

Disaster preparedness and response practices in the University of Baguio libraries: The role of disaster equipment

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Abstract

The study measured the extent of availability of disaster equipment to ascertain disaster preparedness and response practices in the University of Baguio Libraries. Descriptive research was employed in the study. Questionnaire and observation checklist were the instruments for data collection. While the research problems were analyzed using descriptive statistics such as mean(x), standard deviation (SD), and ranking (R), responses obtained from the observation checklist were analyzed using simple percentages. The results reveal an adequate availability rate of warning alarms, fire alarms, fire extinguishers, smoke detectors, water hoses, equipment for communication, emergency exit door, and anti-virus software. Other core disaster equipment like dryers, dehumidifiers, and paper towels are lacking in the UB libraries as well as other essential disaster kits for fighting or recovery from theft and the general well-being of library resources (e.g., 3M Detection System, plastic sheet covers, dehumidifiers, dust extractors, and paper towels). The study further revealed that the majority of the respondents coming from

UB Libraries and Campus Planning and Development Office (CPDO) "agree" that disaster preparedness and response practices primarily carried out in the selected libraries include: Regular check-up and maintenance of equipment, Correct positioning of disaster response equipment, Regular replacement of Fire extinguishers, Maintenance and check-ups of emergency exit doors, Maintenance of water pipes, Management of detrimental incidents, and Testing of warning systems. Correlation analysis indicates a weak positive relationship between the availability of equipment and the existence of disaster preparedness and response practices in the University of Baguio Libraries. Consequently, the study recommended the procurement of core disaster equipment, deployment of technology to deter library misconduct and benchmarking existing equipment and activities with world-class counterparts.

Keywords: Disaster preparedness, libraries, disaster response, disaster equipment, university, school librarians

Introduction

ach organization is vulnerable to disasters like fire, earthquake, typhoon, and man-made because it can surely interrupt their services in the event of such disaster. According to Khalid and Dol (2015), disasters can be natural or man-made, which caused a sudden phenomenon that interrupts normal activities. These have adverse effects on the lives, property, and the environment.

One of the unprecedented man-made disasters known as the invasion of the Slobodan Milosevic force in 1999, which destroyed important historical records of Albania in Kosovo (Ngulube, 2005); the World Trade Center bombing on September 11, 2001, and the Pentagon libraries in the United



States of America destroying records, books and other documentary materials (Buchanan, 2002); the National Library and Archives including the Royal Archives of Iraq were turned to ashes on April 14, 2003, during the United States' invasion of Iraq (Buchanan, 2003); and the Norwich City Library in 1994 which was caught by a devastating fire resulting to a great loss of vulnerable collections.

Thus, disasters may occur in whatever workplace, mostly at an unexpected time, but there are ways to prevent these. Khan (2012) explains that disasters happen, and people need to plan to prevent them. Sooner or later, people will deal with such a disaster. In principle, everyone has to prepare for unexpected events to protect against property destruction or human lives. The Philippines is highly exposed to natural hazards because it lay along the Pacific Typhoon Belt and is located within the Pacific Ring of Fire. It is also compounded by uncontrolled settlement in hazard-prone areas, high poverty rate, rampant failure to implement building codes and construction standards, deforestation, and abuse of coastal resources.

Poor and marginalized Filipinos feel these natural and man-made hazards. They are often trapped in a seemingly never-ending cycle of disaster, displacement, and rebuilding (Paquitol, 2018).

Its location and natural attributes define the vulnerability of the Philippine archipelago to hazards because it is located along the typhoon belt in the Western North Pacific Basin in the Pacific, where 33 percent of tropical cyclones develop. Tropical cyclones and other severe weather systems such as monsoons and the inter-tropical convergence zone usually produce heavy rainfall, resulting in floods and landslides. In this scenario, within the Philippine framework of disaster management, emphasize "self-reliance," "self-help," and "mutual assistance" at the local level. The primary responsibility for disaster management is placed upon the line agencies of the government. During such time, much-needed leadership responsibilities are expected from the local government executives such as the Governors, Mayors, and Barangay Captains. Each government agency is directed to prepare its disaster preparedness plan within the framework that early warning systems for flood were developed to capacitate the communities at risk (Espinueva & Nilo, 2011).

