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Impact of Agromet advisory services of district Agromet unit (DAMU) in Prakasam district of south costal Andhra Pradesh

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Abstract

A study was undertaken on adaptation of Agromet advisory services (AAS) by farmers of Prakasam district of south costal Andhra Pradesh. The sample group included 480 farmers from 12 sub divisions of Prakasam District, including 240 registered and 240 unregistered farmers. Farmer respondents were specifically chosen, and personal interviews were done. A total of 104 agro advisory bulletins were prepared and disseminated to the farmers during the year of 2022-23 by District Agromet Unit (DAMU) established at Krishi Vigyan Kendra, Darsi, Prakasam district of Andhra Pradesh. Results showed that 45.0% of registered middle-aged farmers preferred adapting agricultural practises based on the weather forecast. According to the response, 78.8% of farmers prioritise weather forecasts before harvesting, and 77.0% do the same for post-harvest management (drying/threshing). The majority of farmers were in need. Temperature forecast came in second (68.8%), followed by rainfall forecast (90.8%). Accurate weather predicting would allow the farmers to plan their farm activities like Fertiliser application, Bordo spraying, Harvesting, etc., timely weather prediction aids AAS registered farmers to plan agricultural operations to avoid crop losses hence maintaining sustain and stable farm income. The AAS service provided by DAMU, Prakasam, satisfied 85percent of farmers.

Keywords: Agromet advisory services (AAS), District Agromet Unit (DAMU), forecast, Prakasam district

Introduction

By offering useful information on all agricultural operations, from land preparation to post-harvest operations with respect to current meteorological conditions, Agromet Advisory Services plays a crucial role in agriculture and related activities (Sridahara *et al.*, 2014) [6]. Agrometeorological factors will have an impact on about 66% of crop production. Farmers will be able to overcome a variety of losses in agriculture and related industries with the use of accurate forecasts (Reddy, 2019) [5]. Farmers that used Agromet Advisory services in their routine agricultural activities gained additional benefits in the following areas: crop growth, plant protection, irrigation, income, and bad weather connected to animal husbandry, respectively, 80.91%, 77.27%, 79.09%, 79.09%, and 66.36%.2019 (Manjusha *et al.*, 2019) [2]. According to the poll, 65% of farmers, 73% of farmers, and 55% of farmers who maintain their animal husbandries examine the weather forecast before performing spraying operations. (Arul Prasad *et al.*, 2020) [3]. As a result, using Agromet advice services based on the current and predicted weather is a useful instrument for increasing output and revenue. The cost of agriculture is reported to have decreased by 5.3% for farmers that use AAS. AAS and non-AAS farmers' net cost: benefit ratios were determined to be 1:1.31 and 1:1.19, respectively. (Gurupreet Singh Gandhi *et al.*, 2018) [1].

IMD and ICAR working together with other organisations to implement certain components. District Agromet Units were implemented in 9 districts of Andhra Pradesh in Krishi Vigyan Kendras. DAMU of Prakasam District is established during 2019 at Krishi Vigyan Kendra, Darsi, Prakasam District of South costal Andhra Pradesh. The unit has been serving the farmers of the District through issuing the Agromet Advisory Bulletins to 12 Sub Divisions based on ground level information collected from Agricultural Department and IMD Forecast at Sub Division level to meet the changing needs of Agriculture, Horticulture and Veterinary components in the district and creating awareness by conducting Farmer Awareness Programmes (FAP) on the impact of weather forecast and weather based farming practices.

Every Tuesday and Friday Agromet Advisory Bulletins are being prepared by Krishi Vigyan Kendra for Sub Division level utilizing DSS software by Subject Matter Specialist in consultation of scientists of KVK. The Bulletin is released in English and Regional (Telugu) language and disseminated through WhatsApp groups, Kisan Sarathi, Newspaper, Radio station, Non-Governmental organizations, FPO's and Agricultural Departments. In this study it is proposed to study the impact of Agromet Advisory Services (AAS) among the farmers of Prakasam District of South coastal Andhra Pradesh.

Materials and Methods

Study area: The District is situated in tropical region between 14-57'-00" to 16-17'-00" Northern latitude and 78-43-00' to 80-25'-00" Eastern longitude. Prakasam district occupies an area of 14,322 square kilometres (5,530 sq/mi).

