

September 2019

# Role of social media during Kerala floods 2018

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Varghese, Rekha Rani and T A, Yadukrishnan, "Role of social media during Kerala floods 2018" (2019). *Library Philosophy and Practice (e-journal)*. 2754.

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## **Role of social media during Kerala floods 2018**

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### **Abstract**

For almost 19 years social media has been used in crisis management. During the time of natural disasters like flood, earthquake or cyclone, when all the other modes of communications are found incapable, these social media platforms such as Facebook, Twitter, Instagram, YouTube etc. are found to be the most efficient and beneficial. The present study discusses the role of social media during the Kerala Flood 2018. Results show that During the flood; Whatsapp, Facebook and Instagram are found to be used by majority of the respondents. Most of the respondents spend more than 3 hours on Whatsapp followed by Instagram and Facebook during the flood. For the information regarding the location status of friends and family, majority of respondents used Facebook followed by Whatsapp and Instagram. During the flood, majority of the respondents used the hashtag #Keralafloods, followed by #Keralafloodrelief, #cmdrf and #Keralaflood.

Key words: Social media, Kerala flood 2018, crisis management, facebook, whatsapp,

## **1. Introduction**

During the time of Kerala floods, various number of social media platforms were set forth in order to pass on information regarding the updates on flood. Many officials, including Ministers and collectors were using their Facebook account to pass on information that was authentic to prevent the spread of fake news. A lot of Whatsapp and Facebook groups were created exclusively for sharing information on flood. 'Flood relief', 'Kerala floods', 'Rescue team', 'kaithangu' were some of the whatsapp groups set up during floods in order to reach help in the affected areas with philanthropic aids. 'Anbodu Kochi', a Social media group which was formed during 2015 Chennai flood, used the indoor stadium of the Regional Sports Centre in Kochi as a collection hub. Celebrities and officials were also helping them to dispatch materials and urge the public to send more relief materials to the collection centre. Abundance of user generated disaster information was made available through many of social networking sites. Link to Chief Minister's Distress Relief Fund was shared through social media platforms in vast number.

Kerala is a state on the south-western coast of India which receives some of India's largest rainfall during monsoons. During 2018 the state experienced its highest level of rainfall which was 256% higher than usual rainfall. Beginning on 15<sup>th</sup> of August 2018, severe floods affected engulfing the entire state. The floods affected 774 of a total of 1,564 villages, directly affecting 54 lakh people out of the total estimated population of 3.5 crore. For the very first time all the reservoirs of the State, including 34 major ones, become full between August 8 and August 10. It was estimated that over 483 people were dead, 15 went missing and more than 1 million people were left homeless in the 3,200 emergency relief camps. All 14 districts were under red alert. Out of 54 dams within the state, 35 were opened for the first time in the history. Heavy rains in the districts Idukki and Wayanad lead to severe landslides that left hilly areas isolated. According to government of Kerala, one-sixth of the population of the state had been seriously affected by the floods. The loss caused by the flood have been estimated upto Rs 20000 Crore.

This study examines the inevitable role of social media during calamities in the context of 2018 Kerala floods and how effectively people make use of it for disaster communication and

information sharing. In recent years, social media has turned into an effective disaster management tool during any kind of calamities or natural disasters.

## **2. Related Studies**

Joseph, Akhil Dev, Pradeep Kumar and Mohan (2018) in their study examine “the use of Big Data Analytics and Social Media (SM) data mining for effective emergency management and its uses during various phases of disaster management processes”. Based on the case studies; 2015 Chennai Floods in India, 2011 Tohoku Earthquake and Tsunami and 2009 Typhoon Morakot, they analyzed how social media was helpful in the process of emergency management “in preparedness, response, recovery, and mitigation phases to reduce the hazard, risk, and vulnerability of the affected communities”. For aiding information communication and knowledge how the emerging role of social media works volunteering disaster situations. They found that Big Data analytics provides a speedy tool that helps in efficient and instantaneous decision making during the occurrence of disasters and these technologies are beneficial for adaptation that helps the communities to become resilient. Kim and Hastak (2018) in their study examine how emergency social network data can be converted into knowledge. Based on the case study of the 2016 Louisiana flood, they explored the user generated data on Facebook in the city of Baton Rouge during disaster responses Rouge after 2016 Louisiana flood (Aug 12-Dec 1, 2016) and the patterns created by the aggregated interactions to assess how it helped in emergency information propagation. These include tagging friends, posting comments and sharing information. Liu and Xu (2018) proposed “a model of social media use in disasters from a structural perspective; how social roles and social consequences are produced and reproduced through using social media in disasters”. By examining the posts and comments in three officials’ Facebook fan pages in three different disasters using Structuration theory as a meta-theory, they theorizes social structures such as social roles and social consequence along with the human actions taken by public and the disaster management officials during the occurrence of disasters.

