Original Research Article

IMPACT OF AGROMET ADVISORY SERVICES OF DAMU PROJECT OPERATING AT MAHABUBABAD DISTRICT, TELANGANA

ABSTRACT

Agrometeorological Advisory Services (AAS) are being rendered by India Meteorological Department (IMD), Ministry of Earth Sciences (MoES) under GraminKrishiMausamSewa (GKMS) scheme as a step towards providingweather information based crop or livestock management strategies and operations dedicated to enhancing crop production and food security. The Government of India has entrusted IMD the task of establishing weather observing system and development of GKMS in the country. In pursuance, IMD has set up a network of District Agro-Meteorology Unit (DAMU) in 530 districts in the country.DAMU project was started at KrishiVigyan Kendra, Malyal during 2019 with operational districts of Mahabubabad, Warangal (Rural), Jangaon, JayashankarBhupalapalli with an aim to disseminateweather based agro advisory bulletins to local farmers of identified locations. The present study was conducted to determine the impact of DAMU project and importance of ICT Tools in dissemination of AAS among farmers by conducting a feedback surveythrough Google form in Telugulanguage by randomly selecting 200 beneficiaries belonging to Mahabubabad district. The study revealed that *WhatsApp* is the most convenient and widely used medium for weather information followed by personal visit to the KrishiVigyan Kendra, (*i.e*, Location of observatory).". 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. "very useful".

KEYWORDS: Agromet Advisory Services (AAS), District Agro-Meteorology Unit (DAMU), GraminKrishiMausamSeva (GKMS), Impact

INTRODUCTION

Agriculture is the main occupation of farming community in India. Transfer of technology plays a major role in disseminating the research outcome to the farming community. Information and communication technologies (ICTs) are those technologies that can be used to interlink information technology devices with communication technologies. These are assembly of technologies that can be used to collect, store and share information among people by way of using multiple devices and multiple media. Since weather plays a major role in crop growth and production, risk in agricultural operations can be minimized by providing timely advisories for farm operations and disseminated well in advance of the impending weather(Rathore and Maini, 2008).

Agro Advisory Services (AAS) provide basic, accurate pre-information of different climate and weather conditions of different crops and are very helpful to farmers to increase interest, knowledge, adoption and impact of climate changes on agricultural practices.AAS are being rendered by India Meteorological Department (IMD), Ministry of Earth Sciences (MoES) under GKMS scheme as a step towards contribution to weather information based crop or livestock management strategies and operations dedicated to enhancing crop production and food security. Mechanism was developed to integrate weather forecast and climatic information along with agro meteorological information to prepare district level agro advisories with the help of 130 Agromet Field Units (AMFUs), located at State Agricultural Universities, Indian Council of Agricultural Research (ICAR) institutes and Indian Institute of Technology across the country(Venkatasubramanian*et al.,* 2014).A system has also been developed to communicate and disseminate the agromet advisories to strengthen the information outreach.

IMD started to implement block level AAS by establishing 530 District Agromet Units (DAMUs) phase wise under GKMS in the premises of KrishiVigyanKendras (KVK,s) in collaboration with ICAR making AAS more crop and location-specific to address variations in weather within the district. Implementation of block level AAS is more effective due to high resolution forecast with appropriate agromet advisories for the farmers of specific blocks(Manjusha*et al*., 2019).The present study was conducted with an objective to analyse the

impact of ICT tools in dissemination of Agromet Advisory Services (AAS) among farmers in Mahabubabad district of Telangana, India through DAMU.

MATERIALS AND METHODS

Comment [P1]: The authors should clarify the reasons for sampling to see sample representativeness. Adding total units overall, survey content and analytical methods.

