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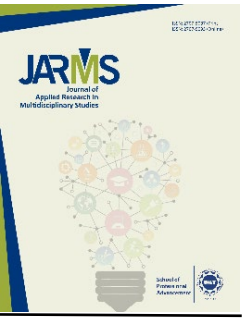

Title: **Evaluating The Use of Social Media for Disaster Communication During Flood Evacuation**

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Evaluating the Use of Social Media for Disaster Communication During Flood Evacuation

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Abstract

Communication is an essential component of disaster management, especially in the context of flood evacuation. Social media has recently been utilized as a disaster communication tool; however, its efficacy in times of evacuation has not been empirically studied within the context of developing countries. This paper presents research on the role of social media in evacuation communication during the 2025 floods in District Chiniot in Pakistan. A survey of 200 respondents who had access to social media among victims of floods was carried out through a quantitative cross-sectional survey. Data were tabulated with the help of SPSS under descriptive statistics, Pearson correlation and simple linear regression where the relationship between perceived evacuation communication effectiveness and social media usage was studied. The results indicate that the use of social media was very weak and statistically insignificant in the effectiveness of flood evacuation communication (r =. 05, p =. 469). The regression analysis also supported the fact that usage of social media did not have a significant influence on the effectiveness of communication (R^2 =.003). However, message attributes such as timeliness and clarity also exhibited considerable relationships with trust in information and satisfaction with emergency services, indicating that information quality and not frequency of platforms is vital. Thestudy concludes that social media alone is not a comprehensive solution for flood evacuation but can serve as a complementary communication tool.

***Keywords*:** communication, disaster, evacuation, flood, social media

Introduction

Floods are one of the most frequent and destructive natural disasters on earth, especially in the developing states, where infrastructure, governance and socio-economic vulnerabilities exacerbate their impacts. Repeatedly, floods in Pakistan have resulted in a massive loss of life, population

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displacement, and livelihood destruction, resulting in the necessity of efficient disaster management and communication networks. Communication in the process of evacuation is a critical component of disaster management because correct and timely information can greatly affect the reaction of the population and minimise the loss of life (Seeger, 2025).

Traditionally, disaster communication has relied on mass media, like television, radio, newspapers and community-based media like seeing announcements, loudspeakers and interpersonal networks. As much as these approaches are still relevant, they are usually constrained by slowness in dissemination and inability to be interactive and reach especially volatile flood scenarios (Li et al., 2023). Over the past few years, the use of digital technologies has greatly changed the communication environment, as social media platforms have become an effective way of exchanging information when there is an emergency.

Facebook, Twitter (X), WhatsApp, and YouTube are social media tools that allow rapid dissemination of warning messages, evacuation orders, shelter areas, and safety guidelines in real time. Social media, unlike traditional media, allows for two-way communication, enabling authorities to interact directly with citizens, while those affected by the disaster can share on-the-ground information and pictures and request assistance from the authorities (Abdulhamid et al., 2021). The studies indicate that this type of interactive communication may contribute to situational awareness, better coordination, and accelerated decision-making in case of a disaster (Shaik et al., 2025).

Social media has the potential to be very instrumental in shaping the behaviour of people during flood evacuations (Ali et al., 2025). Research has shown that people tend to respond with protective behaviour when they believe that warnings are relevant, authoritative and comprehensible (Scolobig et al., 2022). The warning dissemination speed can be accelerated, and the official messages can spread further across social media with the help of peer-to-peer sharing, hence reaching an even greater number of people (Theodorakopoulos et al., 2025). The success of social media is not without its challenges. Misinformation and rumours may spread quickly and cause confusion, panic, and mistrust, which may ruin the evacuation efforts (Aamir et al., 2025).

Growing interest in the importance of social media for disaster communication in Pakistan stems from the increasing penetration of the internet and Smartphone usage. The Pakistan Telecommunication Authority (PTA, 2023) declares that the number of citizens who use social media as the primary source of news and information has increased many times to millions. However, the gap in digital access, literacy and confidence in the authorities is still a big problem, especially in rural and semi-urban districts. The geographical location of the district of Chiniot, which is prone to floods because of its location and closeness to river systems, would provide a significant case study of the use of social media in evacuation communication in such a scenario.