Meanwhile, in September 2009, a devastating and dreadful typhoon arrived in the Philippines, which greatly and destructively affected the Benguet province leaving 208 dead, 114 injured, and seven missing persons, 767 partially damaged houses, 481 damaged houses, 32,166 families were affected, and 151,741 individuals. This was caused by "Super Typhoon Pepeng," which was also worsened by the monsoon rains and the "Hanging Habagat." Nevertheless, the unity and steadfastness of the Filipino people, especially the Igorot people, were developed. Because of this calamity, their values (i.e., Bayanihan) were manifested and were continuously observed and preserved. With the occurrence of these calamities, the disaster preparedness of the community has improved. Even if many lives were sacrificed, the improved disaster preparedness saved a lot of lives due to heightened awareness among the communities (Benguet profile, 2011).

In September 2018, a devastating Typhoon Mangkhut, with the local name of Typhoon Ompong, again arrived and greatly and destructively affected the Benguet province. It slammed Northern Luzon, triggering deadly landslides in Benguet. Loss of lives and properties ensued (Typhoon Ompong Report, 2018). According to Director Renato Solidum, Jr, the Science Undersecretary for Disaster Risk Reduction and Climate Change Adaptation, the Philippines, being one of the most disaster-prone countries globally, remains unprepared for major catastrophes such as Typhoon Ompong (Flores, 2018).

Because various natural disasters frequent the country, the possibility of another major disaster in the Philippines is not a matter of where but when. Although there are no short-term solutions to the array of challenges the Philippine government faces in coping with climate change-affected disasters, forming a separate department for disaster preparedness and response is the first step toward improving the country's disaster resilience.



The Philippine government made a paradigm shift with the enactment and implementation of Republic Act 10121, known as the Philippine Disaster Risk Reduction Management Act of 2010, signed on May 27, 2010, by then-President Gloria Macapagal – Arroyo. The new Act strengthened the capacity of the government in establishing the national program on community preparedness. This law created the National Disaster Risk Reduction Management Council (NDRRMC). Under this new set-up, the government has four thematic areas of focus: disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation and recovery. According to the National Disaster Risk Reduction and Management Plan 2011-2020 (2010), disaster prevention and relief avoid hazards and mitigate their potential impacts by reducing vulnerabilities and exposure and enhancing the institution's capabilities. Emergency preparedness establishes and strengthens the capacities of higher educational institutions (HEI's) to anticipate, cope, and recover from the negative impacts of emergency occurrences and disasters. Emergency response provides life preservation and meets the basic subsistence needs of the affected population based on acceptable standards during or immediately after an emergency, and emergency preparedness and recovery restore and improve facilities, livelihood and living conditions and organizational capacities of affected communities.

Specific government agencies chair each thematic area. Department of Science and Technology covers disaster prevention and mitigation. The Department of Interior and Local Government oversees disaster preparedness; the Department of Social Welfare and Development administers disaster relief operations; the Office of Civil Defense administers disaster response, and the National Economic Development Authority directs disaster recovery and rehabilitation.

Aside from the National Council, various local governments throughout the country establish local disaster risk reduction management offices at the regional, provincial, municipal, city, and barangay levels as prescribed by



Republic Act 10121 of 2010. As functional arms of the local governments, these offices are mandated for creating a local disaster risk reduction and management plan according to the framework of the NDRRMC.

Republic Act 10121, Section 14 of the Philippines also declares the integration of disaster risk reduction management education in the school curricula of the secondary and tertiary level of education, including NSTP, non-formal, technical-vocational, indigenous learning, and out-of-school youth courses and programs. Two of the implementing agencies here are the Commission on Higher Education (CHED) and the Department of Education (DepEd).

