



A Study on Accessibility and Utilization of DAMU Agro-advisory Information by Farmers in Jalore, Rajasthan

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ABSTRACT: The present study aims to assess the utilization of various information sources by farmers to access agro-advisories disseminated under the District Agro-meteorological Unit (DAMU) in Jalore district of Rajasthan. DAMU plays a vital role in supporting farmers through weather-based agricultural advice, helping them in crop planning and management. The research explores the extent to which different communication channels, including personal contacts, social media, mobile applications, radio, and television, are used by farmers to receive and interpret DAMU advisories. A structured survey was conducted among selected farmers using purposive and random sampling methods. Data were analyzed using descriptive statistics, mean percent score, and ranking methods. The findings reveal that social media platforms like WhatsApp and Facebook, followed by personal contact and mobile-based services, are the most commonly used sources. The study highlights the importance of enhancing the accessibility and effectiveness of these channels for better dissemination of weather-based advisory services.

Keywords: DAMU, GKMS, KVK, Agro-advisories, ICT, Weather Forecast.

INTRODUCTION

Weather and climate parameters affect crop growth and development from pre-sowing to post-harvest phases, they are essential to agricultural decision-making, especially throughout the cropping season. Rising temperatures, unpredictable rainfall patterns, and the growing frequency of extreme weather events such as cyclones, floods, and droughts pose major threats to agricultural productivity and farmer livelihoods in India, where agriculture is primarily rainfed and climate-sensitive (Gupta, 2022; Swaminathan, 2016). According to recent studies, India lost almost 35 million hectares of agricultural land due to droughts and 33.9 million hectares owing to floods and excessive rainfall between 2015 and 2021 (Gupta, 2022). These disturbances raise input prices, threaten food security, and lower yields. A 1°C increase over the yearly mean temperature, for example, can result in a 21.3% drop in major crop yield, highlighting how susceptible farming systems are to changes in the climate (Manohar, 2022). In order to prevent crop loss due to unusual weather conditions, the India Meteorological Department (IMD), which is part of the Ministry of Earth Sciences, began providing meteorological services for Indian farmers in 1945. Later, in 1976, Agro-met Advisory Services (AAS) were established (Manjusha *et al.*, 2019). By creating District Agro-Met Units (DAMUs)

on the grounds of Krishi Vigyan Kendra (KVKs) ICAR through ATARIs, the Agro-met Advisory Service (AAS) Network is being expanded to the subdistrict/block level with consent from the MOU that ICAR and IMD, New Delhi, during in 2018–19. To improve farmers' livelihoods, both the national and state governments are focusing more on weather-based agro-advisory programs. Real input for effective farm management includes agrometeorological data, such as weather forecasts, soil status data, and agro-advisory (Prasad *et al.*, 2020). Thus, the Gramin Krishi Mausam Sewa (GKMS) initiative is first implemented by the India Meteorological Department (IMD) at 130 district-level centers across all states, which are known as Agro-met Field Units (AMFUs). AMFU was founded by the State Agricultural/Animal Husbandry Universities, Krishi Vigyan Kendra (KVKs), Colleges, or Research Stations (Venkatasubramanian *et al.*, 2014).

To create weather-based agro-advisories at the district level, each AMFU is headed by a university scientist who serves as the technical officer. In addition to operating 130 AMFUs under the Gramin Krishi Mausam Seva (GKMS) project at Krishi Vigyan Kendras (KVKs), the Indian Meteorological Department (IMD) and Indian Council of Agricultural Research (ICAR) collaborated to establish District Agromet Units (DAMU) in 530 districts to offer block-

level advice to farmers. The goal of setting up DAMUs is probably going to be finished by 2021–2022, and they are currently fully available at 199 places within KVK's facilities under GKMS. The preparation of the block-wise AAS at the block level has begun for each district's established DAMUs. On a pilot basis, 2200 blocks are being prepared to operate every Tuesday and Friday, and 690 district-level AABs are being put into operational mode. In addition, DAMU is anticipated to create and disseminate Agro-met advisory bulletins at the subdistrict level in accordance with the IMD forecast. The bulletins are distributed via a number of information communication tools (ICT), including television, AIR Channel, newspapers, Facebook, Twitter, and What's App. They are available in both English and regional languages (Source: - IMD Annual Progress Report 2020-2021 (DAMU)).

