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## THE ROLE OF WORLD VISION IN DISASTER MANAGEMENT IN BANGLADESH

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### ABSTRACT

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The purpose of this study is to identify the types of natural disaster and their management in Joypurhat Sadar Upazila. The data was collected from December 2013 to February 2014. A survey was conducted with a sample of 1200 households. A structured questionnaire was used for the purpose of data collection through a two-stage cluster sampling design. In addition, the qualitative data collection methods for this study include the review of various documents of World Vision, and Focus Group Discussion (FGD). In Joypurhat Sadar Upazila, the most severe catastrophe is the cold wave (63.4%) and drought (63.0%) which has an adverse effect on the livelihood of the community people. In Joypurhat Sadar Upazila, 47.2% household members replied that there is no disaster management system. This study also depicts that, only 46.1% household members are informed about the advance warning system of the natural disasters like flood, drought, severe cold and cyclone. So government should take various initiatives and programs to increase the awareness level of the community people on the natural disaster and provide disaster preparedness training. Besides, the role of the communication media in the management of natural disasters needs to be ensured.

**Key words:** *World Vision Bangladesh, natural disaster, disaster management*

### INTRODUCTION

For the last few years, due to the climate change effects across the world, natural disasters have been rising alarmingly and this issue encompasses great challenges to the livelihood of the human being. The intensity and frequency of natural disasters have been rising considerably worldwide. The greenhouse gases are the resultant of burning fossil fuels whose abatement is difficult and gradual increase of these gases has long term effect on the weather of the earth (FAO 2008). According to IPCC (2007), climate change is happening and is the biggest threat ever faced by the human community". It was envisaged in the late 1990s that global climatic change could exacerbate some of the physical consequences of natural hazards (Warrick and Ahmad, 1996). The Third Assessment Report of IPCC stated that South Asia is the most vulnerable region of the world to climate change impacts (Mc Carthy *et al.* 2001). The international community also recognizes that Bangladesh ranks high in the list of most vulnerable countries on earth (Ahmed 2006). The case of Bangladesh is unique in the sense that: unlike other vulnerable island countries, the country will eventually face the multidimensional manifestations of climate change (e.g. flood, cyclone, sea level rise, drainage congestion, salinity, drought etc (World Bank 2000). Due to the geographical location and geomorphologic conditions, Bangladesh is one of the most disaster prone countries in the world. Many researchers (Ahmed and Haque, 2002; Ahmed 2006) have identified a number of hydro-geological and socio-economic factors responsible for Bangladesh's high vulnerability of climate variability and natural disaster which includes (1) its geographical location in South Asia, (2) its flat deltaic topography with very low elevation, (3) its extreme climatic variability that is governed by monsoon and which results in acute, (4) water distribution over space and time, (5) its high population density and poverty incidence, and (6) the majority of the population being dependent upon crop agriculture. Besides, the recorded impacts of climate change along with other environmental and geomorphologic changes make more concerns over food security especially, for the poor and marginal population (Gregory and Ingram, 2000; Parry *et al.* 2001; Rosegrant and Cline, 2003). On the other hand, Pervin (2013) stated that the adverse effects of climate change especially high temperature, sea-level rise, is increasing frighteningly and it is considered as one of the most serious threats to the preservation of the environment and to sustainable development. It is, therefore, the highest priority to understand the vulnerability of the natural disaster in terms of the sustainable development.

No one can guess about the impending natural hazards and its effects but from the past experiences of many countries, we can learn a lot about the devastating effects of natural disaster at the many levels of society. Various research reports suggest that early warning system can be the most effective means of reducing the damage of natural disaster. Tapscott (1993) stated that early warning must "warn" and be "early" and the arrangement of early warning system must conform without any delay. Walker (1989) also highlighted four main aspects of an efficient early warning system like (i) detecting, evaluating and predicting a hazard, (ii) constructing a forecast or warning message, (iii) spreading the warning message, and (iv) creating appropriate preparedness and mitigating responses. Mainly, early warning system could be a helpful way to save the lives of the vulnerable communities. Disaster Risk Management (DRM) is also a very well-known paradigm in recent times. It aims to reduce disaster- related risks, death, injury and adverse impact on livelihood strategy. According to United Nations International Strategy for Disaster Reduction (2009), Disaster risk management aims to avoid, lessen or transfer the adverse effects of hazards through activities and measures for prevention, mitigation and preparedness. The major elements of disaster risk management are risk assessment; prevention;

