



ISSN: 2230-9926

Available online at <http://www.journalijdr.com>

# IJDR

*International Journal of Development Research*

Vol. 13, Issue, 10, pp. 64011-64014, October, 2023

<https://doi.org/10.37118/ijdr.27332.10.2023>



RESEARCH ARTICLE

OPEN ACCESS

## ASSESSMENT OF DISASTER PREPAREDNESS IN PUBLIC INSTITUTIONS: A CASE OF THE KENYA SCHOOL OF GOVERNMENT BARINGO-KENYA

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### ARTICLE INFO

#### Article History:

Received 11<sup>th</sup> July, 2023

Received in revised form

28<sup>th</sup> August, 2023

Accepted 16<sup>th</sup> September, 2023

Published online 30<sup>th</sup> October, 2023

#### KeyWords:

Emergency response,  
Mitigation, Recovery.

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### ABSTRACT

Disasters of various kinds have been witnessed in learning institutions in Kenya for many years. Indeed, disasters disrupt the education process and undermine quality of education in the institutions of learning. Kenya has put in place a policy on disaster preparedness but the policy has gaps and most disaster response initiatives tended to be ad hoc and short term, mainly comprising emergency relief. It is against this backdrop that this study was carried out to assess the level of disaster preparedness at the Kenya School of Government, Baringo. The study design was descriptive set out to determine the participants' responses on facilities put in place for disaster preparedness, the efficiency of the facilities and the trainings the staff have undertaken so far as disaster preparedness is concerned. The sample technique chosen was stratified proportionate and cluster sampling where the various sections chosen formed clusters and 50% respondents were used to form a sample size of 35. The study tools were the Questionnaires and observation sheets. The study found out that disaster facilities like fire extinguishers were available in all departments (100%), the facilities were serviced and tested (97%) but the staff mainly trained on first aid (56%) and not on all aspects of disaster preparedness. From the findings The Kenya School of Government Baringo is equipped satisfactorily with disaster preparedness facilities to handle disasters or emergency situations as may occur from time to time. However, lack of training by staff members in all aspects of disaster preparedness may negate all these gains. It is therefore recommended that the School puts in place contingency plans to immediately sensitize staff on disaster preparedness and in the long run find means and ways to train staff members on disaster preparedness.

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**Citation:** Simiyu Ben Wafula, Masengeli Nathan Lukhale, Wasike Ronald Walela, Ndombi Dominic Namasake and Nandebe David Wafula. 2023. "Assessment of disaster preparedness in public institutions: a case of the kenya school of government Baringo-Kenya". *International Journal of Development Research*, 13, (10), 64011-64014.

## INTRODUCTION

Disasters are a common occurrence in human life. When disasters happen, they affect various aspects of human life. Disaster is also defined as a serious disruption of the background functioning of a community or society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources. Further a disaster is defined as an event or series of events, which give rise to casualties and or damage or loss of property, infrastructure, essential services or means of livelihoods on a scale which is beyond the normal capacity of the affected community to cope with unaided (United Nations Office for Disaster Risk reduction, 2022 and Achoka, 2008). The forms of disasters include natural occurring earthquakes, volcanic eruptions, Tsunamis, drought, HIV/AIDS, landmines and floods; while the human-made disasters include fires, accidents, structural collapse, land degradation, violence and terrorism.

Henceforth, disaster disrupts normal life leading man into a state of desperation for humanitarian assistance. Every year about 170 million people are affected by conflict and another about 190 million by major catastrophic disasters (World Health Organization, 2019). Disaster preparedness encompasses the body of policy and administrative decisions and operational activities which pertain to the various stages of a disaster. Safety awareness and preparedness in learning institutions are becoming major concerns. In the recent past, there have been perpetual reports on violence and fire outbreaks in schools across Kenya. Many of the urban dwellers are settled in informal settlements that are vulnerable to hazards such as fires, floods, landslides, diseases and conflict. Poverty remains the main development concern with over 46% of Kenyans living below the income poverty line. Drought and floods are the main natural hazards that impact most severely on the Kenyan population. Conflicts and industrial accidents impact various households and communities in varying degrees. Massive deforestation in search of settlement and agricultural land is leading to unsustainable use of the forest resources that leads to increased risks to droughts, floods and erosion (Mutugi

and Maingi, 20211 & GoK, 2010). Despite Kenya's status as a growing economy and the regional hub for major humanitarian activities, it is still highly vulnerable to the impact of natural disasters. These are mainly drought and flooding resulting in high levels of food insecurity, malnutrition and disease outbreaks. The most affected areas are the arid and semi-arid lands (ASALs) that cover 23 of the 47 counties and comprise about 89% of Kenya's land mass (Mortimore, 2009).

