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Usage preferences and constraints in the adoption of social media for agricultural extension among rural youth in Satna district, Madhya Pradesh

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Abstract

Social media has emerged as an important source of agricultural information for rural youth, offering opportunities for quick access to knowledge, expert advice, and peer interaction. However, the effective use of these platforms in rural areas is often limited by several practical and structural constraints. The present study was undertaken to identify and analyze the major constraints faced by rural youth in using social media for accessing agricultural information in Satna district of Madhya Pradesh. The study was conducted using an ex-post facto research design. A total of 120 rural youth were selected from different villages of the district through proportionate random sampling. Data were collected using a structured and pre-tested interview schedule, and appropriate statistical tools such as frequency, percentage, mean score, and Garrett ranking technique were used for analysis. The findings revealed that rural youth encounter multiple barriers while using social media for agricultural purposes. Limited awareness about suitable agricultural platforms emerged as the most serious constraint, followed by lack of timely and reliable updates, poor internet connectivity, and high cost of data packages. Inadequate digital skills, difficulty in understanding technical language, and lack of localized content were also reported as significant problems. In addition, limited guidance from extension agencies and uncertainty about the credibility of online information further restricted effective utilization. Social factors such as low motivation, time constraints due to farm and household responsibilities, and limited access to smartphones among some respondents also contributed to the problem. The study highlights that despite the widespread availability of social media, its potential for agricultural information dissemination remains underutilized among rural youth due to these constraints. Addressing these issues through digital literacy programs, promotion of verified agricultural content, improvement in rural internet infrastructure, and greater involvement of extension personnel can enhance the effective use of social media for agricultural development. The findings of the study may help policymakers, extension organizations, and development agencies in designing need-based interventions for empowering rural youth.

Keywords: Rural youth, Social media, Agricultural information, Constraints, Digital agriculture, Information access, Satna district, Madhya Pradesh

Introduction

India with a population of 1.46 billion stands as the world's second most populated country, the 7th largest country in the world with a land area of 3.288 million Km. India currently ranks fourth place in the world's economy. Agriculture serves as a major source of livelihood for 58% of the Indian population with 146.45 million operational holdings in the country. Agriculture contributed 18-19% (2023-24) to the Gross Domestic Product of the country. Agricultural growth has a significant relationship with the reduction in poverty and malnutrition (Broca and Stamoulis,

2003) [2]. Challenges to be faced by agriculture within the next upcoming years are sustaining food security and nutritional security, adaptation to climate change, and sustainable utilization of natural resources like water, energy, and land. To face these upcoming challenges of the longer term, agricultural research, education, and extension are the foremost crucial factors.

ICT may also be described as a fusion of many different technologies, such as audio-visual and telecommunications networks, with computer networks, all of which are connected by a single cabling system (which includes signal

transmission and management) or a communication system. This ICT will help the present extension workers to extend their reach of farmers in a very short period with accurate audio-visual information that reduces the communication gap and increases the credibility of the data by making it available at the correct place, right time, and right information. Digitalizing agro advisory services may be a two-way approach. The adoption of ICT must be pursued both by extension agents and farmers. ICT interventions have received encouragement from the Indian Ministry of Agriculture (ICAR, 2016). ICT tools are relatively easy to use and gaining popularity within the agriculture sector (Saravanan and Bhattacharjee, 2013) [7]. There is a need to embrace modern ICT technologies such as computers, feature phones, internet-based resources such as web portals, smartphones, and social media, as demand-driven and participatory approaches are considered a very important aspect for expanding accountability and transparency of agricultural extension. The old and traditional ICTs like radio, television, telephone, etc. have little scope of user involvement and participation, it only tends toward a one-way flow of data, where a farmer user must wait for the recommendation of the extension agents, whereas the foremost participative and democratic tools of data sharing are social media tools. Social media makes users active participants and enables them to raise real-time issues.

It is estimated that about fifty-nine% of the world, that is 4.57 billion people, are active internet users. in the world. The global online penetration rate was 59%. Combined with low data rates, increasing digitalization efforts have allowed around 462 million individuals across India to use internet services. There are 250 million active social media users with 82% penetration on YouTube and 76% on Facebook. The leading site in 2019 is YouTube. Having more than 534 million users in 2024, India had the world's second-largest internet population and out of those, 390 million users use the internet services via their cell phones. Estimates indicate that by 2024 this number will reach more than 500 million. (Statista, 2021) [9]. All these tools are often used for sharing and discussing information where they permit participatory and democratic potentialities which may be employed in the method of social change. It allows us to make sound opinions and build good social relationships.

India is a large nation with distinct regional differences in agro-climatic conditions, resource abundance, and population density. India has its poverty largely in rural; three out of every four poor people live in rural areas. Indian agriculture is facing many new challenges both at the operational level and policy level due to increasing population, the limited availability of land and water, and the degradation of natural resources, and climate change. New trade opportunities (and threats) in overseas markets have presented Indian farmers with a new challenge. Agricultural advisory services (in the government as well as private sector) play a major role in supporting farmers in dealing with the above challenges. Knowledge gaps lead to yield gaps. Agricultural extension plays a major role in making farmers competent decision-makers by teaching them and formulating and disseminating knowledge. Extension service delivery must be cost-effective and identify farmers' roles in innovation (Anderson, 2007) [1].