The current research thus analyses the application of social media in communication in disaster management in the case of flood evacuation given the experiences of residents, perceptions, and reactions to the disaster. The analysis of the use of social media platforms to broadcast flood warnings and evacuation information is aimed at estimating the effectiveness of social media in such cases and defining the main challenges. The findings contribute to the existing literature on disaster communication and offer practical recommendations to improve disaster evacuation strategies and community resilience.

Aim of the Study

The aim of this study was to examine the role and effectiveness of social media in disaster communication during flood evacuation.

Significance of the Study

This study contributes to the growing body of literature on disaster communication by providing empirical insights into the role of social media during flood evacuation. It is particularly relevant for policymakers, disaster management authorities, and emergency planners seeking to improve early warning systems and evacuation strategies. By identifying both strengths and weaknesses of social media based communication, the study supports the development of more reliable, inclusive, and trustworthy disaster communication frameworks.

Objectives of the Study

The objectives of the study are:

- To identify the social media platforms used to communicate about

floods and evacuation information and to determine the extent to which residents relied on social media compared to conventional communication media.

- To assess the perception of residents on the credibility, clarity and timeliness of social media messages during evacuation.
- To identify challenges associated with the use of social media in flood evacuation communication.

Research Questions

RQ1: Did social media communication influence evacuation behaviour and preparedness?

RQ2: What limitations reduced the effectiveness of social media during flood evacuation?

RQ3: What were the most popular social media channels used in communicating about flood evacuation?

RQ4: To what extent was social media effective in providing credible and timely evacuation information?

Literature Review

Disaster Communication and Flood Evacuation

Communication during a disaster is an important aspect of the management of an emergency, especially in the evacuation of people during floods where the correct and timely information can greatly save lives and injury. Communication is an effective process that helps the authorities to caution potential risk populations, give clear evacuation routes and direct communities to safe shelters (Shrestha et al., 2025). The literature always indicates that the likelihood of responding to evacuation by following messages is highly dependent on the clarity, credibility, consistent and promptness of the messages used to convey them (Lee et al., 2025).

The emergency evacuation in floods has its own peculiarities in terms of communication because of the development of various conditions in a short period of time, uncertainty, and the necessity to respond promptly to people. In the past, the conventional communication methods of television, radio, sirens, and community announcements have been pre-eminent in flood warning (Goss et al., 2023). Such channels are however, commonly

restricted to one way communication, lagging updates and decreased functionality in accessing wide spread or mobile populations during emergency situations.

Emergence of Social Media in Disaster Communication

The fast development of social media has changed the way disaster communication is carried out, allowing information to be shared in real-time, interactively, and decently. The social media enables the communication of information and information exchange among emergency authorities, media houses and individuals in real-time and more often than the traditional media channels (Ahmed et al., 2025). Research has also proven that social media is a growing trend when it comes to disasters to distribute warnings, evacuation orders, shelter locations, and updates about the situation (Zhang et al., 2025).

Sathianarayanan et al. (2025) established that social media like twitter could be useful in availing situational awareness during natural hazards as they enable real-time reporting by the communities that have been affected. Likewise, da Fonseca et al. (2025) has emphasized the fact that social media has become an indispensable instrument in reducing the effects of disasters, providing chances to communicate quickly, interact with the community, and engage the population in the disaster.

Role of Social Media during Flood Evacuation

Social media can also affect the behaviour of the people during the evacuation during floods, as it can change the perception of risk and the decisions of the people. It has been found that people tend to evacuate when warnings are sent repeatedly in various mediums and supported by credible social networks (Lindell, 2025). This is further boosted by social media, which facilitates peer-to-peer sharing, which may intensify official messages and make them even more credible (Bagadia et al., 2025). A number of studies have indicated that dissemination of evacuation-related information like road closures, safe routes; availability of shelters and contact points of emergency is especially effective on social media (Matsuo et al., 2025). During floods, social networks such as Facebook and WhatsApp are usually adopted to communicate about location-targeted updates and organize evacuation at the grassroots level, particularly in settings with ineffective formal warning systems. But dependence on social media has its dangers too. The rate of information dissemination can support

spreading rumours, false alarms, and misinformation that can lead to confusion or panic in the process of evacuation (de Mos et al., 2025). This brings out the significance of official presence, verification and trust of social media-based disaster communication.