## **3. Methodology**

To solicit information about the role of social media during Kerala floods 2018, a questionnaire was administered to 100 Malayali students in Pondicherry University. The questionnaire

contained questions related to the use of social media in general and during the floods in order to analyze the impact of social media sites during the disaster. The main objectives of the study are

1. To identify the different social media platforms used by the malayali students during Kerala flood.
2. To find out the time spent by the students on social media during Kerala flood.
3. To determine the purpose of using social media during Kerala flood.
4. To identify the Hashtags used by the students during Kerala flood.

#### **4. Analysis**

Data is analyzed manually and with MS Excel based on the objectives of the study and given below:

##### **4.1 Hometown-Wise Distribution of Respondents**

Table 1 analyzes the hometown wise distribution of the sample of Malayali students of Pondicherry University.

**Table 1**

##### **Hometown-wise distribution of respondents**

<b>Hometown</b>	<b>Number</b>	<b>Percentage</b>
Calicut	36	36
Thrissur	16	16
Mahe	5	5
Malappuram	11	11
Wayanad	4	4
Palakkad	6	6
Ernakulam	2	2
Trivandrum	6	6
Kottayam	5	5
Kannur	3	3
Alappuzha	6	6
<b>Total</b>	<b>100</b>	<b>100</b>

It can be seen that a good number of respondents (36 percent) are from Calicut, 16 percent from Thrissur and 11 percent from Malappuram.

#### 4.2 Account in Social Media

Table 2 analyses the number of respondents having account in popular social media sites such as Facebook, Twitter, Instagram, Youtube and Whatsapp.

**Table 2**  
**Account in Social Media**

<b>Social media sites</b>	<b>Number</b>	<b>Percentage</b>
<b>Facebook</b>	94	94
<b>Twitter</b>	14	14
<b>Instagram</b>	90	90
<b>Youtube</b>	56	56
<b>Whatsapp</b>	100	100

Findings indicate that all the respondents (100 percent) are having account in Whatsapp, followed by Facebook (94 percent) and Instagram (90 percent).

#### 4.3 Use of Social Media

Table 3 analyses how long have the respondent been using social media sites.

**Table 3**  
**Use of social media**

<b>Social media</b>	<b>More than 5 yrs</b>	<b>More than 2 yrs</b>	<b>An year</b>	<b>Recently</b>	<b>Total</b>
<b>Facebook</b>	30 (31.91%)	61 (64.89%)	3 (3.191%)	-	94 (94%)
<b>Twitter</b>	7 (50%)	3 (21.42%)	3 (21.42%)	1 (7.142%)	14 (14%)
<b>Instagram</b>	17 (18.88%)	48 (53.33%)	25 (27.77%)	-	90 (90%)
<b>Youtube</b>	9 (16.071%)	32 (57.142%)	14 (25%)	1 (1.78%)	56 (56%)

<b>Whatsapp</b>	55 (55%)	35 (35%)	4 (4%)	6 (6%)	100 (100%)
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Analysis shows that 64.89 percent of the Facebook users have been using it from more than 2 years, followed by Instagram (53.33 percent). Over 55 percent of respondent have been using Whtasapp from more than 5 years.

#### 4.4 Time Spent on Social Media during the Flood

Table 4 looks into how much time respondents spent in each of the social media website.

**Table 4**

#### Time spent on Social Media during the Flood

<b>Social media</b>	<b>Less than 30 mins</b>	<b>30-6- mins a day</b>	<b>1-2 hrs a day</b>	<b>2-3 hrs a day</b>	<b>3+ hrs a day</b>	<b>Total</b>
<b>Facebook</b>	-	1 (1.06%)	23 (2446%)	34 (36.17%)	36 (38.29%)	94 (94%)
<b>Twitter</b>	-	3 (21.43%)	2 (14.28%)	7 (50%)	2 (14.28%)	14 (14%)
<b>Instagram</b>	-	1 (1.11%)	13 (14.44%)	30 (33.33%)	46 (51.11%)	90 (90%)
<b>Youtube</b>	2 (3.571%)	2 (3.571%)	48 (85.714%)	2 (3.571%)	2 (3.571%)	56 (56%)
<b>Whatsapp</b>	2 (2%)	3 (3%)	3 (3%)	6 (6%)	86 (86%)	100 (100%)

Findings indicates that most of the respondents spent more than 3 hours on Whatsapp (86 percent), followed by Instagram (51.11 percent) and Facebook (38.29 percent).