mitigation; preparedness; early warning; evacuation; saving people and livelihoods; immediate assistance; assessing damage and loss (Ramamasy and Baas, 2007). In Bangladesh, at the national and sub-national level, the main disaster management related policies, programs and committees are National Disaster Management Council (NDMC), Inter-Ministerial Disaster Management Coordination Committee (IMDMCC), National Disaster Management Advisory Committee (NDMAC), Cyclone Preparedness Program Implementation Board (CPIIB), Disaster Management Training and Public Awareness Building Task Force (DMTATF), District Disaster Management Committee (DDCM), Upazila Disaster Management Committee (UZDMC), Union Disaster Management Committee (UDMC), Pourashava Disaster management Committee (PDMC), City Corporation Disaster management Committee (CCDMC). National Disaster Management Council also endorsed the National Plan for Disaster Management (NPDM) in 2010-2015. In addition, Bangladesh Perspective Plan 2010-2021, Sixth Five Year Plan 2011-2015 and National Sustainable Development Strategy (NSDS) have also given emphasis to implement NPDM (Ministry of Food and Disaster Management, 2010).

Besides, international development agencies such as UNDP, DFID, USAID and notable NGOs like the Grameen Bank, Bangladesh Rural Advancement Committee (BRAC), CARE-Bangladesh, OXFAM-Bangladesh, Action Aid, Care International, Caritas Intermediate Technology Development Group-Bangladesh, Bangladesh Disaster Preparedness Center (BDPC) and Disaster Forum are particularly concerned in a variety of pre, during and post-disaster activities. In addition, Community Based Organizations (CBOs) are actively involved in the process of disaster management, and human rights protection. Around the world, World Vision works to protect the well-being of the people especially disaster victims groups. The Humanitarian Emergency Affairs (HEA) ministry of World Vision Bangladesh seeks its community resilience aims to reduce and mitigate through four strategic areas like effective emergency response; community resilience building; organizational resilience building; and quality, accountability and learning (World Vision Bangladesh, 2011). As a result, in the present study, we aimed to assess the management system of the natural disaster and the availability of advance information on the occurring of natural disaster by the World Vision Bangladesh at Joypurhat Sadar Upazila.

## **METHODOLOGY**

### ***Study area***

This survey was conducted in Joypurhat Sadar Upazila under Rajshahi division of Bangladesh. There are 146 villages, 76385 households and 14 Mohallas under one Municipality and 4 Unions namely Mohammadabad, Bhadsa, Dogachi and Dhalahar in Joypurhat Sadar Upazila. The total population in this Upazila is 2, 89,058 where the male are 1, 47,096 and female are 1, 41,962. Literacy rate in Joypurhat Sadar Upazila is 65.41% of which the male is 69.0% (BBS 2011). The total populations under the Area Development Program of Joypurhat Sadar Upazila cover 15,350. The target population for this study was the registered children and their family members, disabled children, community volunteer and the youths, poor women, and widows, farm and non-farm occupational group members, poor business men/ entrepreneur, teachers and school management committee members, ethnic and indigenous community and disaster victims. On the other hand, the indirect groups are the community people who include the family members of the direct population and local community people in the targeted area (World Vision Bangladesh, 2014).

### ***Study design and data collection***

Primary data was collected by using two-stage cluster sampling technique in this study. For collecting qualitative data a questionnaire containing both close-ended and open-ended question was prepared. Before starting the survey, the questionnaire was pretested and necessary modification and correction was done for finalizing the questionnaire. For the qualitative data, Focus Group Discussion (FGD), and SWOT analysis was conducted. Each FGD lasted three hours and every participant completed written informed consent prior to the FGD. In the FGD, the major concern was with the types of major natural disaster and its vulnerability, in particular, drought and cold wave. A total of 1200 households were selected as the sample size for the survey. First, 30 clusters were proportionally identified with then the identified clusters were divided into different segments comprising 100-120 households. Finally, 40 households were interviewed from each selected cluster (30×40=1200 households). Collected data were processed for subsequent analysis using software such as MS Access and SPSS 17.

