

# The Contribution of Effective Communication System in the Management of Disaster in Nigeria

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## ABSTRACT

This study is on the contribution of effective communication system in the management of disaster in Nigeria. The method of data collection used in this study was field survey method; this involved the use of questionnaire. The study covers the four communities affected by the 2012 flooding in Anambra East-Nigeria. The result of the analysis showed that awareness during the disaster 2012 did not contribute significantly to the management of the disaster. Also, it was observed that the use of traditional communication system during the 2012 disaster did not contribute to the management of the disaster. In addition, the feedback system and level of involvement in the affected communities did not contribute to the management of the disaster. From the result of the analysis the present study concluded that early warnings can only be effective to the extent to which the messages are adapted to the environment or community. Also, there is the need for the development of sustainable community based disaster management system which will accord a place to traditional communication systems. The development of local systems for dissemination of warning messages is crucial for effective disaster management in communities. The process of communication should be horizontal, that is, a two-way flow of communication.

Keywords: Analysis, Feedback, Early warnings, Questionnaire, Communities, System, Awareness

## 1 INTRODUCTION

Natural disasters such as earthquakes, floods and hurricanes can wipe out years of urban development by destroying infrastructure and housing and by injuring or killing thousands of people. Natural disasters have continued to pose a global challenge thereby making the development of public emergency services highly critical. According to [1], disaster only exists if something negatively impacts the regular functioning of society in some way, such as through deaths and injury (usually in large numbers) or massive disruption of infrastructure, which includes physical infrastructure like communication, transportation and political structures. The frequency of natural disasters has significantly increased in recent years all over the world. Asia accounted in 2011 for 86.3% of global disaster victims, followed by Africa at 9.2%. The number of victims in 2011 increased especially in Africa and Asia. It is arguable that developing nations in particular, experience pervasive risk of devastation, human and property loss resulting from human and natural disasters. [2], in his study added that the level of disaster risk was attributable to socio-economic stress, aging and inadequate physical infrastructure, weak education and preparedness for disaster and insufficient fiscal and economic resources to carefully implement the preparedness response, mitigation and recovery components of integrated emergency management. In the light of this [3], unequivocally stressed that disasters are clearly a development problem. The rising spate of disasters in many

parts of the world has remained a major cause for concern as it poses great threat to sustainable development. To contain disasters, many countries are known to have enhanced their disaster management systems through communication. The interface between communication and disaster management is considered crucial for effective disaster management and has increasingly become the subject of many research efforts. Studies have found that communication with the public is crucial to their understanding of the nature of the hazards, the risks to personal safety and property, and the steps to reduce those risks. Communication in this context implies the conveying of thoughts, ideas, warnings, instructions, orders, command, knowledge and information in general. Speaking on awareness [4], identified "total awareness" as one of the key roles of communication. He explained that total awareness has to do with making the people know the end of every crisis in order to remove any iota of doubt in their minds. If a community is capable of obtaining advance information on disasters, their associated adverse effects can be reduced. It is arguable that early warning systems that are accessible in the face of a disaster is an indispensable component of "effective disaster management" as it serves multiple functions and are increasingly recognized as a critical factor influencing the economic and human impacts of disaster and climate change. The development of a suitable communication framework for disaster management requires a population-conscious approach

which takes into account the degree of vulnerability of the population at risk. Populations are said to be vulnerable when their capabilities are inadequate to contain the level of the disaster. Some populations however experience greater risk from hazard events not because of their geographic proximity to the hazard, but because of decreased resources and capabilities arising from their socio-economic status and/or physical abilities. People living near or below the poverty line, elderly, disabled, women, children, ethnic minorities, and renters have all been shown to experience, to some degree, more severe effects from disasters than the general population. Thinking about vulnerable populations when developing warning system - related education and outreach tools is extremely important (National weather association). [5], warns that experience with both natural and man-made disasters suggests that communication systems are useful only to the extent that they are accessible and useable by people in communities at-risk. He advised that the most effective outreach efforts use existing channels in the community noting on the other hand that multiple communication channels are required for communities to ensure receipt of warning information from all levels of government structures and relevant disaster management agencies. In essence therefore, Optimum use of all available means of communication is indispensable to effective disaster preparedness. For rural populations, communication systems that are local, indigenous and accessible to the people are entrenched in the social system and are part of everyday living. He emphasized that early warning systems must be understood, trusted and used by the communities which they serve. In their own contribution, [6], found that communities are naturally very concerned with the local affairs on which their survival and well-being depend, so information should be generated in a manner and language understood by the community. Hence, use of traditional communication channels in community based disaster management is highly critical. [7], recommended that Public awareness campaigns must be designed and communicated based on existing local social and cultural practices if the messages are to be understood and retained. Warnings have little value unless they reach those people most at risk – who must be trained to react to it. This study was motivated out of cries and complains raised by communities affected by the 2012 flooding in Nigeria on lack of effective communication before, during and after the flooding disaster. Hence, studying the contribution of awareness, use of traditional communication, feedback and level of involvement becomes a sine qua non.

