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Awareness and perception of farmers about weather based agromet advisory services: Evidence from Vijayapura district of Karnataka, India

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Abstract

Present study evaluated the farmers awareness and perception about micro-level Agromet Advisory Services issued by AICRPAM of ICAR through its 25 cooperating centers located across the country. Micro-level advisory based on weather forecast is the innovative idea and studies on awareness and perception of these were unusual. Therefore, present study was carried out to examine the farmers awareness and perception towards agromet advisory service in AICRPAM Centre, Vijayapura. Two groups namely adopted and control farmers, involving forty farmers in each group was chosen through multi-stage random sampling technique. The descriptive statistics and tabular analysis was employed to arrive the results. The finding of the study shows that 50% AAS adopted farmers appraise the advisories as 'very good'. However, Non-adopted farmers were fall off in awareness and adopting the service in counterpart with adopted farmers. The three-fourth of adopted farmers completely know about the weather advisories and weather advisories bulletin was the major source of communication for the advisories issued by the Centre. However, merely one-fourth of AAS farmers were willingness about pay based services at present due to their resource constraints.

Keywords: Agromet Advisory Service, awareness, perception, weather forecast, descriptive statistics.

Introduction

In India, Agriculture is an important sector which mostly depends on weather and climatic factors and the success and failure of agriculture determined mostly by weather parameters. Weather and its various parameters such as rainfall, temperature and relative humidity are critical in harvesting bumper farm ouput[1]. Farmers have to adjust with irregular and vague weather and often this has demeanor on the life of farming community[2]. Paucity towards real time weather based agromet information for efficient planning and operations of farm activities[3] and thus considerable losses of crops. Agriculturally relevant forecast is not only useful for efficient management of farm inputs but also leads to precise impact assessment[4].

Weather based agromet advisory services offers various meteorological information particularly rainfall, temperature, relative humidity and wind velocity essential for farm activities. The appropriate and relevant weather forecasted based advisory helping the farmers in taking various decisions on farm activities starting from land preparation to harvesting of the crops. Hence, precise weather forecasted information helps farmers for optimum resource management and thereby increasing crop yields and farm income. Therefore, accurate weather advisories mostly help the farmers in taking the benefits of favourable weather and climate, and minimize negative impacts of weather conditions. Further, weather advisories protect the farmers from losses and risks associates with farming thus increased the farm income.

Accurate and timely distribution of advisories may help in minimizing cost of cultivation and thus improved the resource use efficiency under changing climate conditions. In addition, farmers can increase their farm benefits through weather forecasting and advisories along with efficient crop management practices[5].

The All India Coordinated Research Project on Agrometeorology (AICRPAM) situated at ICAR-CRIDA, Hyderabad issued the weather advisories to farmers though its 25 cooperating centers situated across the country. The important feature of agromet advisory service encompasses to prepare and distribute the weather advisories to farmers twice in week. These advisories are usually depends on weather information forecasted by IMD and it was prepared for each village level with help of Scientists situated at the Krishi Vigyan Kendra. In this milieu, the awareness and perception of weather based agromet advisories among farming community is critical for efficient utilization of the service/technology available in the public domain. Hence, this study was carried out to evaluate the farmers awareness and perceptions about agromet advisory service disseminated by AICRPAM of Vijayapura Center, Karnataka.

Methodology

In this research study, data was gathered through personal interview from eighty farmers samples and data was collected with help of pre-tested questionnaires.

The district was purposely selected for data collection since AICRPAM Centre situated at Vijayapura district is disseminated the weather based advisories to farmers. However, villages within taluk was divided into two category i.e., village with advisory adopted and village without advisory adopted for comparison study. At the end, utmost unit of selection i.e., farmers was parted into three groups (small, marginal and large) based on the land holding of farmers. The Vijayapura taluk in Vijaypura district was randomly selected for the study purpose. Under the taluk, two villages i.e., Honawad as an adopted and Aheri as control village were selected for data collection purpose. In each selected village, forty samples were collected and thus total of eighty samples was collected for study purpose. Statistical tools was used for analyzing the data.

Results and discussion

The socio-economic characteristics of respondents: The baseline data of the farmers presumed to have different degree of impact on farmers' opinion about advisories and their capacity to adopt it (Table-1).

