



Knowledge and Awareness towards Emergency Response Preparedness among Large Worship Centres in South-South Region of Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Appropriate knowledge and awareness are vital in disaster preparation and mitigation practices to ensure their effectiveness. The study assessed the knowledge and awareness towards emergency response preparedness among large worship centres in the South-South region of Nigeria. Churches with large seating capacity (>1500), indicating large weekend attendance of no less than (1000) congregants that cut across Akwa Ibom, Rivers, Bayelsa and Edo states, were selected for the study. With the aid of a questionnaire and descriptive statistics, we collected and analysed the data for the study respectively. The outcome showed that 72.7% of the respondents agreed, "Emergency preparedness and disaster response involve an adequate plan to prevent an

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occurrence". The worship centres indicated they were well prepared (60.1%) for emergency events with adequate knowledge about various emergencies (60.1%). The findings revealed that worship centres had not witnessed hazardous events recently (58.5%) and perceived electrical damage (53.5%) as the most common emergency at the centres. Mechanical failure (49.1%) was indicated as the primary cause of emergency at the centres, and most respondents to emergencies are volunteers. Overall, there was adequate knowledge and awareness about emergency response preparedness practices among the worship centres. The study recommended the need for worship centres to develop a common, efficient, coordinated multi-sectoral approach comprising all-hazard and hazard-specific measures to ensure preparedness for all types of emergencies.

Keywords: Disaster management; emergency response preparedness; KAP; worship centres; Niger delta.

1. INTRODUCTION

An emergency is an unplanned event that poses an immediate risk to health, life, property or the environment [1]. As Ndace [2] rightly pointed out, "As long as man lives, there will surely be one form of disaster or the other". The primary issue in emergency or disaster management is that it requires adequate preparation before the occurrence of disaster incidents [3]. An emergency includes fire, transportation accident, flood, earthquake, other soil or geologic movements, riots, industrial or car accidents, fire outbreaks, or sabotage (UNEP, 2010). An emergency procedure involves many essential components and providers engaged in rescue operations. The coordination between members and providers directly influences the services provided in an emergency response.

The government's concern in Nigeria has been developing the personnel and infrastructure needed to manage emergencies effectively. Considering religious organisations, Beckett [4] noted that church organisations have suffered and can suffer both natural and human-related disasters such as fires, hurricanes, tornadoes, earthquakes, building collapse and even violence. While primary efforts must focus on prevention, not all losses can be avoided, mainly when the causes are natural elements or regional events like chemical releases, riots, or targeted violence. Good emergency response plans help ensure appropriate actions are taken and minimise the effects of any loss.

Churches vary by size, denomination, and geographic location, and each has unique needs towards its congregation; however, like every other organisation, all churches are subject to some level of risk. Preparing for a disaster can

reduce loss and make the difference between life and death. Creating a plan requires an in-depth knowledge of your environment, combined with a risk assessment that identifies the risks to which the organisation may be subject. The complexity of the plan will be directly proportional to the size of the organisation and facilities. According to Mahdaviazad and Abdolahifar [5], public education and training focusing on appropriate knowledge, attitudes, and practices play a crucial role in preparedness and disaster mitigation, as "Education is the fundamental bedrock of disaster risk reduction". Such public education and training should not escape churches as they are subjected to several risks; however, few studies have considered church-related emergency aspects [6,7,8,9,10]. Although none of these studies considered the importance of knowledge and attitude in emergency response preparedness, the study therefore aimed at assessing the knowledge and awareness towards emergency response preparedness among large worship centres in the South-South region of Nigeria.

2. MATERIALS AND METHODS

2.1 Study Area

The South-South Region of Nigeria is located at 4°21'43.2"N, 7°40'52.8"E and longitude 5°8'42"E, 9°30'7.2"E (Fig. 1) protruding towards the Gulf of Guinea on the Atlantic coast of West Africa (Shittu, 2014). The region is a densely populated area in Nigeria. Its population is about 31 million people. The land mass extends over about 70,000 km² and makes up 7.5 per cent of Nigeria's landmass. The region comprises Akwa-Ibom, Bayelsa, Cross-River, Delta, Edo and Rivers states. The region lies within the Wet equatorial climate; high cloud cover and fewer sunshine hours cause damp weather conditions throughout the year.