## **RESULTS**

### ***Socio-economic profile of the respondent households***

In Joypurhat Sadar Upazila, both the male-headed and the female-headed households are recorded 51.5% and 48.5%. The household size of the sampled population composed of 03-04 members is (69.6%) and the 05-06 members are (18.8%) respectively. There are a few households that composed only 1-2 member is (9.2%). The total enumerated population in the sample households were 4,549 of which 51.5% was male and the rest 48.5% were female. On the other hand, households which composed of age group 60-64 years, 55-59 years and 50-54 years are 2.5%, 2.6% and 4.3% respectively. In the case of the marital status of girls aged 10-17 years, the

percentage of unmarried is 94.6 followed by married is 4.5, divorced is 0.3 and separated is 0.6. In addition, marital status of boys aged 10-20 years indicate that 96.3% boys are unmarried followed by married 3.5% and widow 0.2%. As regards to the households occupation, it is found that crop farming, agriculture labor, small and medium business, skilled and unskilled labor, rickshaw/van puller, transport worker were the major sources of income which recorded about 21.4%, 16.7%, 15.6%, 12.3%, 11.8% and 5.1% respectively. The total average amount of cultivated land in decimal for both direct and indirect beneficiary households is 37.74. The survey findings show that average annual incomes of the households are Tk. 94,430.15 of which income for direct beneficiaries is Tk. 93,336.88 and for indirect beneficiaries is Tk. 95370.88.

**Level of children’s education**

Data on child education indicates that 96.0% children between the ages of 6-11 years are enrolled in primary schools of which girl’s enrollment is 97.2% and the boys enrollment is 94.9%. In the case of the secondary school, it was found that 87.9% students between the age of 12-18 years have been enrolled and are attending schools of which boys are 85.1% and girls are 91.2%. Due to the financial constraints, 04% children in primary level (boy 5.1% and girls 2.8%) and 12.1% children in the secondary level, (boys 14.9% and girls 8.8%) could not enroll themselves in school. In Joypurhat Sadar Upazila, 7.9% students between the age of 6-18 years were also dropped from the schools. Among the reasons of drop out, financial insolvency were the key reasons for drop out in primary level which were recorded (73.5%). The others reason for drop out were reluctant to study (8.7%), engagement in income generating activities (13.0%) and non-school going age (4.3%). At the secondary level, the prime reasons for drop out were also the financial insolvency (68.7%) followed by reluctant to continue study (14.9%), married off (14.4%), and engagement in income generating activities (6.0%).

**Water and sanitation**

The findings indicate that 99.2% households have access to safe drinking water of where the direct beneficiary households of World Vision Bangladesh are 99.5% and the indirect beneficiary households are 99.0%. It is also revealed that 60.2% households wash their hands inside or near the toilet and 58.6% households wash hands with soap or detergent after toilet using. Of the total surveyed households, 34.1% reported that there is WATSAN (Water and Sanitation) committee and 25.9% households are involved with WATSAN committee. From FGD reports, it is found that significant improvement as regards to water and sanitation has been achieved in Joypurhat Sadar Upazila and the open defecation in the Area Development Program intervention areas of World Vision Bangladesh has reduced significantly.

**Types of disaster faced by the households**

Figure 1 shows the different types of disasters that faced by the households in the last three years in the study area. It appears from Figure 1 that among the various natural disasters, the percentage of drought and the cold wave is very high in Joypurhat Sadar Upazila which estimated 63.0 and 63.4. The other types of natural disaster that the households faced last three years are the tornado (10.2%), cyclone (7.8%), flood (5.6%), river erosion (0.8%), and tidal surge (1.8%).