The major concept that emerged behind extension delivery services is farmer involvement in the development and dissemination of technology. Extension services are difficult to deliver well because farmers are widely scattered and difficult to access, and their knowledge needs differ greatly. Big farmers would probably profit significantly. Since there aren't enough extension agents, they may struggle with motivation, competence, success, and accountability (Anderson, 2007) [1]. In developing countries, traditional extension services face many challenges which are limiting their effectiveness in extension service delivery. Visiting remote areas is more difficult and expensive due to poor infrastructure. As a result, many extension programs only provide farmers with one-time information, reducing their long-term impacts. To deal with the above challenges, Information Communication Technology, and innovations in new social media platforms which provide two-way continuous communication and feedback play a major role. Social media has completely changed and revolutionized communication worldwide. Smallholders' access to timely extension information can be enhanced by utilizing social media which has the potential to reduce the cost of direct visits and lead to two-way communication between clients and extension agents which will increase the accountability of the services provided. Social media also improves access to private information via online communities, allowing for peer-to-peer learning, which is critical for technological adoption. Social media can increase the flow of appropriate information among farmers, extension agents, and research institutions by enhancing connectivity between them.

The variability of delivery systems, such as one-way versus two-way communication between farmers and professionals, text over voice messaging, and oral description of difficulties over photographs acquired in the ground, is highlighted in an analysis of the role of social media in agricultural extension. Social media utilization by extension agents may also show an impact on professional development. Usage of social media by extension agents for personal use is popular, but the utilization of social media to disseminate information by extension agents at the individual and organizational level is still limited, mainly due to lack of knowledge (Rhoades and Aue, 2010) [6]. It has a great deal to do with attitude than with age. Social media is a highly appropriate and valuable tool for extension agents to communicate with their clients and colleagues because of these potentials. Farmers' lack of connectivity has long been highlighted as a fundamental flaw in advisory services, and social media provides numerous chances to address this problem. Personal (absence of interest in social media, negative attitude, or organizational constraints), infrastructure (nonexistence of internet connections for target clients or extension agents), and policy (organizational rules that confine the use of social media for official reasons) inadequacies obstruct the social media usage. With problems including restricted access to ICTs and internet facilities in rural regions, their compatibility for mainly educated and online clients, certain farmers' and extension experts' lack of awareness and willingness to use social media, and infringement of individual privacy, piracy of resources, and irrelevant information, the success of social media is determined by extension agents' and 7 community members' motivation to utilize it in extension

(Raj and Bhattacharjee, 2017) [5]. Since extension agents are on the front lines of the dissemination of information, it is critical to include their viewpoints on the use of social media in transmitting the information. Examining the usage trend and establishing strategies and rules to make social media an essential component of the dissemination of agricultural information are key first steps in determining which social media platforms are often used.

Research Methodology

Background information about the study area

Selection of State: Madhya Pradesh was selected purposively because it has the largest forest area in the country and has the greatest number of national parks with human settlements being closely confined to the forests and

agriculture being the backbone of the economy, Madhya Pradesh has won "Krishi Karman" award for seven consecutive years. M.P stands 1st in total pulses production and 2nd in total food grains production. Madhya Pradesh ranks as the third-largest milk producer in India. The per capita availability of milk for the year 2020-21 is about 591 grams per person per day. The state also excels in oilseed production, contributing around 27% to India's total output. Kadaknath chicken production is a significant industry in Madhya Pradesh, with the breed being native to the state's western region, particularly in the district "Jhabua & Dhar". These chickens are known for their black meat, brown egg, and high protein content 25.47%, and hens lay around 100-120 eggs per year, each egg weighing 40-45 grams.

Table 1: Demographic profile of Madhya Pradesh

S. No.	Particulars	Values
1.	Total geographical area	3,08,245 sq.km.
2.	Districts	52
3.	No. of divisions	10
4.	No. of blocks	333
5.	Total No. of Gram Panchayats	23043
6.	No. of Villages	54903
7.	Total population	72,626,809
	Rural population	52,557,404
	Urban population	20,069,405
	Male population	37,612,306
	Female population	35,014,503
8.	Livestock population (As per 20th livestock census, 2019)	40.6 million
9.	Literacy rate	69.32%
10.	Population growth (2001-11)	20.35%
11.	Density / km ²	236
12.	Sex ratio (per 1000)	931

(Source: Census of India, 2011)