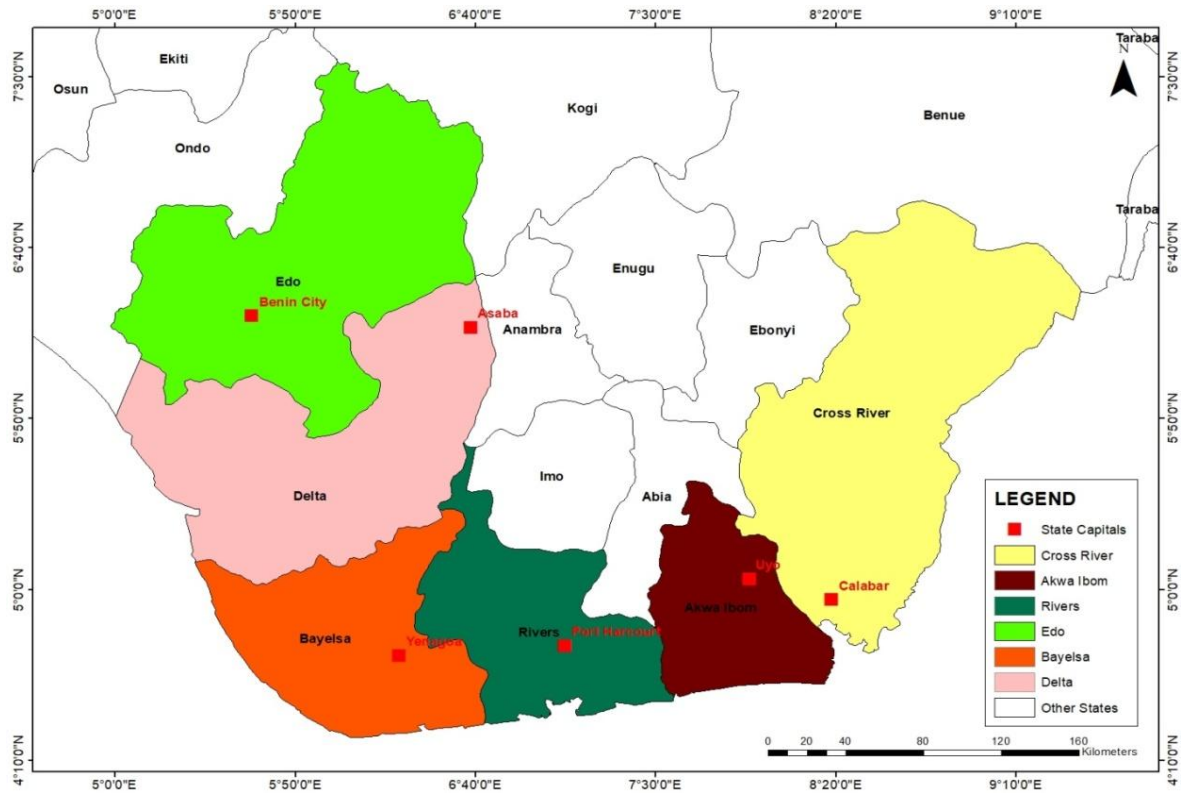


Fig. 1. Overview of the study area

2.2 Study Design and Sample Size

The survey research method was adopted to carry out the study. Survey research is a specific type of field study that involves collecting data from a sample of elements drawn from a well-defined population through a questionnaire (Visser, Krosnick & Lavrakas, 2002). This method was adopted because it is a suitable and efficient way of studying large populations. The population of the study comprised all churches and their worshipers within the selected states of study, which include Rivers, Edo, Bayelsa and Akwa Ibom State; however, for the study based on the eligibility criteria, the population of the study was presented in Table 1.

To get a truly representative sample of the target population, the Taro Yamane (1964) formula for sample size determination was used;

$$n = \frac{N}{1 + N(e)^2} \quad (3.1)$$

Where:

e= Level of precision (0.05)

N= Population

n= Sample size

1= Constant

$$n = \frac{18400}{1 + 18400(0.05)^2}$$

$$n = \frac{18400}{1 + 18400 \times 0.0025}$$

$$n = \frac{18400}{1+46}$$

$$n = \frac{18400}{47}$$

$$n = 391$$

For the study's robustness and convenience, the sample size was adjusted by 9. Therefore, the study's total sample was 400 respondents (Church Officials, Workers/Congregants).

