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Social Media Helps in Disaster Management

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I. INTRODUCTION

In the previous time if somewhere disaster can occur then there must be no mode of communication to interact with people suffering from disaster but then social media comes and take over the charge to spread the information. Nowadays the use of social media is to giving the information of the Natural disasters and the causes with the help of the required platform. Here we are discussing the brief description about that how social media can help the people to broadcast the information about the disasters like: Earthquake, Hurricane and Cyclones. Social media have their different platform to spread their information towards the person.

Nowadays the world has been hit with a series of big natural disasters like: -
Bushfire in Australia, Devastating flood in Indonesia, Hurricane in United States, Volcano Eruption in the Philippines, Cyclone in West Bengal and recently The Cloud burst in Uttarakhand (Devprayag) With increase of the Natural Disaster there seems to be a possibility that this will happen continuously in the future time and create a lot of damage.
A natural disaster is a cause due to unbalancing of natural energy like Flood, Earthquake, Hurricane, Cyclone etc. It also causes financial, environmental or human losses. Natural disasters come without any warning and they take lives of thousands of people. The resulting loss may depend on the destruction on the various lives and the different types of the living being and many things. If these disasters continue it would be a great danger for the earth and the humanity. This saying is concentrated in the formulation that disasters occur when nature has lost all his stability and unbalance itself then destruction occur. The term natural means that it has also the involvement of the human being to disturb the balance of the nature. When Natural Disaster occur then social media is one of the common sources in today's world. Social media has become very popular and a platform to communicate during a natural disaster. Due to Natural Disaster many of the people have lost their family, friends, homes and so many things. During this period, it becomes very hard to communicate with people to know their actual presence hence social media and mode of social media can help us to awake with the exact scenario and provide us a very easy way of communication. In these days social media has become a very helpful medium. Social media is now turning into a life- saving tool. People tend to use social media for several reasons- to gather news about the disaster, for daily updates about what is happening, etc. People also use social media to send donations. Facebook users can now see a message at the top of their news feed asking them to donate to Foundations, Campaigns etc. By using the Donate feature, people can directly donate to the once who are in need and support their relief efforts on the ground, according to Facebook.
The value of the social media is very helpful that it can tell us that how much people can recovered and how much they are in need of help. It can also help the people to aware the upcoming destructive events and try to help people with the social media Technologies like Message, video, PDF, Image and many more. The increasing use of the internet and mobile phones offers the possibility to go for further steps by joining volunteers together beyond the official and traditional channels of communication. Social media has the capabilities of encouraging volunteers to report any abnormal situation to help decision-makers to take appropriate decision or steps. Social media can be used in crisis management like to sharing collaborate knowledge that can help develop communication between different people in a crisis management situation or content sharing media helps in conducting awareness by identifying images or videos of how a crisis is evolving in real-time. This type of communication can help increase societal resilience in pre-crisis, crisis and post crisis phases:

1) In pre-crisis phase, organizations can develop capacity to filter social media for monitoring awareness as they provide campaigns for different sources.
2) In crisis phase, it provides real time facts to avoid people keeping in dilemma and to mobilize IT volunteers via online technology community to improve crisis mappings and situational awareness.
3) In post crisis phase, an organization can use social media to communicate about recovery and to improve management.

Some social media research focuses on best practices. An organization needs to invest time, money, and manpower into social media campaigns for them to be successful. Social media can create interaction between individuals, public and organizations. The purpose of this paper is to know the importance of the social media which can help us in the information of the Natural disaster and the destruction over the world and the different places.

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II. LITERATURE REVIEW

According to different papers and survey Disaster can be defined as a source of danger and its consequences can affect humans in terms of poverty, life and environment when the level of danger exceeds the ability of the affected areas to cope with the available resources. Disasters can be categorized into different categories such as natural like extreme cold or heat, fir, flood etc.), man-made (like biological, chemical and many more), hybrid (like heavy rains, active volcanos etc.). It is not possible to prevent disaster from occurring, its risk can be minimized by taking certain steps to enhance the capacity of individuals and groups.

