



RESEARCH ARTICLE

ROLE OF MEDIA IN DISASTER MANAGEMENT: A STUDY OF RADIO STATIONS WITHIN KADUNA METROPOLIS

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ABSTRACT

The rates at which man-made and natural disasters occur as well as their frequencies and destructive effects are becoming alarming. Their effects constitute serious threats to the world developmental strides. This study therefore investigates the roles being played by the media, especially the radio in disaster management using some radio stations within the Kaduna metropolis, the work also examines the media's involvement in disaster management, and the role of radio stations in raising awareness about disaster preparedness and risk reduction measures, identifying the challenges encounter by radio stations in providing disaster-related information to the public in line with international best practices. The findings reveal that the vast majority of the populace in Kaduna Metropolis believes that the Radio stations are the most effective medium for raising awareness on disaster within the metropolis as reported by 62.9 percent of the respondents. Furthermore radio stations promote community participation and engagement in recovery activities after a disaster. In conclusion roles have endeared the radio stations to the public as the most reliable means of getting information on disasters; which as a result, has contributed to the high patronage they get from stakeholders in disaster management. The study therefore recommends that, radio station should be equipped with backup power and communication systems so that they can provide emergency information during disasters.

Keywords: Radio stations, media, disaster management, Metropolis, community

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1.0. INTRODUCTION

Disasters, whether natural or man-made, are one of the events that have become a source of increased worry today globally. The rate at which disasters occurs as well as their frequencies and destructive effects are becoming alarming and threat to developmental strides recorded by nations (Babanyara *et al.*, 2020). The United Nations International Strategy for Disaster Reduction (UNISDR) noted that between 1995 and 2015, flood disasters affected 2.3 billion and killed 157,000 people globally (UNISDR, 2015).

World Resource Institute (WRI) (2015), in one of its reports predicts that people who would be affected by floods globally by 2030 would be over 54 million from 21 million affected in 2015 (Sharif, 2020; Statistic View, 2015). According to the UNISDR (2014) report, averagely \$1 is spent on reducing disaster risk saving \$7 that would have been spent responding to disaster through the provision of relief to victims. Nigeria, like many other countries around the world, experiences its forms of disaster. According to the Federal Government of Nigeria report (FGN, 2013), “Nigeria is one of the most disaster-prone countries in Africa, being extremely vulnerable to droughts, floods, landslide, gully erosion, and windstorms.” The need for a new orientation and better approach to disaster management has made Nigeria also embrace the move from emergency response to risk reduction, necessitating the development of this new approach (NEMA, 2007:21).

In recent years there has been a shift from reactive to proactive methods against disaster to mitigate the impact of an incident when it occurs. However, in Nigeria, the National Emergency Management Agency (NEMA, 2015), the coordinating agency in charge of disaster management, in all ramifications states in a report in 2004 that for a long time, the conventional focus of disaster management strategies has been the delivery of relief (response) after a disaster. This approach does not proactively address the need to reduce the impact of future disasters (Herman and Chomsky, 2019; Balasubramanian 2014). It has been observed that there is a growing concern and realisation of the need to place more emphasis on a holistic approach to disaster risk reduction among countries and communities. This approach involves risk assessment, risk reduction, early warning and disaster preparedness – if the social, economic and environmental costs of the disasters are to be effectively reduced. In line with the aforementioned approaches, without the involvement of the mass media, their achievements are likely to yield limited success. The issue of risk and disaster reduction has to involve a high level of timely information dissemination among the people.

The main aim of risk communication is to provide the public (audience) with meaningful, relevant, accurate and timely information about risk reduction and disaster management, to influence choice and attitude change. Some disaster-prone states, especially the developed ones, have over the years, embraced risk reduction as a proactive strategy to cut costs, save more lives and reduce effects.



Expectedly, the media has been focusing attention on these man-made and natural disasters. Flood, the commonest and most devastating disaster, is one of them (Killenberg, 2018). The primary role of the media is to inform and educate the populace about the happenings in the society. As noted by Nkeki *et al.* (2023); Adekunle (2018), the media forges a direct link between the public and emergency organisations and plays an important role in disseminating vital information to the public before, during and after disasters. It also helps in educating the public about disasters, hazards warning signs, gathering and transmitting information about affected areas, alerting government agencies and other stakeholders in disaster management and facilitating discussions about disaster preparedness and response for continuous improvement.

Saleem (2014) states that, media is the most important source of information on hazards and disasters to the people. But he noted that for decades, the media have neglected its role in disaster situations in the sense that risk and hazard have received less attention from researchers in the field of social sciences and mass communication.

The media all over the world play a vital role in passing information to the general public, it increases the level of awareness and preparedness by educating the public and informing authorities about disasters. In disaster management, the media not only informs the people about particular disasters but also helps in educating them on ways through which such can be prevented and or managed (Bhavan, 2019).

Human and natural disasters generally have the highest impact as they destroy a large volume of human and material elements as noted by Maiyaki (2018), Shoemaker and Reese (2014). No doubt, the broadcast media provide information and updates on the occurrences of catastrophes. However whenever a disaster occurs, the interests of reporters appear to tilt towards collecting data and information about damage, destruction and casualties even when no one is yet clear about the situation in the early stages of the disaster.

