



ROLE OF MEDIA IN RESILIENCE FROM FLOOD DISASTER: A CASE STUDY OF AUGUST 2008 KOSHI FLOOD IN NEPAL

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ABSTRACT

A highly catastrophic river in the eastern part of Nepal - the Koshi (Sorrow of Bihar, India) - has been selected for this study. On 18th of August 2008, the river changed its original course towards the eastern side by breaking its embankment. Even though the flood was of great magnitude, surprisingly only the 2 casualties were reported because of prompt pre-information by media. The stratified random sampling from questionnaire shows that 77% respondents considered the radio (mostly FM radio) as the major source of information responsible for providing protection from flood as these warnings led people to take quick precautions. The survey showed that the timely forecast of disaster by FM radio and text message warnings were the most effective. The study also showed that the information flow at least 24 hours prior to the disaster would be manageable comfortably with community effort even without the presence of government rescue agencies. The role of other media such as newspapers and television are not as significant as radio and phone text messages.

Keywords: Flood, Information, FM radio.

INTRODUCTION

In context of disaster, Nepal ranks 157th out of 187 countries in the Human Development Index [1]. This clearly reflects the nation's poor disaster management system, poor communication system, lack of real data system and information dissemination.

The early warning process is an important part of disaster management. The warning can alert and disseminate the information about an event for the precaution and preparation before the disaster event. According to Dahal (2006), early warning process can be defined as detection of the potential danger and dissemination of the alerts [2]. Jayaraman et al. (1997) has described the importance of early warning strategies to minimise the potential disaster with mobilizing the existing communication resources [3].

According to UN (1995), early warning depends on three fundamental abilities; i. Technical ability ii. Identification of vulnerable population and iii. awareness ability [4]. These abilities are further explained with more components regarding formulation and dissemination of warning messages and are intended to be specific in perception and reaction to warnings for targeted recipients. The dissemination of information should be analysed for the effectiveness of the management that includes sophisticated multi-disciplinary approaches within the system [5].

The objective of the study is to assess the effectiveness of the media for the early warning system and to assess the role of media on resilience from disaster during the Koshi Flood in August 2008. 150



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Questionnaire survey with Stratified Random Sampling (SRS) was conducted in seven clusters of settlements. Out of them, 60% of the respondents came from a low-income population-mostly agriculture. Secondary data were also collected from relevant organizations.

On 18th of August 2008, the Koshi River changed its original course towards the eastern side by breaking its embankment (Figure 1) and 95% of water was diverted toward its 100 years old channel [6, 7]. The number of affected people was around 2.64 million including 60,000 in Nepal [8]. A total 4053.5 hec. of cultivated land, 7 kilometres of highway, 6 bridges and 67 culverts were severely affected [9].

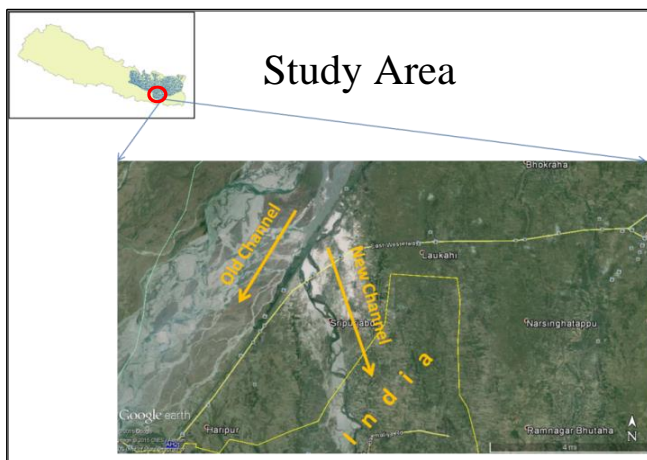


Figure 1. Location Map (Image from Google Earth, 2015)