The framework of this research paper is to investigate the needs of disaster management agencies and communities that are segregated into different dimensions like interaction between agencies and communities. Proposed research in this paper explores the functional ability of social media and providing the needs of involving disaster management agencies and communities before and after the disaster. Here are some descriptions from various author:

1) *Paton and Johnston 2001; Rodriguez 1997; Seydlith et al. 1990:* In their study covers the trend to use social media for various purposes. Like there are some studies and reports that are came across to use social media applications in a particular disaster management before and after a disaster.
2) *Aleksandrina V. Mavrodieva and Rajib Shaw:* In their study says that social media in disaster management is becoming more and more important, as it was seen after 2010 earthquake in Haiti, the 2011 Tohokuearthquake and tsunami etc. social media is increasingly used by variety of actors such as from ordinary to local residents or form organizations, government and traditional media.
3) *Dragovi´c et al. (2019):* Gives a comprehensive list of case studies like how social media used in practice during different phases.
4) *Giroux et al. (2013):* Provides risk and opportunities in which government should consider the use of social media in the pre-disaster phase for quick response and recovery.
5) *Liu et al. (2008):* Pays special attention on information and photos uploaded by the citizens at the time of crisis.
6) *DimiterVelev and Plamena Ventseslavova Zlateva (2012):* As the wide variety of social media data create an obstacle in the disaster management by limiting the available information form social media. Several approaches have been made in the literature to cope with the data in disaster management. Disaster management plays a significant role in minimizing the loss of life and to protect damage of infrastructure and properties. The arrival of social media has enabled the application of human approaches that enable public to provide disaster related information that can be used in reducing the impact of natural disaster.
7) *Erini Eleni Tsiropoulou (2021):* A comprehensive framework is presented in this research to effectively explore and compare existing approaches that uses social media information for disaster management. Previous surveys in this area have focused on specific aspects like lifecycle of disaster management, including warnings such as impacts, relief etc. they consider aspects such as time and content. The above-mentioned research classified the literature-based taxonomies that covers the aspects related to effects of emergency occurrence on social media. Before a disaster social media helps people to prepare them better for a disaster and help them to understand which organizations will help. Social media in disaster management provides and effective means of updated information about a crisis. Some protective steps were also taken for effective communication process. The extensive research of social media allows people to help more and more help in their tough times.

III. SURVEY WORK

In this research paper we are supposed to do the research on increasing order of the disaster day by day and how social media can help us to report on this situation. After several research on this topic, we are deciding to do this task that in the previous time there are a smaller number of disasters happen but this time it would be a great number of at least 207 disasters are recorded in the half of the 2020. We are supposed to research that What is the main reason of the increment of the natural disaster and how social media help to get us the best solution for this problem. As we know that for the past few years there are so many changes in our nature which can create a lot of disaster management increasingly day by day and effect ourself with so many of its forms like earthquake, floods, hurricane, landslide etc. Suppose we are discussing about the Earthquake It is a type of one of the common natural disasters which can be formed by the disturbance of the tectonic plates which is under the earth land. There are so many of the countries and the states where the disturbance of the tectonic plates is very common and they are facing a lot of earthquakes in their areas just like Tokyo, Jakarta, San Francisco, United States of America. On a recent survey United States of America face a earthquake on 9th July 2021 with a magnitude of 6.0 in the seismometer. This recent news is described because of the social media which is nowadays a big source of the news.

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These are the major cities in the world where the possibility of the earthquake occurs most. Here are some data representing of the Earthquake from the past some years that how vast it increases year by year. We represent a taxonomy of the recent research on social media data management. We also represent the possible uses of social media during disaster management in tabular form or in a chart with the help of the different platform of the social media and the web help. As we know in the previous time when there is no other source of information except Television, Radio and the Newspaper. There are also so many people who doesn't have television and radio in their house so they were unable to know the present news of that time and unable to help others who are harmed by the Natural disaster or lost their homes. But in this era if there is some Natural cause happen then there are so many sources of the help just because of the social media and the online platforms. We are presenting such type of information.