Responding to the increased interest of people for information about natural hazards in the wake of a natural disaster, the media often go to their resource files and disseminate background information about natural disasters in a bid to utilise the time and space allotted for disaster or emergency news. However, such background information helps create awareness among the people about the causes, impacts and aftermaths of a natural disaster, the information is far removed from the real condition which made the provision of such information imperative; hence not connecting with the requisite background information of the natural disaster that just occurred (Landesman, 2021; Perez-Lugo, 2021).

Therefore, this study investigates the roles being played by the media, especially the radio stations in disaster management using some radio stations within the Kaduna metropolis by examining the media's involvement in disaster management, the role of radio stations in raising awareness about disaster preparedness and risk reduction, identifying the challenges

faced by radio stations in providing disaster-related information to the public in line with recommended best practices which is educative to the populace.

2.0. STUDY AREA AND METHODOLOGY

Kaduna metropolis is located between Latitudes $10^{\circ}20' N$ and $10^{\circ}37' N$ of the Equator and Longitudes $7^{\circ} 22' E$ and $7^{\circ}31'E$ of the Greenwich meridian (Fig. 1). The city cuts across Kaduna North, Kaduna South, as well as parts of Igabi and Chikun local government areas of Kaduna state with Hausa ethnic group being the majority of the residents and some other ethnic groups who reside in the metropolis which include Yoruba, Igbo, Kanuri, Nupe, Fulani, Gbagyi etc. This is why some people regard the city as a mini-Nigeria. The metropolis has the natural growth rate 2.5 percent with the population presently estimated at 1,187,000. In terms of the economy, agriculture contributes 30 percent of SGDP.

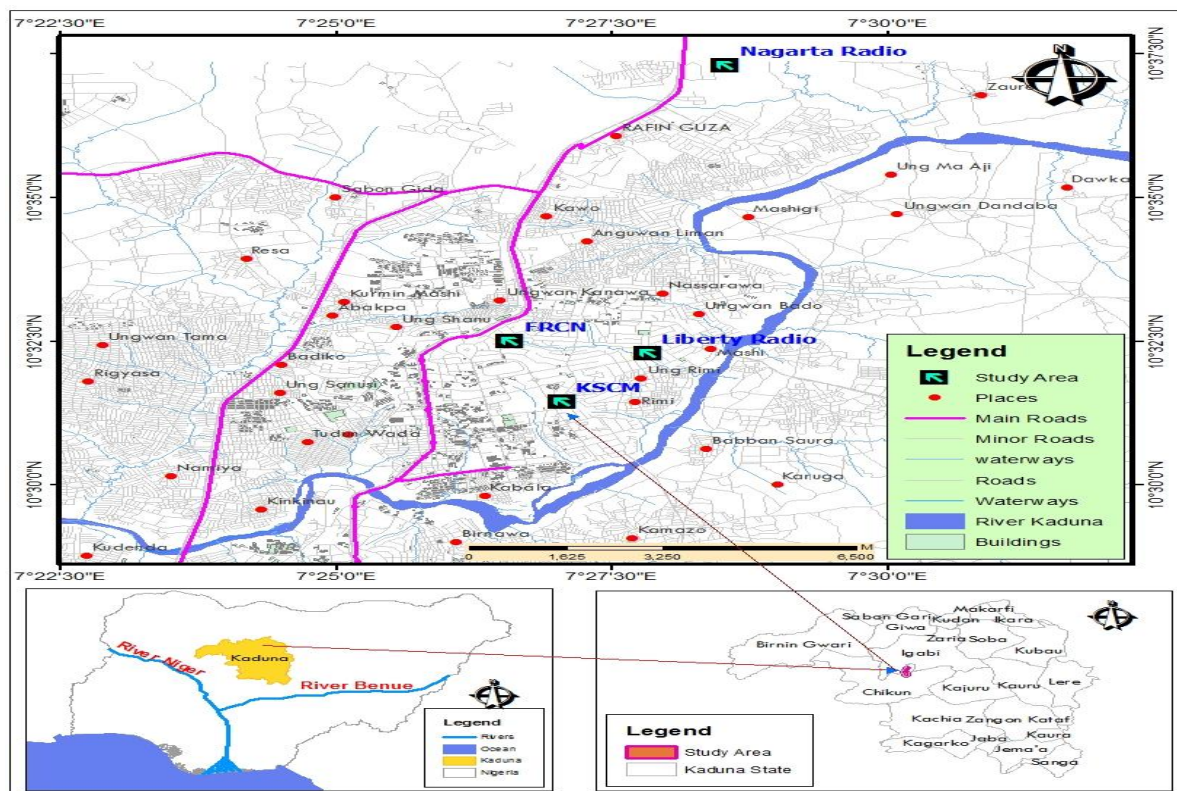


Fig 1: Kaduna showing the Major Areas.

Source: Modified from Administrative Map of Kaduna State

The climate of the study area lies under the Tropical Continental climate and experiences seasonal alternation of moist maritime air mass and dry continental air mass. The rainy season begins in April and lasts till October while the dry season (hamattan) spans from November to March. The temperature is high throughout the year attaining its peak in March and April ($37^{\circ}C$). Humidity is constantly high (above 60 percent) at midday and close to 100 percent at night during the rainy season. And similarly the study area is mainly drained by



River Kaduna which tends to divide the city into two unequal parts. The main tributaries of River Kaduna are rivers Rigasa and Romi.

