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Role of Social media in Agricultural Extension Service Delivery: A Stakeholder Analysis

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ABSTRACT

Social media are modern-day digital communication means comprising various tools that allow interaction among people and information exchange worldwide. Its active users have reached around 4.48 billion globally as 2021. Since agricultural extension service delivery is primarily a communication process, proper amalgamation of social media is necessary. However, owing to the importance of social media in agricultural extension service delivery. A study on role of social media in agricultural extension service delivery: A stakeholder analysis was conducted and revealed that cent percent of the stakeholders (farmers, extension functionaries and input agencies) were using social media platforms like YouTube and whatsapp for various agri purposes. For crop production technologies farmers were relying on YouTube, extension functionaries on whatsapp and input agencies on Facebook. For Horticultural Crop Production farmers were relying on whatsapp, extension functionaries on YouTube and input agencies on Facebook and portals. For weather based agro advisory farmers were relying on weather related apps, extension functionaries on whatsapp and input agencies on apps and whatsapp.

Keywords: Social media, Whatsapp, YouTube

Introduction

Global agriculture has witnessed a paradigm shift in the past few decades and extension functionaries need to stay ahead and equip the farmers by developing their management and decision making skills; help rural people develop leadership and organizational skills; mobilize them into Farmer producer companies / cooperative credit societies and other group entities. But the ground reality is hard-hitting with only one extension worker available for every 1162 farmers in India (*Doubling Farmer Income Report*, 2017). The agriculture sector in India remains the backbone Indian economy, employing 48% of the working population and contributing 18.3 per cent in GDP of India (*Economic Survey*, 2022-23). Telecom subscriber base in the country grew mar-

ginally to 1,191.05 million and out of 759 million 'active' internet users in India for 2022, 399 million are from rural India, while 360 million are from urban India, indicating that rural India continues to drive the growth of the internet in the country (*TRAI*, 2022). According to Wahana *et al.* (2014), the importance of the development of information technology has given birth to social media which is now a medium of public interest in all parts of the world. Social media can be a new age solution to cater to the challenge of less availability of extension personnel by complementing the personnel for quick and effective dissemination of agriculture technical information eventually empowering farming community. Technology awareness, digital literacy and penetration of smart phones and internet are escalating across the nation. Social media used for sharing

and discussions of user generated information, opinion, video, audio, thoughts, ideas over digital networks by creating online communities. Various social media tools such as Facebook, Twitter, YouTube, LinkedIn, Whatsapp etc. are becoming greater ways of sharing information about agricultural produce (e.g. Kisan Suvidha app) and agricultural marketing (e.g. Agrimarket app). Evidences obtained revealed that there are many social media platforms being used in agricultural extension service delivery worldwide with Facebook having highest popularity (64.7%). Most of the agricultural stakeholders using social media are versatile users (33.5%) who usually visit only to find information (75.7%) (Akilu Barau, 2017). A survey conducted by ICAR-IARI in 2021 show that two third of the respondents (66%) used YouTube always for agriculture related information, majority (58%) of the farmers posted queries on social media platforms and 68 per cent of the farmers contribute to discussions held in social media, two-thirds of the respondents (66%) shared agriculture information further on social media and most of the farmers (74%) said that social media fulfills their information needs (Muralikrishnan *et al.*, 2022). Social media is also used to lend emotional support to farmers under stress. Stakeholders in agriculture continuously need information about pests, diseases, seeds, methodologies, weather, machinery etc. and hence, social media platforms are one stop solution for them. Hence a study undertaken on role of social media in agriculture and its utilization by stakeholders.

Materials and Methods

The study was conducted in 2022-23 in four blocks of Chittoor district in Andhra Pradesh. Four mandals out of 33 blocks of Chittoor district namely Bangarupalem, Punganur, Srikalahasti and GD Nellore were purposively selected based on the highest number of extension personnel and input dealers. *Ex post facto* research design of social research was used for this study. Thirty farmers, thirty extension personnel and thirty input dealers were selected from various villages randomly from above mentioned blocks thus making a total of 90 respondents. The data were collected by structured interview schedule and telephonic interviews of the VAAs/ VHAs and analyzed data by employing suitable statistical tools like Arithmetic mean, Standard deviation, Frequencies and percentages were

used.

