

SOCIAL MEDIA AND DISASTER MANAGEMENT

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Abstract: *The recent Chennai floods taught us many lessons, one of it being the importance of social media during a disaster as devastating as this. Though the damage was heavy, one thing that was clear is the spirit of humanity. People from various walks of lives came together to help one another in this unforeseen calamity and social media played a major role in bringing people together.*

Taking this as a case study we aim to study the uses and gratification of social media at the time of a crisis. We have used different methodologies including interviews and surveys to study in-depth about how people used social media before the calamity, during and post the calamity. At the end of the article, we aim to get a thorough understanding of the role, analyze the pros and cons of social media in a disaster situation.

Keywords: *Social media, disaster management, Chennai floods, uses and gratification of social media, importance of social media, social media's role in disaster management.*

Introduction

The Chennai floods was an unprecedented disaster in it being a once in a lifetime event. Compared to the Tsunami of 2004 where facebook was in its infancy while twitter and whatsapp were yet to be conceived of, this was also the first large scale disaster in the age of social media – namely facebook and twitter. Hence studying the Chennai floods from an angle of the potential role for social media in disaster management offers useful clues and lessons for planners to make better use of such new age platforms for formulating their disaster response protocols.

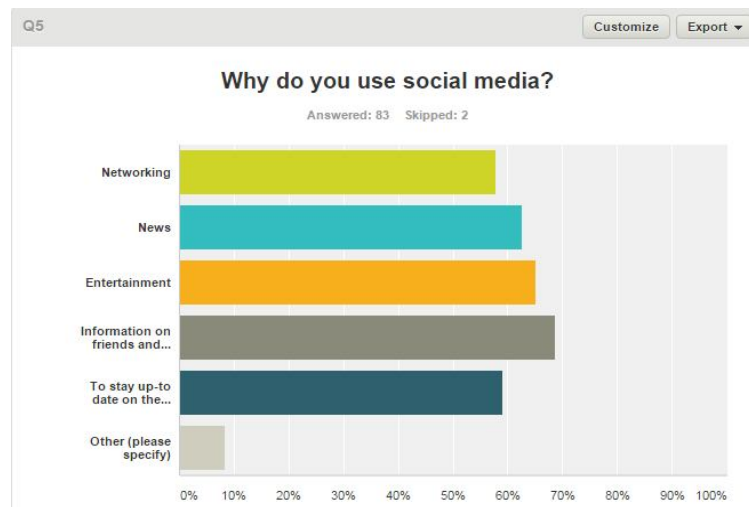
SOCIAL MEDIA AND DISASTER MANAGEMENT – INSIGHTS INTO USES AND GRATIFICATION

Social media: For the purpose of this article, any media that allows seamless one to one or one to many conversations on a digital platforms falls under social media.

According to Nielsen, Internet users continue to spend more time with social media sites than any other type of site. For content contributors, the benefits of participating in social media have gone beyond simply social sharing to building reputation and bringing in career opportunities and monetary income.

Based on our survey, 58% of the respondents say they use social media for networking, 63% use it for news and 65% for entertainment while 69% use it to catch up on what friends and family had been up to.

The other big use of social media has been repeated demonstrations over the years on coping with disasters – natural and/or manmade. The ability for near and dear ones to know their family’s situation in the affected region makes social media Godsend. The benefits like connecting with people in need of help, faster dissemination of information and relief coordination was personally experienced by many of us during the Chennai floods.



Chennai floods: 1218 mm of rain on November 2015 vs. a long term average of 407 mm. on 1st of December, Chennai recorded 374 mm of rainfall. This was declared to be the costliest flooding in terms of damage caused in 2015, and the 8th costliest natural disaster.

While the Tamil Nadu government’s handling of the crisis was criticized on several fronts, Chennai saw many ordinary citizens coming forward to help each other. Across

the city, people opened up their homes to succor clothes, provide shelter food, medicines to the needy and worst affected. The modus operandi of typical citizen action groups seemed to be to initiate actions, and watch it grow into something big via a whole bunch of city based volunteerism sustaining, nurturing and growing the initiative.