## MATERIALS AND METHODS

**Design, setting and study population:** The research design was descriptive and data was obtained using both quantitative and qualitative methods. The study was conducted at The Kenya School of Government in Baringo County. It is located 512.5 Km west of Nairobi. The school trains officers from diverse fields of the public service to fulfill its mission of developing core skills and competences for quality service delivery. The target population was staff of The Kenya School of Government. The study focused on respondents drawn from the possible current population of 70 members of staff. The staff members were interviewed in the various departments of administration, library and Information Communication Technology, housing and laundry, accounts and registry, Transport and water bottling plant, procurement and supplies, security, catering and garden sections.

**Sampling Procedure:** According to Mugendia and Mugendia [7], a sample population is the smaller group of individuals with appropriate characteristics to be studied and it is obtained from the target population for the study. The authors suggest that for descriptive research 10% of the population under study is enough and a good number that can generate impact that can lead to conclusions that can be generalized to mean the entire population. However, since the target population of staff of The Kenya School of Government Baringo was small, 50% of the sample in the ten departments was sampled to make a total of about 35. The sampling technique employed was cluster sampling as each of the department of the institution represented a cluster. Cluster sampling is used in heterogeneous groupings as evident in a statistical population. The total population, as distributed in the various departments was 50% proportionately sampled and each respondent was picked by a simple random technique.

**Data collection procedures:** The study used questionnaires and observation sheets, which were administered to every member of the sample population. The questionnaires contained both open and closed-ended questions. The closed-ended questions were used to provide simple responses to facilitate tangible recommendations. The closed ended questions were used to test the rating of various attributes and this helps in reducing the number of related responses in order to obtain more varied responses. The open-ended questions were used to provide additional information that was not captured in the closed-ended questions. Observation sheets were used to obtain data that was not otherwise recalled by staff but could be obtained from disaster management facilities by researchers. The researchers collected primary data for the purpose of investigating the level of disaster preparedness at the Kenya School of Government Baringo. Primary data was collected using questionnaires. The questionnaires in this study comprised of four sections. The first part was designed to determine fundamental issues including the socio-demographic characteristics of the respondents, while the second, third and fourth parts consisted of questions where the variables were focused. The questionnaires were designed in line with the study objectives. To enhance quality of data to be obtained, Likert type questions were included whereby respondents indicated the extent to which the variables measured on a five-point Likert's scale. The structured questions were used to facilitate an easier analysis as they were in immediate usable form; while the unstructured questions were used so as to encourage the respondents to give an in-depth and felt response without feeling held back in revealing of any information. Observation sheets were used to fill in information that the researchers could easily capture. The researchers issued the

questionnaires to the respondents who filled. Each questionnaire was coded and the coding technique was used for the purpose of matching returned and completed questionnaires.

**Data management and Analysis :** Qualitative and Quantitative data was grouped into categories according to the objectives. The frequencies of the data obtained in relation to each objective of the study were recorded and percentages worked out. Before processing the responses, the completed questionnaires and observation sheets were edited for completeness and consistency and 32 (91%) questionnaires were considered valid. Data collected was analyzed by excel computer package. The findings were presented in form of frequency tables and percentages.

## RESULTS AND DISCUSSION

**Disaster Preparedness Facilities at the School:** Since inception of the campus, there has not been any incident of a disaster except a fire along the fence of the institution long time ago as reported by 2 (6%) respondents. All the respondents reported availability of disaster facilities. However, the facility types in the institution were distributed as in table 1 below.

**Table 1. Types of Disaster Facilities**

S/No	Facility	Respondents	Percentage
1	Fire Extinguishers	32	100%
2	Hose Reel	13	41%
3	Smoke Detectors	12	38%
4	Lightening Arresters	22	69%
5	Fire alarm/ Assembly point	5	16%

Fire extinguishers were found in all sections sampled and a majority (69%) of respondents was aware of the lightening arresters installations in the buildings in their sections. The rest of the information was distributed as in the table above. Further information on existence of disaster exit points was sought and most (78%) respondents pointed to their available. The presence of first aid kits which are important during injury was known by few (47%) respondents.

### Frequency of Servicing of Disaster Preparedness Facilities

**Table 2. Knowledge of the respondents on Frequency of servicing of Disaster Facilities**

S/No	Duration	Respondents	Percentage
1	6 Months	10	31%
2	Not Sure	6	19%
3	Annually	9	28%
4	1-12 Months	6	19%
5	More than 1 year	1	3%
Totals		32	100%

The researchers established that most (97%) of the disaster facilities put in place were serviced and had service schedules attached. Most respondents reported the facilities were serviced and actually service schedules were available. However, their knowledge on the frequency of servicing was varied as shown in Table 2 above. Most of the respondents (31%) had the correct knowledge on servicing of the disaster facilities every 6 months, few (28%) said the servicing is done annually and the remaining (19%) were ignorant on the duration.