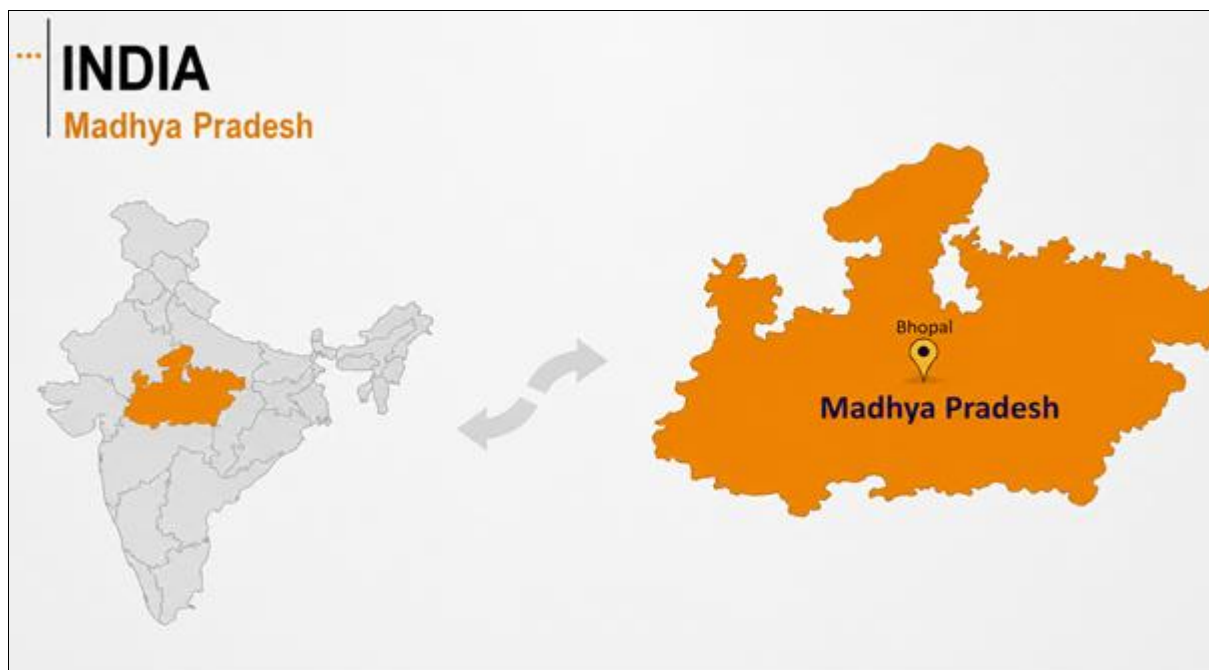


Fig 1: Map of Madhya Pradesh

Selection of District

Satna district is located in the northeastern part of the state of Madhya Pradesh and occupies an area of 7,502 sq km.

The district extends latitude with 23 58' to 25 12' N and longitude 80 20' to 81 23' E. The district is bound in the north by seven cities of Madhya Pradesh. The National

highway No. 39 runs from Jhansi to ranchi passing through satna and connecting it to areas like chitrakoot and rewa.

Social media has become a highly popular means of communication in India. Given its vast reach and influence, traditional methods alone are no longer sufficient for staying relevant in today's fast-changing world. Agriculture has now evolved into a business-oriented enterprise, making it essential for rural youth to access up-to-date information on the latest research, new crop varieties, proper fertilizer usage, and advanced irrigation methods. To effectively utilize various social media platforms, rural youth should explore multiple communication channels to access agricultural information. The effectiveness of any program can be truly assessed by how the audience perceives it and the practical value it provides. Therefore, it becomes important to examine how extensively farmers are using social media.

Each component of the extent of usefulness of messages to farmers consisted of a different number of items/indicators and hence their range of scores is different. Therefore, the scores of all the four components/sub-indices were normalized by using the formula given underneath.

$$U_{ij} = \frac{Y_{ij} - \text{Min } Y_j}{\text{Max } Y_j - \text{Min } Y_j}$$

Where

- **U_{ij}** = Unit score of the ith respondent on jth component
- **Y_{ij}** = Value of ith respondent on jth component
- **Max Y_j** = Maximum score on jth component
- **Min Y_j** = Minimum score on jth component

The summation of average index scores of those selected sub-indicators was chosen for the composite index of the extent of usefulness of messages to farmers using the following formula.

The extent of Usefulness of message to farmers

$$\text{Index} = \frac{\sum S_i}{n} = \frac{S_1 + S_2 + S_3 + S_4}{4}$$

Where,

- **SI1:** Subindex value of information seeking behaviour of farmers
- **SI2:** Subindex value of purpose of social media utilization
- **SI3:** Subindex value of understandability of information
- **SI4:** Subindex value of perceived benefits in utilizing social media on farmers
- **N:** Number of sub-indicators

The composite index value ranges from 0 to 1. The obtained index values were categorized into three groups viz low, medium, high based on a range of values obtained. Further correlation analysis was done to find the association between independent variables with their extent of usefulness of messages to farmers.

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relevant in today's fast-changing world. Agriculture has now evolved into a business-oriented enterprise, making it essential for rural youth to access up-to-date information on the latest research, new crop varieties, proper fertilizer usage, and advanced irrigation methods. To effectively utilize various social media platforms, rural youth should explore multiple communication channels to access agricultural information. The effectiveness of any program can be truly assessed by how the audience perceives it and the practical value it provides. Therefore, it becomes important to examine how extensively farmers are using social media.

Constraints in the usage of social media by rural youth:

Constraints in the usage of social media by rural youth: To determine the most significant constraint that has an impact on the respondent. Garrett's ranking method was employed. According to this method, respondents were asked to rank all limitations, and the result of that ranking was then transformed into a score value using the formula below.

$$\% \text{ Position} = 100 * (R_{ij} - 0.5) / N_j$$

Where,

- **R_{ij}** = Rank given for ith constraint by jth individual
- **N_j** = number of constraints ranked by j th individual

The % position of each rank was converted into scores referring to the table given by Garrett and Woodworth (1969). For each constraint, the scores of individual respondents were added together, and then the total value of scores and mean values of the score were calculated. These mean scores for all the constraints were arranged in descending order, ranks were given and the most important constraints were identified. The constraints having mean value were considered to be the most important constraints.

Results and Discussion

Table 2: Classification of rural youth based on the usefulness of messages received through social media

S. No.	Criteria	Frequency	Percentage
1	Low (<0.59)	25	20.83
2	Medium (0.59-0.71)	60	50.00
3	High (>0.71)	35	29.17
Total		120	100.00

The data in Table 2 presents the classification of rural youth based on the level of usefulness of messages received through social media. Out of the 120 respondents, half (50%) felt that the messages shared through social media were of medium usefulness, while 29.17% found the messages to be highly useful for their farming needs. On the other hand, 20.83% of the farmers perceived the usefulness of such messages as low. This result indicates that, for most farmers, social media acts as a moderately helpful source of agricultural information, but there is still scope to make these messages more practical, relevant, and action-oriented to reach more farmers at a higher usefulness level. These findings are consistent with earlier studies reported by Saravanan R., *et al.* (2013)^[7].