Notable personalities – film actor Siddharth, RJ Balaji, Peter Van Geit (founder of CTC) played a stellar role – from coordinating rescue activities to personally rescuing nearly 100+ people during the floods. As part of this effort, they and other volunteers extensively used social media channels like twitter, whatsapp and facebook among others. Social media sites were also used to communicate and relay information about flooded areas, rescue agencies and food/relief centers. A temporary website – www.chennairains.org was set up to crowd source information and aid coordination and to match the one needing help to those willing and able to help.

Arun Ganesh, a Bangalore-based map analyst, created a crowd sourced map on November 27–28 to document inundated neighborhoods and streets in Chennai. The map (Flooded Streets), used ISRO and United Nations geographical data along with data from OpenStreetMap. Outside India, many members of the Indian diaspora sent non-perishable food, clothes, and bedding and relief funds from countries all over the world. Tamil and Indian communities across the United States organized dozens of relief and fundraising drives in over 50 cities, raising Rs.65 crores donations by the second week of December.

Meanwhile, Skype announced that it would offer free international calls to landlines and mobiles in Tamil Nadu for "the next few days", starting 3 December 2015. Facebook activated its "safety check / mark safe" feature to allow Chennai residents to let friends know they were safe, while Google posted a link on its homepage called "Resources for the Chennai Floods", providing details about relief camps and updates on the situation in the city; it also enabled its Crisis Response tool. Several Twitter hashtags including #ChennaiFloods, #ChennaiRains and #PrayForChennai were among the top trending hashtags across Twitter in India. Telecom major Airtel announced loan credit of Rs 30 and free benefits of calls and 50 MB of data. Other telecom operators including Vodafone, Airtel, Aircel, and Reliance Communications also offered free benefits to customers.

Indian real estate portal Commonfloor.com created links on its company website for people who need shelter or want to offer shelter. Commonfloor.com also created a list of flood safe localities where victims of the flood can look for shelter. Mobile healthcare startup DocsApp, provided free consultation with specialist doctors via mobile.

Many NGOs, including unions and Rotarians, sent tons of food, bedding and clothing to Tamil Nadu; the APJ Abdul Kalam Vision India Movement alone contributed Rs 50 lakh worth of relief materials. Companies including Ola Cabs, Paytm, Practo and Zomato also aided in the relief efforts. Nestle, Coca-Cola, Pepsi-Co, ITC, MTR,

Britannia and Parle contributed thousands of instant meals, boxes of biscuits and 1-litre water bottles, along with tons of milk and coffee products. Other major corporations including Hyundai and Hindustan Unilever, donated vehicles and over many hundreds of food and medicine packets and actively aided with rescue efforts across the state. Hyundai India donated Rs 2 crore to the Tamil Nadu Chief Minister's Relief fund. U.S. information technology multinational Cognizant made a direct donation of Rs 65 crore to the relief fund and various Chennai based NGOs, while contributing additional Rs 195 crore towards the long-term recovery efforts of staff and business partners, in effect, making a contribution of Rs 260 Crore.

Objective

- A. We aim to study the uses and gratification of social media at the time of a crisis.
- B. At the end of the article, we aim to get a thorough understanding of the role it plays at the time of a disaster.
- C. We specifically aim to look at this through the lens of the lay people, of NGOs and government bodies and finally of companies.

Methodology

We have used content analysis of Facebook posts by key players during the floods, conducted interviews of several players involved to understand different perspectives and public surveys to study in-depth about how people use social media during normal times, and how its use changed under conditions of severe duress that were the Chennai floods.

