Short Research Article

AWARENESS ON WEATHER BASED AGRO-ADVISORY SERVICES AMONG FARMERS OF TAMIL NADU

ABSTRACT

Weather influences the production and productivity of various crops. If farmers aware aboutthe real time weather factors such as temperature, relative humidity, wind speed, winddirection and rainfall it will be the effective to prevent the crop failure and achieve high yield withbetter economic returns. The right weather information at right time facilitates the farmers to planagricultural operations from selection of crops to post harvest to avoid crop losses. To study theawareness of weather based agro-advisory services, a random sample survey was conducted from 60farmers from blocks of Andanallur and Musiri block of Tiruchirappalli district. Results indicated thatfocusing illiterate farmers are much more important and dissemination of weather advisories inaudio or visual format is preferable to make them to adapt weather based agricultural practices. Thesurvey revealed that 72.00 per cent of farmers had medium level of awareness, about 95.00 per cent of the farmers check the weather forecast before going for irrigation and pesticide spray, 60.00 per cent farmers are receiving SMS through District Agro-Met Units. Our study revealed that the farmers had medium level of awareness. Further, awareness is to be created to realize that they should need to follow weather forecasts from the selection of crop to post harvest in order to achieve better productivity and good income.

Key Words: Weather, Agro Advisory Services, GKMS, DAMU

INTRODUCTION

Weather plays an important role in agrariancountry like India.The government invested huge budget for making weather forecast most reliable and best suitable for everyone and especially for farmers. Weather forecast system meant to operate to cope with adverse weather in particular relation with agriculture. Agriculture is one amongst the vulnerable area which is generally stricken by the climate and weather. Weather is one amongst the foremost factors

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affecting the agriculture production and crop productivity. Based on weather forecast, crop loss can be minimized by adopting the real time contingencies plan in crop management. The success and failure of crop production is highly dependent on weather parameter like temperature, rainfall, wind speed, relative humidity and hail. Weather influence both the short term (tactical) and long term (strategic) decisions in order to harness the maximum benefit in quality and quantity of the crop production. In India weather services to thefarmers was started by India Meteorological Department (IMD) in 1945 and later Agromet advisory services (AAS) started in 1976 , to avoid crop failure due to abbreviate weather condition. Central and State government is concentrating more on weather based agro advisory schemes to enhance the farmers live hood. Agro-meteorological information *viz*., weather forecast, soil status information along with agro-advisory is real input for efficient farm management. If accurate weather forecast is available, the farmer could plan in advance on crop cultivars, time of fertilizer application, weed management, pest and diseases management and make necessary arrangements accordingly to reduce the risk of failure.

India Meteorological Department (IMD) implements the Gramin Krishi Mausam Sewa (GKMS) programme at 130 centers at all states at the district level. Such Agromet Field Units (AMFUs) are established by the StateAgricultural/Animal Husbandry Universities, Krishi Vigyan Kendra (KVKs), Colleges or Research stations. Each AMFU is led by the university scientist as technical officer to prepare weather based agro advisory at district level. To provide block level advisory to farmers, District Agro-Met Units (DAMU) was implemented in nine districts of Tamil Nadu. Every Tuesday and Friday advisory bulletins are being prepared by Krishi Vigyan Kendra for block level by Subject Matter Specialist with the help of KVK scientists and State Agriculturaldepartment for major crops of the district. The bulletin is in English and regional language and disseminated through WhatsApp, M-Kissan, Newspaper, Short Message Services (SMS), Non-Governmental organizations'(NGOs), E-mail through State Agriculture Department, Research Stations, GKMS and Web portals. The farmers utilize the services to decide and follow the timely cultivation practices which in turn facilitated to obtain increase in crop yield as well as reduced losses due to bad weather.

However, assessing weather forecast information to all farmers are rare and smart phones are required for weather based agro advisory services. In this study it isproposed to analyze the

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awareness of weather based agro advisory services among the farmers and source of weather information of Tiruchirappalli district.