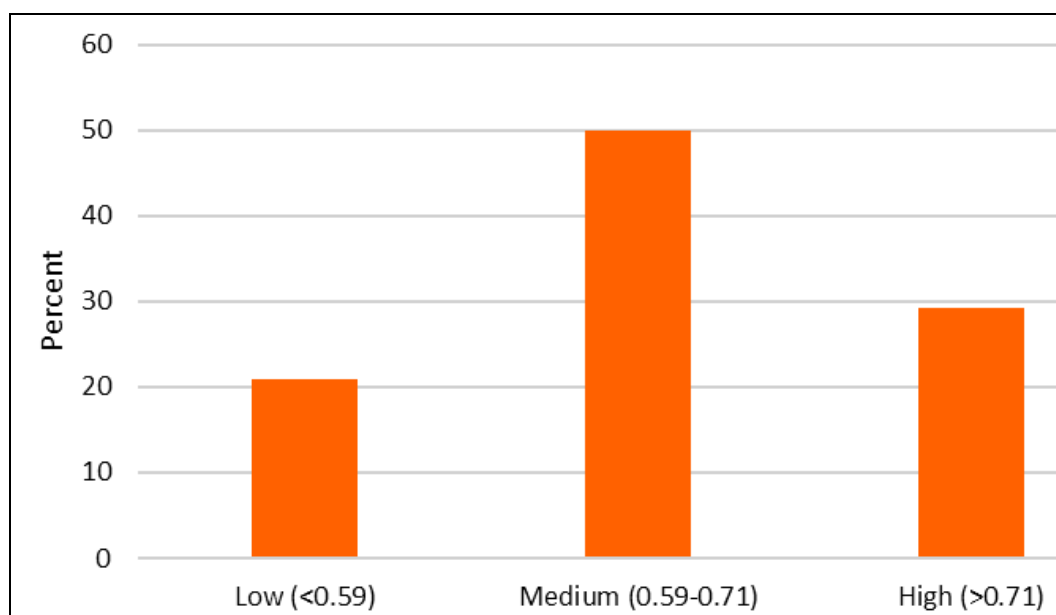


Fig 2: Distribution of Respondents According to the Extent of Usefulness of Messages

Table 3: Distribution of rural youth based on the information seeking behavior

Sl. No	Criteria	Frequency	Percentage
1	Daily	55	45.83
2	Weekly	37	30.83
3	Monthly	18	15.00
4	Occasionally	8	6.67
5	Never	2	1.67
Total		120	100.00

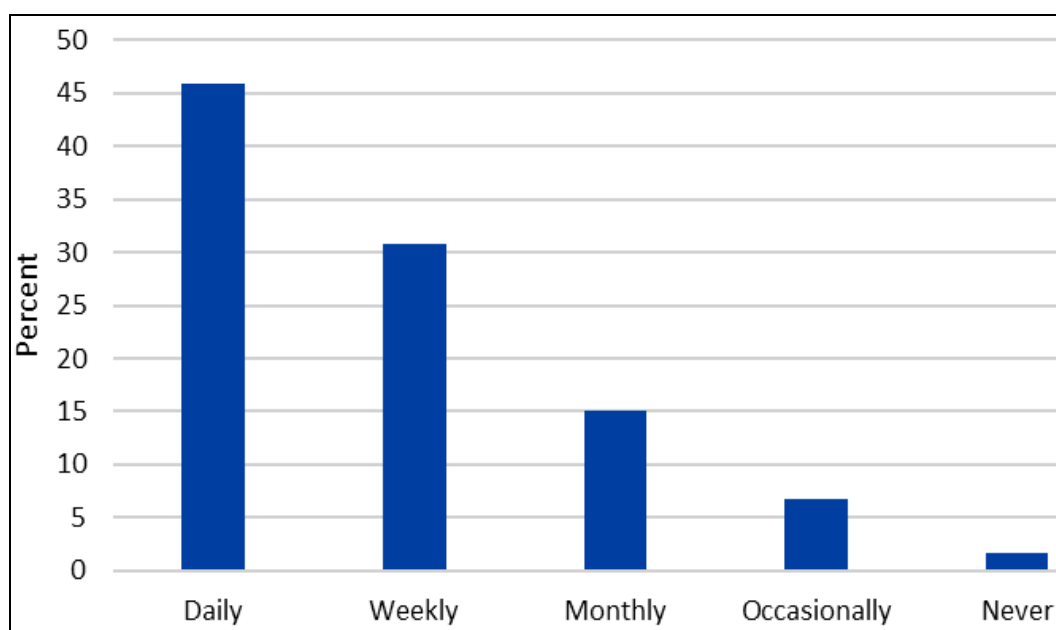


Fig 3: Information seeking behaviour of rural youth

Purpose of accessing social media

Table 4: Classification of rural youth based on purpose of accessing social media