Regular agromet advisory bulletins are being sent to farmers, who use them for their daily agricultural activities. They have expressed great pleasure with the DAMU project's service, with WhatsApp being their preferred method of receiving the advisories (Srilaxmi *et al.*, 2023). Farmers receive daily updates from Agrometeorological Advisory Services (AAS) and newspapers receive daily weather data and forecasts via phone calls. The biweekly agro advice bulletin is written, uploaded to the website during working hours, and distributed via email to all government agencies, non-governmental organizations, Kisan helplines, ETV, All India radio, etc. (Chaubey *et al.*, 2018).

A field survey was undertaken to evaluate the extent to which farmers in Jalor access and utilize DAMU agro-advisory services. Understanding how farmers utilize and interact with DAMU-which is essential for farming in the district was the primary objective. Direct communication with farmers allowed for the collection of their opinions and experiences, providing insight into the effectiveness of DAMU and its impact on farming. 120 farmers participated in the survey, which examined their opinions on weather recommendations during various time periods. With an emphasis on how farmers in vulnerable areas use such information for crop planning and risk mitigation, the research ultimately seeks to improve DAMUs' ability to support and empower farmers in Rajasthan's Jalore district.

Objective of the Study: To assess the utilization of various information sources by farmers for accessing agro-advisories disseminated under the District Agro-meteorological Unit (DAMU) in Jalore district, Rajasthan.

RESEARCH METHODOLOGY

Study was carried out by Krishi Vigyan Kendra, Jalor, Rajasthan, India during 2024-25. DAMU located at Krishi Vigyan Kendra, Jalor, Rajasthan. DAMU Provide agro-met advisory service for farming community of the district. Where out of all blocks of the district where two blocks (Jalore and Sayla) were purposively selected, and four villages from these blocks were chosen based on the highest number of beneficiaries. A total of 120 respondents were selected, comprising 60 beneficiaries and 60 non-beneficiaries,

through probability proportional random sampling. Data were collected using an interview schedule, which was pre-tested and validated before data generation. Data was collected through face-to-face interviews with beneficiaries and non-beneficiaries' farmers during 2024-25. The score regarding the utilization sources of agro-met advisory services were obtained using a three-point scale that signified the degree of each source by the farmers. The scale consisted of three three-point continuums for the responses as frequently, sometimes and never, for which the values 3, 2, and 1 were assigned. Descriptive statistics such as frequency, percentage, and Mean Percent Score (MPS) were used to analyze the data.

$$\text{Mean Per Cent Score} = \frac{\text{Total score obtained}}{\text{Maximum obtainable score}} \times 100$$

RESULTS AND DISCUSSION

The use of advisory services source by beneficiaries and non-beneficiaries' farmers were classified into eighteen categories. The MPS was used for ranking (Table1). Conculcated that Table 1 shows that various sources of agro-met advisory information used by beneficiary respondents. The most of utilized sources "Facebook" with MPS value 95.00 was ranked first, followed by "Personal contact" with MPS value 93.89 was ranked second, "WhatsApp" with MPS value 88.89 was ranked third, "YouTube" with MPS value 87.78 was ranked four, "Television" with MPS value 86.11 was ranked five, "Newspapers" with MPS value 72.78 was ranked six, "Mobile app" with MPS value 72.22 was ranked seven, "Radio" with MPS value 71.67 was ranked eight, "AAS bulletins in printed form at KVKs notice board and public places (like- milk collection center, Panchayat Bhawan)" with MPS value 71.11 was ranked nine, "Kisan Sarathi" with MPS value 69.44 was ranked ten, "mKisan" and "KVKs websites" both same MPS value (68.33) and ranked eleven, "IMD & ICAR web" with MPS value 65.56 was ranked thirteen, "University web" with MPS value 61.67 was ranked fourteen, "E-mail" with MPS value 61.11 was ranked fifteen, "Research station" with MPS value 53.33 was ranked sixteen, "State administrative department" with MPS value 51.11 was ranked seventeen and "NGOs" with MPS value 33.33 was ranked eighteen.