MATERIALS AND METHODS

Area of Study

Tiruchirappalli District is located centrally in Tamil Nadu between the North Latitude 10° to 11°-30'and the East Longitude 77°-45' to 78°-50'2. The district has a total area of 4403.83 SquareKilometres and is surrounded by various districts such as Namakkal in the North West, Salem in the North, Karur in the South West, Ariyalur in the North East, Pudukkottai in the South East, Thanjavur in the East and Dindigul in the South. Ariyalur in the North East, Pudukkottai in theSouth East, Thanjavur in the East and Dindigul in the South. The total geographical area of the district is 4403 sq. km., which is 3.39 per cent of the total geographical area of Tamil Nadu. Tiruchirappalli District is one of the 38 districts, located along the Kaveri River, in Tamil Nadu, India. Tiruchirappalli is situated in central south-eastern India, almost at the geographic centre of the state of Tamil Nadu. Tiruchirappalli is completely surrounded by agricultural fields. Tiruchirappalli experiences a dry-summer with no major change in temperature between summer and winter. The climate is generally characterised by high temperature and low humidity. With an annual mean temperature of 28.9 °C (84.0 °F) and monthly average temperatures ranging between 25 °C (77 °F) and 32 °C (90 °F), the city is the hottest in the state. The warmest months are from April to June, when the city experiences frequent dust storms. The high temperatures in the city have been attributed to the presence of two rivers—Kaveri and Kollidam. As Tiruchirappalli is on the Deccan Plateau the days are extremely warm and dry; evenings are cooler because of cold winds that blow from the south-east.From June to September, the city experiences a moderate climate tempered by heavy rain and thundershowers. Rainfall is heaviest between October and December because of the north-east monsoon winds, and from December to February the climate is cool and moist. The average annual rainfall is 841.9 mm (33.15 in), slightly lower than the state's average of 945 mm (37.2 in). Fog and dew are rare and occur only during the winter season.Tiruchirappalli is district in Tamil Nadu state of India.

There are total 14 blocks in Tiruchirappalli, namelyAndanallur, Lalgudi,Mannachanallur, Manigandam, Manapparai,Marungapuri, Musiri, Pullambadi,Thiruvarumbur, Thottiyam,

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Thuraiyur, T.Pet,Uppiliyapuram, and Vaiyampatti. District Level Agro-Met Units for weather based Advisory services has been established at KVK, Sirugamani, Trichy for weather forecasting and appropriate advisory service to farmers based on weather forecast.

In Social science studies, survey plays most important and effective in acquiring relevant information from a large group of people. The simple random samplingmethodwas conducted among 60 farmers from villages of Andanallur and Musiri block of Tiruchirappalli district. The Survey is to know the awareness about weather based agro advisory services, provided by District Agro-Met Units. Well structured interview schedule was prepared and the survey was taken place in Tiruchirappalli district.

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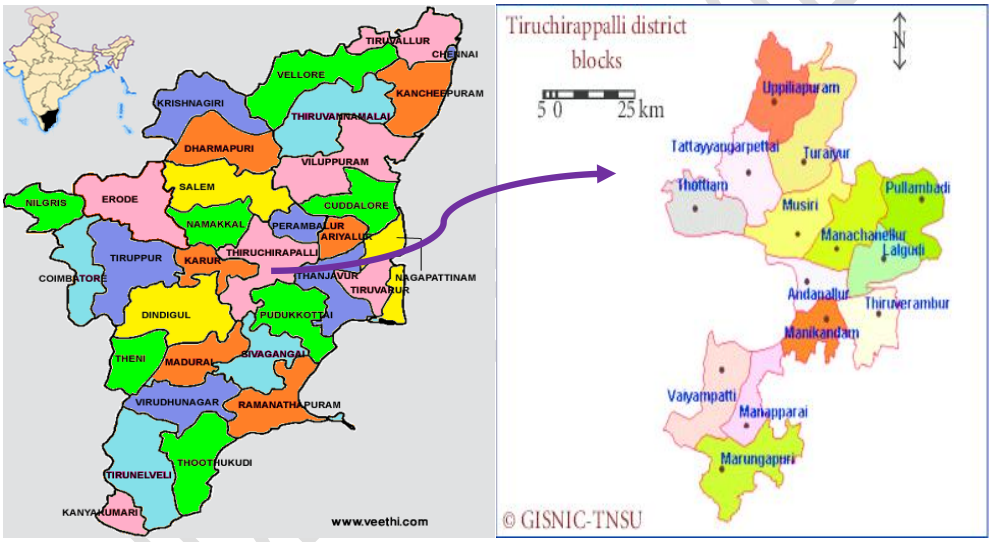

Fig 1. Map showing study location

RESULT AND DISCUSSION

Demographic expression

The survey result revealed that 48.00 per cent of the farmers belonged to middle age group followed by old age 40.00 per cent and young age (12.00 per cent) group. The education level of farmers also played a vital role in this survey where the secondary education level showed the highest per cent of 25.00 followed by middle education 18.00 per cent, higher

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secondary education 17.00 per cent, primary education and illiterate 13.00 per cent, diploma and collegiate education 7.00 per cent. From these two factors it has been clearly arrived that age and educational status influenced the farmers to know the appropriate technologies which are suitable in the changing weather conditions and consequently helped them to follow appropriate cultivation practices and technologies. The occupation of the farmers, only farming has the highest percentage of 70.00 per cent followed by farming + animal husbandry 17.00 per cent and farming + business 13.00 per cent. The farming experience of the farmers also plays a major role in predicting the weather and using the weather based agro advisory services, 60.00 per cent of the farmers had more than twenty years of farming experience followed by 32.00 per cent of the farmers had ten to twenty years of farming experience and 8.00 per cent of the farmers had below ten years of farming experiences.