No.	Information	Frequently	Sometimes	Never	Total Score	Rank
1	Availability of agricultural inputs and subsidies	48 (40.00)	65 (54.17)	7 (5.83)	275	III
2	Agricultural machinery/tools/equipment	46 (38.33)	68 (56.67)	6 (5.00)	278	II
3	Labor availability	22 (18.33)	35 (29.17)	63 (52.50)	190	XIX
4	Land Preparation	42 (35.00)	68 (56.67)	10 (8.33)	272	IV
5	Seed Treatment	37 (30.83)	70 (58.33)	13 (10.83)	268	V
6	Sowing/Transplanting	25 (20.83)	40 (33.33)	55 (45.83)	200	XVIII
7	Integrated nutrient management	40 (33.33)	70 (58.33)	10 (8.33)	270	VI
8	Integrated pest management	43 (35.83)	68 (56.67)	9 (7.50)	274	IV
9	Integrated disease management	39 (32.50)	70 (58.33)	11 (9.17)	269	V
10	Herbicide application	44 (36.67)	68 (56.67)	8 (6.67)	275	III
11	Inter-cultivation	38 (31.67)	72 (60.00)	10 (8.33)	269	V
12	Soil and water conservation	41 (34.17)	70 (58.33)	9 (7.50)	273	IV
13	Harvesting and post-harvest management	50 (41.67)	65 (54.17)	5 (4.17)	280	I
14	Market demands/avenues	42 (35.00)	70 (58.33)	8 (6.67)	274	IV
15	Transportation of products to market	40 (33.33)	72 (60.00)	8 (6.67)	272	IV
16	Climate/weather/market forecast	38 (31.67)	70 (58.33)	12 (10.00)	265	VII
17	Self-help groups/Farmers interest groups	37 (30.83)	72 (60.00)	11 (9.17)	263	VIII
18	Agricultural development programs	34 (28.33)	72 (60.00)	14 (11.67)	260	IX
19	Farming systems	35 (29.17)	70 (58.33)	15 (12.50)	258	X
20	Date and venue of training/demonstrations	40 (33.33)	72 (60.00)	8 (6.67)	272	IV
21	Soil testing	32 (26.67)	68 (56.67)	20 (16.67)	250	XI

The classification of rural youth based on their information-seeking behaviour for different agricultural topics through social media shows varied priorities (Table 4.8.1). Among the areas, Harvesting and post-harvest management emerged as the top priority with the highest total score of 280 (Rank I), indicating that most youth frequently look for post-harvest tips online. This is followed by Agricultural machinery/tools/equipment with a score of 278 (Rank II), showing the growing interest in modern tools. Herbicide application and Availability of agricultural inputs and subsidies both ranked high with scores of 275 each (Rank III), highlighting that input supply and weed control are major concerns. Topics like Land preparation, Integrated pest management, Market demands/avenues, Transportation of products to market, and Date and venue of training/demonstrations clustered closely with scores ranging from 272 to 274 (Rank IV). Mid-ranked topics such as Seed treatment (268), Integrated disease management (269), Inter-cultivation (269), Soil and water conservation (273), and Climate/weather/market forecast (265) suggest

that these practices are moderately important. Meanwhile, Self-help groups/Farmers interest groups, Agricultural development programs, and Farming systems received slightly lower attention, scoring between 258-263 (Ranks VIII-X). Soil testing fell at the lower end with a total score of 250 (Rank XI), pointing to a need for better awareness on soil health. Notably, Labor availability (190, Rank XIX) and Sowing/Transplanting (200, Rank XVIII) had higher 'never' responses, suggesting that youth may still rely on traditional or local sources for these. Overall, this distribution indicates that while rural youth are active in seeking timely information for practical operations, there remains scope to encourage them to use social media more for foundational areas like soil testing, farming systems, and labour management, which saw relatively lower engagement. These findings are consistent with earlier studies reported by Rhoades, E., *et al.* (2010)^[6].

Understandability of information

Table 5: Division of rural youth under understandability of information

Sl. No	Criteria	Frequency	Percentage
1	Very easy	30	25.00
2	Easy	41	34.17
3	Understandable	32	26.67
4	Difficult	15	12.50
5	Very difficult	2	1.67
Total		120	100.00

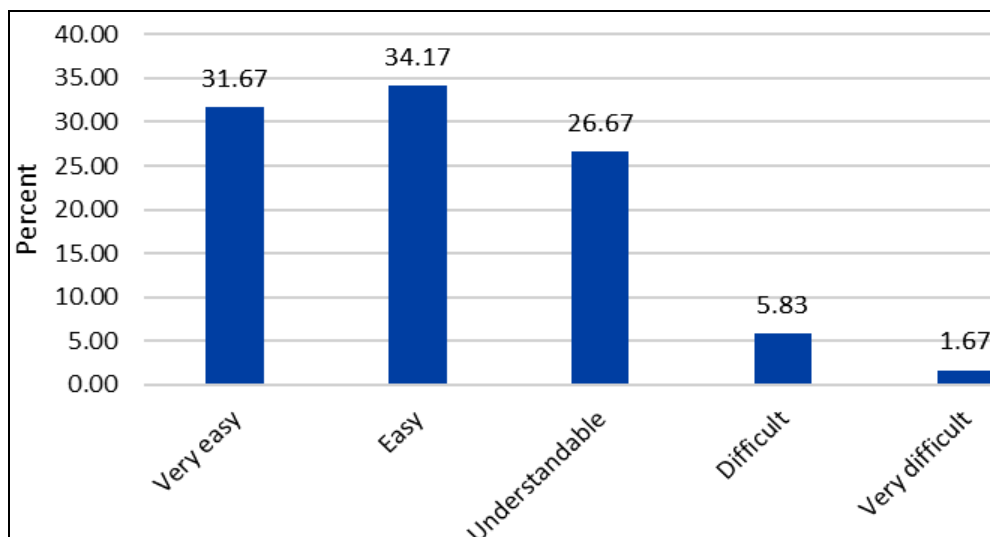


Fig 5: Understandability of information among rural youths

The classification in Table 4.8.4 shows how rural youth perceived the understandability of information shared through social media. Out of 120 respondents, 34.17% rated the information as easy to understand, while 26.67% found it understandable, and 31.67% considered it very easy, indicating that the majority could follow the messages without major difficulty. However, 5.83% said the information was difficult to grasp, and a small portion