Regarding the non-beneficiary, Table 1 revealed that the "Television" with MPS 70.00 was ranked first, followed by "YouTube" with MPS value 68.89 was ranked second, "Facebook" with MPS value 63.89 was ranked third, "WhatsApp" with MPS value 60.00 was ranked four, "Mobile app" with MPS value 59.44 was ranked five, "Newspapers" with MPS value 56.11 was ranked six, "Radio" with MPS value 50.00 was ranked seven, "NGOs" with MPS value 48.33 was ranked eight, "AAS bulletins in printed form at KVKs notice board and public places (like- milk collection center, Panchayat Bhawan)" with MPS value 47.78 was ranked nine, "E-mail" with MPS value 47.22 was ranked ten, "Kisan Sarathi" with MPS value 46.67 was ranked eleven, "mKisan" with MPS value 44.44 was ranked twelve, "KVKs websites" with MPS value 40.56 was ranked thirteen, "State administrative department" with

MPS value 38.33 was ranked fourteen, “Personal contact” with MPS value 37.22 was ranked fifteen, “Research station” with MPS value 36.11 was ranked sixteen, “University web” with MPS value 35.56 was ranked seventeen and “IMD & ICAR web” with MPS value 35.00 was ranked eighteen.

Among all sources, Facebook (MPS 95.00) was the most utilized by beneficiaries’ farmers, followed by Personal contact (MPS 93.89) and WhatsApp (MPS

88.89). YouTube (MPS 87.78) and Television (MPS 86.11) were also utilized by non-beneficiaries’ farmers on visual and digital platforms. Traditional sources like radio and newspapers ranked lower, suggesting a shift towards digital communication. Farmers reported that ease of use, instant updates, and visual content were major reasons for preferring digital platforms. These findings are similar to those obtained by Ramachandrapa *et al.* (2018) and Das *et al.* (2022).

Table 1: Distribution of utilisation of different agro-advisory sources.

Sr. No.	source	Beneficiary			Non-beneficiary		
		Total score	MPS	Rank	Total score	MPS	Rank
1.	Email	110	61.11	XV	85	47.22	X
2.	WhatsApp	160	88.89	III	108	60.00	IV
3.	Facebook	171	95.00	I	115	63.89	III
4.	YouTube	158	87.78	IV	124	68.89	II
5.	mKisan	123	68.33	XI	86	44.44	XII
6.	Kisan Sarathi	125	69.44	X	84	46.67	XI
7.	Mobile app	130	72.22	VII	107	59.44	V
8.	Television	155	86.11	V	126	70.00	I
9.	Radio	129	71.67	VIII	90	50.00	VII
10.	News papers	131	72.78	VI	101	56.11	VI
11.	KVKs websites	123	68.33	XI	73	40.56	XIII
12.	University web	111	61.67	XIV	64	35.56	XVII
13.	IMD & ICAR web	118	65.56	XIII	63	35.00	XVIII
14.	Research station	96	53.33	XVI	65	36.11	XVI
15.	Personal contact	169	93.89	II	67	37.22	XV
16.	AAS bulletins in printed form at KVKs notice board and public places (like- milk collection center, Panchayat Bhawan)	128	71.11	IX	80	47.78	IX
17.	NGOs	60	33.33	XVIII	87	48.33	VIII
18.	State administrative department	92	51.11	XVII	69	38.33	XIV