3.0. METHODOLOGY

3.1. Research Design

Descriptive survey design method was used in gathering information from the population while questionnaire serves as the source of collecting information from the respondents. The descriptive survey research design is a systematic method of gathering of information from respondents in order to understand and predict some aspects of the behaviours of the population of interest that will be adopted. To this end, the descriptive survey design will be applied to carry out the study on the opinions of respondents concerning the role of media in disaster management.

3.2. Sample Size and Sampling Techniques

This research used Stratified Sampling to select respondents across the four local government areas that made up the Kaduna Metropolis. The population of the Metropolis was projected to 2024 and the projected number is 1,187,000. This aggregate number of the population was used as the population size for this study. In order to determine the sample size for this study, Yamane (1976) formula method was adopted to ascertain exact proportion of questionnaire to be administered in the area.

The research selected elements to be administered questionnaire using two sampling methods. The cluster sampling was used to divide the population into four clusters, each of which is represented by a local government area. Simple random sampling is then used to pick 100 respondents from each cluster using the Yamane formula.

$$i.e. = \frac{N}{(1+N(e)^2)}$$

Where: N = Population Size; n = Sample Size; e = Margin Error

$$n = \frac{1187000}{1 + 1187000(0.05)^2}$$

$$n = \frac{1187000}{1 + 1187000 \times 0.0025}$$

$$n = 400$$

From the result above, four hundred respondents (400) were administered questionnaire from the total population of one million, one hundred and eighty-seven thousand (1187000). The purposive sampling was employed to administer the questionnaires in the study area.

**Table 1: Sample of the Selected Radio Station**

S/No	Radio Station	Selected Radio Station
	Brila FM,	Not selected
	Kada FM,	Not selected
	Capital Sound FM (KSMC),	Selected
	Liberty Radio,	Selected
	Karama FM (FRCN),	Selected
	Freedom Radio,	Not selected
	Vision FM,	Not selected
	Supreme FM (FRCN),	Selected
	Alheri Radio,	Not selected
	Invicta FM,	Not selected
	Berekete Family Radio,	Not selected
	Spider FM,	Not selected
	Raypower FM.	Not selected
Total	zz 13	4

Source: Field survey (2024).

The research identifies 13 radio stations namely; Brila FM, Kada FM, Capital Sound FM (KSMC), Liberty Radio, Karama FM (FRCN) Freedom Radio, Vision FM, Supreme FM (FRCN), Alheri Radio, Invicta FM, Berekete Family Radio, Spider FM and Raypower FM. The Radio stations chosen for our study are Capital Sounds (KSMC), Liberty Radio, Supreme FM (FRCN) and Karama FM (FRCN). These stations were purposively chosen due to their popularity among the residents of Kaduna Metropolis when compared with the others. For the purpose of data collection, the study depends on primary source of data, were collected through the distribution of a semi-structured questionnaire. The data generated from this research were presented using charts, while analysed with quantitative methods with emphasis on numerics and percentage figures.

4.0. RESULTS AND DISCUSSION

4.1. Assessment of Demographic Characteristics of Respondents

A total of Four hundred questionnaires were administered to residents of the metropolis using Purposive sampling. Out of the 400 sampled respondents 321 copies of questionnaire were properly filled and returned accounting for 80.25 percent of the sampled population and was used for the analysis of this study.

Sex of the respondents is very significant because of its influence in decision making. Figure 2 shows sex of respondents in the study area. Out of the 321 respondents, the highest proportions of 57 percent were males and 43 percent were females. This indicates that the study have higher percentages of males respondents. This variation may be linked to the time when the data was collected, the result is in line with what was observed by Rigasa *et al.*

(2016) in their finding, which indicated that majority of the respondents were males from high density neighbourhoods.

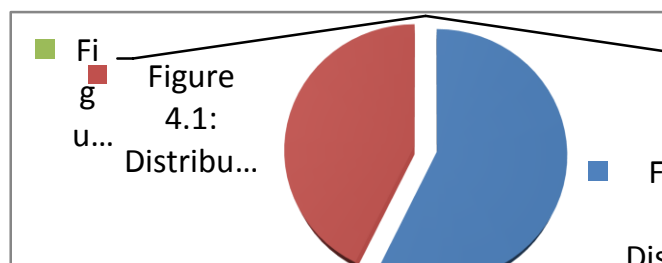


Figure 2: Distribution of respondents by sex

Source: Field survey (2024).

With respect to age distribution of the respondents, Figure 3 revealed that, 54.5 percent of the respondents were between the age of 18-29 years, 33.0 percent were between the age of 30-39 years, 9.3 percent of the respondents were between the ages of 40-49 years and 3.1 percent of the respondents were 50 years and above. This indicates the dominance of youthful population in the metropolis. By this, we can deduce that the majority of the population within Kaduna Metropolis were youths.