Prakasam District comprises of 12 sub divisions namely Addanki, Chirala, Darsi, Giddalur, Kanigiri, Kandukur, Markapur, Martur, Ongole, Parchur, Singarayakonda, Yarragondalapur. Socio economic characteristics of farmer respondents were collected and tabulated (Table 1). A total of 104 AAS bulletins were prepared during 2022. Total 23 farmer awareness programmes conducted on importance of weather forecast and weather based farming, Megdoot, Damini, Mausam and Vyvasayam app popularization during the year of 2022. A questionnaire in optional type including source and frequency of weather forecast received by the farmers for which weather forecast/advisories are used, features and quality of Agromet Advisory Bulletins and usefulness, satisfaction level of AAS was prepared and used for data collection and it is analysed by using Dynamic Feedback System or Real Time Feedback System of IMD.

Table 1: Socio economic characteristics of farmer respondents

Sl. No	Particulars	Category	AAS registered farmers		AAS non-registered farmers	
			Frequency	%	Frequency	%
1.	Age	Young (<35)	57	23.7	68	28.3
		Middle (36-45)	108	45.0	73	30.4
		Old(>50)	75	31.3	99	41.3
2.	Education	Illiterate	32	13.3	38	15.8
		Primary	52	21.6	46	19.2
		Higher secondary	98	41.0	70	29.2
		Graduate	58	24.1	86	35.8
3.	Gender	Male	210	87.5	191	79.6
		Female	30	12.5	49	20.4
4.	Land Holding	Marginal and small	128	53.3	135	56.3
		Medium	69	28.7	78	32.5
		Large	43	18.0	27	11.2
5.	Family Size	Small (<5)	89	37.1	95	39.6
		Medium (6-8)	135	56.3	108	45.0
		Large (>9)	16	6.6	37	15.4
6.	Family Type	Nuclear	174	72.5	164	67.5
		Joint	66	27.5	78	32.5
7.	Farming Experience	Low (<15 years)	59	24.6	41	17.1
		Middle (16-25 years)	110	45.8	107	44.6
		High (>25years)	71	29.6	92	38.3
8.	Social Participation	Yes	213	88.8	197	82.0
		No	27	11.2	43	18.0

Results and Discussion

45.0 per cent AAS registered farmers were middle aged group while 41.3 cent of non AAS registered farmers are in the old age group (Table 1). Farmers' experience and knowledge of farming and the hazards connected with it are usually expressed by their age in relation to the crops they are able to raise. Older farmers are therefore assumed to have a higher level of experience and knowledge. 41.0 per cent of AAS registered farmers were educated upto Higher Secondary while 35.8 per cent of non AAS registered farmers were educated upto graduation. Male participation is more in the AAS and non AAS registered farmers group as compared to female participation. Most AAS farmers, including registered and unregistered, had medium-sized families. Likewise nuclear families account for 72.5 percent of AAS registered farmers and 67.5 percent of non-registered AAS farmers. Majority of AAS registered farmers (45.8%) have between 16 and 25 years of farming experience, and the same tendency was seen for non-registered AAS farmers (44.6%) (Table 1). Farmers received the agromet advisories via a variety of communication channels, including WhatsApp, radio,

newspapers, KisanSarathi, and mobile devices (Fig. 1). WhatsApp groups published and distributed by DAMU Project, KVK, Darsi, Prakasam District were the primary information source for AAS registered farmers (65%), followed by Kisan Sarathi (14%), radio (5%), websites (11%) and newspapers (8%). Ushasri (2022) [7] revealed that it was observed that majority of the farmers i.e., 74.6 per cent get weather information through WhatsApp, using these bulletins, 64.5% respondents could save Rupees 2,500-5000 while 35.5% respondents could save Rupees 5000-20,000 in a season by either proponing or postponing the agriculture operations based on weather.

Perception of AAS according to the study showed (Table 2) that 60.8% of registered farmers regarded the Agrometadvisory services as good, followed by Very good (23.8%). The investigations published by Praveen *et al.* (2022) [4] with regard to precipitation forecast showed the same results. The majority of farmers (80.8 percent) agreed that real-time AAS was essential at the harvesting stage because it allowed them to precisely and promptly arrange their farm tasks with the help of information on timely

rainfall. According to Yogesh Kumar (2021) [8] majority (80%) of randomly chosen farmers expressed satisfaction with the current Agromet Advisory Bulletins system, which is issued biweekly. Majority of the respondents (85%) were

satisfied with the AAS services, whereas only 15 per cent of the respondents were not satisfied with the AAS services (Fig. 2).