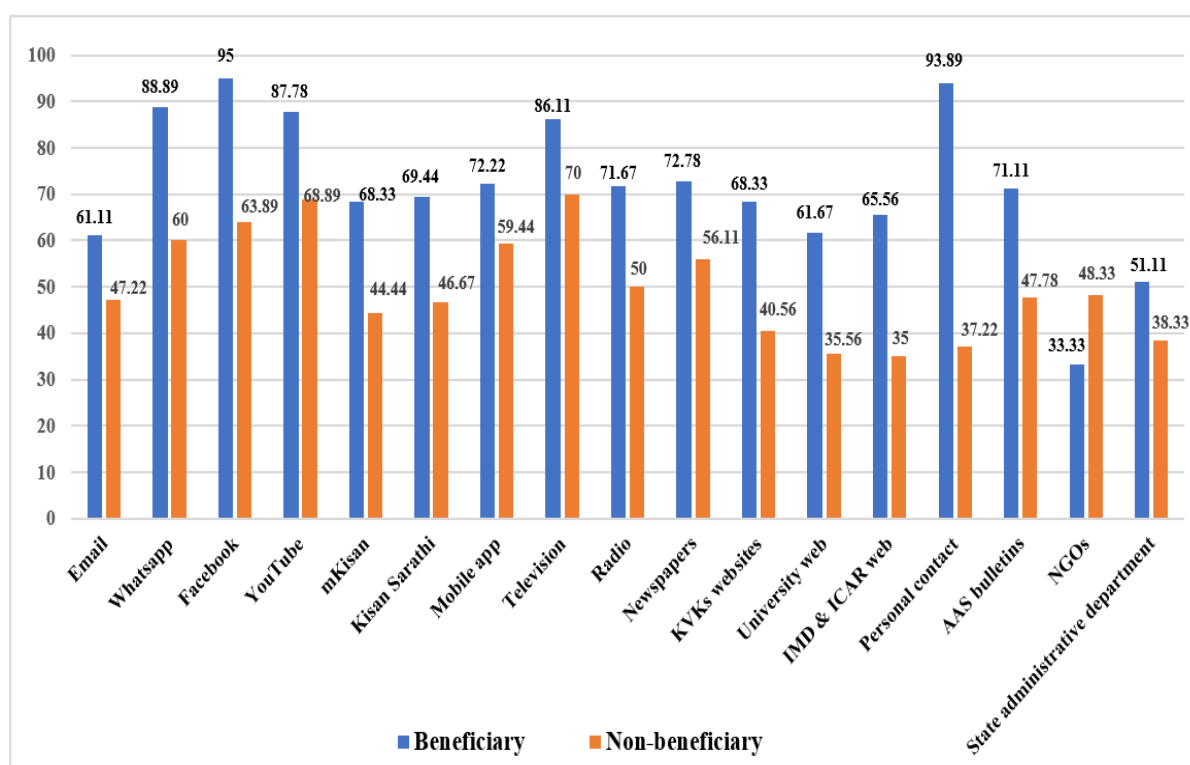


Fig. 1. Extent of utilisation of different agro-advisory sources.

CONCLUSIONS

The study clearly establishes that the District Agro-Meteorological Unit (DAMU) has played a significant role in improving the accessibility and utilization of weather-based agro-advisories among farmers in Jalore district, Rajasthan. The findings reveal that social media platforms such as Facebook and WhatsApp, along with personal contacts, emerged as the most preferred sources of information for beneficiary farmers, while non-beneficiaries relied more on traditional media like television and YouTube. This indicates a gradual but steady shift from conventional to digital communication channels for agricultural information dissemination. Overall, the results highlight that digital platforms are now central to advisory delivery, though traditional media continues to serve as a supplementary source, especially for non-beneficiaries. For maximizing impact, DAMU should prioritize strengthening digital literacy, ensuring timely and user-friendly updates, and promoting advisories in local dialects and voice-based formats. Strengthening last-mile connectivity and enhancing trust in advisory services can further empower farmers to make informed decisions regarding crop planning, input management, and risk mitigation. Thus, the study underscores the transformative role of DAMU in bridging the gap between scientific weather-based information and farmers' practical needs, contributing towards climate-resilient and sustainable agriculture in vulnerable regions like Jalore.

FUTURE SCOPE

The study was limited to a specific district; in order to generalize the results, Comparative studies between different regions may provide deeper insights into variations in farmers' information-seeking behaviour. Additionally, case studies on progressive farmers using DAMU advisories can highlight success models. Future research may also focus on assessing the long-term impact of DAMU advisories on crop productivity, income stability, and climate-resilient farming practices.

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Conflict of interest. Authors have declared that no

competing interests exist.

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