Table 1: Demographical description

Items	Categorize	Number of respondents	Percent
Age classification			
Educational status			
Occupation			
Total			

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Source of Weather Information

It was observed that weather based agro advisory services are provided through different platforms and the farmers availing the information through different platforms, out of 60 farmers, 40 farmers were received information from DAMU and also 10 farmers were seen through mobile apps and 8 farmers were got through website. Therefore KVK plays a major role in disseminating the weather based agro advisory services, where the DAMU scheme is implemented and it also has been observed the mass media utilization creates more impact on the farmersby receiving the weather based agro advisory services through various mass media platforms.Only 66.6 per cent of the respondents were found to be using whatsApp followed by internet (13.3 %).This may be because 40 per cent of the farmers were of above 50 age group who didn't have enough interest on learning technology usage as use of digital technology require some skill to harness full potential of the technology.

Majority of the respondents had primary education (87%) and were able to read and write therefore, more than half of the respondents (60%) took the advantage of newspaper to get information related to weather forecast for farming. Tiruchirapalli KVK provided mobile SMS to the farmers regarding technologies in regard to weather informations, were 55 per cent of the farmers took the advantage of the KVK services. However it can be seen from table:1 thattelevision was used by all the respondents (100%) for obtaining farming technology and weather based information, this may be because every individual owned television and television provides about the benefit of audio and visual making it easy for the respondents to understand.

Therefore, it can be clearly indicated that, dissemination of weather advisories through television reached to both literate and illiterate farming communities compared to other mass media. Since newspapers are available at low cost farmers preferred to read it in their leisure and simultaneously, with the arrival of new age media like computers, internet and smart phones,farmers had the advantage of obtaining information in time and with accuracy.

Table 1 : Mass Media Utilization*N= 60

S.NO	MASS MEDIA	FREQUENCY	PERCENTAGE
1	WhatsApp - Messenger	40	66.6
2	Internet	8	13.3
3	Television	60	100

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4	Newspaper	36	60
5	Mobile SMS	33	55
6	Leaflets/Folders/Pamplets	3	5

The survey also found that 72.00 per cent of farmers were aware of the weather based agro advisory among farmers, followed by 21.00 per cent had low level of awareness and 7.00 per cent of farmers had high level of awareness. Thus the need for creating better awareness among farmers regarding weather based agro advisory services was felt and more trainings should be conducted for weather based agro advisory services and famers need to know the importance of agro advisory services in the current scenario due to seasonal variations.

Table 2. Relationship Between Profile Characteristics And Awareness In Farmers

S.NO	VARIABLE	' r' Value
1	Age	- .186
2	Education	-.027
3	Occupation	.097
4	Size of land	-.204
5	Farming Experience	-.198
6	Source of Information	**.677****
7	Mass Media Utilization	**.782****

** Significant at 1 per cent level

* Significant at 5 per cent level

CONCLUSION

The application of agro met advisory bulletin, based on current and forecasted weather is a useful tool for enhancing the production of crops and income of the respondents. Farmers

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received weather forecast based agro-advisories, for major agriculture crops, horticulture crops including vegetable crops and livestock on real time basis. AAS being delivered for five days which incorporates 8 weather parameter such as maximum temperature, minimum temperature, rainfall, maximum RH, minimum RH, cloud cover, wind speed and wind direction. Agro met advisories are disseminated on every Tuesday and Friday by Agro meteorological Field Unit (AMFU). For the benefits of farmers of different district, district level agro met advisories bulletin were prepared and disseminated by DAMU. Awareness on weather based agro advisorieswill support farmers on decision making andreduce the crop risk. In Tiruchirappalli district educated and mass media utilization farmers and have more awareness onweather forecast. So, focusing on illiterate and less mass media utilization farmers are much more important, disseminating weather advisories in audio or visual format to make them to adapt weather based agricultural practices. The farmers expect weather forecast twice in a week, to be timely and accurate forecast at various stage of crops. Presently DAMU scheme operating at KVK, Sirugamani provides weather based agro advisory services twice in a week to farmers. The farmers focus more on spraying and irrigation operation based on weather forecast. Further, awareness is to be created to realize that they should also need to follow weather forecasts from the selection of crop to post harvest technologies in order to achieve better productivity and good income.

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