(1.67%) found it very difficult. These findings highlight that while most rural youth find social media content clear and usable for agricultural purposes, there is still a need to simplify language, visuals, or technical terms to ensure that all youth, regardless of education level, can benefit equally from the shared information.

Perceived benefits of social media on rural youth

Table 6: Perceived benefits of social media on rural youth

S.No.	Area	Increased	No change	Decreased	Total Score	Rank
1	Personal Development	75 (62.50)	35 (29.17)	10 (8.33)	280	II
2	Farm Development	70 (58.33)	40 (33.33)	10 (8.33)	275	III
3	Technological Development	78 (65.00)	35 (29.17)	7 (5.83)	285	I
4	Social Development	65 (54.17)	45 (37.50)	10 (8.33)	270	IV
5	Economic Development	68 (56.67)	42 (35.00)	10 (8.33)	272	V

The results in the table show how rural youth perceive the benefits of social media across different areas of their lives. Technological Development was ranked first with the highest total score of 285, showing that a majority (65%) felt social media has significantly increased their exposure to new technologies and digital tools, while only a few (5.83%) felt it had decreased. Personal Development came next with a score of 280 (Rank II), indicating that most youth (62.50%) believed social media contributed positively to their skills, awareness, and confidence levels, with only a small share (8.33%) feeling no benefit. Farm Development was placed third with a score of 275, where about 58.33% agreed that social media helped improve their farming practices and knowledge sharing, while a third reported no major change. Social Development followed closely at Rank IV (score 270), showing that over half the respondents

(54.17%) found social media useful for expanding networks and maintaining social contacts in the farming community. Lastly, Economic Development ranked fifth with a score of 272, with 56.67% of youth stating that social media helped them access market information, selling opportunities, or income ideas. Overall, this distribution highlights that rural youth find social media most valuable for enhancing their technological know-how and personal growth, with slightly lower yet notable benefits for social ties, farm management, and economic improvement, demonstrating its diverse role as a support tool in rural development. These findings are consistent with earlier studies reported by Suchiradipta, B.,E.,*et al.*(2016)^[8].

Constraints in the usage of social media by rural youth in agricultural extension service delivery

Table 7: Technical barriers

S.No	Technical Barriers	Garrett Mean Score	Rank
1	Poor digital literacy among rural youth	61.25	I
2	Unreliable mobile network connectivity	57.80	II
3	Limited access to updated information	54.35	III
4	High cost of smartphones and data	50.20	IV
5	Low awareness of credible sources	46.75	V
6	Lack of user-friendly content formats	40.10	VI

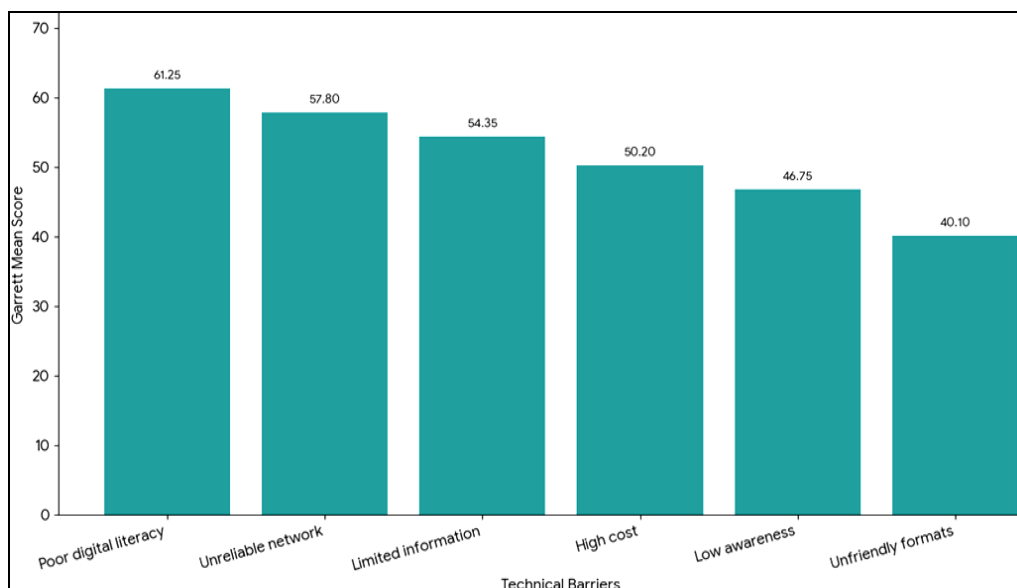


Fig 7: Ranking of Technical Barriers Using Garrett's Ranking Technique

The findings in Table 1.1 indicate that poor digital literacy is the most significant technical barrier faced by rural youth in using social media for agricultural purposes, as reflected by the highest Garrett mean score (61.25). This highlights the lack of necessary skills to effectively access and utilize digital platforms. Unreliable mobile network connectivity ranked second (57.80), indicating that weak and inconsistent internet services in rural areas restrict timely access to agricultural information. Limited access to updated information was ranked third (54.35), suggesting that rural youth often encounter outdated or less relevant content online. The high cost of smartphones and internet data

emerged as the fourth barrier (50.20), pointing to affordability constraints. Low awareness of credible information sources ranked fifth (46.75), reflecting difficulties in identifying reliable agricultural content. The least ranked constraint was lack of user-friendly content formats (40.10), though it still affects regular usage. Overall, the results emphasize the need for improved digital literacy, better connectivity, affordable internet services, and accessible content to enhance effective use of social media in agriculture. These findings are consistent with earlier studies reported by Garima, T, *et al.*(2016).