Study Area

Mahabubabad district (17^0 35'55.101"N Latitude and 80^00'19.733"E Longitude) with Mahabubabad as headquarterwas carved out of erstwhile Warangal district. The district shares boundaries with six districts *i.e.*,BhadradriKothagudem, Khammam, Suryapet, Jangaon, Warangal and Mulugu and comprises of 2 Revenue divisions *i.e.* Mahabubabad and Thorrurwith16 mandals.The impact of DAMU project was analyzed by conducting a feedback survey through google (Fig.2) form having 15 questions with multiple choice optionsin regional language(Telugu), by randomly selecting 200 beneficiaries belonging to Mahabubabad district. Among the respondents, 80% farmers are educated and they are using *WhatsApp* in their smart phones for weather advisories (Tuesday, Friday)and 20% respondents are illiterate, they regularly visit KVK and involve during farmers group discussions in their respective villages.

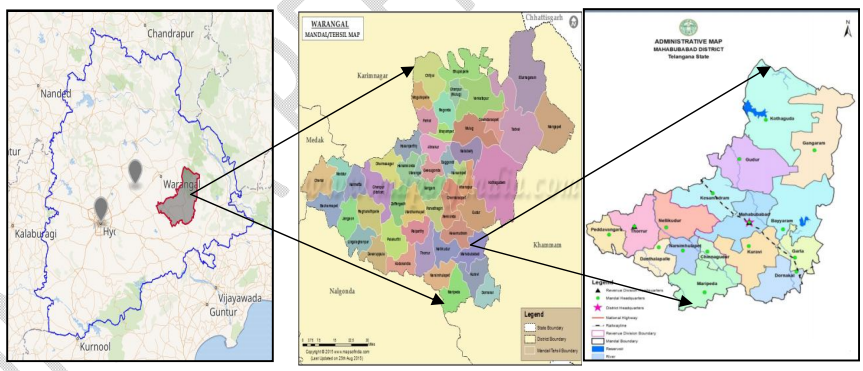
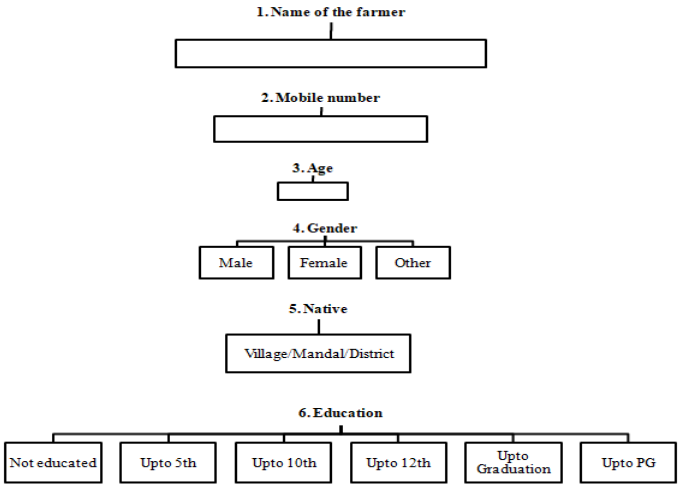


Fig. 1: Study area: Mahabubabad district, Telangana

Fig.2(a): Schematic diagram of google form designed for Impact Analysis (Part 1)