Credibility, Trust and Misinformation

One of the main considerations in the issue of disaster warnings acting is trust. Kim et al. (2019) noted that the warning messages should be considered to be credible and authoritative to generate protective action. On social media, the credibility may be determined by the source of the information, consistency in the message, and consistency with other information channels (Jenkins et al., 2020). The misinformation in disasters has been a well-documented phenomenon, where according to the study, misinformation in the form of images, exaggerated claims, unverified reports spread fast on social media (Xing, 2022). This fake news has the potential to disrupt the official evacuation efforts by initiating doubt and cutting the credibility of valid warnings. Consequently, researchers emphasize that the emergency agencies should actively monitor social media, take measures against false information, and stay a robust official presence online throughout the events of floods (Erokhin & Komendantova, 2024).

Disaster Communication and Social Media in the Developing Countries

Social media is becoming increasingly significant in disaster communication in developing countries because of the weaknesses in the traditional early warning systems (Ali et al., 2025). Nevertheless, it depends on the availability of the internet, digital skills, socio-economic status, and institutional capabilities to be effective (Aker et al., 2025). Though the use of mobile phones and social media has increased at an alarming pace in such countries as Pakistan, its finding remains minimal, especially in rural and flood-affected regions. Research in South Asia also points out that social media can be used in supplement to existing communication approaches, but it cannot be used in place of it (Yi et al., 2025). A hybrid communication strategy involving integration of social media and radio, television, and community-based systems is deemed to be most effective in flood prone areas to reach out to a wide variety of population and provide an inclusive evacuation communication.

Research Gap

Despite the confirmations given in the literature that social media is becoming increasingly important in disaster communication, there is a gap in the empirical research that can be taken to discuss its role during a disaster evacuation at the district level or community level specifically with reference to Pakistan and flood. However, a significant portion of the available literature is dedicated to large-scale disaster in developed nations or national reactions, and fewer studies have been devoted to the local setting, social attitudes, and behavioural consequences in developing states. Specifically, the studies on the use and perception of the social media by residents during evacuation, as well as how issues like misinformation, access restrictions, and trust can affect the effectiveness of the latter, are absent. This research fills this gap by informing about the use of the social media in communication of disasters during the evacuation of people during the floods in District Chiniot. The emphasis on the experiences and perceptions of the residents of the area will provide the study with context-specific evidence that can be used to build more effective and inclusive disaster communication strategies.

Development of Hypothesis

H1: Social media use has a significant effect on the effectiveness of disaster communication during flood evacuation.

This hypothesis is based on the premise that social media has become a key communication tool in disaster management, especially in the context of flood evacuations. Communication and updates through social media can be carried out in real-time and this may have a significant impact on the success of disaster response. Studies indicate that the rate and transparency of information in a disaster have a direct impact on evacuation decisions, and social media is a crucial tool to provide evacuation instructions and updates (Lee et al., 2025; Sathianarayan et al., 2025). This hypothesis assumes that the effectiveness of communication in flood evacuations is directly linked to the usage and interaction with social media platforms.

H2: There is a significant association between social media use and evacuation awareness.

The justification for this hypothesis lies in the fact that social media can serve as a significant vehicle for disseminating evacuation-related information. The active use of the social media platforms assists people to

be aware of the evacuation routes, shelter places, and other important information during the floods. Past researchers have demonstrated that social media use raises awareness and readiness to evacuate among the population living in disaster-prone regions (Aker et al., 2025; Theodorakopoulos et al., 2025). The hypothesis of this study is that the more often a social media is used in case of a flood evacuation, the more awareness and preparedness are expected.

H3: Social media provided credible and early evacuation information during flood evacuation.

According to this hypothesis, the social media platforms can be said to not only present information in a timely manner but also contribute to the establishment of a trustworthy and credible information. When in case of a disaster, people need to acquire the correct and dependable information to make sound judgments. E evacuation orders and safety instructions have been disseminated over social media networks such as Facebook, Twitter, and WhatsApp. The effectiveness of such messages, however, depends on their credibility. It has been identified that information credibility on the social media has the capacity to affect the trust in evacuation guidance, which in turn, can affect evacuation behaviour (Kim et al., 2019; Scolobig et al., 2022). This hypothesis is based on the assumption that social media provided both early and reliable evacuation information during the floods in question.