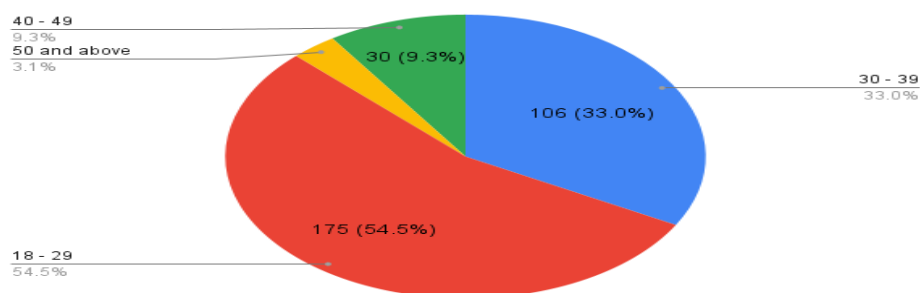


Figure 3: Distribution of respondents by age

Source: Field survey (2024).

In another perspective, respondents were asked to state their marital status using indicator such as single, married, separated, divorced or widowed and the results summarized in Table 2 showed disparities. Specifically, the findings indicated that about 45.8 percent of respondents were married, while 35.5 percent of the respondents were not married, 7.8 percent were widowed, 7.5 percent were divorced and 3.4 percent of the respondents were separated.

This indicates that even though youth constitute the majority of the population/ respondents in study area but they were still married, while only a small percentage of them are divorced.

This can be attributed to the religious and cultural attributes of the metropolis which promote the idea of having family. Adesina and Bandu-Forson, (2018) reported that married couples show a high level of participation in community development activities probably due to cooperation among them in the marriage institution in the society.

Table 2: Distribution of respondents according to marital status

Marital Status	Frequency	Percent
Never Married	114	35.5
Married	147	45.8
Divorced	25	7.5
Separated	11	3.4
Widowed	25	7.8
Total	321	100

Source: Field survey (2024).

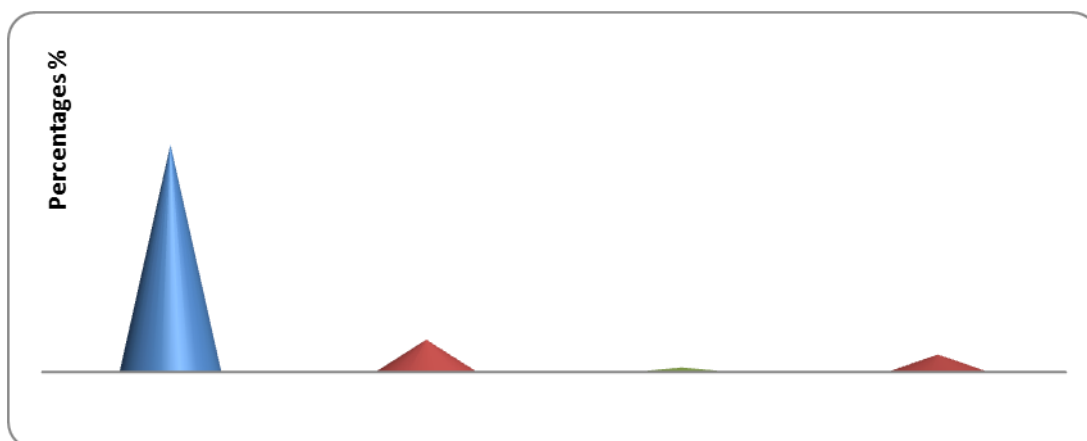


Figure 4: Educational Level of respondents

Source: Field Survey (2024).

Education is always valued as a means of deliverance from ignorance and enables one to perform effectively to any given task within a specified period (Naab *et al.*, 2018). Also Festus and Ogoegbunam (2022), recommend that education of the citizens about the management of wastes be carried out formally and informally. Open or publication education through print, electronic and audio-visual media should be intensified. Respondents were asked to state their level of education. Results in Figure 4 indicated that the majority of the respondents 80.7 percent had tertiary education, whereas 11.5 percent of the respondents had their secondary school education, and 1.6 percent of the respondents had only attained primary education while the remaining 6.2 percent of the respondents registered as “others” What this indicates is that the majority of the residents within Kaduna Metropolis are educated and this is a confirmation of the slogan of the state which describes it as the “Centre of Learning”.

The distribution of respondents based on their occupation. Fig. 5 shows that 34 percent of the respondents were Civil Servants, 12.1 percent are Farmers, 22.7 percent were Traders and 10.6 percent were students while the remaining 20.6 percent of the respondents belong to one type of occupation or the other. This indicates that the majority of the residents in the Kaduna metropolis were employed in one sector of the economy or the other, many work in offices while just a small percentage are still studying and without any occupation.