The University of Baguio Libraries is not new to disasters. A catastrophe happened during the rage of Typhoon Ondoy in October 2015 when the Centennial Library's whole ceiling collapsed. The rainwater that escaped from the roof poured onto the shelves and eventually drenched and destroyed almost 500 volumes of books, including library furniture. This was based on the assessment of damages as reported by the chief librarian in 2015. Another disaster was the fire incident in February 2008 in one of the UB Preparatory High School buildings. It affected one of the college buildings where the Main Library is located. Fortunately, no one was injured, but some library collections were burned down, most specifically the periodicals collection. What about an earthquake? Baguio City is not new to such either. The 1990 earthquake that toppled buildings in Baguio, including some structures of the University of Baguio, and killed people from across Northern Luzon was one of the most tragic disasters in the city. Baguio is one of the most geologically hazardous cities in the nation. It sits on four major fault lines, namely Mirador, San Vicente, Loakan, and Burnham. This is according to the study by the University of the Philippines-Baguio geology professor Dymphna Nolasco Javier. Thus, there is a possibility of a strong earthquake hitting Baguio soon.

Abareh (2015) states that disaster planning might not seem a pressing concern until disaster strikes. The realization is that there is a need for



the UB Libraries to make every effort to prepare themselves for possible disasters, by analyzing the situation and resources, and devising disaster preparedness plan to reduce the effect of disasters when it occurs. The study on disaster preparedness at the University of Baguio is still sparse if not dispersed. Most of the studies done were on natural disaster preparedness. Studies on library disaster preparedness are vital to determine the readiness of libraries in managing a disaster when it strikes. In Baguio City, disaster is related closely to climate change, and as the climate continues to change, people and property are becoming more vulnerable to disaster incidents. Commonly, disasters related to climate in Baguio City are haze, tropical storms, and earthquakes. According to Khalid and Dol (2015), the danger associated with disasters makes it imperative for the library to ensure that disaster preparedness and the ability to manage it becomes part and parcel of its core activities.

In the University of Baguio Libraries, there is a need to strengthen disaster response and practices because, according to the previous study done by the researcher, the problems experienced by the UB Libraries are the following:

- a. The problems on fire disaster preparedness in the library were provisions on fire exit door/s or fire escape, evacuation route mounted in the building, evacuation plan, and regular conduct of fire drills;
- b. The professional librarians noted the following as problems in earthquake disaster preparedness: lacked provisions for trained staff in emergency response procedures, emergency first aid kit, and earthquake disaster preparedness plan;
- c. The primary problems on typhoon disaster preparedness as declared by the librarians lacked provisions for precautionary measures on upcoming typhoon and very few trainees for emergency response;
- d. The librarians of the University of Baguio considered some problems in man-made disaster preparedness as laxity in tight security for all persons

entering the library; lacked provisions for an emergency evacuation plan; and stricter procedures for control and inspection of incoming and outgoing visitors.

The ability of the libraries to prevent or respond to potential hazards from becoming disasters depends on the type and intensity of the disaster and the level of preparedness (Ilo, Izuagbe, Mole, & Ekwueme, 2018). To implicitly engage in disaster preparedness activities, libraries have the duty of providing appropriate disaster equipment to address possible threats. These equipment are an essential component of the preparedness process, and they include fire extinguishers, alarm systems, CCTV, smoke detectors, fire suppression systems, etc. Eden and Mathews (1996) advocated for providing to Ilo, Izuagbe, Mole, & Ekwueme (2018), besides poor disaster preparedness practices, the absence of appropriate equipment has further heightened the vulnerability of many libraries in developing countries to various forms of disasters. For preparedness and response to be effective, Gibson and Garry (2011) remarked that equipment availability before unexpected occurrences is sacrosanct.

The UB Libraries is one of the knowledge providers to its primary users to support quality education among the youth. Thus, this study is essential to keep end users safe and protected. Therefore, this study examines the relationship between the availability of disaster equipment and disaster preparedness practices in the University of Baguio Libraries. This study will naturally provide the institution baseline information in strengthening safety standards and disaster risk management for UB libraries.