Four hundred copies of the questionnaire were randomly administered using a simple random sampling technique in respondents' selection ; however, 375 of the questionnaires were adequately filled and subjected to further analysis.

Table 1. Population and administration of the questionnaire among the churches of study

States	Church Locations	Church Name	Seating Capacity	Percentage	Admin. Questionnaire	Returned Questionnaire
Akwa Ibom	Uyo	Full Life Christian Centre	10000	54.3	217	209
Rivers	Port Harcourt	Living Faith Church	4300	23.4	93	82
Bayelsa	Yenagoa	Salvation Ministry	2100	11.4	46	46
Edo	Benin	Christ Embassy	2000	10.9	44	44
Total			18400		400	381 (95%)

2.3 Data Analysis

The retrieved copies of the questionnaire were coded and subjected to statistical analysis using Statistical Package for the Social Sciences (SPSS-21) for proper analysis. The study's data were analysed through descriptive statistics tools such as frequency counts and percentages of responses adopted for the analysis. Using such statistics allows the researcher to present the evidence of the study in a way that can be understandable and concludes the study's variables.

3. RESULTS

3.1 Demographic Characteristics of the Respondents

Table 2 of the study presented the demographic details of the respondents. The analysis indicated that 51.2% (195) of the respondents are male, 38.1% (145) between the age of 30-40years, 45.4% (173) of the respondents are single with formal education at least of primary level (34.9%-132), and 34.6% (132) engaged in a professional occupation. The analysis showed that 32.5% (124) of most respondents have been worshipping at their centres for 2 to 4 years, and 33.3% (127) are in the ushering units of their worship centres.

3.2 Knowledge of Emergency Response Preparedness

Table 2 presents the respondents' knowledge and awareness of emergency response preparedness. On the statement "Emergency preparedness and disaster response involve an adequate plan to prevent an occurrence", 72.7% (277) of the respondents agreed that the statement is acceptable for emergency preparedness and response. In comparison, 8.4% (32) and 18.9% (72) of the respondents

disagreed and "don't know", respectively. On the level of preparation for emergencies among the worship centres, 60.1% (229) of the respondents indicated that the centres are well prepared. In comparison, 17.6% (67) and 22.3% (85) of the respondents indicated that worship centres are not prepared for emergencies and "don't know", respectively. The analysis revealed that 59.3% (226) of the respondents possess "very adequate" knowledge about various forms of emergencies, and 24.9% (95) possess adequate knowledge. In comparison, 11.8% (45) and 3.2% (12) have inadequate and "very inadequate" knowledge about various forms of emergencies, respectively. From the study, 59.3% (226) of the respondents indicated that worship centres have committee/personnel for emergency purposes, while 24.7% (94), 12.3% (47) and 3.7% (14) of the respondents indicated that the centres do not have, are not aware of such committee/personnel and that such committees/personnel existed in other forms respectively. Regarding the source of information, 16.5% (63) of the respondents indicated that their data was from the altar, 10.0% (38) indicated television and radio, 28.6% (109) indicated getting information from a newspaper, 23.1% (88) showed that their data was through a lecture while 18.9% (72) and 2.9% (11) of the respondents indicated that their source of emergency information was through personal experience and other sources respectively.

3.3 Awareness of Common Church-Related Hazards

Table 3 presents the common church-related hazards among the worship centres. From the analysis, 28.1% (107) of the respondents indicated having witnessed one or more forms of hazard, 58.5% (223) of the respondents indicated not having seen any form of hazard in recent times, while 12.6% (48) of the