Analysis and interpretation

We surveyed 85 people across various segments between the age group of 18 to 40, regular social media users, from Chennai and outside Chennai and who were either directly affected by the floods or had near and dear ones affected. To understand the results of the survey in depth, we also interviewed people with different perspective each – volunteers involved in flood relief, founders of organizations which played a massive role in relief and rescue, and companies with workers in the affected areas.

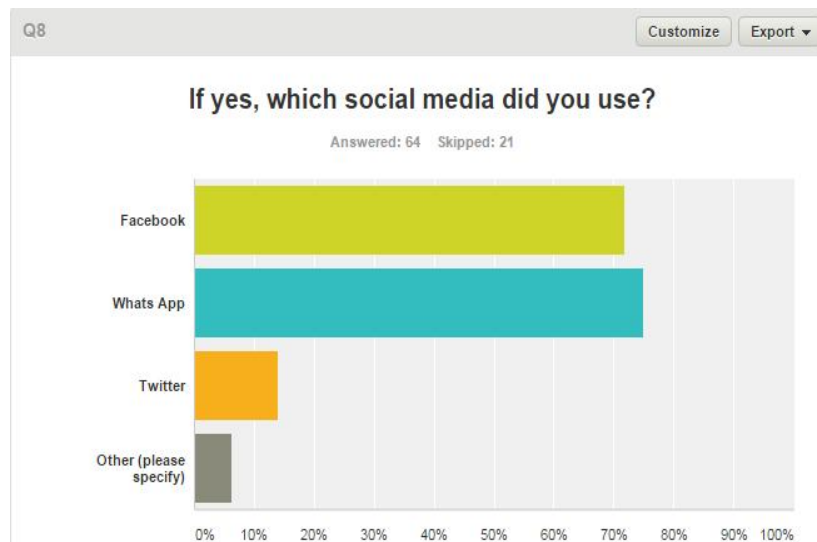
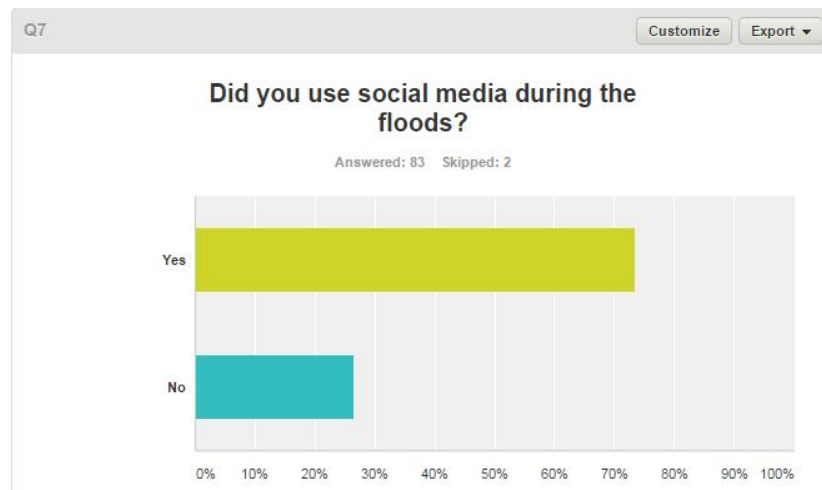
Results of survey

We conducted a survey amongst a largely urban demographic – of both people in Chennai during the floods and outside Chennai at the time of the floods to understand the uses and gratification of social media during a disaster.

80% of the respondents were in the 18-30 age groups.

94% of the respondents were present in one or more social media groups.

Over 90% of the respondents independently said they were active on facebook or Whatsapp, with the implication being that most of them were active on both facebook & Whatsapp.