Methodology

Research Design

The study aimed to examine the relationship between the availability of disaster equipment and disaster preparedness practices in the University of



Baguio Libraries. Thus, the descriptive survey was used. The study included respondents from the University of Baguio Libraries and on the Campus Planning and Development Office. The sampling method used was total enumeration sampling.

Frequencies and percentages were subjected to descriptive statistics and Chi-square analysis to answer the formulated research problems. Research problem 1 seeks to ascertain the extent to which respondents agree or disagree with disaster preparedness and response practices in the University of Baguio Libraries studied by the researcher, while research problem 2 seeks to answer the availability of disaster preparedness equipment in the UB Libraries.

Scope and Delimitation

The study is focused on examining the relationship, if any, between the availability of disaster equipment and disaster preparedness practices of the various libraries of the University of Baguio, namely: The Centennial Library, Fernando G. Bautista Library, Rosa C. Bautista Library, Science High School Library, High School Library; and Elementary School Library. It covers the first and second semesters of SY 2019-2020 and the methods, techniques, and data gathering tools.

The Sample

The respondents of this study were the employees and student assistants of the University of Baguio Libraries and Campus Planning and Development Office staff. The study population consists of 58 library personnel (13 professionals and 45 student assistants) drawn from the following six libraries of the University: (FGB Library, RCB Library, Centennial Library, SHS Library, HS Library, and Elementary Library). It also includes eight personnel from the Campus Planning and Development Office in charge of the electrical, plumbing, and physical plant. They are all chosen for the study because all respondents identified are part of the school maintenance of facilities and services that help sustain the safety and security of the stakeholders and library resources.



The major demographic characteristics (respondents' profile) obtained are the office/department they are assigned and their occupation.

Instrumentation

The questionnaire and observation checklist methods were utilized to collect data for the study derived from Ilo, Izuagbe, Mole, & Ekwueme (2018). The questionnaire, together with the observation checklist, is divided into three sections (i.e., A-C). Section A is a 3-item scale meant to elicit respondents' demographic information. Section B is an 8-item scale measuring disaster preparedness and response practices in the University Baguio Libraries and Section C is a 20-item scale designed to harness respondents' responses on the availability of disaster equipment. Section A in the questionnaire shows what department/office does the respondent belongs to. If the respondent is a librarian and library student assistant, he/she needs to check what library he/she is assigned; and what his/her occupation is.

On the other hand, if the respondent belongs to the Campus Planning and Development Office (CPDO), he/she needs to specify his occupation like electrician, office staff, etc. Section B describes how respondents agree or disagree on the mentioned disaster preparedness and response practices. Section C is a checklist of disaster equipment which the respondents need to identify if this disaster equipment is available in the UB Libraries.

Treatment of Data

In treating the gathered data, the following tools and techniques were utilized:

- To determine disaster preparedness and response practices in the University of Baguio Libraries, computation of the respondents' frequency and percentages of "agree" answers was subjected to chisquare analysis.
- 2. To ascertain the availability of disaster preparedness and response equipment in the University of Baguio Libraries, the observation checklist of disaster equipment coded the various item indicators as



follows: Available -- / (this means that the disaster equipment is existing), and Not Available -x (this means that the disaster equipment is non-existent). Then, computation of frequencies and percentages was done to determine the status of compliance per domain and whole.

3. To determine the relationship between disaster preparedness response and practices to that of UB Libraries' availability of disaster equipment by employing correlation analysis.

Ethical Considerations

To ensure that the ethics of research are observed, the researcher endeavored to observe the following:

Informed consent. The researcher seeks the approval of the concerned offices in conducting the study. Upon the approval of the chief librarian of the UB Libraries and the director of the Campus Planning and Development Office, the questionnaire and the observation checklist are distributed personally by the researcher to the section head librarians, the office staff of the CPDO, and library student assistants. The researcher informed the participants of the purpose, nature, data collection methods, and extent of the research before commencement. Further, the researcher explained their typical roles, and in line with this, the researcher also obtained their informed consent.