Methodology

Research Design

The research design adopted in this study was quantitative research design in cross-sectional survey aimed at investigating the correlation between social media use and the effectiveness of flood evacuation communication (Guo et al., 2026). Quantitative design was discussed as the one which is appropriate because it enables to measure the variables systematically and to test the relationships between them statistically. The cross-sectional study design facilitated the collection of data at a single point in time, allowing respondents to report their experiences and perceptions regarding flood evacuation communication.

Study Area

The research was done in District Chiniot in Pakistan which is a flood

prone region because of its geographical position along river systems. The district has been faced a major flood in 2025hence it is an appropriate example in terms of studying the disaster communication activities during flood evacuation. The case of District Chiniot was used to have a local context related to the evaluation of the role of social media in disaster communication.

Population and Sample Size of the study

The sample population included the residents in District Chiniot who had been affected by major flood in 2025 and had access to at least one social media channel of communication. A total of 200 respondents were selected as the study sample. The sample was considered sufficient to be statistically analyzed and in line with similar studies examining social media use during disasters.

Sampling Technique

A convenience sampling method was employed to select respondents due to constraints of time and accessibility. The study subjects were contacted in convenient places and online through the distribution of surveys. Even though probability sampling was not employed, some attempts were made to have a good representation of respondents who belong to different ages, educational backgrounds, and residential locations.

Data Collection Instrument

A structured questionnaire was developed and used as a way of primary data collection. The questionnaire was closed-ended and comprised three major sections:

Demographic Data: This section collected information on participants' age, gender, education level and place of residence.

Social Media Usage (Independent Variable): Items that include frequency of use of social media during times of flood, the type of platform used and subscription to official government or emergency accounts.

Flood Evacuation Communication Effectiveness (Dependent Variable): This section assessed aspects such as timeliness, clarity, credibility, usefulness of information and its effect on evacuation awareness and decision-making. The answers were quantified on a five-point Likert scale with the response of 1 (Strongly Disagree) through 5 (Strongly Agree).

Measurement of Variables

The independent variable (social media use) was measured in terms of a number of items which recorded the frequency and format through which the respondents used social media with regard to flood related information. A score that was higher meant more dependence on social media when there was a flood. The dependent variable, the flood evacuation communication effectiveness, was assessed with the items of perceived quality and effect of evacuation information obtained via social media, such as timeliness, clarity, credibility and influence on evacuation behaviour. The scores were higher and an indicator of perceived effectiveness of disaster communication. The means of the items of the two variables were averaged to obtain composite scores used in statistical analysis.

Data Collection Procedure

The period during which data were collected was within a certain time frame with the administration of the surveys online and in-person. The participants were made aware of the study aim and the issue of voluntary participation was highlighted. Questionnaires were administered with the informed consent and anonymity and confidentiality were promised to respondents.

Data Analysis Techniques

The Statistical Package of the Social Sciences (SPSS) was utilised to encode data and make an analysis of the data. The demographic characteristics and the key variables of respondents were summarised using descriptive statistics, frequencies, means, and standard deviations. The study hypotheses were tested using inferential statistical techniques. The relationship between the use of social media and the effectiveness of communication on flood evacuation was analyzed using correlation analysis. In places where necessary, regression analysis was carried out to determine the predictive power of social media usage on effectiveness of communication.

Reliability and Validity

The consistency of the questionnaire was measured with Cronbach alpha and the values that fell below 0.70 were deemed as satisfactory to gauge the internal consistency. The content validity was also obtained by reviewing the existing literature and expert consultations to ascertain that

the questions on the questionnaire were sufficient to measure the study variables.

Ethical Considerations

Strict ethical considerations were followed in the course of the study. The participation was voluntary and the respondents were aware that they would have an opportunity to withdraw any time. No personal data was obtained, and all data were applied on academic purposes only.