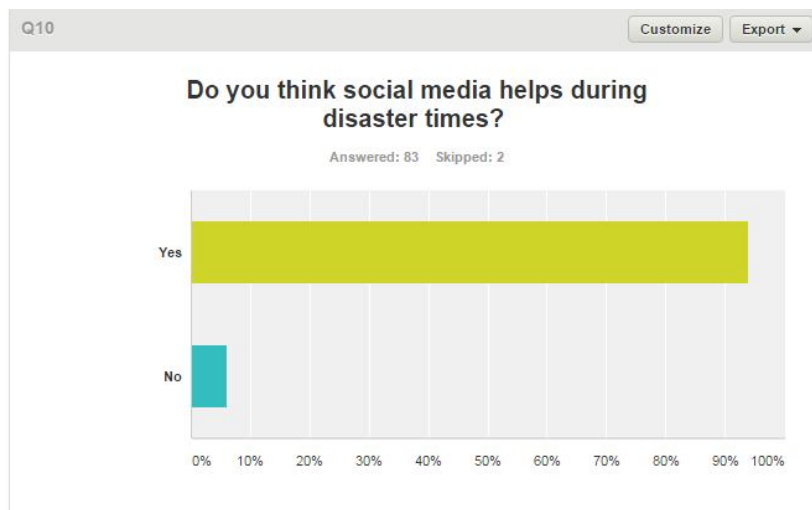


An overwhelming 94% said social media helps them during disasters. About 70% said they relied on facebook during floods, while 75% said they used whatsapp to communicate with family and friends indicating a high degree of overlap between both facebook and whatsapp users. Twitter came in at about 20%.

In response to an open text question on how they felt social media helped them, the responses revolved around 3 key themes:

1. Helped me mark myself safe and ease the worries of relatives
2. Helped me know my friends and family were safe

3. Helped me identify those in need and inform them about safe places to go, how to go while avoiding flooded areas and/or where food and relief was available – we call it “coordinating flood relief”



Interviews

To understand these findings further and get better insights into ‘how people used social media to help battle the disaster’ we conducted extensive interviews of companies, social workers and NGOs. This will help further understand the uses of social media from different perspectives.

Social media use by companies

Global Analytics India Pvt Ltd, a Chennai based fin-tech firm was no exception to the disaster. When the rains hit on the fateful Tuesday morning of 1st December, over 250 employees were in the office. Mr. Rajiv Sharma, Vice President - HR, Global Analytics and the man behind the disaster management for the company is based in the company’s Noida office and first heard about the rains through news and his team based in Chennai. Around 2 pm the company’s senior management team got on a call to assess the situation and planned to send the entire employees home by 2.30 pm. They decided to first secure the safety of all the employees and play it by ear for the next day. The situation worsened as the rains continued unabated through the night. The team used Skype for business to stay in touch on that day and in the week that followed as the city slowly limped back to normalcy.

“The facebook mark yourself safe feature came in handy. We were able to account for many of our staff through this feature”, said Mr. Sharma. “When the phone lines died, the on & off internet helped people to access Facebook and Whatsapp”.

Speaking on the importance of social media presence and its usefulness in disaster scenarios, Mr. Sharma said, “Our Company’s closed group on facebook made communication to employees simpler as most of our employees were already added in the group.”

By Thursday, the 3rd of December, the company started a head count of the employees but it was difficult to account for all employees as the phone lines were not working. Mr. Sharma said, “Many family members and relatives of employees who were not able to reach their loved ones contacted us through facebook to check on their relatives. As we were taking the head count of our staff in Chennai, we marked them safe on facebook.

The facebook’s feature of marking others safe came in handy here. This was a huge relief for friends and families based abroad”.As a next step to account for the last few remaining employees, the company formed a disaster management tree using whatsapp where people formed a social graph and accounted for the ones they had access to.

The company’s CEO and Vice President of compliance also happened to visit Chennai at the time and were affected by the floods. Global Analytics used the crowd sourced flood map mentioned above to figure out a safe route for its exec’s to drive to Bangalore and other safe known locations.

