



Research Article

DIFFUSION AND ADOPTION OF MESTA PRODUCTION RECOMMENDATIONS IN SRIKAKULAM DISTRICT OF ANDHRA PRADESH

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Abstract: The present study was conducted in Srikakulam district of north coastal Andhra Pradesh during the year 2015-16. Srikakulam district of north coastal Andhra Pradesh was purposively selected for investigation as the mesta crop is being grown larger area. Ex-post facto research design was followed for studying the personal and psychological characteristics, knowledge and adoption levels of the Mesta farmers. A total of 60 Mesta farmers were randomly selected from six villages of six Mesta growing mandals of Srikakulam district. Majority of the mesta farmers belong to middle age, having primary school education and were small farmers followed by medium. Majority of the mesta farmers had medium farming experience, extension contact, level of aspiration, management orientation, economic orientation and low scientific orientation. Majority of the respondents (48.33%) had low knowledge about recommended practices of mesta cultivation and adoption of recommended practices was low. Majority of the Mesta farmers (46.66%) are depending fully or partially on informal sources and utilization of formal sources and mass media sources very poor.

Keywords: Mesta production, Knowledge about recommended practices, Adoption behaviour, Srikakulam district

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Introduction

Mesta is one of the predominant fibre crops grown in north coastal district of Andhra Pradesh. Srikakulam district is one of the Mesta growing districts in North Coastal Andhra Pradesh next to Vizianagaram. It had been grown nearly 100000 ha up to 1990 as rain fed crop in kharif. Acharya N.G Ranga Agricultural university established a research station in Srikakulam district with mandate of development of suitable high yielding varieties and crop production technologies to improve the productivity of the crop and improve the economics of Mesta farmers as many of the Mesta growing farmers are small and marginal. Area under Mesta has been decreasing year by year in north coastal Andhra Pradesh likewise in Srikakulam, now it come down to 7500ha during 2010 onwards and further dropped to 4500 ha during 2015 [1,2].

The present study was conducted with the following objectives

To study the Selected profile characteristics of the Mesta farmers
To study the Knowledge and adoption patterns Mesta farmers
To study the utilization of information sources and diffusion patterns of Mesta farmers

Materials and Methods

Srikakulam district of North Coastal Andhra Pradesh was purposively selected for investigation as Srikakulam district is one of the major Mesta growing district in Andhra Pradesh. Ex-post facto research design was followed for studying the personal and psychological characteristics, knowledge and adoption levels of the Mesta farmers. A total of 60 Mesta farmers were selected from six villages of six Mesta growing mandals of Srikakulam district based on the highest area under Mesta cultivation. Data were collected from the respondents with help of pre-tested questionnaire.

Results and Discussion

Profile Characteristics of Mesta Farmers

It is clear from [Table-1], that majority (53.33%) of the mesta farmers belong to middle age category followed by old (26.67%) and young age (20.00%) categories respectively. 38.00 percent of the mesta farmers were having primary school education followed by high school (30.00%), Intermediate(18.33%), no education (8.33%) and graduate level education (5.00%). Majority (51.67%) of the mesta farmers were small farmers followed by medium (21.67%)marginal farmers (18.33%) and big farmers (8.33%).. Majority (58.33%) of the mesta farmers were having medium farming experience followed by high (25.00%) and low (16.67%) experience in mesta cultivation. 48.33 percent of the mesta farmers had medium Cosmo politeness followed by low (33.33 %) and high (18.33 %) levels of Cosmo politeness. 56.67 percent of the mesta farmers had medium extension contact followed by high (23.33 %) and high (20.00%) levels of extension contact. Results presented in the table show that 45.00 percent of the mesta farmers had medium Level of aspiration followed by high (33.33%) and low (21.67%) achievement motivation. Majority of meta farmers had medium management orientation (48.33%) followed by low (35.00%) and high (16.67%) management orientation. It was observed that 48.33 percent of the respondents had medium economic orientation followed by high (35.00%) and low (16.67%) economic orientation respectively. mesta farmers had low scientific orientation followed by medium (40.00 %) and high (16.67 %) scientific orientation.

Knowledge of Mesta Farmers about recommended Practices

The knowledge of the respondents about the recommended practices of Mesta cultivation was measured with the help of schedule developed for the study. The respondents were categorized into three groups based on mean and standard deviation.

