely operation and higher returns as acknowledged by Thakur and Sharma (2016).

(b) Extension contact

A Good majority (70.00 %) of respondents of Government sponsored and private owned CHSCs represented medium level of extension contact. Good network and active services of extension agencies in the area could also be as much effective in reaching the farmers as their personal interest in gaining information. However, the reasons for developing a low-level extension contact for the other smaller group (Government sponsored 21.67% and private owned 11.67%), could be due to the little interest or pre-occupied personal engagements as noticed by Yashaswini (2013).

(c) Extension participation

Medium level of participation in extension programme by farmers relying on both Government sponsored (56.67%) and private owned (65.00) CHSCs could also be due to their poor personal interests, ignorance about the timings of the event or pre-occupied personal engagements as described by Bhat (2005).

(d) Mass media participation

Even the mass media participation level followed similar trends as that of the extension activities. Medium level participation in Mass media by the respondents in Government sponsored (63.33 %) and private owned (53.33 %) CHSCs explained their keenness of updating the knowledge on mechanized production or on general issues. Kumar and Sailaja (2012) approved the behavior of sharing experience and seeking solutions as the positive character in farmers, on similar observations noticed.

(e) Innovative prowess and (f) Achievement motivation

The medium level (Table:2) innovative prowess and Achievement motivations were observed in majority of the respondents in mechanized paddy production. However, innovative abilities were in higher percentage among the respondents relying on Government sponsored

(68.33 %) CHCs than the private owned (65.00%). It could be due attributed to the frequent and effective skill development programme organized at Government sponsored CHCs. In spite of it, the achievement motivation among all the respondents of Government and private owned CHCs remained medium with an even majority of 65% acceptance.

As the qualities of majority of the farmers being good in mass media exposure, extension contact and extension participation apart from educational background with mid age factors, their tendency to evolve innovative prowess obviously might have grown high, as was stated by Persis (2007).

Since, Achievement motivation was ascribed to the value associated with an individual to excel in an assignment decided worth by him, the result of majority (65%) being in medium level group could be due to their medium level extension participation and developments of contacts with extension personnel. Along with the said qualities, the mid age and fair level of literacy status too might have complemented them to focus on the task and reach the goal in the desired way. However, with little more efforts and communications, further improvements could still be infused to the mass, as proved by Nagesh (2005) and Maraddi(2006).

Relationship of the selective independent variables with the knowledge levels of farmers on mechanized paddy production through government and Private owned CHSC

Table-3: Relationship of the selective independent variables with the knowledge levels of farmers on mechanized paddy production through government and Private owned CHSC (n=60)

Sr. No.	Independent variables	r-value	
		Government Sponsored CHSC	Private owned CHC
X ₁	Age	0.500*	0.494**
X ₂	Education	0.397**	0.452**
X ₃	Scientific orientation	0.037 ^{NS}	0.021 ^{NS}
X ₄	Extension contact	0.553**	0.308*
X ₅	Extension participation	0.502**	0.431*
X ₆	Mass media participation	0.403*	0.458**
X ₇	Innovative prowess	0.176 ^{NS}	0.149 ^{NS}
X ₈	Achievement motivation	0.128 ^{NS}	0.036 ^{NS}

*Significant at 5% level of significance **Significant at 1% level of significance NS-Non-Significant

The correlation coefficient of the selected variables with knowledge level of the farmers on mechanized paddy production (Table:3) revealed that variables pertaining to education, extension contact and extension participation showed positive and significant relationship at 1 per cent level of significance. Further, respondents relying

on Govt CHCs, showed a positive significant relation of independent variables- extension contact and extension participation at 5 per cent level of significance with knowledge level; while, variables, age, education and mass media participation showed positive and significant relationship at 1 per cent level of significance (Table 3).

In case of Private owned CHCs, age and extension participation showed positive and significant relation at 5 per cent level of significance with adoption level. Whereas, the variable, extension contact showed positive and significant relationship only at 1 per cent level of significance. (Table 3).