The other important aspect of a business is ensuring business continuity. To this end, Global Analytics formed 3 whatsapp groups - one group for their technical operations team to monitor the servers and services to ensure normal conditions and to plan for and send some of the staff to Bangalore or Delhi, one group to ensure and account for all employees and their safety and the third for the senior management to take decisions as the situation developed and information became available. The arrangements made by the company for their employees - shelter, food, were communicated through social media platforms.

In spite of the disaster, with employees significantly affected, the effective use of social media ensured that the company’s customers - all based in the UK didn’t even know that there was something wrong. This was the level of execution achieved through effective use of social media (Skype, whatsapp, facebook).

Even after the floods, the company continued to leverage social media for relief and rehabilitation work. They looked into the needs of their employees’ first and provided services to help others - both monetary and via support services (housekeeping etc.). Additionally, the company used social media to organize its CSR efforts towards rehabilitation of affected people and clean ups throughout the city.

Commenting on the above, Mr. Sharma said “Social media helped us reassure worried families and employees, acts as an hub of information to gather and pass on as required, and reiterated the need and importance of remaining connected. Since then we have worked to strengthen our presence on social media to be better prepared”.

Social media use during floods by social workers/volunteers

As the floods devastated the city and made things terrible for the citizens, the people living in the slums along the Adayar River and other low lying areas of Chennai were amongst the most affected. As the middle class moved on from their troubles mostly within the first couple of weeks, these people in the slums faced massive issues and lost nearly everything - with the flood waters completely ruining their homes and/or washing away their belongings. As the first week of rescue happened, victims were moved to safer places like schools, colleges, churches etc. the focus shifted to helping people pick up the pieces of their shattered lives. This section describes the volunteering efforts of 4 fellow of “Teach for India” and their use of social media to amplify the impact of their efforts in a positive manner.

The four volunteers were regulars and were known to the Koyambedu slum community of ~200 families as they via the Teach for India initiative were teaching kids in the community. In the immediate aftermath of the floods, given the sticky residue and toxic mix of river silt, mixed garbage and sewage was left behind in people’s homes, the first priority that needed attention was: Clothes for these people as they had none to take a shower and change into.

The volunteers just posted the needs of the people based on what they saw on their social media profiles, and the viral nature of the platform ensured that there was no looking back. NGOs and civil society gave clothes, water and food to distribute twice a day in the immediate aftermath of the floods.

As they visited the affected areas and saw the needs of the people, very quickly the volunteers assessed their objective to mainly be:

- D. Rally support and gather resources for the victims from as many people as they could
- E. Put together and provide relief kits to victims stocked with almost everything they need to allow them to focus their priority on restoring their shattered lives. i.e., shelter, food and clothing are basic needs and only when taken care of can victims focus on rebuilding their lives.

To support their first goal of gathering adequate resources to make a meaningful difference to the lives of these affected people, the volunteers turned to facebook and whatsapp to connect to the outside world, make them aware of the extent of the devastation and ask for help - and help came pouring in.

USE OF SOCIAL MEDIA

The volunteers soon realized that to make effective use of the social media platforms, they had to do more than just posting and sharing information on their own page. It required careful planning and strategy.

They soon created a page called 'Rehabilitating Koyambedu Communities' which helped them reach out to wider set of people such as NGOs and other organizations. Many people and associations came forward to support such as: Abdul Kalam Vision India Movement, Give Away, Namma Chennai and Rajnikanth's Fan Club. These associations in particular shared the Rehabilitating Koyambedu Communities page on their fan page and sought further help for over 300 families.

The volunteers assessed the needs of these families and put together the requirement for relief kits to address their immediate needs and shared the same on facebook.

The Funds collected through social media were used to buy stoves which were otherwise difficult to procure. A civil group from Bangalore came forward and adopted the Koyambedu community and helped victims clean their houses and streets that were filled with sewage and muck. They also provided them cleaning equipment such as gloves, shovels etc. and taught the community safe waste disposal methods.