Table-1 Distribution of mesta farmers according to their profile characteristics

Independent Variable	Category	Respondents	Frequency	Percentage
1	Age Mean:48.62 SD: 12.06	Young age (<36 years)	12	20.00
		Middle age (37 -60 years)	32	53.33
		Old age (> 60 years)	16	26.67
2	Education Mean: 2.33 SD: 1.16	Illiterate/No schooling	5	8.33
		Primary school	23	38.33
		High school	18	30.00
		intermediate education	11	18.33
		Graduate	3	5.00
		Post graduate	0	0.00
3	Farm size Mean: 7.68 SD: 3.20	Marginal (< 2.5 acres)	11.00	18.33
		Small (2.5 to 5 acres)	31.00	51.67
		Medium (5 to 10 acres)	13.00	21.67
		Big (>10 acres)	5.00	8.33
4	Farming experience Mean: 21.90 S.D: 9.12	Low (<11years)	10.00	16.67
		Medium	35.00	58.33
		High (>30 years)	15.00	25.00
5	Cosmo politeness Mean: 3.33 SD: 0.75	Low(<2.58)	20.00	33.33
		Medium	29.00	48.33
		High(>4.08)	11.00	18.33
6	Extension contact Mean:8.83 SD:2.47	Low(<6.36)	14.00	23.33
		Medium	34.00	56.67
		High(>11.30)	12.00	20.00
7	Level of aspiration Mean:14.20 SD: 3.27	Low(<10.93)	13.00	21.67
		Medium	27.00	45.00
		High(>17.47)	20.00	33.33
8	Management Orientation Mean:55.57 SD: 11.86	Low(43.71)	21.00	35.00
		Medium	29.00	48.33
		High(>67.43)	10.00	16.67
9	Economic orientation Mean:11.82 SD: 1.76	Low(<10.06)	10.00	16.67
		Medium	29.00	48.33
		High(14.58)	21.00	35.00
10	Scientific Orientation Mean: 10.88 SD: 1.84	Low (<9.04)	26.00	43.33
		Medium	24.00	40.00
		High (> 12.72)	10.00	16.67

Table-2 Distribution of respondents According to their Knowledge, (n=60)

SN	Level of knowledge	Frequency	Percentage
1	Low	16	26.67
2	Medium	29	48.33
3	High	15	25.00
	Total	60	100.00

Mean: 12.72S.D.: 3.21

Table-3 Distribution of respondents according to their Adoption level, (n=60)

SN	Farming performance	Frequency	Percentage
1	Low	29	48.33
2	Medium	23	38.33
3	High	8	13.33
	Total	60	100

Mean: 25.22 S.D.: 5.35

Table-4 Distribution of Respondents According to their Adoption pattern

SN	Recommended practice	FA		PA		NA	
		F	%	F	%	F	%
1	Time of land preparation	35	75.00	23	21.67	2	3.33
2	3-4 Ploughings for land preparation	42	70.00	18	30.00	0	0.00
3	Recommended variety	23	38.33	24	40.00	13	21.67
4	Seed rate	17	28.33	43	71.67	0	0.00
5	Seed treatment	2	3.33	4	6.67	54	90.00
6	Method of sowing line sowing	0	0.00	2	3.33	58	96.67
7	Recommended spacing	0	0.00	17	28.33	43	71.67
8	Thinning	24	40.00	19	31.67	17	28.33
9	FYM application	20	33.33	28	46.67	12	20.00
10	Recommended dose of fertilizer	7	11.67	15	25.00	38	63.33
11	Correction of nutrient deficiency	0	0.00	2	3.33	58	96.67
12	Running of guntaka/plough/Hand weeding	32	53.33	21	35.00	7	11.67
13	Control of Mealy bug	1	1.67	3	5.00	56	93.33
14	Control measures for Foot and stem rot.	1	1.67	2	3.33	57	95.00
15	Time of harvesting and heaping.	31	51.67	25	41.67	4	6.67
16	Method of Retting.	13	21.67	34	56.67	13	21.67
17	Storage method.	23	38.33	34	56.67	3	5.00
18	Drying of Fiber.	10	16.67	17	28.33	33	55.00
		16.2	26.94	17.8	29.7	26.0	43.3

FA: Full Adoption, PA: Partial Adoption, NO: No Adoption

The results from [Table-2] reveals that, majority, 48.33 percent of the respondents had low knowledge about recommended practices of mesta cultivation followed by 26.67 percent with medium knowledge and (25.00 %) with high knowledge level. This indicates that most of the farmers cultivating mesta are with low knowledge

on package of practices which leads to low adoption and thereby low productivity of the crop leading to lower economic feasibility. Reasons for the this trend might be that the mesta crop has been grown traditionally by the farmers in Srikakulam district in rainfed red sandy loams more over farmers are not that much interested