Results

The results of the study examining, the use of social media for disaster communication during flood evacuation in District Chiniot concluded. Data were analysed using SPSS, and the findings are reported through descriptive statistics, correlation analysis, and regression analysis. The descriptive statistics for variables related to social media usage and flood evacuation communication effectiveness were;

Table 1
Descriptive Statistics (N = 200)

Variable	Mean	Std. Deviation	Skewness	Kurtosis
How often do you use social media platforms?	2.73	0.93	0.27	0.48
Which social media platforms do you use?	2.86	1.55	0.3	-1.05
Received flood warning through social media	1.23	0.42	1.33	-0.24
Follow government/emergency accounts	1.21	0.41	1.44	0.06
Received evacuation info via social media	1.22	0.42	1.36	-0.15
Timeliness of evacuation information	3.14	1.1	-0.45	-0.47
Clarity of evacuation information	2.26	1.49	0.66	-1.14
Trust in evacuation information	2.24	1.45	0.69	-1.06

Variable	Mean	Std. Deviation	Skewness	Kurtosis
Followed evacuation routes via social media	1.36	0.48	0.59	-1.67
Overall usefulness of social media	2.17	1.38	0.79	-0.74
Usefulness of first responders' info	2.2	1.39	0.77	-0.78
Satisfaction with Rescue 1122 preparedness	2.26	1.37	0.68	-0.87

Note. Lower mean values indicate limited exposure or lower perceived effectiveness. Several variables show positive skewness, indicating concentration of responses at the lower end of the scale.

Pearson Correlation Analysis

Table 2

Pearson Correlation between the Social Media Usage and Flood Evacuation Communication Effectiveness

Variable	1	2	3	4	5	6	7
1. Social media platform use	1						
2. Timeliness of information	−.150*	1					
3. Clarity of information	.047	−.002	1				
4. Trust in information	−.007	.142*	.140*	1			
5. Overall usefulness of social media	.028	−.199**	.021	−.106	1		
6. Usefulness of first responders' info	.060	−.049	−.038	−.009	.252**	1	
7. Satisfaction with Rescue 1122	−.016	.205**	−.091	.069	−.242**	−.259**	1

Note. $p < .05$ (1-tailed) ** $p < .01$ (1-tailed)

The Pearson correlation test was used to assess the interrelations between social media use and the perception of information related to evacuation during the 2025 floods. The use of social media platforms had a weak, statistically significant negative relationship with the timeliness of information (r = -.150, p <.05), showing that, as the general use of social media increased, the likelihood of information being received in a timely

fashion was not significant. None of the significant relationships were observed between social media and perceived clarity, perceived trust, perceived overall usefulness, perceived usefulness of information shared by the first responders, or perceived satisfaction with the Rescue 1122 indicating that the frequency of platform use was not a strong predictor of the perceived quality of information.

Immediacy of information had strong positive relationships with trust in information (r =.142, p <.05) and satisfaction with rescue 1122 (r =.205, p <.01), which provided evidence of the relevance of timeliness of information in developing public trust and institutional satisfaction. The timeliness, however, was not positively correlated with the overall usefulness of social media (r = -.199, p <.01), indicating that despite receiving information too fast, it was not always found useful.

The information clarity was strongly and positively associated with trust (r = .140, p <.05), which is a positive indication that the more the messages become clear, the more confidence in the evacuation information. A moderate positive association between social media usefulness and the usefulness of information posted by first responders (r = .252, p < .01) indicated the essential nature of official communication of emergencies in increasing the usefulness of the social media in case of disasters. On the other hand, the overall social media usefulness (r = -.242, p <.01) and usefulness of the information provided by the first responders in the social media (r = -.259, p <.01) were negatively correlated with the satisfaction with Rescue 1122, which indicates the discrepancy of the expectations of the population and their perception of the performance in emergency communication.

All in all, the results suggest that timely and clear communication is one of the main predictors of trust and satisfaction, and the efficacy of social media during flood evacuations relies on information quality and official interaction rather than on the use of the social media in general.

Table 3

Pearson Correlation between Composite Variables (IV–DV)

Variables	*r*	*p*	*N*
Social Media Usage ↔ Flood Evacuation Communication Effectiveness	.05	.469	200

The analysis of correlation showed that there is a very low positive associations between the use of social media and the effectiveness of the flood evacuation communication (r =.05). But this relationship was not found to be statistically significant (p =.469) at the 0.05 level with the sample size of 200 respondents. This implies that the effect of the use of social media sites in relation to the communication of evacuation was not significant in the context of flooding. Thus, the use of social media is not a sufficient predictor of the effective evacuation communication in the flood.