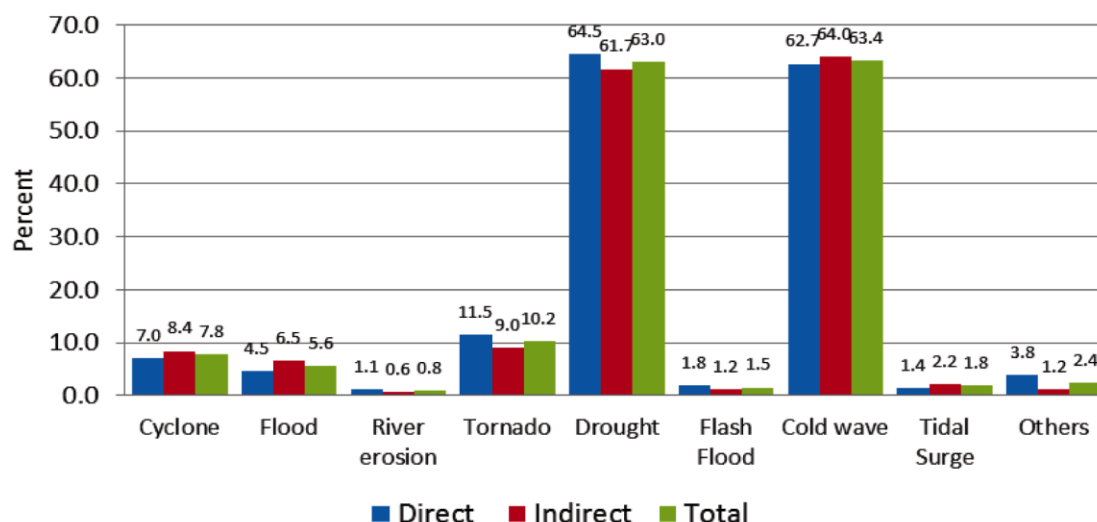


Fig. 1. Types of disaster faced by the households last three years

**Information on sufficient diet diversity of the households**

The results of this study indicate that the intensity of drought and the cold wave is very high in Joypurhat Sadar Upazila. Generally, drought is difficult to define and needs different definitions to explain the exact situations. Drought may be temporary or month or year long. But for most cases, drought is temporary. Mainly in

Bangladesh, the causes of drought are related to climate variability and non-availability of surface water resources. The two critical dry periods in Bangladesh are Kharif and rabi and pre-khari. The period of Kharif droughts is June/July to October month. In this period, the shortage of rainfall affects the reproductive stages of rice production. Rabi and pre-kharif droughts begin in the period of January to May and mostly affect all the rabi crops, such as boro, wheat, pulses and potatoes, and pre-kharif crops such as aus, especially where irrigation possibilities are limited (Ramamasy and Baas, 2007). In Joypurhat Sadar Upazila, a severe drought occurs during the kharif season (September and October month). In this Upazila, overall 61.1% household members have sufficient diet diversity and 78.0% households have taken 3 meals a day in last 12 months. But during the kharif season (September month), out of total 1200 households, the majority of the households (74.9%) face food crisis and the second highest 39.8% faces food crisis in the kharif season (October month). Generally, in the months of May, August, November, and January, households face low food crisis which accounts to 0.9%, 4.5%, 2.3% and 3.0%, respectively. During the lean period, drought caused severe financial hardship and forcing the people to seek the alternative source of income (off-farm employment) or loans from others with high-interest rates. In the lean period, the households met the food crisis by borrowing money from relatives/friends (51.9%), credit purchase from local shopkeeper (41.0%), taking the loan from money lenders (5.5%), and from NGOs (41.4%). Moreover, from FGD, it is found that drought resulted in devastating shocks on seasonal agricultural crop production and ultimately affected the rural employment activities, for instances, increase the seasonal unskilled labor. In the drought period, the households with marginal landholding size, and low income were found to be more vulnerable because temporary drought threatened the food security and income of those vulnerable groups. FGD participants also reported that in last year, they have lost lots of crops due to the droughts which make huge food shortage in their family.

**Measures adopted during the last disaster**

The incidence of natural disasters has increased day by day across the globe. Although natural disaster cannot be controlled, but proper measures and arrangement system can reduce the possibility and the brutality of natural hazards. Worldwide, with the increasing concern at the cruelty of natural disasters, several countries are taking the financial, physical, technical and institutional measures that will reduce the harmful effects of natural disaster on the livelihoods of individuals. Among the various measures for disaster management, the activities of resilience building within the vulnerable communities, emergency preparedness and managing emergency circumstances, capacity building of the grassroots and community-based institutions through training and awareness, research on future change in hazard occurrence pattern and utilizing regional perspective on disaster management are the notable approaches. According to Warfield (2008), disaster management aims to reduce, or avoid the potential losses from hazards, assure prompt and appropriate assistance to victims of disaster, and achieve rapid and effective recovery. The Disaster Risk Management (DRM) strategy also emphasizes the role of the communication media which works best mainly for sudden disasters, like floods, earthquakes, bushfires, tsunamis, cyclones etc.