The findings of the study shows that age group among adopted farmers was higher as compared to non-adopted farmers (Table-1). It represents that experience and knowledge in farming was higher among adopted farmers and it may helps farmers to manage their farm resource and risk associated with it. The 50% adopted farmers possess primary education and 1/3rd possesses higher education under AAS category whereas nearly 38% of non-adopted farmers acquire primary education. Experiences in farming were more among adopted farmers (50%) in contrast to control (27.5%). Irrigation facility (60%) was more to adopted farmers as compare to control (42.5%) in the study area. However, farming was the key economic activity and major source of livelihood to both categories of farmers. The 1/4th of AAS and excess to 1/3rd of control farmers were also involved towards non-farm activities for securing alternative income. Both the category of farmers depends and access to institutional credit for their farming purposes.

Table-1: Baseline data of farm household.

Particulars	Groups	Adopted farmers (N=40)		Control farmers (N=40)	
		F	%	*F*	%
Age (Yrs)	Young (<35)	04	10	12	30
	Middle (36-45)	06	15	20	50
	Old (> 46)	30	75	08	20
Education (No.)	Illiterate	02	05	11	27.5
	Primary	20	50	15	37.5
	Higher secondary	14	35	8	20
	Graduation	04	10	6	15
Gender (No.)	Male	30	75	33	82.5
	Female	10	25	07	17.5
Family size (No.)	Small (up to 5)	20	50	10	25
	Medium (6 to 8)	12	30	20	50
	Large (> 9)	08	20	10	25
Family type (No.)	Nuclear family	30	75	26	65
	Joint family	10	25	14	35
Farming experience (years)	Low (up to 15 years)	10	25	13	32.5
	Middle (16-25 years)	10	25	16	40
	High (> 25 years)	20	50	11	27.5
Social participation (No.)	Yes	16	40	09	22.5
	No	24	60	31	77.5
Holding of Land (ha)	Small and marginal &	13	32	17	42
	Medium	17	43	16	40
	Big	10	25	7	18
Irrigation facility (No.)	Yes	24	60	17	42.5
	No	16	40	23	57.5
Farmers income (Rs)	Less than 50,000	08	20	10	25
	50,000 -100,000	14	35	15	37.5
	Above 100,000	18	45	15	37.5
Off-farm occupation (No.)	Yes	10	25	17	42.5
	No	30	75	23	57.5
Institutional credit (No.)	Yes	22	55	23	57.5
	No	18	45	27	42.5

Awareness and sources of AAS information among respondent farmers: The farmers awareness and source of information about agromet advisory services was studied and the results revealed that three-fourth of sample farmers among AAS category were fully aware about the service whereas little higher than 1/3rd of non adopted farmers were completely know about weather advisory services. However, 1/4th of control farmers still unaware regarding advisory services issued by the AICRPAM Centre, Vijayapura (Figure-2). Our study is in conformity with the earlier studies that non AAS farmers were lagging behind in both awareness and adoption of weather based adviseries[7].

From the study, it was also found that farmers perceived weather advisories from various sources of communication (Figure-2). The most important mode of communication was Agro Advisory bulletin prepared and distributed by the AICRPAM Centre (52.5%) followed by SMS sent through mobile (17.5). The AAS bulletin which was published in regional language and distributed to farmers and it was easy for farmers to understand and adopt the advisories issued.

Perception of adopted farmer's about weather advisories: The opinion of adopted farmers towards advisories shows that half of AAS farmers (50%) appraise the agromet advisory services as 'very good' on the scale of very poor to very good (Table 2). Our study is in conformity with the earlier studies and they indicated that more than 1/3rd of farmers perceived agromet advisories as excellent and more than 1/4th of farmers perceived as good in mid hill region of Himachal Pradesh[8]. The essence of weather advisories are perceived by more than 3/4th of farmers and they understood to have weather advisory derived from forecasted weather information are crucial for their agricultural activities. These results are in conformity with earlier studies[2, 9].