## 1 MATERIAL AND METHODOLOGY

### 1.1 Data Collection

The method of data collection used in this study was field survey method; this involved the use of questionnaire. The study covers the four communities affected by the 2012 flooding in Anambra East-Nigeria. The total population of Anambra East Local Government Area of Anambra State was 19000 and a random sample of 376 persons were randomly selected (a total of 94 persons per community). This includes both com-

munity leaders and elders in council of the four communities. The statistical tool used in analysing the data was the Kruskal Wallis Test with aid of SPSS 17.0 Package.

## 3.0 DATA ANALYSIS AND RESULT

### 3.1 Result of Kruskal-Wallis Test for Awareness of the Disaster

$H_{01}$  : Awareness of the disaster has no significant contribution in disaster management

$H_{11}$  : Awareness of the disaster has significant contribution in disaster management

Table 1: Ranks

| Option | N  | Mean Rank |
|--------|----|-----------|
| 1.00   | 3  | 4.00      |
| 2.00   | 3  | 8.33      |
| 3.00   | 3  | 8.00      |
| 4.00   | 3  | 5.67      |
| Total  | 12 |           |

Table 2: Test Statistics<sup>a,b</sup>

|             | Awareness |
|-------------|-----------|
| Chi-Square  | 3.115     |
| df          | 3         |
| Asymp. Sig. | .374      |

a. Kruskal Wallis Test

b. Grouping Variable: Option

### 3.2 Kruskal-Wallis Test use of Traditional Communication Systems

$H_{02}$  : The use of traditional communication system has no significant contribution in disaster management

$H_{12}$  : The use of traditional communication system has significant contribution in disaster management

**Table 3: Ranks**

| Option                    | N  | Mean Rank |
|---------------------------|----|-----------|
| Traditional communication | 3  | 8.00      |
| 2.00                      | 3  | 8.33      |
| 3.00                      | 3  | 7.17      |
| 4.00                      | 3  | 2.50      |
| Total                     | 12 |           |

**Table 4: Test Statistics<sup>a,b</sup>**

|             | Traditional. communication |
|-------------|----------------------------|
| Chi-Square  | 5.274                      |
| df          | 3                          |
| Asymp. Sig. | .153                       |

a. Kruskal Wallis Test

b. Grouping Variable: Option

### 3.3 Kruskal-Wallis Test Feedback and Level of Involvement

$H_{03}$  :The feedback and level of involvement has no significant contribution in disaster management

$H_{13}$  : The feedback and level of involvement has significant contribution in disaster management

**Table 5: Ranks**

| Option                 | N  | Mean Rank |
|------------------------|----|-----------|
| feedback & involvement | 4  | 5.50      |
| 1.00                   | 4  | 8.13      |
| 2.00                   | 4  | 9.75      |
| 3.00                   | 4  | 10.63     |
| 4.00                   | 4  |           |
| Total                  | 16 |           |

**Table 6: Test Statistics<sup>a,b</sup>**

|             | Impact, feedback & involvement |
|-------------|--------------------------------|
| Chi-Square  | 3.546                          |
| df          | 3                              |
| Asymp. Sig. | .315                           |

a. Kruskal Wallis Test

b. Grouping Variable: Option

## 4 DISCUSSION

From the result of the analysis it was observed in Table 2 that awareness of the disaster has no significant contribution in management of disaster since the Chi-Square obtain was 3.12 and a p-value of 0.37 which falls on the acceptance region of the hypothesis. Hence, the null hypothesis was accepted since the  $p\text{-value} = 0.37 > \alpha = 0.05$ , assuming a 95% confidence interval. This result implies that awareness during the disaster 2012 did not contribute significantly to the management of the disaster.

Table 4 expressed that the use of traditional communication system has no significant contribution in management of disaster since the Chi-Square obtain was 5.27 and a p-value of 0.15 which falls on the acceptance region of the hypothesis. Hence, the null hypothesis was accepted since the  $p\text{-value} = 0.15 > \alpha = 0.05$ , assuming a 95% confidence interval. This result implies that the use of traditional communication system during the 2012 disaster did not contribute to the management of the disaster.

Also, from the result of the analysis Table 8 showed that the feedback and level of involvement has no significant contribution in management of disaster since the Chi-Square obtain was 3.55 and a p-value of 0.32 which falls on the acceptance region of the hypothesis. Hence, the null hypothesis was accepted since the  $p\text{-value} = 0.32 > \alpha = 0.05$ , assuming a 95% confidence interval. This result implies that the feedback and level of involvement in the affected communities did not contribute to the management of the disaster.

## 5 CONCLUSIONS

The result of observations in this study showed that the awareness during the 2012 flooding has little or no impact in the management of the disaster. Equally, the use of traditional

communication system did not contribute to the management of the 2012 flooding in the observed communities. Also, there was no feedback system and the level of involvement was poor in the management of the disaster. Hence, we suggest that early warnings can only be effective to the extent to which the messages are adapted to the environment or community. There's the need for the development of sustainable community based disaster management system which will accord a place to traditional communication systems. The development of local systems for dissemination of warning messages is crucial for effective disaster management in communities. The process of communication should be horizontal, that is, a two-way flow of communication.

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