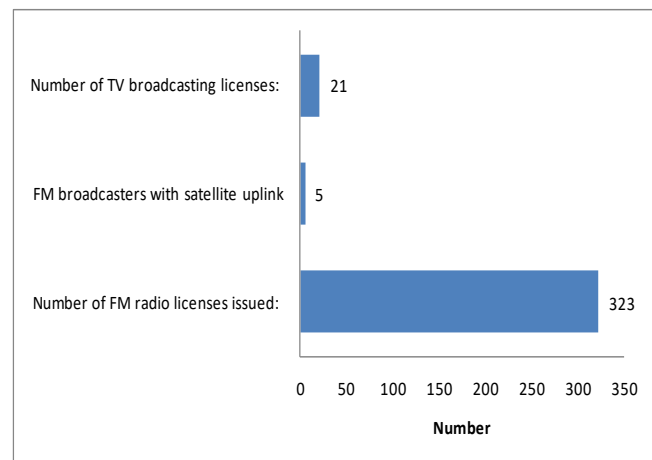


Figure 2. Status of FM radio and TV broadcasting

The river swept many villages of high population and also affected the socio-economic activities. Even though the flood was of great magnitude, the number of casualties reported was only two. The low death toll was mainly because of the prompt information flow by media [10].

ANALYSIS AND RESULTS

Distribution of broadcasting licenses for TV and radio are issued by Broadcasting and Wireless Operation Frequencies (BWOFF), Frequency Division, Ministry of Information & Communication, Government of Nepal. Total distribution has been listed on Figure 2. Major radio listening group has been identified as housewives and shop owners with 42% each (<http://www.nepalradio.org>). It was followed by the student group with 16 % (Figure 3).



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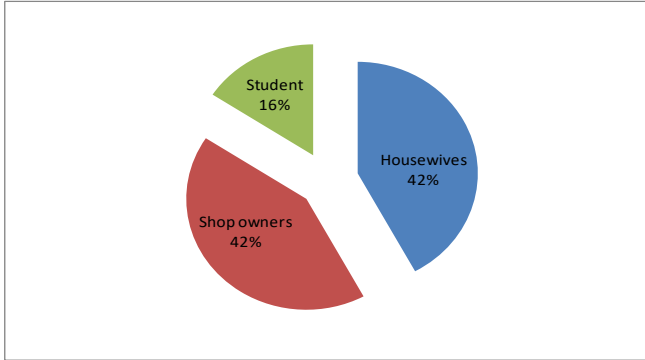


Figure 3. Major Radio Listening Group [11]

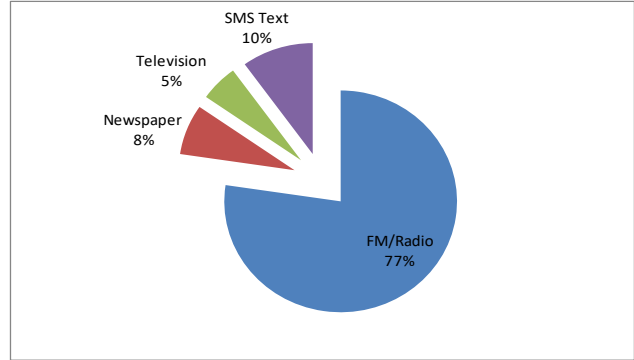


Figure 4. Effective Information System

The survey shows that 77% of the respondents considered radio (on that 85% FM radio) as the major source of early warning information for subsequent evacuation (Figure 4) in the study area which is 13% greater with comparison of national data (Figure 5).

The respondents are confident that the information from FM radio can be disseminated within the community effectively because of the impressive growth in the number of FM stations in the vicinity. A survey shows that 65% of the country is covered by FM radio signals that allows comfortable tuning to most radio frequencies with 100% FM coverage in the affected area (Figure 6- red colour) [11].