#### 4.5 Social Media Used to Get Information on Weather Conditions

Table 5 indicates the number of respondents used social media for information regarding the disaster; particularly about the weather conditions.

**Table 5**

#### Social Media Used For Information on Weather Conditions

<b>Social media</b>	<b>Not at all likely</b>	<b>Not likely</b>	<b>Neutral</b>	<b>Quite likely</b>	<b>very likely</b>	<b>Total</b>
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<b>Facebook</b>	-	1 (1.063%)	12 (12.765%)	36 (38.297%)	41 (43.61%)	94 (94%)
<b>Twitter</b>	-	2 (14.28%)	2 (14.28%)	6 (42.85%)	4 (28.57)	14 (14%)
<b>Instagram</b>	-	19 (21.11%)	27 (30%)	7 (7.77%)	37 (41.11%)	90 (90%)
<b>Youtube</b>	5 (8.93%)	7 (12.5%)	24 (42.85%)	20 (35.71%)	-	56 (56%)
<b>Whatsapp</b>	5 (5%)	9 (9%)	27 (27%)	31 (31%)	28 (28%)	100 (100%)

Findings show that a good number (43.61 percent) of the Facebook users used it for information on Weather conditions, followed by Instagram (41.11 percent) and Whatsapp (28 percent).

#### 4.6 Social Media Used For Information on Road/Traffic Conditions

Table 6 indicates the number of respondents used it for information on road/traffic conditions during the flood. It is clear that 52.22 percent of Instagram users used it for road/traffic information, followed by Facebook (52.12 percent) and Whatsapp (51 percent).

**Table 6**

**Social media used for information on road/traffic conditions**

<b>Social media</b>	<b>Not at all likely</b>	<b>Not likely</b>	<b>Neutral</b>	<b>Quite likely</b>	<b>very likely</b>	<b>Total</b>
<b>Facebook</b>	-	11 (11.70%)	20 (21.27%)	14 (14.89%)	49 (52.12%)	94 (94%)
<b>Twitter</b>	-	-	2 (14.28%)	7 (50%)	5 (35.71%)	14 (14%)
<b>Instagram</b>	6 (6.66%)	4 (4.44%)	17 (18.88%)	16 (17.77%)	47 (52.22%)	90 (90%)
<b>Youtube</b>	-	-	8 (14.28%)	14 (25%)	34 (60.71%)	56 (56%)
<b>Whatsapp</b>	1 (1%)	3 (3%)	27 (27%)	18 (18%)	51 (51%)	100 (100%)



#### 4.7 Social Media Used For Eyewitness Photographs/Videos

Table 7 looks into how many respondents used social media for information regarding eyewitness photographs/videos during the flood. It shows that 60.71 percent of Youtube users used it for information regarding Eyewitness photographs/videos, followed by Facebook (57.44 percent) followed by Instagram (55.55 percent).

**Table 7**

**Social media used for Information on eyewitness photos/videos**

<b>Social media</b>	<b>Not at all likely</b>	<b>Not likely</b>	<b>Neutral</b>	<b>Quite likely</b>	<b>very likely</b>	<b>Total</b>
<b>Facebook</b>	-	-	6 (6.38%)	34 (36.17%)	54 (57.44%)	94 (94%)
<b>Twitter</b>	-	-	3 (21.42%)	6 (42.85%)	5 (35.71%)	14 (14%)
<b>Instagram</b>	4 (4.44%)	6 (6.66%)	6 (6.66%)	24 (26.66%)	50 (55.55%)	90 (90%)
<b>Youtube</b>	-	-	-	22 (39.28%)	34 (60.71%)	56 (56%)
<b>Whatsapp</b>	2 (2%)	3 (3%)	36 (36%)	24 (24%)	35 (35%)	100 (100%)

#### 4.8 Social Media Used For Location Status of Friends and Family

Table 8 indicates the number of respondents who used social media during the flood for the information on location status of friends and family.

**Table 8**

**Social media used for information on location status**

<b>Social media</b>	<b>Not at all likely</b>	<b>Not likely</b>	<b>Neutr al</b>	<b>Quite likely</b>	<b>very likely</b>	<b>Total</b>
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<b>Facebook</b>	-	-	-	30 (31.91%)	64 (68.08%)	94 (94%)
<b>Twitter</b>	7 (50%)	3 (21.42%)	-	4 (28.571%)	-	14 (14%)
<b>Instagram</b>	-	-	27 (30%)	25 (27.77%)	38 (42.22%)	90 (90%)
<b>Youtube</b>	-	34 (60.71%)	22 (39.28 %)	-	-	56 (56%)
<b>Whatsapp</b>	11 (11%)	-	7 (7%)	26 (26%)	56 (56%)	100 (100%)

Findings show that 64 percent of Facebook users used it to know the location status of friends and family followed by Whatsapp (56 percent) and Instagram (42.22 percent).