The higher tendency for the mechanized paddy production among the respondents could be understood as majority of them were literates with mid-age group. Normally, people of this group always seek the means to reduce their drudgery and understand the benefits of gaining knowledge by making contacts with extension agencies and through participation in extension activities as noticed in the study and was also reported by Raghvendra (1997), Krishnamurthy (1999) and Thippeswamy (2007).

Prevailing Scarcity and higher labourer costs could be the reasons for the farmers to realize the benefits of mechanized paddy production through Government CHCs, so that their farm operations were not hampered due to unprecedented delays. Regular contacts with extension personnel of various development departments, NGOs and others were said to provide opportunities for the farmers to gain knowledge on farm mechanization enabling them to learn new things. Hinge (2009), Ningappa (1988), Maraddi (2006), Rathod (2005) Nagabhushan and Guruprasad (1994); Kanavi (2000); Pratik and Vinaya (2022); Mallappa et al. (2023); Vegad et al. (2021) were all of the opinion that participation in extension activities provide the opportunities to the farmers through contrived experiences and reinforcement of knowledge.

Relationship between selective independent variables and their adoption level of mechanized paddy production

Table 4 : Relationship between selective independent variables and their adoption level of mechanized paddy cultivation through private owned CHSC (n=60)

Sr. No	Independent variables	r-value
X ₁	Age	0.326*
X ₂	Education	0.265*
X ₃	Family size	0.180 ^{NS}
X ₄	Land holding	0.383**
X ₅	Farming experience	0.200 ^{NS}
X ₆	Annual income	0.343*
X ₇	Scientific orientation	0.024 ^{NS}
X ₈	Extension contact	0.328*

Sr. No	Independent variables	r-value
X ₉	Extension participation	0.392**
X ₁₀	Mass media participation	0.153 ^{NS}
X ₁₁	Innovative proneness	0.078 ^{NS}
X ₁₂	Achievement motivation	0.189 ^{NS}
X ₁₃	Risk orientation	0.408*
X ₁₄	Material possession	0.168 ^{NS}

*Significant at 5% level of significance

**Significant at 1% level of significance

^{NS}-non-significant

The independent variables, age, education and extension participation proved the positive and significant relation at 5 per cent level of significance with adoption level; While, extension contact showed positive and significant relationship at 1 percent level.

The farmers participating in training courses, meetings, field days, tours, Krishimelas etc. normally would get better exposure and develop closer contacts with extension personnel and fellow growers and it might have motivated them to take up positive action in adoption as noted by Reshmy (1998); Kharatmol (2005); Padaliya et al. (2022); Shahlas et al. (2024)

CONCLUSION

Since, majority of farmers relying upon government sponsored (66.67 %) and Private owned (58.33%) mechanized paddy production were in middle age and fairly educated group (high school level), their way of mitigating the labour shortage and higher labour cost adversities in paddy production through mechanization was evident. Presence of younger and well-educated generation being in minimal level, future of agriculture would pose serious questions on sustainability. Among the respondents, Majority of the farmers belonged to the medium level group pertaining to extension contact and participation, mass media participation, innovative prowess and medium achievement motivation in mechanized paddy production under both CHSCs. Yet, their level of Scientific orientation still remained higher in mechanized paddy production. Scientific orientation and Extension participation levels were respectively 6.67% and 8.33% higher in Private owned CHCs than the Government sponsored; while, Mass media participation and Innovative prowess levels of the respondents were higher by 10% and 3.33% respectively in Government sponsored CHSCs than the Private owned. The Extension contacts (42%) and achievement motivation levels (39%) of the respondents remained even in both the CHCs. With respect to mechanized paddy production.

There existed a positive and significant relation at five per cent level of significance between individual qualities age and mass media participation with reference to knowledge level; while, it was a significant and positive relation at one per cent level of education, extension contact and extension participation with knowledge level.

Individual qualities, Extension contact and Extension participation showed positive and significant relation at five per cent level of significance with knowledge level. Whereas, Qualities age, education and mass media participation showed positive and significant relationship at one per cent level of significance.

Individual qualities, age and extension participation showed positive and significant relation at five per cent level of significance with adoption level; Whereas, extension contact quality, showed positive and significant relationship at one per cent level of significance with adoption level.

CONFLICT OF INTEREST

All authors declare that they have no conflict of interest.

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