Voluntariness. The right to self-determination will be followed by providing the participants with the right to refuse or not being forced to participate in the study. It was made clear to the participants that the research was only for library disaster management, and their participation in it was voluntary, with ample opportunity to ask questions.

Confidentiality. The researcher assured that all the data gathered from the said offices would only be used for this current research, and no resources from the participants will be utilized. No names will be given in the

presentation of the results. The information obtained about each respondent will be kept private and confidential, and the only generalization shall be disclosed. The respondents will be assured their responses shall be held strictly confidential. The researcher made it clear that the participants' names would not be used for any other purposes, nor will information be shared that reveals their identity in any way.

Anonymity. The respondents will not be obliged to write their names on the questionnaires. They will remain anonymous as participants of the study.

The results of this study will be kept indefinitely to allow for review and reanalysis and disseminated through UB research journal publication and research colloquium to the different stakeholders of the University.

Results and Discussion

The presentation, analysis, and interpretation of gathered data on disaster preparedness and response practices and the correlation between disaster preparedness response and practices to that of UB Libraries' availability of disaster equipment are presented in this part. The output of data analysis run through SPSS is found in Appendix 1.

To determine the disaster preparedness and response practices exhibited in the University Libraries as assessed by the respondents, descriptive statistics were employed by generating frequencies and computing for percentages for each item. A summary table of the frequencies and percentages that represents the response of the participants is presented per category;

Table 1 indicates that a greater number of respondents from both departments, which includes the Libraries and the campus planning and development office responded "agree" to the items referring to; (Item 1) regular check-up and maintenance of equipment (70.49 %), (Item 2) Correct positioning of disaster response equipment (83.33), (Item 3) Regular replacement of Fire



extinguishers (86.89 %), (Item 4) Maintenance and check-ups of emergency exit doors (68.33 %). (Item 5) Maintenance of water pipes (57.38), (Item 6) Management of detrimental incidents (85 %), and (Item 8) Testing of warning systems. However, 60 % of the participants disagree with (Item 7) referring to the regular checking and maintenance of air conditioners.

Table 1.

Items on disaster preparedness		(Agree)		(Disagree)		Total	
Univ	versity of Baguio Libraries	f	%	f	%	f	%
1.	Electrical equipment are regularly checked and maintained	43	70.49	18	29.51	61	100
2.	Ensuring correct positioning of disaster response equipment	50	83.33	10	16.67	60	100
3.	Fire extinguishers are regularly replaced on expiration	53	86.89	8	13.11	61	100
4.	4. Regular checks and maintenance of emergency exit doors	41	68.33	19	31.67	60	100
5.	Water pipes are regularly checked and maintained	35	57.38	26	42.62	61	100
6.	Incidents detrimental to library resources are noted and addressed	51	85.00	9	15.00	60	100
7.	Air-conditioners are subjected to regular technical checks and maintenance	22	40.00	33	60.00	55	100
8.	Testing of warning systems	46	79.31	12	20.69	58	100

Frequencies and Percentage of responses of combined department

This reveals that the participants perceive that disaster preparedness and response practices are being carried out in the University of Baguio, as indicated in their response of agreeing to the items. However, in terms of Air conditioning inspection and maintenance, the respondents do not agree that



this is being carried out because the only library that has air conditioning equipment is the Science High School Library (SHS) and that the only authorized personnel for regular technical checks is from the company manufacturer itself. According to Qiwen et al. (2018), university libraries are usually high energy-consuming buildings on campus, and the operation efficiency of the air conditioning system is still far from satisfactory. Science High School Library is the one that has air conditioning equipment because the place has a low headroom design and is composed of a galvanized roof which is prone to high temperatures during warm days.