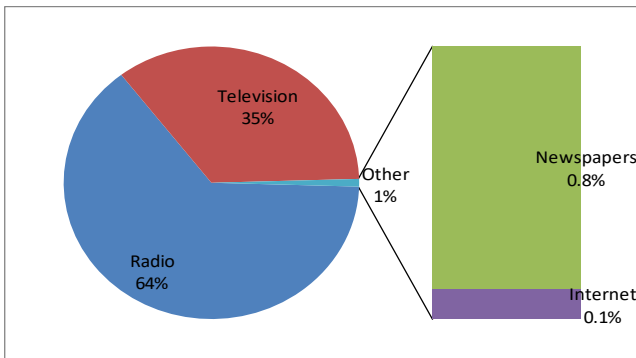


Figure 5. Source of information in Nepal

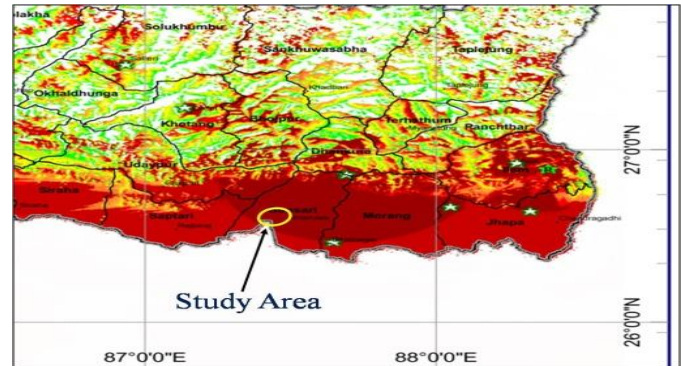


Figure 6. Radio Coverage Map (source: <http://www.nepalradio.org/pdf/RN&PFM-Map-C08-610h1.pdf>)

There are 8 to 10 FM stations around the affected area with a coverage area of 50 km radius. It is important to note that, affordable prices of FM radio handsets (price as low NRs 150 or US\$1.5) make it easily accessible even for low income households as indicated by 60 % of market share by such devices [11]. It is reported that the Chinese radio set is popular among the other brands because of affordable price followed by Indian and Japanese brands (Figure 7).

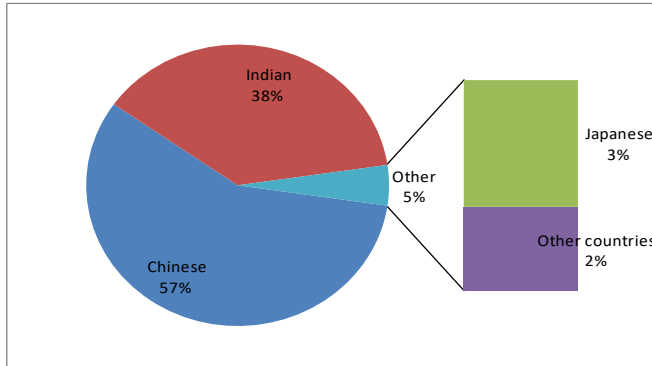


Figure 7. Major Radio Brands
Source: <http://www.nepalradio.org>

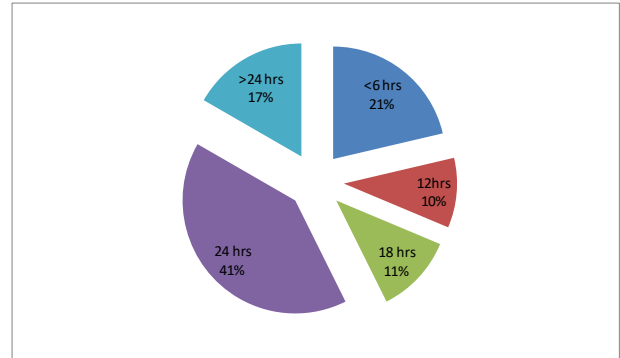


Figure 8. Effective Manageable Period

In addition, mobile phones that are increasingly affordable in the market in recent days, have been equally popular as source of FM radio frequencies. This progress on communication technology and affordability of the devices, seems to play a significant role in the early warning system of disaster events in country like Nepal.

The study further revealed that the information discharged at least 24 hours prior to the disaster would be well managed comfortably and 12 hrs prior (Figure 8) is effective within community effort even without the presence of government rescue agencies. Challenges on early warning system in Nepal can be explained after the survey is to place in first priority and make them to efficient network between the technology to media.

CONCLUSION

This study assessed the role of media as early warning system of flood in Koshi River in 2008. The survey showed that Information discharged at least 12 hours prior is effective and prior to 24 hrs is comfortable for evacuation. The role of newspapers and other media are not as significant as radio and phone (text messages). With the increased chance of flood disasters in the Koshi River in the near future [12] and since it is already established that "*Resilience can be built by increasing awareness and provision of information to communities and individuals about how to prepare for disasters*"[1], the role of media would be effective not only in early evacuation but also as an important component of resilience of the affected community.

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