A. Survey (1)

As bushfire in Australia creates a lot of destruction, social media plays a vital role in spreading news, concern and content around the world to help people. The emergency engaged in the world so deeply with #AUSTRALIANBUSHFIRES trended on Twitter in 180 countries all over the world. Instagram shared a lot of posts with this hashtag and also shared content with #SUPPORTAUSTRALIA which receive 3M views on Instagram. Social media plays a very important role for Australia during this time as it proved to be a valuable tool not just for sharing content and connecting people from all over the world, but providing a support during emergencies. How we react when we see social media is playing a very crucial role during this crisis period, we have seen that social media has the potential, power and features to overcome the problem of people suffered from disaster. Social media plays multi-layered roles in response to the bushfires in Australia by connecting people from locally as well as globally.

1) *In Response Of Crisis:* Facebook played a most important role in response to the bushfire crisis, by connecting people, creating awareness, connecting different communities and supporting emergency services through platform to provide facilities. Facebook helped emergency services about crisis, resource allocation and evaluating plans. Using's Facebook location data collected from mobile devices, The RFS (a fire tracking device) identifies the location where the risk of fire is high and population is high as well and allocate required services and crews to help people. RFS makes accurate risk assessment by using up to date data of any disaster. There is a lot of concern and discussion about the data collected by Facebook and other platforms, after seeing the data it shows that the data is collected with the purpose to help more and more help.

B. Survey (2)

For almost 20 years, social media plays a very important role during natural disasters. During disaster management like, hurricane, earthquakes and floods where mode of communication is not possible, social media platforms like YouTube, Facebook, Instagram and twitter are found to be most beneficial and effective during disaster time. Now let's discuss how social media helped during floods. As floods are the result of excess rain that overflows through a river, lake and stream. In some cases, floods cause extreme damage like it causes death, a lot of people lost their shelter etc. Now let's take an example like flood in Kerala.

1) *In Response Of Crisis:* Due to water dripping with no signal for few days, social media accessed through mobile phones plays the most important role to stay in touch with the people of what is happening. With very limited amount of connectively, even a charged phone is very helpful during that time to provide basic necessities like food, water and clothes to the people suffered in the disaster. Every time when the signal improved, people try to communicate with their loved once by posting pictures or videos on Facebook, twitter before the network goes off.

As #KERALARAINS turned to #KERALAFLOODS, more and more come in front to help people by donating money and providing things which are in need and also sharing more and more information on their social media pages and by starting a campaign as well.

Emergency contact numbers were also shared so that people who find it difficult to connect with their family and friends but due to weak network it becomes very difficult to communicate.

Twitter and Facebook with different hashtags created many pages so that volunteers, army officials and NDRF teams came and front and start the campaign of rescuing people.

A spreadsheet is also prepared with the help-line numbers, volunteer's details and medial camp details was shared so that people can fill their details and provide necessary information.

After the disaster, Kerala put regular updates of the weather forecast to make people aware and they also created an app for checking the weather.