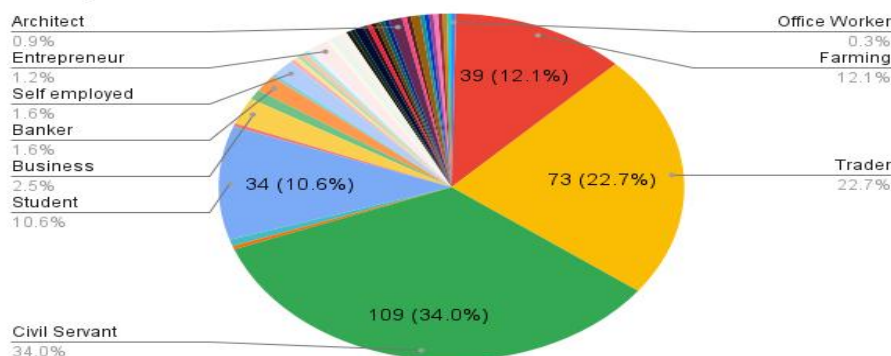


Figure 5: Occupation of the respondents

Source: Field survey (2024).

4.2. Role of Radio Stations in Disaster Management

Radio stations perform several functions during the different stages of a disaster. They help to educate the public on disaster prevention and management.

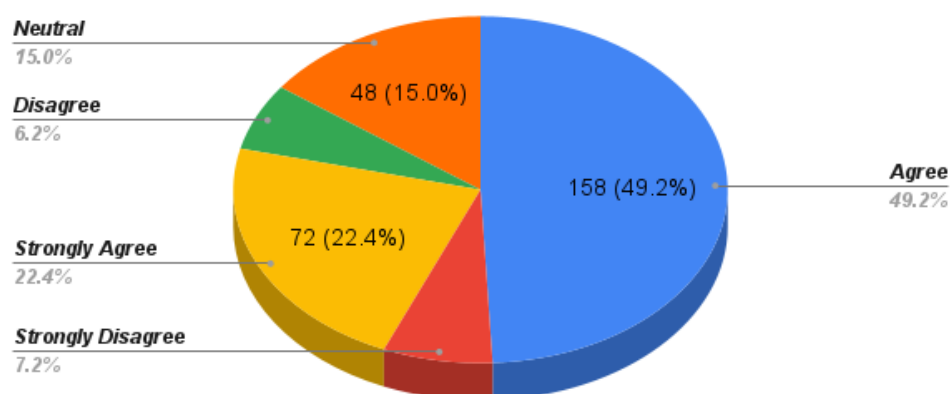


Figure 6: Role of radio stations in Disaster Management

Source: Field survey (2024).

Figure 6 represents the divergent views of the respondents on the crucial role play by radio stations in disaster management. The results revealed that, 7.2 percent of the respondents strongly disagreed, 6.2 percent disagreed, 15.0 percent were neutral, 49.2 percent agreed and 22.4 percent strongly agreed that “radio stations play a crucial role in disaster management”. This means that, majority of the respondents in the study area believe that, Radio stations play a very important role in disaster management within the metropolis. Most of the population agreed, while a large percentage strongly agreed with this claim. The small percentage of the neutrals made it impossible for their views to influence the majority.

Figure 7 revealed the respondents views on whether Radio stations provide useful information on Disaster Preparedness and Risk Reduction. It shows that 4.4 percent of the respondents, strongly disagreed with the statement, 5.9 percent disagreed, 11.5 percent were neutral, 53.3 percent agreed and 24.9 percent strongly agreed with the statement “Radio stations provide useful information on disaster preparedness and risk reduction”.

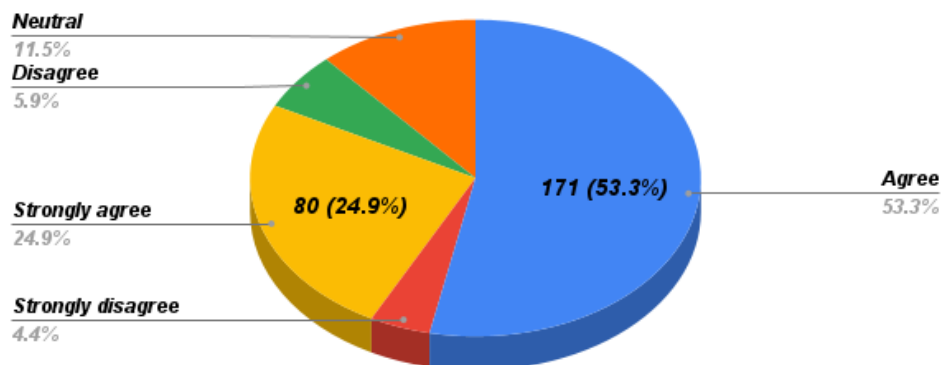


Figure 7: Provision of useful information by radio stations on disaster preparedness and risk reduction

Source: Field survey (2024).

The findings from figure 7 above revealed that, the majority of the respondents agreed that, radio stations provide useful information on disaster preparedness and risk reduction in the study area. When merged, those in disagreement and the neutrals would still struggle to influence the result since the vast majority either agreed or strongly agreed with the argument.

Figure 8 present respondents the views of respondents on whether radio stations are effective in raising awareness about disaster preparedness and risk reduction. It shows that 5 percent of the respondents strongly disagreed with the statement, 5.6 percent disagreed, 13.1 percent were neutral, 49.5 percent agreed and 26.8 percent strongly agreed on the claim “radio stations are effective in raising awareness about disaster preparedness and risk reduction”.