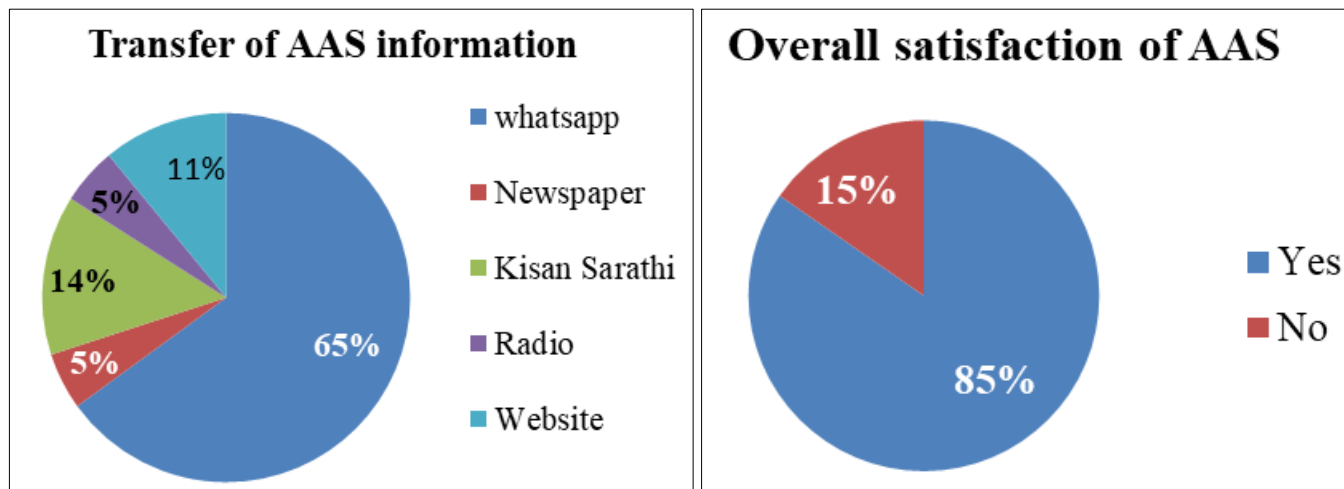


Fig 1: Information transfer method for AAS

Fig 2: Feedback from AAS farmers regarding weather predictions

Table 2: Registered farmers perception towards AAS of Prakasam District

Farmers Perception statements	Frequency	%
Perception about AAS		
Very poor	14	05.8
Poor	23	09.6
Good	146	60.8
Very Good	57	23.8
Perception about necessity of AAS		
Yes	212	88.3
No	28	11.7
Perception about for which weather parameter AAS is essential		
Temperature	165	68.8
Rainfall	218	90.8
Rh	140	58.3
Wind velocity	129	53.7
Perception about advantage of AAS		
Yes	187	78
No	53	22
Perception about which way you are advantaged from AAS		
Reducing costs	39	16.2
Managing pest and diseases	115	47.9
Avoid post-harvest loses	98	40.8
Time of harvesting	154	64.2
Scheduling of irrigation	127	52.9
Perception about at which stage of crop AAS is essential		
Planting	71	29.6
Flowering	163	67.9
Harvesting	194	80.8
Post-harvest practices (drying)	185	77.0
Perception about Quality of AAS information disseminated		
Good	122	50.8
Average	86	35.8
Poor	32	13.4
Perception about willingness for pay based services		
Yes	8	03.3
No	220	91.7
Undecided	12	05.0
Perception about overall satisfaction from AAS		
Yes	204	85
No	36	15

Conclusion

Findings of the current study indicated that, AAS intervention was successful in raising farm revenue for farmers of Prakasam district. With main advantage of timely advisories for agricultural activity. AAS bulletins and mobile communication were the two main sources of information. Due to their limited farm resources, the majority of AAS farmers believed that their desire to pay for the services was minimal, and they were willing to use advisory for free. The majority of farmers who responded expressed satisfaction with Agromet advisory service. From the present study, it can be concluded that the weather based Agro advisories given under DAMU project has helped farmers in their day-today farm activities in either taking up timely farm operations or postponing certain operations at times of unfavorable weather conditions. Majority of the respondents showed "Satisfaction" at the services offered under DAMU project. However, ways and means to disseminate such weather advisories to reach illiterate farmers also needs to be focused.

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