Social media as a saviour

Social media came as a saviour to these volunteers and became an important source of information and communication allowing them to amplify their efforts and raise awareness about the less reachable areas that needed help for rehabilitation in the aftermath of the floods. The rise of smartphones with good cameras helped in delivering impactful pictures (see above) that got several likes and shares and got socially conscious people to help and contribute in any manner they could. Additionally, the fact that these pictures showed them working on the ground helped them get that bit of credibility needed for people to believe in them and help them.

The volunteers weren't, prior to the floods; associated with any NGO or associations but the platform of social media helped them connect and network with the right agencies that could help them.

"Social media is effective, rapid and has the ability to connect overnight and the information ripples everywhere in no time. Reliability was certainly an issue but we did not have time or energy for that thought and we are happy that everything worked out pretty well", said one of the volunteers with a smile of satisfaction.

Social media use during the floods by not for profit volunteer based organization that delivered outsized impact:

We also interviewed Mr. Peter Van Geit, founder of Chennai Trekking Club (CTC) with over 26,000 members. CTC led by Peter and a band of selfless volunteers did some remarkable rescue and rehabilitation work during the floods. They also leveraged the power of social media to raise awareness, raise funds and deliver outsized impact in first rescuing hundreds of people and then rehabilitating and helping thousands in Chennai and other flood affected cities in Tamil Nadu. Therefore, interviewing Mr. Peter would give us a ring side view into the subject.

Peter Van Geit - originally from Belgium has made Chennai his home since the last 17 years. Founder of the Chennai Trekking Club, a 26 thousand member non-profit volunteer based group which organizes outdoors, adventures, sports and environmental conservation activities throughout the year for people.

Mr. Geit said, “On Tuesday December 1st afternoon I was out in the city outskirts and unable to return back home to Pallavakam as all access roads had been flooded and spent the night in my car. Next morning I heard that entire neighborhood in Thoraipakkam next to the Pallikarnai marsh were flooded and individuals needed to be rescued. I reached home and picked up a few big lorry tubes which I normally use for my open water swimming classes and drove to Thoraipakkam to see if I could help out. With a team of 5 volunteers we went inside the flooded streets and soon reached places where the level was 10+ feet high. For two days and one night we rescued around 130 people who were stranded on rooftops focusing on those with medical condition, children, pregnant ladies, elders”.

“The initial 1 or 2 days, we had connectivity and we were able to gather volunteers for the rescue work. I sent out mailers to our triathlon participants who can swim in open waters for help. Then when the connectivity died, my office in Tidel Park was the only place with internet and power, I used to go every evening after our rescue effort to keep posting on social media”, added Mr. Geit.

Sharing updated information on social media came in very helpful to gather people and strengthen the rescue efforts. Through regular posting, CTC was able to connect with a lot more people and help came pouring in.

Mr. Geit said, “On day 3 we joined Dawn Williams and volunteers from the Blue Cross of India in the Kotturpuram slums distributing food and water to residents of the Chitranagar slum and rescuing animals from rooftops. The slum was badly impacted by the nearby Adyar River which had breached through its banks and covered the area with black slush mixed with sewage. Day 4 also we teamed up again with the Blue Cross at Iyappathangal where water was still deep distributing relief materials and rescuing animals”.

Meanwhile the Chennai Trekking Club set up 3 flood relief centers in Tambaram, North Chennai and Pondy from where hundreds of volunteers received relief materials from

various cities, segregated and distributed to thousands of families in various neighborhoods in Chennai and Cuddalore. They also put together and distributed thousands of "family relief kits" which included the basic items for families who lost all household items in the floods.

They soon noticed that while there were a lot of relief materials coming in, there was paucity of coordinated efforts in distributing these materials. Known areas were receiving too much relief materials while some had been completely missed. So, they created a public flood relief map of Chennai relief.chennaitrekkers.org. Hundreds of volunteers fanned out to 100+ areas in and around the city to identify flood affected areas where no relief had reached yet enabling CTC and other NGOs to more effectively distribute relief materials via the creation of a visual map of the cities along with markers on areas that had been "provided relief" vs. areas that were yet to be reached.