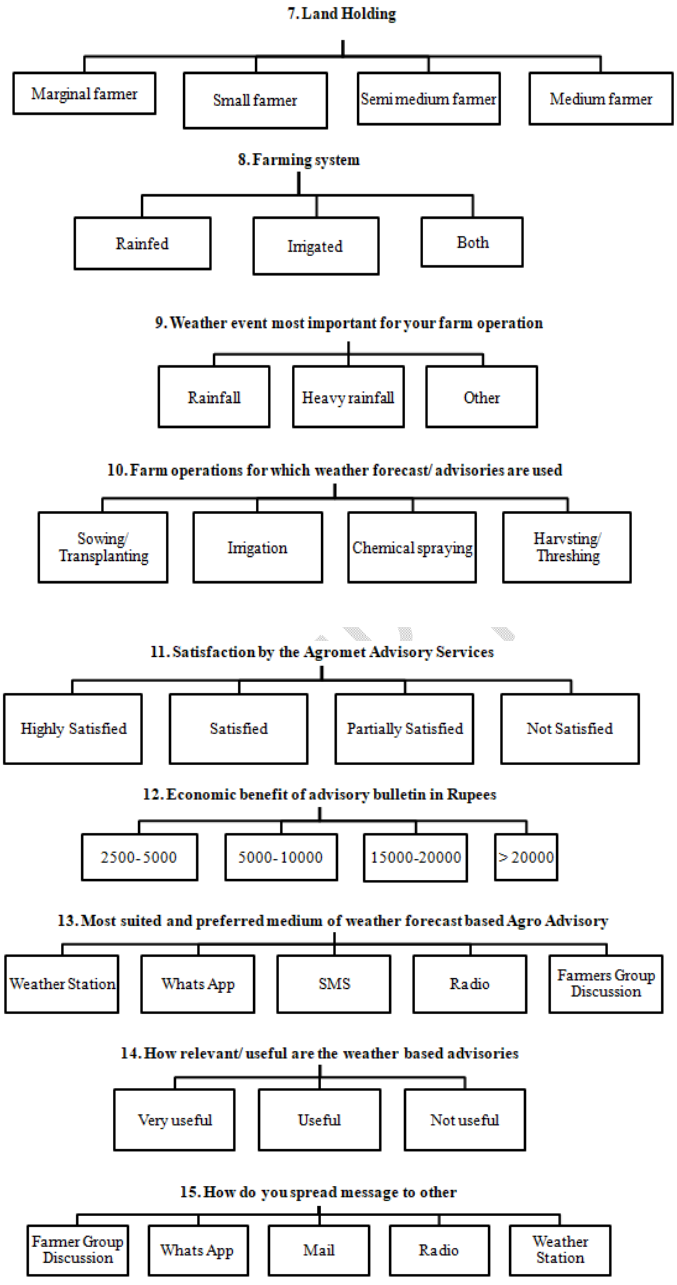


Fig 2(b) Schematic diagram of google form designed for Impact Analysis (Part 2)

RESULTS AND DISCUSSION

Impact of AAS issued under DAMU project was studied by selecting a sample of 200 farmers through a google form designed for the purpose [Fig.2 (a and b)]. Among the respondents, majority*i.e.,* 45.5% of the farmers are marginal farmers followed by 41.0% of small farmers, 11.5% of semi-medium farmers and 2.0% of medium farmers. 63% and 36% of respondents werefound to follow rainfed and irrigated farming system respectively, while 1% of the respondents followed both rainfed and irrigated farming systems.

It was found that majority of the respondent's*i.e.*83.3%, found 'rainfall' as the most important weather event for their farm operations while 10% of respondents found heavy rainfall as most important weather event. 6.7% of respondents found other weather events like temperature, humidity, wind, etc. as the most important weather event. It is also observed that 34% of the respondentswere found to use weather forecast/ advisories for harvesting or threshing purposes, followed by 30% of them for sowing or transplanting purposes and 18% for chemical spraying purposes, 9% for irrigation purposes.

Rating of the satisfaction perceived by the use of AAS indicated that *i.e.,* 47.6% farmer's found AAS as "highly satisfied" followed by 37.3%, 12.7% and 2.4% as "satisfied", "partially satisfied" and "not satisfied" respectively. Whenfarmers were questioned on the impact of these AAS on the extent of minimizing crop losses, 64.5% respondents could save an amount of Rupees 2,500-5000, while 35.5% respondents could save Rupees 5000-20,000 through these bulletins in a season (Fig.3).