Table 2 presents the frequency and percentages of responses from two sources, comprised of the Library staff and personnel/officers from the Campus Planning and Development Office (CPDO). Chi-square analysis yielded significant results at (@.01 to (@.05. This indicates that the differences) in the frequencies across the responses are statistically significant. It can be noted that almost 100 % of the respondents from the CPDO agree that Disaster preparedness and response practices are being carried out in the UB Libraries. In contrast, respondents from the Library do not fully agree that these safety and response practices are being done considering that a range of 63 % to 85 % of the responses agrees on particular items, which include item 1 (64.6), item 2 (83.3 %), item 3 (85.4 %), item 4 (62.5 %), Item 6 (81.2 %), and Item 8 (75.51 %).

Meanwhile, a larger percentage of respondents do not agree that safety practices are applied to two of the items, particularly item 5 (52.1 %) and item 7 (74.4 %). This means that some of the respondents from the Library department do not agree that water pipes are regularly checked and maintained and that air conditioners are subjected to regular checks and maintenance. According to an interview conducted by the researcher from the Campus Planning and Development Office (CPDO) director, water pipes are not regularly maintained like sprinkles because they plan to change and automate its detection system to submit to the ASEAN standards.

214

Frequencies, Percentage Chi-Square tes	t resu	ult of re	suods	ses of I	library	and	CPDO	staf	ŕ			
ltem			Library	~				СРDO			Chi-s	quare
	٩	%	٥	%	Total	٩	%	٥	%	Total	value	Sig.
 Electrical equipment are regularly checked and maintained 	31	64.6	17	35.4	48	10	100	0	0	10	5.010	.025*
 Ensuring correct positioning of disaster response equipment 	40	83.3	∞	16.7	48	7	77.78	2	22.22	σ	.162	.043*
 Fire extinguishers are regularly replaced on expiration 	41	85.4	2	14.6	48	10	100	0	0	10	1.658	.038*
 Regular checks and maintenance of emergency exit doors 	30	62.5	18	37.5	48	6	100	0	0	ი	4.933	.026*
Water pipes are regularly checked and maintained	23	47.9	25	52.1	48	10	100	0	0	10	9.154	.002**
Incidents detrimental to library resources are noted and addressed	39	81.2	6	18.8	48	6	100	0	0	6	2.004	.017*
7. Air-conditioners are subjected to regular technical checks and maintenance	11	25.6	32	74.4	43	6	100	0	0	6	17.414	**000.
8. Testing of warning systems	37	75.51	12	23.5	49	6	100	0	0	6	3.003	.023*
Legend A - Agree, D - Disagree *Significant at @.05 **Significant at @.01												

Table 2

According to an interview conducted by the researcher from the Campus Planning and Development Office (CPDO) director, water pipes are not regularly maintained like the sprinkles because CPDO is planning to change and automate its detection system it will submit to the ASEAN standard. Air conditioning equipment, on the other hand, is only available in the Science High School Library (SHSL) because other UB libraries are spacious and pleasantly cool place with large windows and doors with better ventilation, while SHS Library has a low headroom design and at the same time the roofing material is made up of galvanized roof which is prone to high temperatures during warm days.

Ascertain the availability of disaster preparedness and response equipment in the University of Baguio Libraries;

The analysis in Tables 3 and 4 reveals the rate of available disaster equipment provided towards disaster preparedness on an institutional basis. While some are meant to prevent, others are meant for responding to disasters.

Table 3

Average score obtained from Library staff on the availability of disaster preparedness and response equipment (n = 13)

	Disa Equip	ster Preventi ment (11 lte	on ems)	Disaster Response Equipment (9 items)			
	Available	Not Available	Total	Available	Not Available	Total	
Average rating	6.62	4.38	11	5.38	3.62	9	
%	60.14 39.86 100.00		59.83	40.17	100.00		

Table 3 presents the average rating of the 13 respondents on the items that were categorized as equipment for disaster prevention and response. This means that scores from the Library staff indicate that 60.14 % of the equipment necessary for disaster prevention is available while 39.86 % are not available. Moreover, in terms of disaster response equipment, the respondents rated that 59.83 % of the equipment needed for disaster response are available while 40.17 % percent is not available. Out of the 20 pieces



of equipment examined, most of them are available, and it has a positive implication towards disaster preparedness.