Table 8: Physical barriers

S.No	Physical Barriers	Garrett Mean Score	Rank
1	Limited access to reliable electricity	62.80	I
2	High cost of smart devices	58.45	II
3	Poor mobile network coverage	55.30	III
4	Frequent device breakdowns	50.60	IV
5	Lack of repair and maintenance facilities	45.75	V
6	Sharing devices within the household	41.20	VI

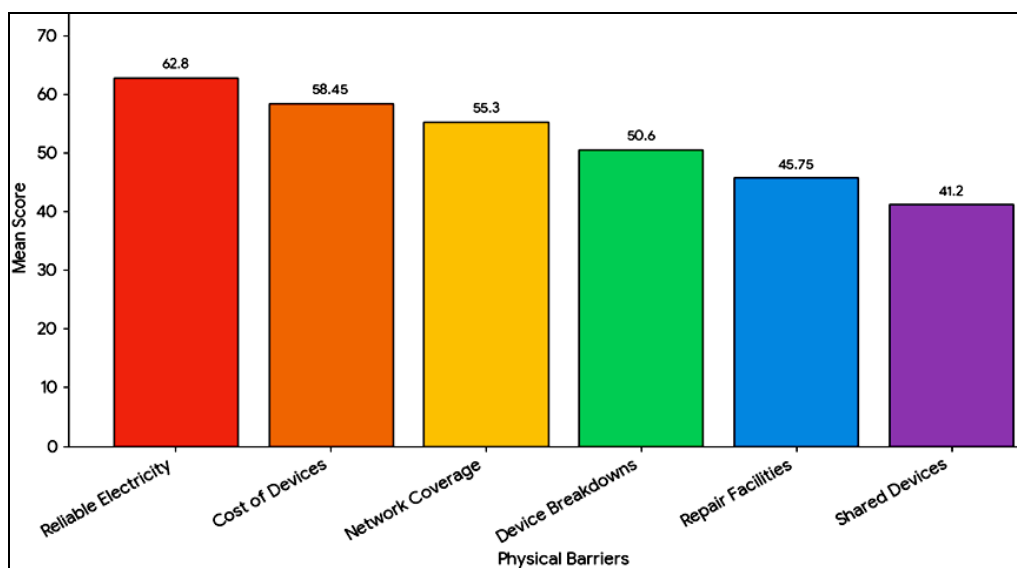


Fig 8: Physical Barriers Constraining Respondents Using Garrett's Ranking Technique

The ranking in Table 7 reveals that limited access to reliable electricity is the most severe physical barrier faced by rural youth in using social media for agricultural purposes, as indicated by the highest Garrett mean score (62.80). This underscores the impact of frequent power interruptions on consistent device usage. The high cost of smart devices ranked second (58.45), highlighting affordability constraints among rural youth. Poor mobile network coverage emerged as the third barrier (55.30), reflecting continued connectivity issues in rural areas. Frequent device breakdowns were ranked fourth (50.60), suggesting problems related to device quality and maintenance. Lack of repair and maintenance

facilities followed next (45.75), indicating limited access to affordable technical support. Although sharing devices within households was ranked lowest (41.20), it remains a relevant constraint affecting regular access. Overall, the findings emphasize the importance of improving rural infrastructure, ensuring affordable devices, strengthening connectivity, and expanding repair services to reduce physical barriers to social media use in agriculture. These findings are consistent with earlier studies reported by Halkatti, S.V.,(1998)^[4]

Communication barriers

Table 9: Communication barriers

S.no	Communication Barriers	Garrett Mean Score	Rank
1	Limited awareness about available platforms	62.50	I
2	Lack of timely updates from sources	59.80	II
3	Language barriers in content	55.60	III
4	Absence of interactive discussion forums	52.40	IV
5	Difficulty in verifying information accuracy	48.90	V
6	Low response rate from experts	44.30	VI
7	Inadequate communication skills	42.10	VII
8	Unclear instructions in shared messages	38.50	VIII