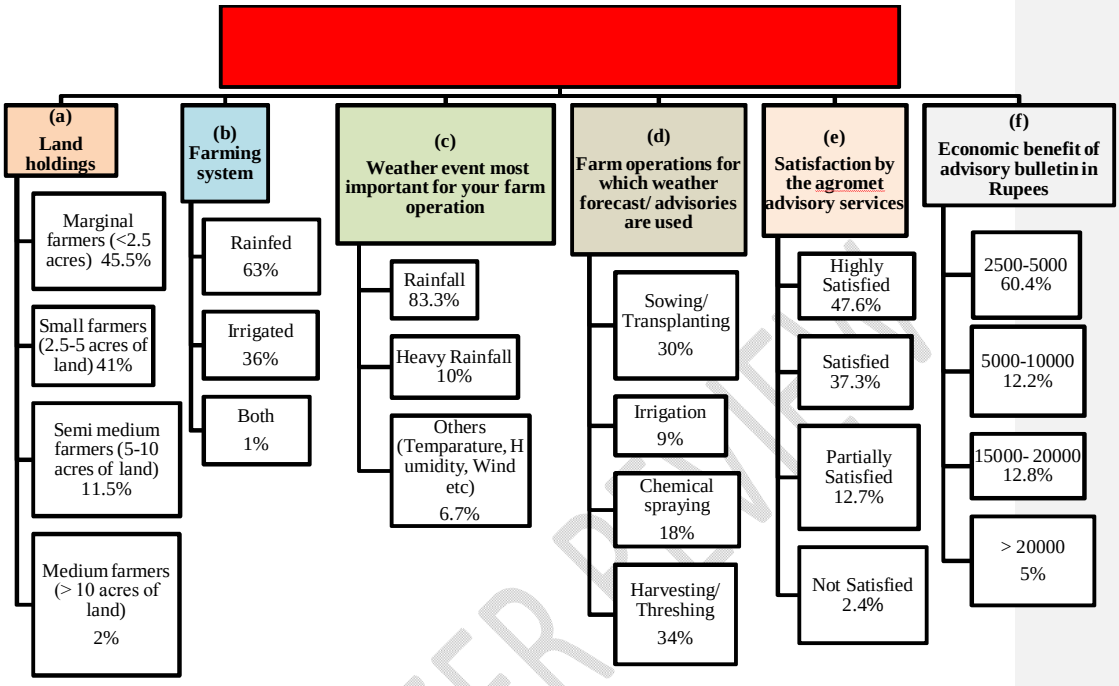


Fig.3: Schematic representation of the impact of AAS

Preference of mode of technology dissemination

Mass media play key role in day to day life. It also plays a major role in dissemination of various agricultural technologies from Lab to land (farmers field). The success of agricultural development programmes largely depend on the nature and extent of use of mass media in mobilization of people for the programme.The key function of mass media is to communicate various messages through television, radio, internet, magazines, newspapers, *WhatsApp*, agro-based apps, etc. The present study was conducted to assess the importance of tools of mass media in disseminating of weather information through AAS. It was observed that majority of the farmers *i.e.,* 74.6 per cent get weather information through *WhatsApp,*followed by 17.4 per cent through visit to KVK / weather station and the remaining from other media like T.V, newspaper, SMS (Text messages), radio, website. *WhatsApp* was found to be the most widely used ICT tool for weather based advisories*(*JagadeeshaNaika*et al*., 2022). Moreover 84.4 per

cent of DAMU farmers found *WhatsApp* to be the most preferred and convenient tool for weather advisories. Very less number of farmers uses T.V, newspaper, SMS (Text messages), radio, website and others to know weather bulletins. The reason for using *WhatsApp* and weather station most widely may be due to their convenience to use, ease of accepting as per choice of time and, location (Fig.4). 85.5 per cent, of the respondents found AAS bulletins 'very useful' while 14.5 per cent of respondents found it 'useful' (Fig.5). The timing and accuracy of weather forecast helps in effective planning of agricultural activities. This may facilitate the farmers to determine the farming operations like sowing, irrigation, fertilizer and pesticide application (Prasad *et al.*, 2020) which will be performed or postponed