Figure 2 presents the various coping measures which had taken by the beneficiary households during the last disaster. It has been revealed that 68.9% beneficiaries had taken shelter in cyclone center while 13.7% beneficiaries had taken shelter nearby concrete house (school building). Around 10.3% beneficiary households mentioned that they kept food/ household items in high place while 16.2% beneficiaries listened to radio/ watched TV News. In terms of the media content, the findings of this research demonstrate that only a limited number of community people have the access to get information on natural disaster listening radio and watching TV news.

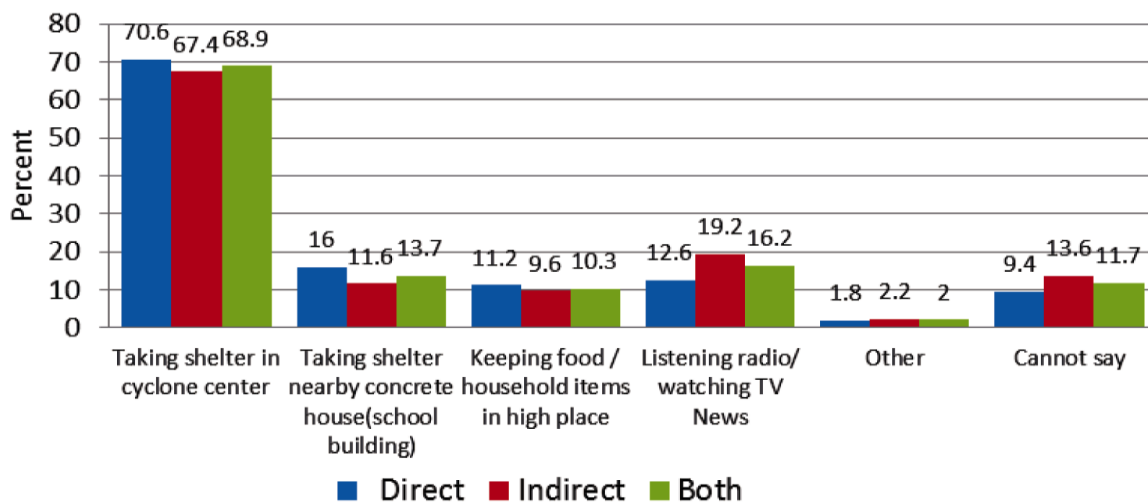


Fig. 2. Percentage distribution of measures were taken by the households during the last disaster

**Advance information on the occurrence of natural disaster**

Disaster risk and vulnerability management are a procedure which directs to the safety of the peoples life and assets. It is becoming increasingly evident from various latest disasters of many countries that proper advance information on the occurrence of the disaster, pre-disaster preparedness, and post-disaster management can reduce the potential consequences of disasters. It is therefore felt essential to have proper plan and management in place providing guidelines to recover pre- and post-disaster with their structural and non- structural aspects. Table 1 shows the households advance information on the occurrence of the natural disaster. It is found that most of the households were informed about the occurrence of natural disaster through radio/TV news (79.8%) followed by from neighbors (19.85%), from hand bills poster displayed by Union Parishod/other organization (0.7%). On the contrary, 8.1% household members were found who have no advance information on the occurrence of the natural disaster.

Table 1. Households advance information on the occurrence of the natural disaster

Sources	Direct		Indirect		Both	
	N	%	N	%	N	%
Through radio/ TV news	446	80.4	512	79.4	958	79.8
From Neighbors	127	22.9	110	17.1	237	19.8
Through miking done by Union parishod/other organization	9	1.6	22	3.4	31	2.6
From hand bills poster displayed by Union parishod/other organization	2	0.4	6	0.9	8	0.7
Others	13	2.3	5	0.8	18	1.5
Cannot say	33	5.9	64	9.9	97	8.1
Total	555		645		1200	

**Knowledge on natural disaster management and advance information on warning system**

Among the various aspect of disaster management, early warning is a major approach of disaster risk reduction. It can prevent the loss of life and reduce the economic and material impact of disasters and people's vulnerability. The early warning message has to be presented in an attractive manner, to capture the public's attention, and clear in terms of the nature of the hazard and the expected collective and individual behavior for each phase of the disaster situation (Mileti and O'Brien, 1992; Fisher 1996). The significance of early warning for disaster reduction has been also strongly emphasized in major international agendas and multilateral environmental agreements, like the Yokohama Strategy 4, Agenda 215, the Barbados Plan of Action for Small Island Developing States 6, the Johannesburg Plan of Implementation 7, the UN Framework Convention on Climate Change (NFCCC), Kyoto Protocol, the Ramsar Convention on Wetlands, United Nations Convention to Combat Desertification etc.