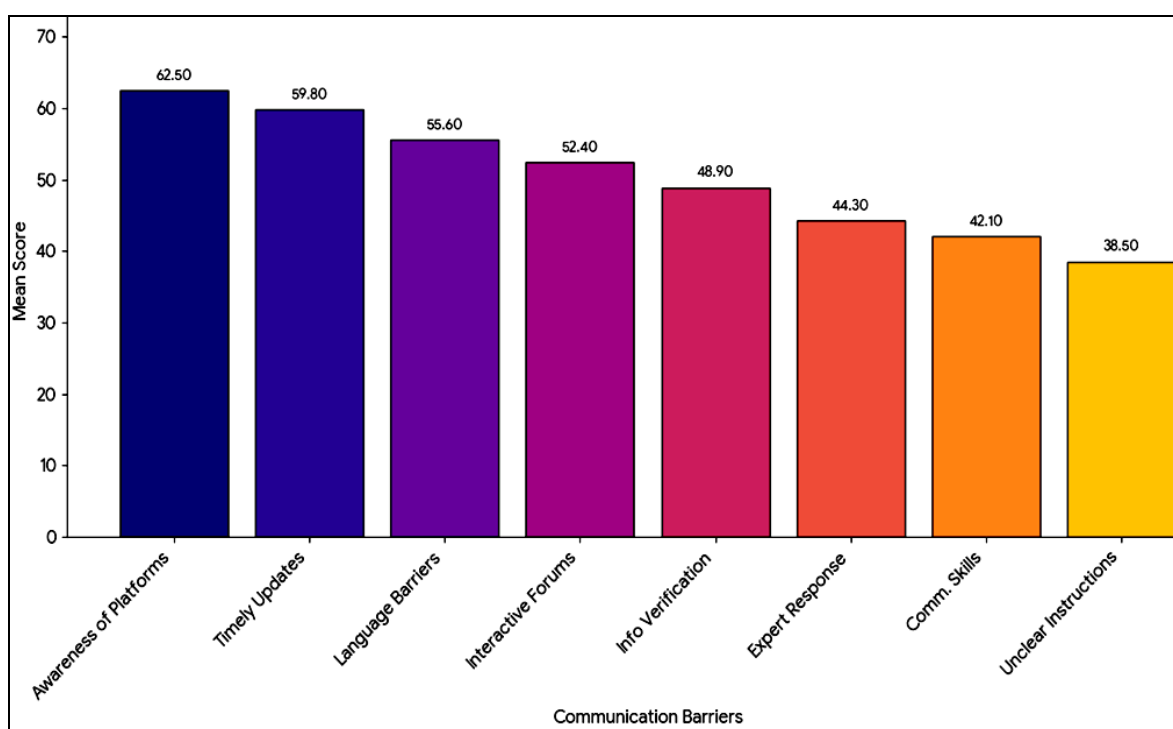


Fig 9: Communication Barriers Constraining Respondents Using Garrett's Ranking Technique

The ranking of communication barriers in Table 1.3 shows that limited awareness about available social media platforms is the most prominent constraint faced by rural youth in accessing agricultural information, with the highest Garrett mean score (62.50). This indicates insufficient knowledge about the range of digital platforms useful for agricultural communication. Lack of timely updates from sources ranked second (59.80), reflecting irregular availability of fresh and reliable information. Language barriers in content occupied the third position (55.60), suggesting that non-local languages restrict effective understanding and application of information. The absence

of interactive discussion forums ranked fourth (52.40), highlighting limited opportunities for two-way communication and clarification of doubts. Difficulty in verifying information accuracy was ranked fifth (48.90), indicating challenges in assessing the credibility of online content. Low response rate from experts (44.30) further reduced effective engagement. Inadequate communication skills ranked seventh (42.10), showing hesitation in expressing queries clearly. The least ranked barrier was unclear instructions in shared messages (38.50), though it still affects information usefulness. Overall, the findings stress the need for better platform awareness, timely and

localized content, interactive communication channels, and expert responsiveness to improve agricultural information access through social media.

Overall, these results point out that improving awareness, ensuring regular updates, using local languages, encouraging interactive exchanges, and providing clear, verified content could help tackle these communication barriers and make social media a stronger tool for agricultural development among rural youth. These findings are consistent with earlier studies reported by Verma.

Conclusion

In addition, the study examined the specific categories of content that attracted frequent attention from youth. Image-based and video-based content were overwhelmingly preferred over audio and text formats, confirming the importance of visual communication in enhancing understanding and engagement. Similarly, purposes for accessing social media extended beyond technical agriculture to include information on government schemes, training events, and marketing avenues, underscoring its multifaceted role. The frequent use of mobile phones for real-time agricultural information demonstrates that rural youth view digital tools as essential rather than optional in their farming journey.

The study discovered numerous technological and physical obstacles that hinder rural youth from utilizing social media for agricultural purposes. The worst technical problem was low digital literacy, which got a Garrett Mean Score of 61.25. Next came unreliable mobile network connectivity (57.80) and not being able to get the most up-to-date information (54.35). These problems are made worse by the high costs of cellphones and data (50.20), the fact that people don't know where to find reliable sources (46.75), and the fact that there aren't many easy-to-use materials (40.10). The lack of reliable electricity was the biggest physical barrier, with a score of 62.80. This shows that it's often hard to get online when the power goes out. The next things were the high cost of smart devices (58.45), the poor network coverage (55.30), the fact that devices break down often (50.60), and the fact that there aren't many places to get repairs (45.75). A big worry was that families would share devices (41.20), which made it hard for people to always have access to digital tools.

It was also hard for social media to work well in agricultural extension because of problems with communication. The biggest problem was that people didn't know enough about the platforms that were available (62.50), which showed that they didn't know how to use the digital world. Other big problems that made it hard to get the information were not getting updates from sources on time (59.80), language barriers in the content (55.60), and not having interactive forums (52.40). People were less likely to take part because it was hard to check the accuracy of information (48.90), specialists didn't respond enough (44.30), and people couldn't talk to each other enough (42.10). The unclear instructions in shared communications (38.50) made digital content even less useful. These results show that rural teens need full digital literacy programs, content in their own languages, interactive communication tools, and cheap access to internet infrastructure in order to use social media to improve farming.

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