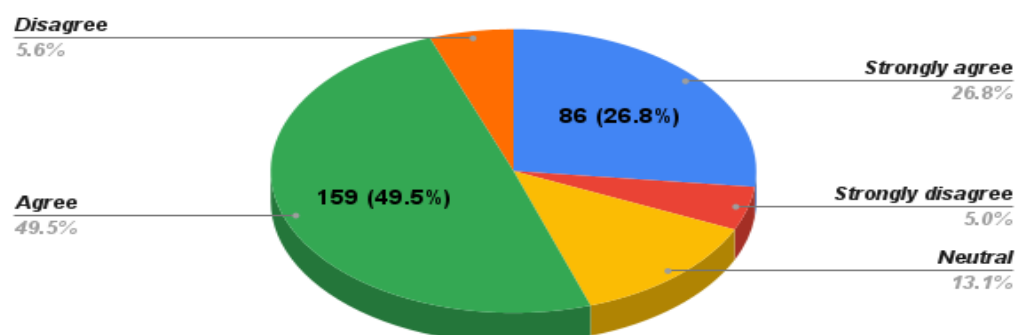


Figure 8: Effective awareness of radio stations on disaster preparedness and risk reduction

Source: Field survey (2024).

Based on the findings in figure 8, above, it can be deduced that the majority of respondents in the study area believes in the effectiveness of radio as a means of raising awareness about disaster. The small percentage of those in disagreement and the neutrals could not invalidate this position since the vast majority either agree or strongly agree with the argument.

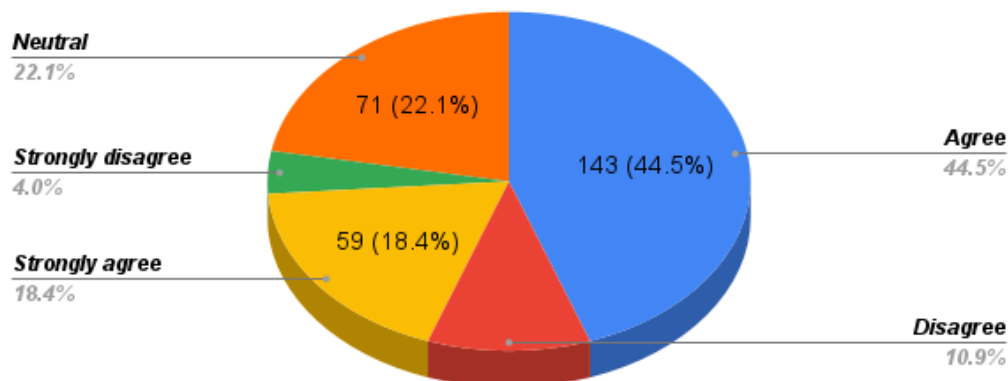


Figure 9: Respondents Views of the effectiveness of Radio stations as a medium for raising awareness about disaster preparedness and risk reduction.

Source: Field survey (2024).

In view of the of the respondents opinions on whether radio stations are the most effective medium for raising awareness about disaster preparedness and risk reduction. As presented in Figure 9, only 4 percent strongly disagreed, 10.9 percent disagreed, 22.1 percent were neutral, 44.5 percent agreed that radio stations are the most effective medium for raising awareness about disaster preparedness and risk reduction, also 18.4 percent strongly agreed with the statement. The findings reveals that the majority of the respondents in the study area believes that, the Radio stations are the most effective medium for raising awareness of disaster within the metropolis as supported by the findings of (Ardalan *et al.*, 2018). Therefore the views of neutrals and those in disagreement could not influence this significantly, since majority either agreed or strongly agreed to the proposition.

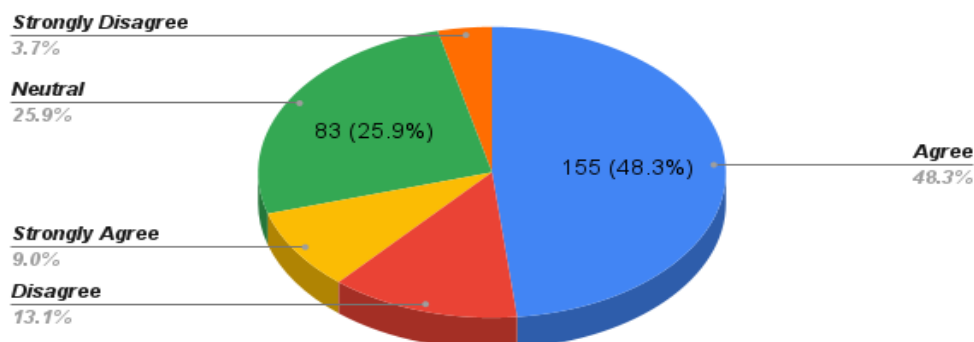


Figure 10: Challenges face by radio stations in providing disaster-related information to the public

Source: Field Survey (2024).

On the issue of the challenges face by radio stations in providing disaster-related information to the public, the results summarized in Figure 10 reveals that, 3.7 percent of the respondents strongly disagreed, 13.1 percent disagreed, 25.9 percent were neutral, 48.3 percent agreed and only 9 percent strongly agreed on the claim “Radio stations face challenges in providing disaster-related information to the public”. This shows that the majority of the respondents in the study area agreed that, radio stations within Kaduna Metropolis face challenges in providing information on disasters to the public. Since the vast majority either agreed or strongly agreed, the views of those in disagreement as well as the neutrals could not affect this proposition.