Table-5 Utilization of Information Sources by Mesta Farmers

Operations	Information sources								
	Formal			Informal			Mass media		
	F	P	N	F	P	N	F	P	N
Land Preparation	2	5	55	8	42	10	0	0	60
Seeds and Sowing	2	6	52	12	37	21	0	2	58
Manures & Fertilizer Management	4	9	47	10	35	15	0	2	58
Intercultural Operations	0	8	52	7	47	6	0	1	59
Plant Protection Measures	4	11	45	3	31	26	0	2	58
Harvesting And Post Harvest Technology	3	7	50	12	32	16	2	3	55
	2.50	7.67	50.17	8.67	37.33	15.67	0.33	1.67	58.00

F: Full, P: Partial, N: Not utilized

to have the knowledge on mesta crop due to uncertainty of returns and lack of assured water for retting. Some farmers had little bit knowledge due to their extension contact with KVKs, DAATTCs and research stations and attended the training programmes organised by the farmers training centres and department of agriculture. An equal proportion of farmers had low knowledge.

Adoption level of Mesta farmers about recommended Practices

It is evident from the [Table-3] that majority (48.33 %) of mesta farmers had low level of adoption of recommended practices in mesta cultivation followed by medium (38.33 %) and high (13.33 %). The probable reasons for the above trend might be fact that non assurance of returns in rain fed areas, some of the technologies were not in the reach of the small and marginal farmers due to their high cost, lack of knowledge on technologies is also the reasons for low and non-adoption of some of the recommendations like seed treatment and plant protection measures etc. Insufficient and improper training on Mesta production technologies, labour problem and non-availability of labor for adoption of the technologies viz., line sowing, application of fertilizer, hoeing in time were the probable reasons for medium level adoption among the sugarcane farmers.

Adoption Behaviour of Mesta Farmers of Srikakulam district

From the [Table-4] it was evident that majority (43.33 %) of Mesta farmers are not adopting the recommended practices followed by partial adoption (29.70%) and full adoption (26.94%) recommended practices in Mesta respectively. Recommended practice wise analysis shows that full adoption was seen in some of the recommended practices like time of sowing (75.00%), land preparation (70.00%) and hand weeding, hoeing & thinning (53.00%). Partial adoption noticed in practices like application farm yard manure (46.67%), seed rate per acre (71.67%), method of retting and storage (56.67%). Cattle population reducing day by day hence availability of farm yard manure become limiting factor for the farmers hence the Mesta farmers apply whatever limited quantity available with them. Non-adoption was noticed in practices like seed treatment, recommended fertilizer dose, correction of micronutrient deficiency, line sowing, spacing and pest and disease management. The reasons might be due to the Mesta being crop is grown under rainfed conditions; crop performance is totally depending on rainfall. Hence, farmers may not serious about these operations and neglect to follow these operations. Other side Mesta farmers might have very low knowledge on these aspects and hence non-adoption was seen in these recommended practices. The above tables indicated that majority of the Mesta farmers are depending fully or partially on informal sources (46.66%) followed by formal sources (11.22%) and mass media sources (1.97%). Further from the above tables, it was concluded that utilization of formal sources and mass media sources very poor by the Mesta farmers.

Conclusion

This may be due to the crop has been grown on rain fed condition. Uncertainty of weather conditions, fluctuation in prices, farmers are not showing interest in utilization of information sources for information on crop technologies unlike other crops. As per the feedback of the farmers it should be more remunerative to adopt the crop technologies and to bring more area under cultivation as the mesta as the mesta products are eco-friendly. There is lot scope to utilize formal sources extension units, research station working for promotion of Mesta crop in the district. There is lot of scope to create awareness on different information sources

which are involved in transfer of Mesta production technologies.

Application of research: Extension system should create content as per the expectations of the farmers.

Research Category: Agriculture Extension

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References

- [1] Anonymous (2015-16) ZREAC Recommendations of ANGRAU, North Coastal Zone, Andhra Pradesh, RARS, Anakapalle.
- [2] Ghorai A.K., et al (2010) Drought Management of Roselle (*Hibiscus sabdarifa*) under deficit rainfall in changing climatic scenario, CRIJAF, ICAR, Barrackpore, Kolkata