After the rescue and immediate relief acts, CTC joined hands with the Chennai Runners to clean up specific areas of the city:

1. 1000 volunteers joined hands on Sunday December 13th in cleaning up the neighborhoods of Chennai.
2. 4 cleanup drives at the Kotturpuram slums Surya-nagar and Chitra-nagar on the banks of the Adyar river
3. 2 cleanup drives at Government schools of Thoraipakkam and Pozhichalur a major Chennai beach cleanup planned on December 27th.

CTC also set up a TN Flood Relief Fund to collect donations towards relief and rehabilitation efforts. Many individuals, NGOs and corporate CSRs expressed their interest to participate in rehabilitation. So far we scouted 60+ remote hamlets around Cuddalore which had been badly impacted by the floods and identified two candidates for adoption: a total of 360 homes were collected. Mr. Geit said, "In all the above efforts, social media came in handy. We were able to connect to many people - individuals, associations, corporates, NGOs - all came forward to help and contribute in whatever ways they could. The viral nature of social media platforms especially facebook was a key factor that brought in help. Many people from other cities and countries also came forward to help."

CTC was also helpful to raise funds through social media which were later used in rehabilitation work in Chennai, Cuddalore and nearby areas. The message and view was a key factor they realized. So, they were careful to take pictures and made it a point to post impactful pictures on facebook - that would raise awareness about what needed to be done - for the sake of our city and for the sake of the environment.

Many of Mr. Geit's posts and pictures went viral on facebook and he received many awards in the recent past for his efforts during the floods. He said, "Our work during the floods has increased the visibility and credibility of our organization amongst people especially the posting on facebook on awards and clean ups planned, went viral. Social

media definitely has greater reach among people.” His postings on clean ups organized and pictures of rescue work got a reach of 200,000 to 300,000 on facebook.

Conclusion

Based on our research, newspaper reports, the survey and the interviews, we are led to conclude that the wide spread usage of social media, the key cases that were needed combined together and played a vital role in the democratization of information flow and helped even out flood relief work. We expand on this further below:

1. Information is everything when it comes to formulating an effective and efficient response to disasters – natural or manmade.
2. Social media helped ease the information flow allowing planners to effectively plan and distribute the available resources across the worst affected and to improve the effectiveness of their response.
3. A good disaster management plan should include a list of citizen volunteers trained on disaster response to help bolster the official resources and amplify the impact of relief activities. In the absence of such a plan in Chennai, social media allowed many brave souls to come forward and help out via self-starter initiatives. This allowed official response agencies to focus on the most critically affected areas and save lives, while coordinating relief via these impromptu citizen volunteers greatly improving the time within which relief could be provided.
4. Recent research seems to suggest that social media analysis of tweets in twitter and posts in facebook might be able to better predict than the most complex modeling of disasters, the extent and type of damage by areas and aid relief agencies in creating geo spatial maps of the area overlaid with damage and relief already delivered.

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Annexure

1. Age group?

- 18 to 30 years
 30 to 45 years
 45 years and above

2. Are you present on any social media platform/s?

- Yes
 No

3. If yes, which ones are you active on?

- Facebook
 Twitter
 Whats App
 Blogs
 Other (please specify)

4. How active are you on social media?

- Very Active
 Active
 Moderately active
 Rare
 Other (please specify)

5. Why do you use social media?

- Networking
 News

- Entertainment
- Information on friends and family
- To stay up-to date on the latest happenings
- Other (please specify)

6. Were you affected in any way by the Chennai Floods?

- Yes
- No

7. Did you use social media during the floods?

- Yes
- No

8. If yes, which social media did you use?

- Facebook
- Whats App
- Twitter
- Other (please specify)

9. For what purpose did you use social media during the floods?

10. Do you think social media helps during disaster times?

- Yes
- No