Results and Discussion

From the Table 1 it can be revealed that cent percent of the stakeholders (farmers, extension functionaries and input agencies) were using social media platforms like YouTube and whatsapp for various agri purposes. The possible reason for escalating use of whatsapp it is most preferred mode of communication among the smart phone using farmers. It is simple and easy to use, has low internet data requirements and has used to provide localized agricultural information can help to reduce crop losses, improve yields as well as has a much more powerful equalizing effect on the incomes of small farmers, including rural women. One can share information through whatsapp in multiple forms ranging from text-based messages to audios, visuals; audiovisual and even web links making it an information enriched platform. Followed by 26.6 per cent of farmers and more than three-fourth (76.6%) of extension functionaries and 83.00 percent input agencies were using face book. Majority of the input agencies were using Instagram (86.00%) for their business activities. The possible reason might be that they were using Instagram can help grab young farmers in shortening the marketing chain, so that selling prices can be better. Instagram users have a tendency to tell their followers about what products they buy. Consumers can also provide criticisms and suggestions via Instagram regarding the quality of the products that they buy from input agencies.

From the above table it can be revealed that more than three-fourth (84.44%) of the stakeholders regularly accessed agricultural information on IPM from social media platforms followed by weather infor-

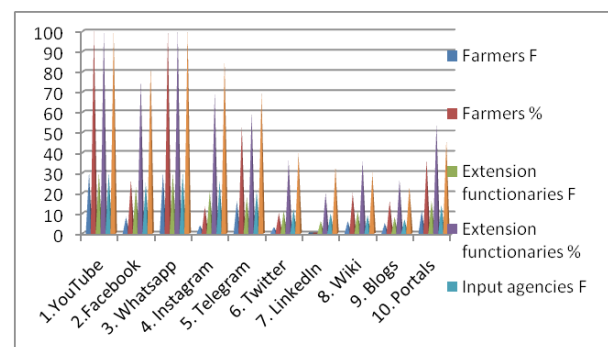


Fig. 1. Different types of social media used by stakeholders in agriculture and allied sectors

mation (71.11%), market trend, price and stock available (57.77%), improved crop varieties (53.33%) and improved crop management practices (51.11%). The possible reason for regularly accessing IPM information might be that with the advent of new age social media tools it has become easy for stakeholders to diagnose pest/disease accurately with the help of experts they can avail precision information on target pesticide usage. The possible reason for greater part of availing weather information is availability of simple and easy to use mobile applications like 'Meghdoot' which provides crop advisories to the farmers based on the weather information. The weather based apps provides district-wise advisories on crop and livestock management issued by Agrometeorological units based on the past and forecasted weather information. It will help the farmers to take weather-sensitive decisions like sowing of crops, pesticide and fertilizer application, irrigation scheduling and vaccination of animals. Social Media creates opportunities for rural farmers to

obtain information and knowledge about market, agricultural issues, and problems and suggest how to develop the agricultural marketing. Mobile services in agricultural sector provide more information on weather, market, improved crop varieties and improved crop management practices that help to contact with the other agencies and department.

For crop production technologies farmers were relying on YouTube, extension functionaries on whatsapp and input agencies on Facebook. For Horticultural Crop Production farmers were relying on whatsapp, extension functionaries on YouTube and input agencies on Facebook and portals and for INM For weather based agro advisory farmers were relying on weather related apps, extension functionaries on whatsapp and input agencies on apps and whatsapp. The possible reason for preference of social media tools in agriculture and allied sectors is characterized by quick replies to queries, effective programme planning through event creation tools, diagnose and analyse pest and diseases, etc.