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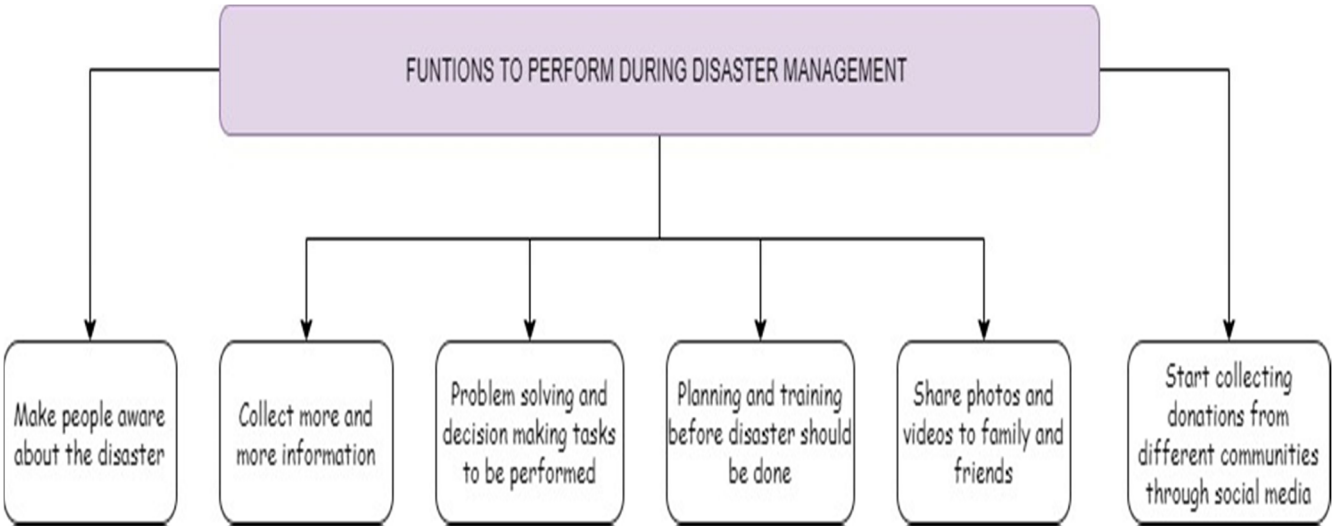
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IV. SOCIAL MEDIA BEFORE DISASTER

When social media is not so spread or not everyone use them then it would very difficult to tell the news of the disaster and the other natural causes on time. This can be impact as that the harmed people don't get help on time. They were loosed their house, their loved ones and their work too but doesn't get any financial support from any of them on time. This can be impact so much in that era. There were so many problems before the social media enters in our society.

V. SOCIAL MEDIA DURING DISASTER

Social media provides information to officials, law enforcement and general public, as well as directly to friends and family by creating groups and pages. Now a days, people upload videos and photos of the disaster happening in front of them so that make people aware what is happening all over the world. If any disaster is happening or coming, the information related to any disaster on social media is seen by the public faster as compared to news channels and newspapers. Communities and officials use social media to make people aware about the disaster and ask people to help the needy people in the affected areas in form of money, food, clothes etc., social media during disaster management shares the required information on different platforms like, by providing location of the affected areas, images and videos of that area etc. by sharing more and information with family and friends we can create a network so that we can help more and more people of different areas. We can also update status on WhatsApp, Facebook, share posts on Instagram as well to create a big network.



VI. SOCIAL MEDIA AFTER DISASTER

Social media after disaster helps people to find out their loved ones, their personal belongings and pets as well. Social media also asks for collecting funds and donations so that it can help people by providing them a safe place to stay, by giving them food, clothes and also some work so that they can start earning from the beginning. Companies can also use their websites and pages to post pictures, videos and providing some information related to disaster and make their clients and customers aware about the situation so that they can also share more information on their social media accounts for help.

A. Some Practices Were Made Before Disaster Occurs

1) Plan before disaster: it involves understanding the disaster that occur, understanding how to reduce the damage and make plans and understanding what all resources are required to help people the needy people.

2) Establish relationships with others: before a disaster can occur, different communities and organizations must establish a relationship with other organizations so that more and more people coordinate with each other and a team of volunteers is also created.

3) Providing messages on how people can avoid risk or damage: necessary actions were taken and certain tasks were also prepared to make people aware hoe to avoid risks.

4) By Listening and responding to the public: people who are socially very active they must share photos and videos to their friends and families as well as their WhatsApp groups and on Instagram accounts also so that more people come together to help the needy people.

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VII. CONCLUSION

In this research paper we conclude the importance of the social media in the natural disaster that how it can help us. We also take a web survey, describe the role and advantages and disadvantages of social media.

This research illustrates the potential uses of social media for disaster management and response. This is the starting point towards establishing the use of social media during response to earthquakes, floods and hurricane etc. this research shows the key point of social media that includes the improvement of organization, the ability to quickly provide information and open different ways of communication in the areas where communication is not possible. Some key points were there about social media during disaster:

First, social media is a way to communicate and share information during natural disaster. It can be help us to reach the new in time so that people can help the harmed ones and trying to make their lives happy just like earlier.