Table 4

Simple Linear Regression Predicting Flood Evacuation Communication Effectiveness (N = 200)

Section	Statistic	Value
Model Summary	R	.05
	R^2	.003
ANOVA	Regression *df*	1
	Residual *df*	198
	Total *df*	199
	F	0.53
	Sig. (p)	.469
Coefficients	Social Media Usage (B)	0.08
	Standardized Beta (β)	.05
	t-value	0.73
	p	.469

Note. Dependent variable: Flood evacuation communication effectiveness.

The findings of the simple linear regression analysis are that use of social media did not significantly predict the effectiveness of communication of flood evacuation. The model only explained a very low percentage of the variation in the dependent variable (R^2 =.003) which indicated a negligible explanatory power. The general regression equation was statistically insignificant (F = 0.53, p =.469) and this proved that social media usage was not a significant predictor of effective evacuation communication on its own. The regression coefficient of social media usage was positive (B = 0.08, β =.05), but the effect was weak (t = 0.73, p =.469), and not statistically significant. These results imply that other variables besides overall social media use (including message clarity, timeliness, and official source credibility) are bound to be more important determinants of the effectiveness of flood evacuation communication.

Discussion

This paper set out to evaluate the importance and efficiency of social media in disaster communication in the 2025 flood evacuation in District Chiniot, Pakistan. Although the use of social media as a disaster communication tool is becoming more prevalent globally, the current study findings demonstrate that there was no significant difference in the effectiveness of communication on the use of social media in the scenario of flood evacuation in Chiniot.

The Pearson correlation analysis values ($r = 0.05$, $p = 0.469$) indicated that the relationship between the social media use and the effectiveness of the flood evacuation communication was very weak and statistically insignificant. This observation indicates that despite its popularity, social media did not make a huge difference in improving the quality and timeliness of evacuation communication during the floods. This is a stark difference to the earlier researchers (e.g., Lee et al., 2025; Li et al., 2023) who have lent credence to the value of social media in enhancing situational awareness and rapidity of communication during disaster situations. In this instance, even with the usage of such platforms like WhatsApp, Facebook, and Twitter, the data failed to prove the hypothesis that the use of social media can affect disaster communication effectiveness (H1) significantly. The findings indicate that although social media may help to some extent, it cannot be trusted as the single medium through which evacuation communication can be effectively communicated in nations that are developing.

This was further supported by further analysis with regression models because the effect of social media use was not found to predict the effectiveness of evacuation communication. The insignificant R^2 (0.003) indicated that the usage of social media had a minimal contribution towards the variation in the effectiveness of communication. These findings resonate well with earlier studies that indicate that clarity and timeliness of information and credibility of the source is much more important in the effective communication during emergency situations (Bagadia et al., 2025). Although social media is intensely used, the low degree of association between the use of social media and evacuation preparedness behaviour suggests that the variables of other elements, especially message characteristics, such as clarity and timeliness, have a high impact on evacuation behaviour.

Interestingly, the use of social media did not have a significant effect on the effectiveness of the evacuation communication, but such attributes of messages as the clarity and promptness of information promoted the development of trust in the information and satisfaction with the emergency services (Pearson correlation results: $r = 0.142, p < 0.05$; $r = 0.205, p < 0.01$, respectively). The result indicates the value of quality information sent across, and not necessarily the frequency of communication or the media. The timely, clear, and credible messages played an important role in increasing the level of trust and satisfaction with the emergency services, including Rescue 1122, which, in turn, underscores the necessity of more efficient official engagement and the incorporation of social media into the traditional communication process.

The overriding low perception of usefulness of social media in the study is in line with the increasing number of literatures that highlights the drawbacks of disaster management solely based on social media. In as much as social media has the capacity to spread information within a short time, it is also associated with flaws like misinformation, distrust and digital divide (Seeger, 2025). The results of this study indicate that social media can no longer be viewed as an alternative to traditional forms of communication such as radio, television and community-based media particularly in places with low internet penetration and digital literacy as is the case in Chiniot.

Furthermore, the study has established some of the difficulties in using social media as a means of communication during flood evacuation. The key obstacles are the problem of inability of the social media to draw all members of the population, in particular, digitally illiterate or those who cannot access the internet. Other issues that have been brought out by the findings include the effectiveness and transparency of data shared using such platforms. The dissemination of fake news and rumours on the social media about the 2025 floods also weakened its usefulness in the context of evacuation as the means of communication. Its results are similar to the earlier studies that have identified the speed at which misinformation is disseminated during the disasters that can further confuse and excite panic.