Table 2 represents the household's knowledge of disaster management (such as early warning systems, shelter, and storing) and advance information on warning system during the natural disaster. It is found that out of total 1200 households, 47.2% replied that there is disaster management system. On the other hand, 46.1% households inform the prevalence of the advance information on the warning system for the natural disasters like flood, drought, severe cold or cyclone. It is also notable that a vast majority of the household members (46.6%) did not receive any advance warning for the management of the natural disaster. This rate proves that a huge number of peoples in Joypurhat Sadar Upazila are deprived of the advance information on warning system on some severe natural disaster like flood, drought, heavy cold and cyclone.

Table 2. Household's knowledge on natural disaster management and advance information on warning system

Knowledge on natural disaster management	Direct beneficiaries		Indirect beneficiaries		Both	
	N	%	N	%	N	%
Yes	267	48.1	299	46.4	566	47.2
No	253	45.6	308	47.8	561	46.8
Don't know/Can't say	35	6.3	38	5.9	73	6.1
Total	555		645		1200	
Advance information on warning system for natural disaster like flood, drought, server cold and cyclone						
Yes	259	46.7	294	45.6	553	46.1
No	258	46.5	301	46.7	559	46.6
Don't know/Can't say	38	6.8	50	7.8	88	7.3

FGD session has been conducted 19<sup>th</sup> January 2014 with the Union Disaster Management Committee (UDMC) members at Joypurhat ADP office. This committee comprises of 12 members (03 female and 09 male). All the participants of UDMC committee have informed that they received training on the natural disaster from World Vision Bangladesh and other NGO/ Government organizations like Caritas. The main program under disaster preparedness is providing training for volunteer, repairing road and house, prepare the local level action plan

and make disaster awareness. They use local schools as shelter center during the disaster. Committee members are Union parishod members, teachers, agricultural officer, religious leaders, local elite person, and female. They conduct meeting and form committee in accordance of the government standing order. UDMC committee members reported that the Disaster Management Committees of World Vision Bangladesh maintained the close relationship with UDMC committee. But in response to the effects of climate change, it is revealed that most of the community people are deprived with the advance information of natural disaster and have no proper training and knowledge for the arrangement of natural disaster in this area.

## CONCLUSION

The findings of the survey provide a details idea of the types of natural disaster, their management and available early warning system in the study area. It is evident that the most common occurred natural disaster in the study area is drought and cold wave which affects the agricultural crops and the health of the livestock and people every year. Besides, from field level information, and FGD it is found that there is a lack of awareness and advance information by the community people about the natural disaster in the study area. Although substantial initiatives like various policies, programs, committees and projects, have taken by the government of Bangladesh, development partners and the NGOs, the situation of disaster management in the rural Bangladesh is not adequate. Community involvement for the disaster preparedness and protecting the lives and assets of the people is not up to the mark. Furthermore, livelihoods of the rural poor are mainly based on natural resources which are susceptible to some regular natural disaster in the study area. For instance, droughts and heavy cold wave destroy crops, threatening livelihoods and biodiversity. As a result, secure livelihoods are the utmost necessity. Furthermore, it is necessary to ensure the dissemination of natural disaster- related knowledge, providing proper awareness building training on natural disaster along with greater participation of women in the various training session in order to increase the capacity building. It is also essential to consider the heavy cold wave and drought as a severe catastrophe in the study area and should take the preparedness and response action by the government. At the same time, more involvement of local government bodies is an essential part of the natural disaster management. The findings of the research also indicate that the influence of the media in the response to natural disaster is very limited. Therefore, strengthening non- structural mitigation measures such as advocacy and public awareness through media like radio, television news should be given a high priority by the government and NGOs.

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