

# Wrong Architecture & Unplanned Urbanization are Mainly Responsible for the Loss & Destruction in Nepal Earthquake—A Case Study Showing the Role of Social Media in Spreading Awareness of the Real Cause

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**Abstract**—Haphazard urbanization and rampant building code violations in Nepal pushed up the earthquake death toll. Movement of tectonic plates is a natural phenomenon & bound to happen. Loss due to earthquakes can be minimized with earthquake resistant Architecture & good urban planning. Nepal lacked in both due to number of sociopolitical as well as economic reasons. This case study analyze the real cause of loss in earthquake. Social media has emerged as a new way through which disasters are dealt with. In fact, today social media is being used for almost all activities; so it is important to recognize the role of Social Media for a Social Cause like spreading awareness about the real cause of loss in Nepal earthquake so that required steps can be taken in future.

## **This Case Study includes**

*Its main research question that which type of role was played by social media for the spreading awareness about the real cause of loss in Nepal earthquake.*

*Its purpose which establishes new roles for social media where social media is for social cause & fights with social problems including all types of disasters.*

*Methodology & tools for collecting data-Internet research, library research, report collections & interviews of associated persons. The complete study of the available facts with its analysis.*

## **1. INTRODUCTION**

Owing to its unique geo- climatic conditions, Nepal has high vulnerabilities posed by national disasters such as earthquakes and landslides. The kind of earthquake that hit Nepal last month is a periodic event in the country: the last was in 1934. For years, the international community knew another big quake was due in Kathmandu. The disaster is that we have not prepared sufficiently for a predictable event. In a world of increased urban densification, rapidly expanding informal settlements and development that outstrips a government's ability to enforce standards, it is poorly designed and constructed buildings, not earthquakes, which are the real catastrophe. In many cases, the rush of urbanization has

produced some of the most dangerous built environments: multi-storey buildings, over-reliance on concrete and a loss of knowledge that protected previous generations. The pressure to meet the needs of growing populations, along with improperly implemented building regulations, can lead to lethal weakness. This was demonstrated in China in 2008 when the Sichuan earthquake destroyed over 7,000 recent but inadequately engineered schools, killing thousands of school children.

Around three-quarters of all deaths in earthquakes are due to building collapse. Low-cost and informal buildings are most likely to fail, meaning that earthquakes disproportionately affect the poorest in the community, and usually leave them even poorer. The technology and skills to practically eliminate this scale of fatality are available. Yet they are not reaching the people who need them most. Earthquakes are not just a “natural” crisis: they reflect a poverty crisis.

This is a development problem produced by a failure to incorporate risk and resilience into long-term planning. An earthquake shouldn't have to be the impetus to “build back better” after lives have already been destroyed. Building better should start from day one. According to the question of this case study Social media has emerged as a new way through which disasters are dealt with. Twitter is the 12th most visited site in Nepal. Nepal has less than 0.6% of Total global users (estimated 550 million now). Estimated 100,000 Twitter users. Baburam Bhattarai is one of the most followed Nepali twitter users with 25,000 followers. Twitter and facebook have become instrumental in advancing many powerful social movements in Nepal. There are 1,890,820 Facebook users in the Nepal, which makes it #66 in the global ranking.

Keeping in mind both the facts about earthquake & social media in Nepal this case study researches the role of social media in spreading awareness about the real cause of disaster.

## 2. METHODOLOGY

Internet research, library research, report collections & interviews of associated persons were adopted as a methodology for this case study. Facebook, Twitter, What's app & you tube were mainly studied keeping in view the disaster related information.

## 3. STUDY

Years ago Nepal's capital Kathmandu was a beautiful, hilly city with clusters of quaint buildings. The same city was at the epicenter of an earthquake measuring 7.8 on the Richter scale. City blocks collapsed, century-old monuments were reduced to rubble, and apocalyptic cracks ran through the roads. The earthquake itself was inevitable as Nepal lies on a tectonic fault line but haphazard urbanization around the Kathmandu Valley amplified the fatal force of the disaster. Here's how a 2013 World Bank report summed up the problem:

Unplanned urban development in the Kathmandu Valley has led to rapid and uncontrolled sprawl; irregular, substandard, and inaccessible housing development; loss of open space, and decreased livability. It has also increased vulnerability to disasters, making Kathmandu one of the most earthquake-vulnerable cities in the world.