Table 1. Different types of social media used by stakeholders in agriculture and allied sectors (n= 90)

Social media tools	Farmers		Extension functionaries		Input agencies	
	F	%	F	%	F	%
1.YouTube	30	100	30	100	30	100
2.Facebook	08	26.6	23	76.6	25	83
3. Whatsapp	30	100	30	100	30	100
4. Instagram	4	13.3	21	70	26	86
5. Telegram	16	53.3	18	60	21	70
6. Twitter	03	10	11	36	12	40
7. LinkedIn	—	—	06	20	10	33
8. Wiki	06	20	11	36	09	30
9. Blogs	05	16	08	26.6	07	23
10. Portals	11	36.6	16	54	14	46

F-Frequency, %- Percentage

Table 2. Agricultural Information Accessed From the Social Media by stakeholders (n= 90)

S. Item No.	Regularly Accessed		Occasionally Accessed		Never	
	F	%	F	%	F	%
1. Improved crop varieties	48	53.33	42	46.66	00	—
2. Integrated Nutrient Management (INM)	44	48.88	38	42.22	08	8.88
3. Integrated Pest Management (IPM)	76	84.44	14	15.55	00	—
4. Weed management	33	36.67	28	31.11	29	32.22
5. Processing and storage	12	13.33	68	75.56	10	11.11
6. Market trend, price, and stock available	52	57.77	38	42.22	00	—
7. Improved crop management practices	46	51.11	44	48.88	00	—
8. Weather information	64	71.11	26	28.88	00	—
9. Government schemes and programs	30	33.33	51	56.66	09	10.00
10. Credit facilities, source, terms and conditions	32	35.55	38	42.22	20	22.22

Table 3. Preference of social media in agriculture and allied areas by stakeholders (n= 90)

Agriculture & allied areas	Preference of social media		
	Farmers	Extension functionaries	Input agencies
1. Crop Production	YouTube	Whatsapp	Facebook
2. Horticultural Crop Production	Whatsapp	YouTube	Facebook, Portals
3. INM	Whatsapp	YouTube	Portals, e-bulletins
4. Livestock and Dairy	YouTube	YouTube	Whatsapp
5. IPM	Whatsapp	YouTube	Facebook, portals
6. Sericulture	Whatsapp	Whatsapp	Whatsapp
7. Farm Mechanization	YouTube	YouTube	YouTube, whatsapp
8. Weather based agro advisory	Apps, Whatsapp	Whatsapp	Apps, Whatsapp
9. Agriculture marketing	whatsapp	Whatsapp, e- NAM	e-NAM
10. Agri business	Whatsapp	—	LinkedIn

The constraint poor network connectivity in rural areas was ranked first by respondents the reason for this might be rural areas tend to have slower internet connections and fewer choices when it comes to ISPs. The digital divide remains concentrated in these areas, which places people in such communities at a disadvantage. Followed by unsuitable and incomprehensible information due to large number of sources it will be difficult to find relevant information and digital illiteracy ranked third due to lack of information, skills, or comprehension regarding the utilization of digital tools and technology to complete a task.

Suggestions given by respondents

- Improvement in internet connectivity
- Embrace the use of social media in the marketing of agricultural products to minimize the cost of marketing
- Agriculture/Private/NGOs/FPOs promote the adoption of social media in agricultural production, weather, and marketing through sensitization of the farmers through cluster based programs.

Conclusion

This study was mainly initiated to examine the role of social media as an empowering tool, a factor escalating opportunities for increased income and a tool for reducing vulnerability to risks of weather, market for farmers in Chittoor District. Study can laid the basis for giving recommendations on how social media use can best continue to improve farmer's life. Some technical information providing agencies, extension functionaries of ANGRAU and Department of Agriculture, input agencies and market committees have tried to send updated weather, crop management and market information via social media to the farmers. To bridge the critical information gap, yield gap and technology gap will be necessary through timely delivery of information through social media channels. Extension functionaries should leverage the benefits of smart phones such as portability, flexibility of content, delivery capability and both way communications to deliver low-cost but highly customized solutions to increase the income of farmers and reduce cost of production.

Challenges encountered when accessing agricultural information from Social Media

S.No.	Challenges/Constraints	Percentage	Rank
1.	High cost of data and smart phones	58.00	VII
2.	Insufficient infrastructure in villages	62.00	VI
3.	Lack of confidence in social media platforms	55.00	IX
4.	Language problem in using social media	66.00	IV
5.	Insufficient skills in using social media by farmers	57.00	VIII
6.	Poor network connectivity in rural areas	76.00	I
7.	Lack of awareness on available information sources/ Preference for one over other	53.00	X
8.	Non availability of information in time	63.00	V
9.	Unsuitable and incomprehensible information	74.00	II
10.	Digital Illiteracy	68.00	III

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