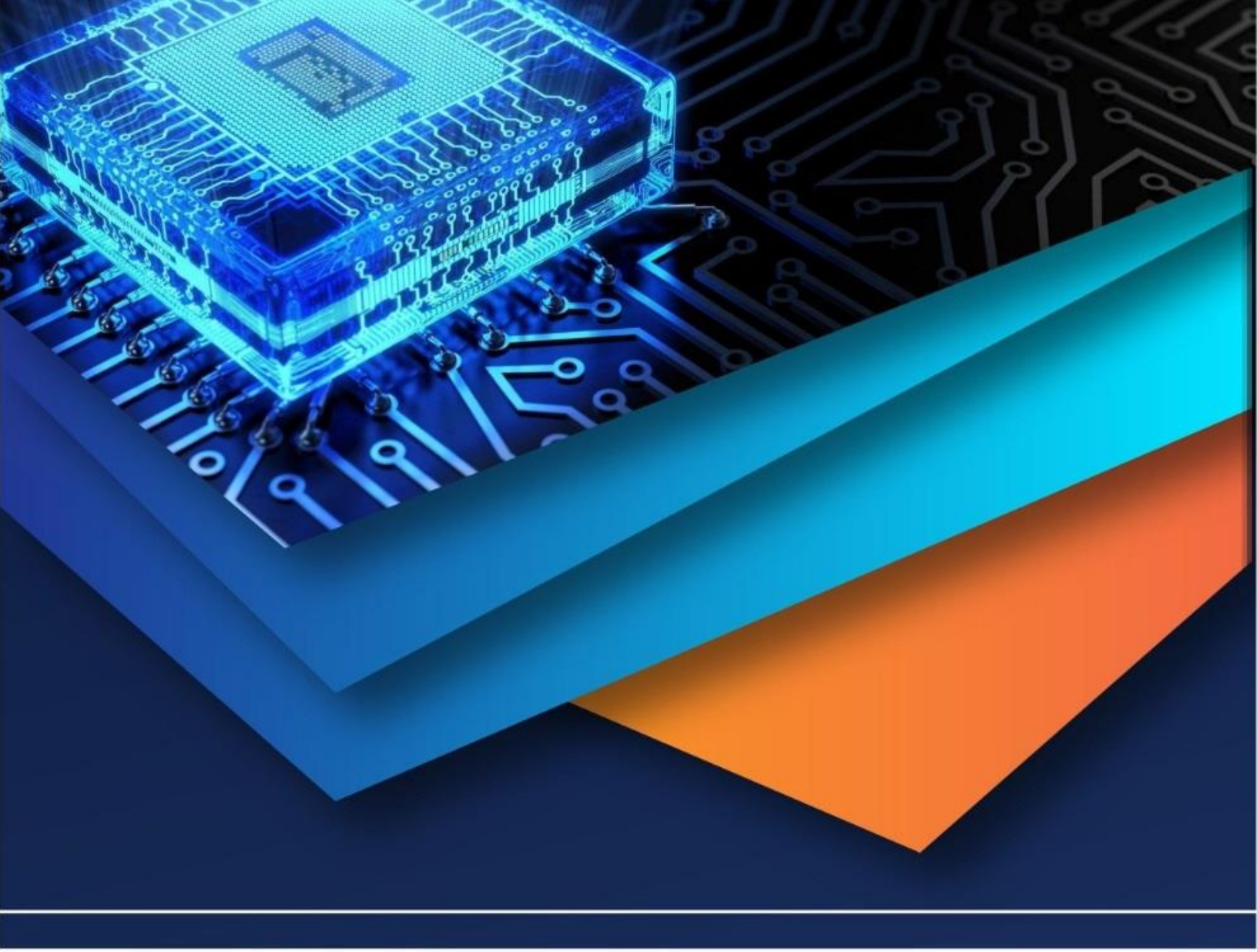
Second, social media is a way to identify different volunteers for different campaigns which is also very useful in the Natural disaster just like Earthquake, Cyclone and many more.

Overall, social media is a platform that helps bring communities and people together during disaster so that more and more people can help each other's and try to make their live as earlier.

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