According to the report, Kathmandu city has been one of the fastest-expanding metropolitan areas in South Asia. But a lot of this growth hasn't been planned or regulated. In rural areas of the valley, satellite towns have grown without much guidance from the government, the report says. On the other hand, the shopping centers, offices, and residential buildings built within the city proper have not adhered to the safety codes that would protect their occupants during an earthquake.

"The building code is a serious issue. In a place like Kathmandu, a new building pops up every day which has not been built to code," Robert Piper, former resident coordinator for the United Nations in Nepal Told the thompsonreuters foundation "Buildings kill people, not earthquakes."

Sadly, the city's vulnerability has now been proven true. But Kathmandu's case isn't unique—several rapidly urbanizing South Asian cities show similarly dangerous urban growth patterns, according to 'The Thompson Reuters Foundation' The Indian capital of New Delhi is another example. "Not only is Delhi densely populated but there is complete lack of enforcement by authorities concerned to ensure that building codes and structural safety norms are followed," D.K. Paul, professor emeritus at the earthquake engineering department at the Indian Institute of Technology, told.

DK Paul, professor emeritus at IIT Roorkee's earthquake engineering department and part of the team that carried out a microzonation study of the capital in 2007, told HT that devastation in Delhi would be many times more not only on account of its high seismicity (it falls in seismic zone IV) but also because of the unplanned growth that flouts structural safety norms in buildings.

The microzonation study had revealed that private buildings in the Capital, especially those in Trans Yamuna and Walled City areas, would suffer the maximum damage if an earthquake of 7 or higher magnitude strikes the Capital.

According to Paul, if the epicenter of earthquake of 25<sup>th</sup> of April had been near New Delhi, *half* of the city—which is so much bigger than Kathmandu in population and size—would have been leveled to the ground. Hopefully the present tragedy, and the prospect of future ones, will force cities to reassess their urban planning efforts before the next natural disaster hits. The World Bank looked at the impact of building codes in the "developing" world, considering benefits *and* costs. For most construction, they advocate a light regulatory touch:

"Regarding building regulations in developing countries, for private homes and other small buildings, it may be that the best default approach is to educate rather than regulate, leaving regulatory construction engineers and planners to focus their efforts on relatively few high-traffic public buildings."

The World Bank made its recommendations without specific reference to Nepal, where the challenges of regulating construction are especially steep. Any retrofitting would have to accommodate buildings that range from modern shopping malls to ancient Buddhist shrines at high altitudes. It would have to create a community of professional structural engineers and standards enforcement that doesn't yet exist.

More crucially, the code would have to function within a system long reviled for bureaucratic ineptitude and endemic state corruption. Not only has Nepal's government been unable to provide a steady flow of electricity to its citizens, for the last eight years the country has stumbled along as politicians have failed to agree on a written constitution to guide the nation.

The great tragedy of Saturday's earthquake in Nepal may have taken the rest of the world by surprise, but to many Nepalese, it was only a matter of time. All of the ingredients for a lethal, nationwide disaster in the land of Everest have been in place for ages: high population density, isolated mountain communities, extreme poverty, ramshackle development, political instability, state corruption, and a seismic fault line deep enough to cut through the Himalayas.

As the Nepalese know all too well, there's no easy or obvious fix for any of this. Nepal has spent centuries struggling to resolve its many problems, with results ranging from disappointing to tragic. *Kegarne?* as the old saying goes, meaning "What to do?" It's a quintessentially Nepalese expression born of perceived political helplessness, usually accompanied by a dim smile and fatalistic wave of the hands.

Far from the gloomy sentiments on the street, experts in the West think they know exactly what to do. The United States Agency for International Development (USAID) has an optimistic three-year plan to help Nepal develop a regional community of experts capable of establishing mandatory building standards that will minimize earthquake damage. City Lab and The United Nations agree, calling for Nepal to tighten its National Building Code to prevent future tragedies.

Although the Code has been on the books for twenty years, local builders have been free to ignore it with impunity. Today, most construction remains unregulated. To the everlasting disappointment of Shangri-La-seeking tourists, Kathmandu's slapdash sprawl gleams not with gold, but with corrugated tin rooftops and rusty, naked rebar jutting out of half-finished concrete columns. Even after a devastating earthquake in 1934 took over 10,000 lives, no comprehensive system of building regulations, planning, or enforcement was ever put into effect.

And now, as protesters rally against the government's inadequate response to the earthquake, it's not even clear whether a national emergency can unite the country.

Nepal rebuilt some of its old monuments after the 1934 earthquake, and soon added a few new ones. New Road was constructed after the quake, and it quickly became home to the most desirable and prosperous businesses in the city. The absence of expensive building codes may have sped the rebuilding process considerably.