The 80% farmers opined that weather advisories are helpful to overcome the cost and expenditure bill of farming. Nearly 68% of farmers perceived that weather advisories helps to reduce the irrigation charges since farmers plan their farm activities as per the weather advisories received well in advance. More than half of the sample farmers perceived that weather advisory helps in managing and controlling of pest and disease problems. Nearly 88% of farmers perceived that precise and accurate agromet advisory service was crucial during initial stage of farm operations particularly during land preparation to sowing stage as it helps farmers to plan their farm activity accurately and timely. The 80% of farmers opined that weather advisories disseminated was precise, available in time and 60% again perceived that advisory issued twice in week was ideal for them to take quick decision on farm activities. Further, it was found that that 3/4th of adopted farmers were presently happy weather advisories issued by the Centre.

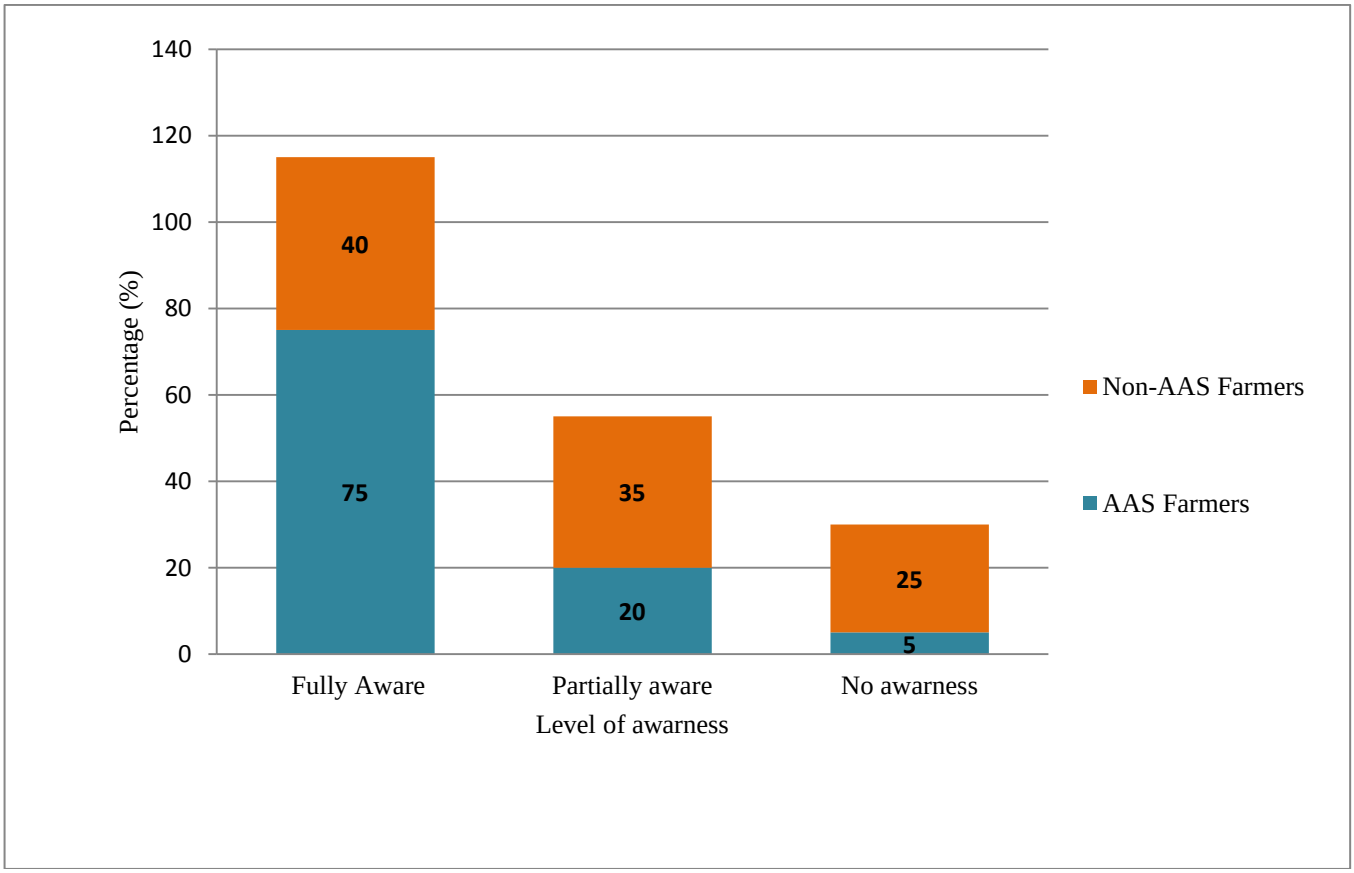

Figure-1: Awareness about Agromet Advisory Services among respondent farmers.