respondents do not know about hazard events at the worship centre. Among the respondents, 2.4% (9) indicated fire outbreak as the most common emergency event at their worship centre, 11.0% (42) noted stampeding, 2.1% (8) noted building collapse, 53.5% (204) reported electrical damage, 22.1% (84) noted car accidents while 0.3% (1), 7.9% (30) and 0.7% (3) of the respondents indicated communicable disease, flood and others related emergencies are the most common emergency events at their worship centre. Considering other worship centres, 6.3% (24) of the respondents noted fire outbreak as the most common emergency event in other worship centres, 11.3% (43) stated stampeding as common event, 20.0% (76) noted building collapse, 39.6% (151) noted electrical damage, 10.5% (40) noted car accidents while 3.4% (13), 2.4% (9) and 6.5% (25) of the respondents indicated communicable disease, flood and others related emergencies are the most common emergency events at other worship centres. From the analysis, 49.1% (187) of the respondents indicated mechanical failure as the primary cause of emergency at the worship centre, 5.5% (21) noted office/cooking equipment is the primary cause of emergency, 24.2% (92) reported uncontrolled crowd while 17.6% (67) and 3.6% (14) of the respondents indicated that unprofessional officials and other factors are the significant causes of emergency at the worship centre. Among the respondents, 19.1% (73) pointed to having never responded to emergency events at the worship centre, 48.3% (184) of respondents indicated having responded as a volunteer, while 28.1% (107) and 4.5% (17) of the respondents pointed to have responded as official responder and responded in other capacities respectively.

4. DISCUSSION

The perception of emergency response preparedness among worshipers (congregants) of large worship centres in the South-south region of Nigeria was assessed based on knowledge and awareness of the phenomenon. The outcome revealed that many congregants agreed with the statement "Emergency preparedness and disaster response involve an adequate plan to prevent an occurrence" as a basic explanation of emergency response preparedness. The finding showed a similar outcome to a study conducted by Yemi-Jonathan et al. [10] and Smith [7], where local Churches led their understanding towards disaster

preparedness. Furthermore, the outcome indicated that the congregants perceived that their worship centres are well prepared for emergency events as they possess adequate knowledge about various events that can lead to emergencies, and the centres have established committees/personnel designated for such events. The finding corroborated with that of Bronfman et al. (2019), which indicated the need for better preparation among people considering the level of exposure to the environment.

Similarly, Danielle [11] reported slightly more than half of the participants (religious communities) were prepared for a disaster with supplies, a disaster plan, or both. As individuals, the congregants indicated that their source of information about emergencies was through the newspapers, lectures, personal experiences, the altar and television and radio in that order. The finding showed similarity with the study of Yemi-Jonathan et al. [10], which indicated similar sources of information regarding emergencies. According to Beckjord et al [12], risk communication is vital before, during and after emergencies and must be encouraged.

Considering the common church-related hazards among the worship centres, the outcome revealed that electrical damage was the leading hazard, while others include car accidents, building collapse, stampede, flood, fire outbreak, and pandemic and communicable disease. The finding indicated that the congregants had not witnessed hazardous events recently and considered electrical damage the common emergency at their worship centre and other centres. Overall, the result showed that electrical damage and building collapse are the most common hazards to worship centres in the study area. The outcome corroborated with Van Coller and Akinloye [6] and Onyanga-Omara [13] findings, which indicated that religious-related building collapse has led to many deaths and injuries. Fowode [14] and Ogundele [15] shared similar outcomes about collapses of religious buildings leading to many deaths and injuries, and they remain a typical emergency among churches in Nigeria. The finding indicated that mechanical failure, uncontrolled crowds, unprofessional officials and office/cooking equipment are significant causes of emergency at worship centres. This outcome showed similarity to the finding of the study conducted by Yemi-Jonathan et al [10].