If the central government can maintain a light regulatory touch, new, vibrant communities may yet emerge from the rubble of an ancient Himalayan world.

With so much at stake, why has Nepal stubbornly refused to modernize its urban landscape? Buildings designed, engineered, and constructed to withstand earthquakes survive disasters better than those slapped together with shoddy materials and construction. But the real question is always one of tradeoffs and in many parts of the planet insisting on First World construction standards would leave millions without shelter.

Nepal's Ministry of Physical Planning, Works, and Transport Management has even written up its own plan for implementing building standards, but for reasons that should be obvious, they've never gotten off the ground floor.

#### 4. ANALYSIS

As far as Social Media is concerned facebook, tweeter, you tube & what's app all are promoting the reason of Nepal's earthquake showing that tectonic plates moving north at about 45mm a year is pushing under the Eurasian plate beneath the Himalayas. They are not at all talking about the real cause of destruction & why the urbanization is so unplanned.

Broadly social media is used in four ways during a disaster:

1. Sharing information and spreading awareness.
2. For relief operations: Eg: building communities, volunteering etc.
3. For collecting funds
4. Monitoring and providing insights to the whole situation.

Analyzing the content of social media it has been found that facebook pages, tweets, videos on You Tube & what's app images are related to relief operations, sharing information about victims, collecting funds but not at all related to spreading awareness about the real cause of destruction. Some articles on earthquake published in print media were shared specially on facebook. To very less extent tweeter & what's app were used for spreading the information about real cause of destruction.

In study it has been found that behind this destruction the first reason is cost. In a country where a quarter of the population survives on an income of less than \$1.25 per day, code compliance is beyond the means of millions of Nepalese. For tens of thousands of low caste and landless squatters, known as *sukumbasi*, the availability of cheap, improvised housing is a matter of daily survival. Yet in supporting the establishment of quake-resistant building codes, journalists often fail to consider the prohibitive cost, **and potential damage** involved in criminalizing the construction of shacks and shantytowns in one of the poorest countries in the world. Nepal earthquake: a disaster that shows quakes don't kill people, buildings do.

Indian-led relief efforts in Kathmandu, Nepal.



## 5. CONCLUSION

Five-storey pagodas in Japan and China have stood through a thousand years of earthquakes without collapse due to their natural seismic qualities, as has the 1,500-year-old Pashupatinath Temple in Kathmandu, now host to a tragic number of funeral rites. Around three-quarters of all deaths in earthquakes are due to building collapse—and poor people bear the brunt. In Nepal earthquake destruction was directly related to the violation of building codes, &unplanned Constructions with wrong architecture. As far as Social Media is concerned facebook, tweeter &what’s app all are promoting the reason of Nepal’s earthquake showing that tectonic plate moving north at about 45mm a year is pushing under the Eurasian plate beneath the Himalayas. It has completely failed as a new way of spreading awareness about the real cause of destruction.

## 6. RECOMMENDATIONS

After a disaster like Nepal’s earthquake, the international community needs to assist in long-term, safe reconstruction. If it does not, the construction will be carried out in an ad-hoc manner, with unplanned reconstruction and inadequate skills resulting in unsafe buildings. This pattern locks poor communities into a cycle of vulnerability, leaving them unprotected against the next earthquake. Nepal’s reconstruction is so crucial because it is an opportunity to take the global community’s combined knowledge and do better. It is more important than ever to focus not only on providing immediate relief, but to deliver a more resilient, stronger built environment that will not produce a repeat tragedy of this scale again.

The social media is helping the international community in the process like–flying in rescue teams, distributing medical supplies and setting up temporary shelters—but this only treats the symptoms of an earthquake. The underlying problem is a

vulnerable built environment. As the emergency passes, this cause gets forgotten: the trauma of earthquakes makes people want to forget, but when that amnesia reaches the institutional level, then history repeats itself. Hence New Media should think of its new role in disaster management by making people aware of the real cause of destruction so that concerned authorities can take required essential steps before the disaster.

International cooperation needs to focus on preventing disasters proactively, not reactively. We have the technology and skills to make the difference between thousands of deaths and no deaths, but these lessons are not reaching far enough. Here role of new media is very important. Physical resilience must be embedded throughout all development, permanently, not just months or years after an earthquake. Disasters are “when” not “if” events. Only comprehensive strategies of resilience will be able to prevent another Nepal & Social Media will have to play a crucial role in spreading this awareness in the country & abroad.

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