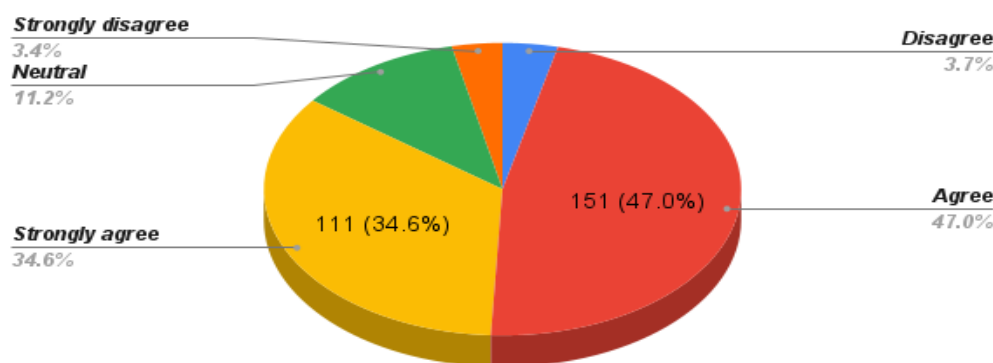


Figure 11: Collaboration between radio stations and disaster management Agencies in providing better disaster-related information to the public

Source: Field Survey (2024).

Figure 11 reveals that, collaboration between radio stations and disaster management Agencies in providing better disaster-related information to the public in the study area. About 4 percent of the respondents strongly disagreed, 3.7 percent disagreed, 11.2 percent were neutral, 47 percent agreed and 34.6 percent strongly agreed with the statement “radio stations should collaborate with disaster management Agencies to provide better disaster-related information to the public”.

The results show that a majority of the respondents believe that, Radio stations need a better collaboration with disaster management agencies. This will help them in providing better information on disasters to the public. As reported by Bhavan (2019), states the ethical guidelines the media need to follow in reporting disaster; the main principle of information provision, therefore, should be an ethical one: and so, during an emergency, the media should be sensitive to the needs of the public in affected areas and should avoid misinforming and broadcasting unconfirmed reports that may lead to despair and panic.

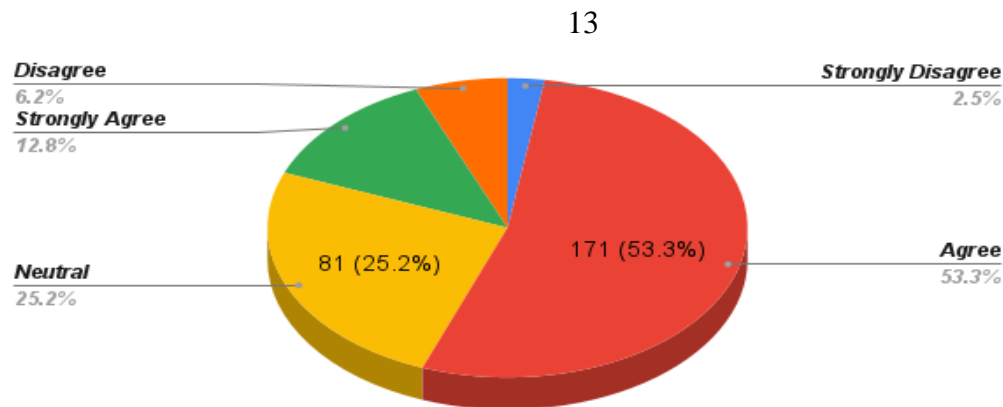


Figure 12: Radio stations foster community participation and engagement in recovery activities after a disaster

Source: Field Survey (2024).

On whether radio stations foster community participation and engagement in recovery activities after a disaster, the results presented in Figure 12 reported that 2.5 percent of the respondents strongly disagreed, 6.2 percent disagreed, 25.2 were neutral, 53.3 percent agreed and 12.8 percent strongly agreed that “Radio stations foster community participation and engagement in recovery activities after a disaster”. Radio stations also help to foster community participation and engagement during post-disaster stages. Many radio stations update the people on who and where was affected as well as those in need of emergency during the different stages in the disaster cycle.

The respondents were asked if radio stations facilitate coordination and collaboration among the different stakeholders involved in disaster rehabilitation and reconstruction. It reveals that only 1.9 percent of the respondents strongly disagreed that radio stations facilitate coordination and collaboration among the different stakeholders involved in disaster rehabilitation and reconstruction, 7.8 percent disagreed, while 25.9 percent were neutral, 51.7 percent agreed and 12.8 percent strongly agreed that “radio stations facilitate coordination and collaboration among the different stakeholders involved in disaster rehabilitation and reconstruction

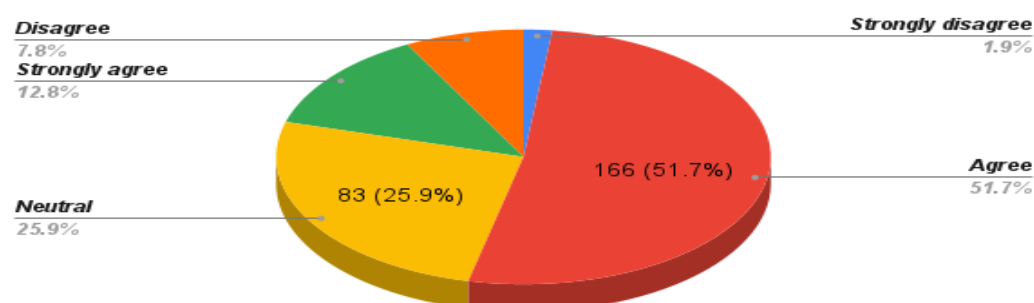


Figure 13: Coordination and collaboration among the different stakeholders involved in disaster rehabilitation and reconstruction with radio stations

Source: Field Survey (2024).