Table 2. Socio-economic characteristics of the respondents

Variables	FLCC		LFC		SM		CEB – Z1		Total (%)
	N	%	N	%	N	%	N	%	
Sex of respondents									
Male	101	48.3	43	52.4	28	60.9	23	52.3	195(51.2)
Female	108	51.7	39	47.6	18	39.1	21	47.7	186(48.8)
									381(100)
Age (years)									
18-29	52	24.9	20	24.4	14	30.4	24	54.5	110(28.8)
30-40	85	40.7	34	41.5	17	37.0	9	20.5	145(38.1)
41-50	50	23.9	23	28.0	13	28.3	6	13.6	92(24.2)
51-60	15	7.2	4	4.9	2	4.3	5	11.4	26(6.8)
61 and above	7	3.3	1	1.2	-	-	-	-	8(2.1)
									381(100)
Marital status									
Single	89	42.6	38	46.3	18	39.1	28	63.6	173(45.4)
Married	86	41.2	30	36.6	19	41.3	15	34.1	150(39.4)
Divorced	17	8.1	5	6.1	4	8.7	-	-	26(6.8)
Widowed	17	8.1	9	11.0	5	10.9	1	2.3	32(8.4)
									381(100)
Educational qualification									
No Formal Education	41	19.6	22	26.8	6	13.0	-	-	69(18.1)
Primary	77	36.8	28	34.1	21	45.7	7	15.9	133(34.9)
Secondary	70	33.5	22	26.8	16	34.8	5	11.4	113(29.7)
Tertiary	21	10.0	10	12.2	3	6.5	32	72.7	66(17.3)
									381(100)
Primary occupation									
Unemployed	49	23.4	15	18.3	16	34.8	6	13.6	86(22.8)
Professional	71	34.0	32	39.0	19	41.3	10	22.7	132(34.6)
Skilled/Managerial	51	24.4	20	24.4	7	15.2	4	9.1	82(21.5)
Manual/Partly Skilled	24	11.5	12	14.6	-	*	9	20.5	45(11.8)
Self-employed/Trading	10	4.8	1	1.2	3	6.5	12	27.3	26(6.8)
Student	3	1.4	2	2.4	1	2.2	3	6.8	9(2.3)
Others	1	.5	-	-	-	-	-	-	1(0.2)
									381(100)
Worshipping years									
< 1year	42	20.1	11	13.4	8	17.4	13	29.5	74(19.4)
2-4years	63	30.1	26	31.7	18	39.1	17	38.6	124(32.5)
5-7years	53	25.4	12	14.6	7	15.2	8	18.2	80(21.0)
9-12years	33	15.8	22	26.8	4	8.7	3	6.8	62(16.3)
13years and more	18	8.6	11	13.4	9	19.6	3	6.8	41(10.8)
									381(100)
Official position held/unit									
Pastor	7	3.3	5	6.1	3	6.5	1	2.3	16(4.2)
Minister	22	10.5	7	8.5	4	8.7	7	15.9	40(10.5)
Usher	77	36.8	30	36.6	9	19.6	11	25.0	127(33.3)
Protocol	60	28.7	18	22.0	12	26.1	10	22.7	100(26.3)
Welfare/Health	43	20.6	22	26.8	18	39.1	8	18.2	91(23.9)
Security	-	-	-	-	-	-	4	9.1	4(1.1)
Others	-	-	-	-	-	-	3	6.8	3(0.7)
									381(100)

Key: Full Life Christian Centre (FLCC), Living Faith Church (LFC), Salvation Ministries (SM), Christ Embassy Benin Zone 1 (CEB-Z1)

Table 3. Knowledge of emergency response preparedness

Variables	FLCC		LFC		SM		CEB – Z1		Total (%)
	N	%	N	%	N	%	N	%	
Emergency preparedness									
Agreed	131	62.7	61	74.4	44	95.7	41	93.2	277(72.7)
Disagreed	19	9.1	8	9.8	2	4.3	3	6.8	32(8.4)
Don't Know	59	28.2	13	15.9	-	-			72(18.9)
									381(100)
How prepared the church									
Well Prepared	105	50.2	54	65.9	37	80.4	33	75.0	229(60.1)
Not Prepared	43	20.6	13	15.9	4	8.7	7	15.9	67(17.6)
Don't Know	61	29.2	15	18.3	5	10.9	4	9.1	85(22.3)
									381(100)
Knowledge about emergency									
Very Adequate	131	62.7	42	51.2	26	56.5	30	68.2	229(60.1)
Adequate	45	21.5	24	29.3	14	30.4	12	27.3	95(24.9)
Inadequate	28	13.4	10	12.2	5	10.9	2	4.5	45(11.8)
Very Inadequate	5	2.4	6	7.3	1	2.2			12(3.2)
									381(100)
Personnel on emergency									
Yes	120	57.4	42	51.2	32	69.6	32	72.7	226(59.3)
No	51	24.4	24	29.3	10	21.7	9	20.5	94(24.7)
Don't Know	31	14.8	10	12.2	3	6.5	3	6.8	47(12.3)
Others	7	3.4	6	7.3	1	2.2			14(3.7)
									381(100)
Source of information									
From the Altar	25	12.0	11	13.4	16	34.8	11	25.0	63(16.5)
Television and Radio	22	10.5	5	6.1	2	4.3	9	20.5	38(10.0)
Newspaper	72	34.4	21	25.6	14	30.4	2	4.5	109(28.6)
Lecture	47	22.5	26	31.7	8	17.4	7	15.9	88(23.1)
Personal Experience	38	18.2	17	20.7	6	13.0	11	25.0	72(18.9)
Other	5	2.4	2	2.4	-	-	4	9.1	11(2.9)
									381(100)