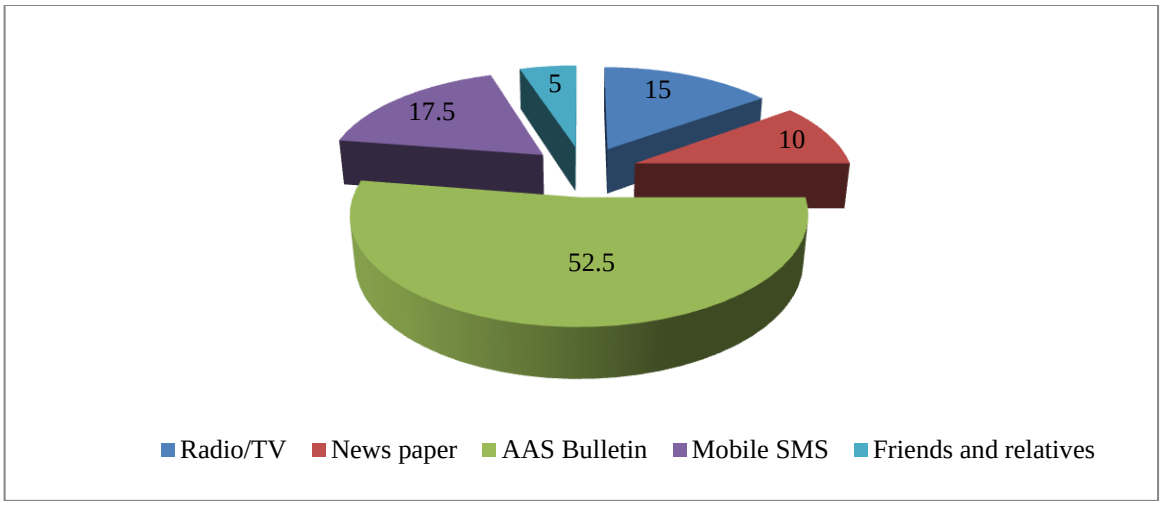

Figure-2: Source of information for Agromet Advisory Services.

Table-2: Perception of adopted farmers about weather advisory.

Perception of farmers	F	%
Opinion about advisories		
V. Poor	3	7.0
Poor	7	18
Good	10	25
V. Good	20	50
Need of advisories		
Yes	34	85
No	06	15
Advisories crucial for weather parameters		
Rainfall	38	95
Temperature	33	82.5
RH	21	52.5
Wind velocity	11	27.5
Advantage of Advisory		
Yes	32	80
No	8	20
How one can get advantage through advisories		
Overcoming expenditure at the time of sowing	32	80
Controlling disease and pest infestation	23	57.5
Overcome post harvest losses	16	40
Restricting the expenditure on irrigation	27	67.5
Stage of crop advisories are essential		
Sowing	35	87.5
Flowering	22	55
Harvesting	18	45
Quality of advisories		
Superior	32	80
Avg	5	12
Below par	3	8
Forecasting period		
Every day	2	5
Once in week	11	27.5
Twice in weekly	26	65
Once in month	1	2.5
Compliance for pay based services		
Yes	10	25
No	25	62.5
Unsure	5	12.5
Blanket satisfaction about advisories		
Yes	30	75
No	10	25

Conclusion

The Agromet Advisory Service disseminated by AICRPAM Centre, Vijayapura was important for creating awareness among farmers as well as adoption of advisories based on weather information for protecting against uncertain climatic vagaries. The AAS Bulletin issued by the Centre was major source of communication for weather advisories. There was positive and optimistic perception among farming community about weather advisories issued by AICRPAM Center. These advisories helped the farmers for better planning and taking appropriate decision about their farming activities well in advance. It helps them for better crop management with reduced cost of cultivation thereby by efficient utilization of existing farm resources.

However, large section of farmers at present ready to use this service freely without any fees due to their financial limitations.

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