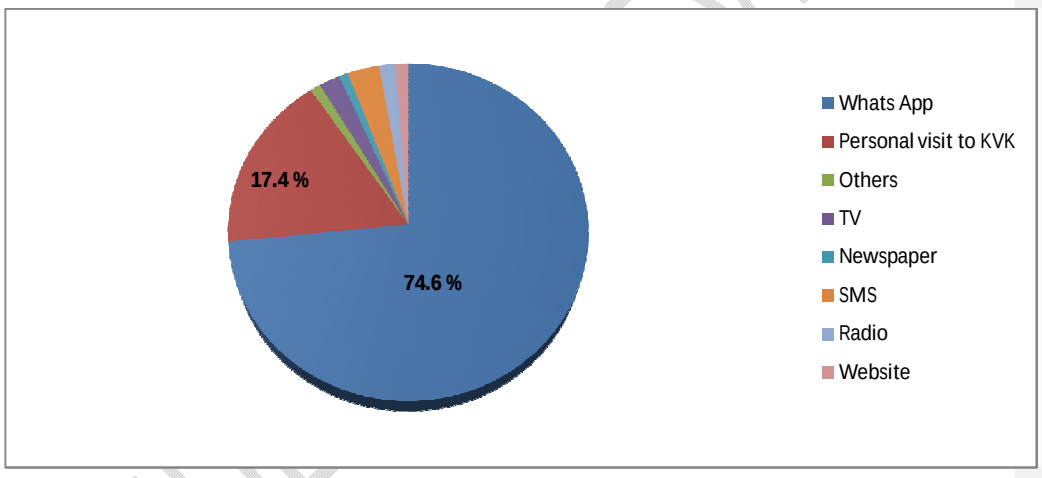


Fig. 4: Preferences for mode of technology dissemination

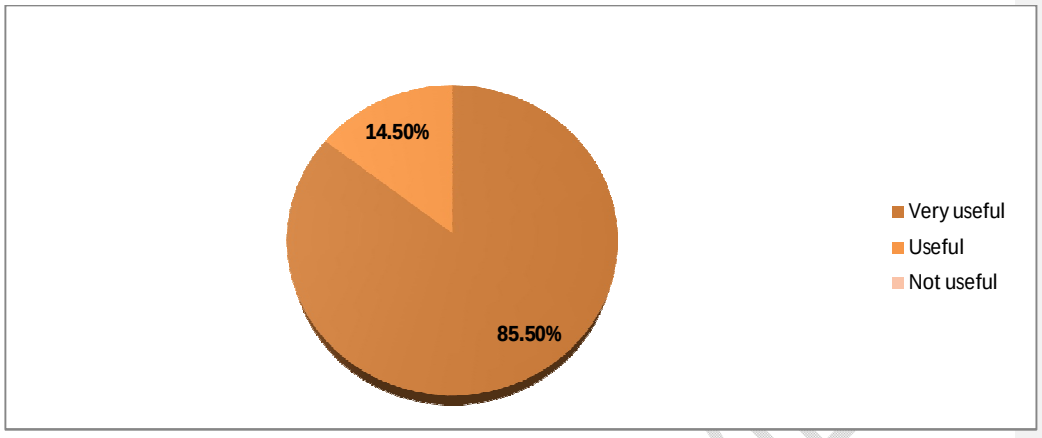


Fig. 5: Perception on utility of AAS bulletins

CONCLUSION

From the present study, it can be concluded that the weather based Agro advisories given under DAMU project has helped farmers in their day to day farm activities either in 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 todisseminate such weather advisories to reach illiterate farmers also needs to be focused.

Comment [P2]: In results and discussion, the author didn't mention "illiterate farmers" the author concluded: "However, ways and means to disseminate such weather advisories to reach illiterate farmers also needs to be focused". So it needs editing to ensure the logic in the research.

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