The findings show that, majority of respondents in the study area agreed that, radio stations help to facilitate coordination and collaboration among the various stakeholders in disaster management. Radio stations achieve this through the provision of regular updates on disasters and other related issues to the relevant stakeholders.

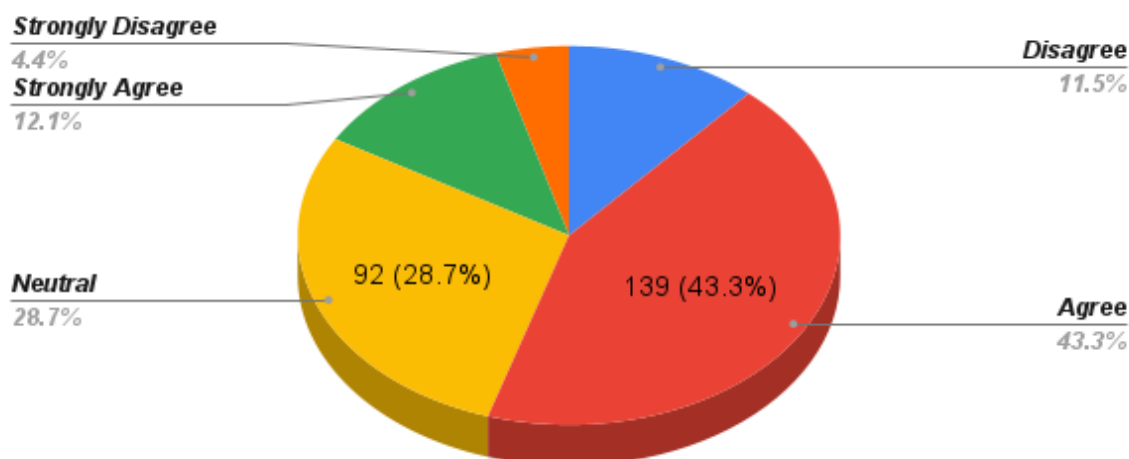


Figure 14: Contribution of radio stations to victims of disaster incidence to recover from disaster trauma.

Source: Field Survey (2024).

Explicitly, respondents were asked on whether radio stations contribute to the psychological recovery of the affected individuals after a disaster as reported in Figure 14. The results shows that, only 4.4 percent of the respondents strongly disagreed, 11.5 percent disagreed, 28.7 percent were neutral, 43.3 percent agreed and 12.1 percent strongly agreed on this statement that “radio stations contribute to the psychological recovery of the affected individuals after a disaster”.

It shows that, majority of the people in Kaduna Metropolis also believe that, the radio stations contribute to the psychological recovery of disaster victims from trauma after the occurrence of any form of disaster. The radio stations can do this through the airing of programmes that will provide this kind of needed psychological assistance.

5.0. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

Radio stations have over the years serve as a medium of transmitting information to the public. In terms of their roles in informing the public on disaster and disaster management, this study has shown that the radio stations are seen by the residents of Kaduna Metropolis as the most effective medium for providing the needed information. Additionally, radio stations also air programmes to educate the public on the ways to prevent and manage disasters. These roles have endeared the radio stations to the public as the most reliable means of



getting information on disasters; which as a result, has contributed to the high patronage they get from stakeholders in disaster management. Even though they faced several challenges in meeting their demanding obligations, they have proven to be very effective in performing their duties to society, especially in providing disaster information.

5.2. Recommendations

Radio stations are an essential medium of disseminating information during disasters. To ensure the effective use of radio in disaster management within Kaduna Metropolis, this study outline the following recommendations.

1. Establishing a dedicated emergency public and private radio stations. A radio station equipped with backup power and communication systems can provide emergency information during disasters.
2. Capacity building training for radio personnels: It is crucial to train radio professionals on disaster management and emergency communication protocols so that they can provide the public with accurate and timely information during times of disaster..
3. Cooperation and collaboration with local authorities: Collaboration between radio stations and local authorities during disasters can provide reliable information to the public.
4. Providing information in local languages: During disasters, radio stations must provide information in local languages to avoid confusion and misinformation.
5. Conducting regular disaster drills: Regular disaster drills should be conducted by radio stations to test their emergency communication systems and protocols. This will help identify any weaknesses in the system and enable them to make improvements. These recommendations can go a long way in enhancing the role of radio in disaster management within Kaduna Metropolis.

Competing Interest

The authors have declared that no conflicting interest exist in this paper.



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