#### 4.9 Information About How Others Are Coping With Disaster

Table 9 analyses the number of respondents in the usage of social media during flood for information regarding how others are coping up with the disaster.

**Table 9**  
**Social media used for information on how others are coping with disaster**

<b>Social media</b>	<b>Not at all likely</b>	<b>Not likey</b>	<b>Neutral</b>	<b>Quite likely</b>	<b>very likely</b>	<b>Total</b>
<b>Facebook</b>	-	-	1 (1.06%)	42 (44.68%)	51 (54.25%)	94 (94%)
<b>Twitter</b>	-	-	1 (7.142%)	9 (64.28%)	4 (28.571%)	14 (14%)
<b>Instagram</b>	-	-	11 (12.22%)	39 (43.44%)	40 (44.44%)	90 (90%)
<b>Youtube</b>	2 (3.571%)	2 (3.571%)	13 (23.21%)	25 (44.64%)	14 (25%)	56 (56%)
<b>Whatsapp</b>	-	1 (1%)	3 (3%)	77 (77%)	19 (19%)	100 (100%)

Analysis indicates that 77 percent of Whatsapp users used it quite likely to gain information on how others are coping with disaster. followed by 54.25 percent of Facebook users and Instagram (44.44 percent) users whom used it very much likely.

#### 4.10 Social Media Used For Information on Safety Measures

Table 10 indicates social media used by the respondents for information regarding safety measures during the flood. It shows that 58 percent of Whatsapp users used it for information on safety measures followed by 56.38 percent of Facebook users and 55.55 percent of Instagram users. Out of 56 Youtube users, 64.28 percent used it for the same.

**Table 10**  
**Social media used for information on safety measure**

Social media	Not at all likely	Not likely	Neutral	Quite likely	very likely	Total
<b>Facebook</b>	-	-	12 (12.76%)	29 (30.85%)	53 (56.38%)	94 (94%)
<b>Twitter</b>	3 (21.42%)	-	2 (14.285%)	5 (35.71%)	4 (28.57%)	14 (14%)
<b>Instagram</b>	-	2 (2.22%)	8 (8.88%)	30 (33.33%)	50 (55.55%)	90 (90%)
<b>Youtube</b>	1 (1.785%)	1 (1.785%)	4 (7.142%)	14 (25%)	36 (64.28)	56 (56%)
<b>Whatsapp</b>	-	-	7 (7%)	35 (35%)	58 (58%)	100 (100%)

Findings show that majority (58 percentage) of Whatsapp users used it for information on safety measures followed by 56.38 percent of Facebook users and 55.55 percent of Instagram users. Out of 56 Youtube users, 64.28 percent used it for the same.

#### 4.11 Social Media Used For Expressing Gratitude

Table 11 analyses the number of respondents who used social media to express gratitude, during the flood.

**Table 11**  
**Social media used for Expressing Gratitude**

Social media	Not at all likely	Not likely	Neutral	Quite likely	very likely	Total
<b>Facebook</b>	-	-	3	29	62	94

			(3.19%)	(30.85%)	(65.95%)	(94%)
<b>Twitter</b>	-	-	-	6 (42.85%)	8 (57.14%)	14 (14%)
<b>Instagram</b>	1 (1.11%)	3 (3.33%)	2 (2.22%)	12 (13.33%)	72 (80%)	90 (90%)
<b>Youtube</b>	1 (1.78%)	2 (3.571%)	6 (10.71%)	23 (41.07%)	24 (42.85%)	56 (56%)
<b>Whatsapp</b>	-	-	12 (12%)	34 (34%)	54 (54%)	100 (100%)

It is found that 80 percent of Instagram users used it to express gratitude, followed by 65.95 percent Facebook users and 54 percent Whatsapp users.

#### 4.12 Role of Hashtags

Table 12 indicates the hashtags used during the flood by respondents. It shows that 80 percent of the respondents used #Keralafloods, followed by #keralafloodrelief (54 percent), #cmdrf (54 percent) and #keralaflood (51 percent).