Finally, the study makes it evident that social media is a significant yet auxiliary means that should not be regarded as a replacement of traditional methods of disaster communication. The success of social media in communicating evacuation in floods depends on the quality of information

to be exchanged, the level of delivery in time, and the participation of credible official information. The application of social media in disaster management strategies in the future needs to be combined with the standard practice to guarantee the maximum number of people accessing information. The policymakers and emergency services ought to consider enhancing the legibility, timeliness, and credibility of information disclosed using the social media as well as tackle the digital divides that can interfere with this dissemination. The overall effectiveness of disaster communication during future flood prevention should be improved with the focus on the strengthening of the official presence on social media and the fight against misinformation.

Conclusion

This research looked at how social media has been used in disaster communication in the evacuation of people during floods in District Chiniot with reference to the 2025 floods. The results indicate that despite the general use of social media, the platform was not a major source of flood warning and evacuation communication. The majority of respondents indicated that they were not heavily exposed to official flood warnings and information on evacuations via social media, and a relatively low percentage were the ones who subscribed to government or emergency management accounts of the flood.

Social media was affected in that timely evacuation information was considered timely in instances where the information was received. The impressions of clarity, trustworthiness, and general usefulness were however low to moderate, indicating that quality and reliability of information used was not so enough to satisfy community needs in the evacuation process. This limitation also was seen in behavioural outcomes, with a comparatively small number of respondents stating that they had adhered to evacuation routes, or shelter-related information posted on social media sites.

The results of the correlation analysis indicated that clarity and timeliness of information had a positive relationship with trust, as well as they are important in successful disaster communication. Meanwhile, the strength of relationships between the social media indicators and evacuation communication outcomes was weak over the board, suggesting that social media was not a strong determinant in this regard, as of evacuation

behaviour or preparedness. This implies that although social media has the potential to support the effective communication process, it was not an effective evacuation communication channel on its own during the 2025 floods in District Chiniot.

Finally, traditional disaster communication approaches need not be substituted by social media but should be supplemented by the latter one. To manage future floods, the disaster management authorities are advised to enhance their official social media accounts, timely and clear message delivery, and active misinformation reduction and harmonize social media communication with other usual communication methods like television, radio, and community-based announcements. Increasing public trust in official digital communication and strengthening the digital engagement strategies can boost the efficacy of social media in aiding the evacuation during the flood and eventually make the community safer and more resilient.

Suggestions/ Recommendations

In accordance with the results of the study conducted in District Chiniot, it is advisable that disaster management authorities, such as the National Disaster Management Authority and Rescue 1122, should enhance the quality rather than the frequency of communication through social media in case of flood disasters. As found, timeliness and clarity significantly affect trust and satisfaction; official agencies are advised to prioritize verified, clear, and actionable evacuation messages on Facebook, WhatsApp, and X to improve credibility. Verified accounts, consistent pre-disaster online communication, and real-time updates in case of an emergency can support credibility. Also, the active misinformation monitoring systems should be implemented by the authorities, and the local influencers and community leaders should cooperate with the media organizations to make sure that accurate information about the evacuation is presented to the vulnerable groups as soon as possible and regularly.

Moreover, social media ought to be incorporated in a hybrid disaster communication system, as opposed to being an independent channel. Considering the digital divide experienced in the flood-prone regions, policymakers ought to integrate social media messages with the traditional communication media like radio, television, mosque announcements, and community-based warning systems to make sure of inclusivity. The

capacity-building activities to enhance digital literacy among rural households, as well as training emergency communication teams on how to manage communication strategies on social media, are also necessary. The disaster preparedness plans that will be used in the future need to involve simulation drills to determine the efficiency of the multi-platform communication and how social media will work in conjunction with the available early warning system to enhance the overall community resilience in case of flood evacuation.

Author Contribution

Zafar Ali: conceptualization, methodology, data collection, writing – original draft. **Nosheena Saleem:** conceptualization, methodology, data collection, writing – original draft. **Masroor Ahmed:** software, visualization, writing – review & editing

Conflict of Interest

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