Key: Full Life Christian Centre (FLCC), Living Faith Church (LFC), Salvation Ministries (SM), Christ Embassy Benin Zone 1 (CEB-Z1)

Table 4. Awareness of common church-related hazards

Variables	FLCC		LFC		SM		CEB – Z1		Total (%)
	N	%	N	%	N	%	N	%	
Hazard event in recent times									
Yes	42	20.1	24	29.3	26	56.5	15	34.1	107(28.1)
No	140	67.0	43	52.4	18	39.1	22	50.0	223(58.5)
Don't Know	27	12.9	15	18.3	1	2.2	5	11.4	48(12.6)
Others					1	2.2	2	4.5	3(0.8)
									381(100)
Most common emergencies at the worship centre									
Fire Outbreak	5	2.4	1	1.2	-	-	3	6.8	9(2.4)
Stampeding	31	14.8	11	13.4					42(11.0)
Building Collapse	37	-			4	8.7	4	9.1	45(11.8)
Electrical Damage	118	56.5	44	53.7	21	45.7	21	47.7	204(53.5)
Car Accidents	-	17.7	25	30.5	14	30.4	8	18.2	47(12.3)
Communicable Disease	1	.5	-	-	-	-	-	-	1(0.3)
Flood	17	8.1	-	-	6	13.0	7	15.9	30(7.9)
Others	-	-	1	1.2	1	2.2	1	2.3	3(0.7)
									381(100)

Variables	FLCC		LFC		SM		CEB – Z1		Total (%)
	N	%	N	%	N	%	N	%	
Most common emergencies at other worship centre									
Fire Outbreak	14	6.7	6	7.3	1	2.2	3	6.8	24(6.3)
Stampeding	23	11.0	11	13.4	6	13.0	3	6.8	43(11.3)
Building Collapse	40	19.1	18	22.0	11	23.9	7	15.9	76(20.0)
Electrical Damage	94	45.0	32	39.0	8	17.4	17	38.6	151(39.6)
Car Accidents	10	4.8	12	14.6	13	28.3	5	11.4	40(10.5)
Communicable Disease	10	4.8	2	2.4	-	-	1	2.3	13(3.4)
Flood	1	.5	-	-	1	2.2	7	15.9	9(2.4)
Others	17	8.1	1	1.2	6	13.0	1	2.3	25(6.5)
									381(100)
Major cause of emergency									
Mechanical Failure	97	46.4	47	57.3	23	50.0	20	45.5	187(49.1)
Office/Cooking Equipment	18	8.6	1	1.2	-	-	2	4.5	21(5.5)
Uncontrolled Crowd	49	23.5	24	29.3	9	19.6	10	22.7	92(24.2)
Unprofessional Officials	41	19.6	8	9.8	10	21.7	8	18.2	67(17.6)
Others	4	1.9	2	2.4	4	8.7	4	9.1	14(3.6)
									381(100)
Respond to emergency									
No	14	6.7	24	29.3	18	39.1	17	38.6	73(19.1)
Yes, as a Volunteer	93	44.5	49	59.8	22	47.8	20	45.5	184(48.3)
Yes, Official Responder	88	42.1	7	8.5	6	13.0	6	13.6	107(28.1)
Yes, Other	14	6.7	2	2.4	-	-	1	2.3	17(4.5)
									381(100)

Key: Full Life Christian Centre (FLCC), Living Faith Church (LFC), Salvation Ministries (SM), Christ Embassy Benin Zone 1 (CEB-Z1)

5. CONCLUSION AND RECOMMENDATION

Emergency preparedness is a continuous process in which action, funding, partnerships and political commitment at all levels must be sustained. It relies on all stakeholders working together effectively to plan, invest, and implement priority actions. For many worship centres to improve their overall emergency management, every individual (congregant) must develop the required preparedness level, which starts with improving knowledge and awareness about the phenomenon. The study concluded that the respondents of the studied churches showed exemplary knowledge and understanding of emergency response preparedness. Therefore, It is recommended that worship centres develop a common, efficient, coordinated multi-sectoral approach comprising all-hazard and hazard-specific measures that will ensure preparedness for all types of emergencies.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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