**Table 12**

#### **Hash tags used during the flood**

<b>Hashtag</b>	<b>often</b>	<b>sometimes</b>	<b>neutral</b>	<b>seldom</b>	<b>never</b>
<b>#keralafloods</b>	80 (80%)	10 (10%)	3 (3%)	5 (5%)	2 (2%)
<b>#keralafloods2018</b>	28 (28%)	30 (30%)	6 (6%)	8 (8%)	-
<b>#keralaflooding</b>	10 (10%)	4 (4%)	3 (3%)	6 (6%)	-
<b>#floodrelief</b>	54 (54%)	6 (6%)	2 (2%)	-	-
<b>#standwithkerala</b>	48 (48%)	15 (15%)	4 (4%)	-	-
<b>#keralaflood</b>	51 (51%)	8 (8%)	7 (7%)	3 (3%)	2 (2%)
<b>#keralafloodrescue</b>	21 (21%)	17 (17%)	3 (3%)	3 (3%)	1 (1%)
<b>#savekerala</b>	27 (27%)	21 (21%)	3 (3%)	3 (3%)	-
<b>#cmdrf</b>	54 (54%)	35 (35%)	1 (1%)	-	-

#floodreliefkerala	15 (15%)	14 (14%)	19 (19%)	7 (7%)	2 (2%)
#donate4kerala	10 (10%)	35 (35%)	7 (7%)	5 (5%)	2 (2%)
#weshallovercome	23 (23%)	12 (12%)	15 (15%)	3 (3%)	1 (1%)
#others	4 (4%)	5 (5%)	2 (2%)	2 (2%)	2 (2%)

#### 4.13 Role of Social Media/Web Based Safety Services During the Flood

Table 13 indicates the role of social media/web based safety services during used by the respondents during the flood. It shows that 85 percent of the respondents used Facebook safety checks and 18 percent used Google person finder.

**Table 13**

#### Use of social media/web based safety services

Services	often	sometimes	neutral	seldom	never
Twitter alerts	-	-	-	-	-
Facebook safety checks	85 (85%)	2 (2%)	-	-	-
Google person finder tool	18 (18%)	5 (5%)	3 (3%)	3 (3%)	-
others	1 (1%)	-	-	-	-

### 5. Major Findings and Discussion

Most of the respondents are having account in popular social media sites such as Facebook, Twitter, Instagram, Youtube and Whatsapp. Majority of the Facebook users have been using it for more than 2 years, followed by Instagram. More than half of the respondents have been using Whtasapp from more than 5 years. Whatsapp was used by all the respondents, followed by Facebook and Instagram during the flood. In a similar study conducted by Aisha, Wok, Manaf and Ismail (2015) it was found that Whatsapp was used by the vast majority of the respondents during the flood followed by Facebook. Most of the respondents spent more than 3 hours on Whatsapp, followed by Instagram and Facebook during the flood.

A good number of the Facebook users used it for information on weather conditions followed by Instagram and Whatsapp. A similar study conducted by Reute, Ludwig, Kaufhold, and Spielhofer (2016) and the result shows that Facebook was found to be used by the respondents in sharing information regarding weather conditions during emergencies. Majority of Instagram users used it for road/traffic information, followed by Facebook and Whatsapp during the flood. Most of the respondents used Youtube for information on damage caused by the flood, followed Facebook and Instagram. Majority of the respondents used Youtube for information regarding Eyewitness photographs/videos, followed by Facebook and Instagram.

To know the location status of friends and family, majority of the respondents used Facebook followed by Whatsapp and Instagram during the flood. Similar study conducted by Yadav and Rahman (2016) and found that Facebook was used by majority of the respondents for location status of friends and family.

Majority of the respondents used the hashtag #Keralafloods, followed by #keralafloodrelief, #cmdrf and #keralaflood. Similar study was conducted in the context of Chennai floods regarding the use of hashtags during the flood by Nair, Ramya, and Sivakumar(2017). Large majority of the respondents used Facebook safety checks and few of them used Google person finder during the flood. In a similar study by Simon, Goldberg and Adini (2015) shows that Facebook safety checks was found to be used by majority of the respondents during the emergency.

## **6. Conclusion**

Social media has become an inevitable thing in everyday life. During emergencies it is found to be an important tool for disaster communication and disaster management. The findings from the study show that all the respondents made use of social media during the flood. The current study was undertaken with the aim of analyzing the role of social media during Kerala floods 2018 regarding five major social media sites; Facebook, Twitter, Instagram, Youtube and Whatsapp. Among these five social media networks, Whatsapp, Facebook and Instagram

are found to be most effectively used by majority of the respondents during the flood for various purposes.

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