### Frequency of Testing Disaster Facilities

**Table 3. Frequency of Testing Facilities**

Duration of Facilities	Respondents	Percentages
1-5 Months	14	44%
6 Months	1	3%
7-12 Months	7	22%
Unknown duration	10	31%
Totals	32	100%

Just like knowledge on disaster facility servicing was varied, knowledge on disaster facility testing also varied greatly as shown in table 3 above: only one respondent had the correct knowledge by indicating testing is every 6 months (3%), most respondents said 1-5 months (44%), a few said 7-12 months (22%) and the rest were not sure of the duration (31%).

### Education and Training on Disaster Preparedness of Staff

**Table 4. Courses in Disaster Preparedness the respondents trained in**

Course trained	Respondents	Percentage
First Aid	18	56%
Evacuation drills	7	22%
Fire safety drills	15	47%
Basic Life Support	4	13%

Most respondents were trained on First aid (56%) and Fire safety drills (47%) respectively. In sections where the respondents were not trained at least somebody else was trained (13%).

### Ability to Use Disaster Preparedness Facilities

**Table 5. Ability to Use Disaster Preparedness Facilities**

Facility	Respondents unable to use		Respondents With Knowledge	
Fire Extinguishers	4	13%	28	88%
Hose Reel	9	28%	20	63%
Fire alarms	2	6%	19	59%
Sand Bag/Heap	11	34%	16	50%
First Aid Kit	6	19%	25	78%

From the table 6 above most (88%) respondents had confidence to use fire extinguishers and the confidence level dropped with other facilities. Further, (6%) of respondents had confidence in the use of Fire blankets. It's known that during a disaster event certain measures have to be taken swiftly. Alongside this fact, most of the respondents (75%) would assemble at the disaster assembly points (34%) would shout for help while others would call police or the fire brigade. Other respondents would safely evacuate from the scene, break the fire alarm, break windows and or use appropriate equipment to manage the disaster. Majority of the respondents at the school (88%) suggested that to prepare well for future occurrence of a disaster, more staff members would need to be trained on disaster preparedness.

## DISCUSSION

The Kenya School of Government at overall has put in place disaster mitigation measures to respond should disaster happen in most of its departments. This is exemplified by the fact that basic facilities for disaster preparedness were available in the departments, especially the fire extinguishers, lightening arresters, disaster exit points and first aid kits. These findings agree with other study findings that postulated that human induced disasters such as accidents, fires, civil unrest, terrorism and industrial accidents are frequent in Kenya [8,9]. Therefore, disaster preparedness facilities put in place and empowerment of the society to respond and cope with the potential impact of a disaster are necessary. Most disaster facilities at The Kenya school of Government Baringo were satisfactory and in good working conditions as confirmed from the service schedules attached on the facilities. The most recent service was on 23<sup>rd</sup> January, 2022 and the next service would be on 23<sup>rd</sup> June, 2022. However, there was great disparity in knowledge of the respondents on the frequency of servicing and testing of the disaster facilities in the school. This shows that majority of the staff in the institution have either inadequate relevant knowledge or have some attitude towards disaster preparedness and control. Inadequate information on disaster preparedness may lead to greater loss of lives and destruction of property in disaster of higher magnitudes and impact. Knowledge of disaster risk in the region is an important and basic need for students

and staff. Knowledge is the main aspect that must be considered in improving disaster preparedness. Disaster knowledge is categorized into three categories, namely good, sufficient and less (Bogati et al., 2020). Majority of the members of staff at The Kenya school of Government Baringo were trained on disaster preparedness measures especially on administration of first aid and fire safety drills. However, staff members are inadequate in other disaster management skills. This was exemplified by the inability of staff to utilize the various disaster facilities in their areas of operation. Therefore, if a disaster event took place, it is apparent that most lives would be lost and property would be destroyed. However, a majority of respondents pointed to the need to train more staff members on disaster preparedness. These findings agree with earlier studies which recommended sensitization and training of staff members of learning institutions and the surrounding communities on matters pertaining disaster preparedness for sustainability (Kisurulia, 2015; Kitagawa, 2019; Odiase, 2020 and WHO, 2022).

## CONCLUSIONS

From the findings, it is clear that The Kenya school of Government Baringo is equipped satisfactorily (100%) with disaster preparedness facilities to handle disasters or emergency situations as may occur from time to time. Majority of the respondents (31%) did not have the correct knowledge on efficiency of the disaster facilities. However, inadequate training (88%) by staff members in all aspects of disaster preparedness may negate all these gains.

### Recommendations

*It is, therefore, recommended that:* The Kenya school of Government Baringo puts in place contingency plans to immediately sensitize staff on disaster preparedness and in the long run find means and ways to train its staff members on disaster preparedness, servicing and testing of disaster preparedness facilities. Future research on factors which hinder implementation of disaster preparedness measures should be carried out to unravel why even trained staff are unable to use disaster preparedness facilities.

*Acknowledgements:* The authors wish to thank the management of the Kenya school of Government for allowing the study to be carried out in its premises.

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