To determine which equipment is lacking as reflected in the aggregate scores in Table 3, the ratings given by the participants per item are shown in Table 4.

Table 4 *Ratings per item* (n = 13 *Library staff*)

Equipment	Ava	ilable	Not A	vailable	То	tal
-	f	%	f	%	f	%
Disaster Prevention Equipment						
1. Warning Alarms	10	77	3	23	13	100
2. Fire Alarm	11	85	2	15	13	100
3. Close Circuit Television	12	92	1	8	13	100
4. Dust Extractors	1	8	12	92	13	100
5. Antivirus Software	12	92	1	8	13	100
6. Hard Drives, Flash Drives, CD ROM's	13	100	0	0	13	100
7. UPS	13	100	0	0	13	100
8. Plastic Sheet Cover	4	31	9	69	13	100
9. 3M Detection System	0	0	13	100	13	100
10. Thunder Arrestors	0	0	13	100	13	100
11. Smoke Detectors	10	77	3	23	13	100
Disaster Response Equipment						
12. Fire Extinguishers	13	100	0	0	13	100
13. Water Hoses	8	62	5	38	13	100
14. Dryers	0	0	13	100	13	100
15. Equipment Of Communication	10	77	3	23	13	100
16. Emergency Exit Door	13	100	0	0	13	100
17. Dehumidifiers	0	0	13	100	13	100
18. Mops	13	100	0	0	13	100
19. Buckets	11	85	2	15	13	100
20. Paper Towels	2	15	11	85	13	100



In terms of disaster prevention measures, the following equipment is identified as available by most of the respondents, which means more than 50 % of the participants indicated that the following items are available; Warning alarms (77 %), Fire Alarms (85 %), Closed Circuit Television (92 %), Antivirus software (92 %) Hard drives, flash drives, CD ROM's (100%), UPS (100%), Smoke detectors (77 %). On the contrary, the following equipment is rated as unavailable by most of the participants; Dust Extractors, Plastic Sheet Cover, 3 M Detection systems, Thunder arrestors. Concerning the availability of disaster response equipment, most of the respondents indicated that the following items are available; Fire extinguishers (100 %), Water hoses (62 %), Equipment of Communication (77 %), Emergency Exit door (100%), Mops (100%), and Buckets (85 %). However, the following equipment is lacking in the library; Dryers, Dehumidifiers, and paper towels.

Based on the 50 percent decision criterion used to judge the availability and non-availability of disaster equipment, the study has shown that the number of available disaster equipment exceeds the non-available ones in the six (6) libraries. Majority of the available disaster equipment are mostly for fire disaster (e.g., warning alarms, fire alarms, fire extinguishers, smoke detectors, water hoses, equipment for communication, emergency exit door, etc.) and as well as virus attacks (e.g., antivirus software, hard drives, flash drives, and CD-ROMs) only. Other essential disaster kits for fighting or recovery from theft and the general well-being of library resources (e.g., 3M Detection System, plastic sheet covers, dehumidifiers, dust extractors, and paper towels) are noticeably lacking. As a result, it is uncertain if the University of Baguio libraries are adequately prepared for, mitigate the effects or recover from disaster after an occurrence. However, the University of Baguio libraries, together with the CPDO, need to ensure the sustainability and usability of information resources through adequate preparation for other forms of disasters.

Abareh (2014) validated this claim when he reported that insects, rodents,



and roof leakages constitute major risks to the safety of information materials among academic libraries. In the same way from the Malaysian context, Khalid and Dol (2015) found that disaster preparedness activities in academic libraries in Malaysia are geared towards fires. Since other forms of disasters are not catered for in the preparedness process, the authors conclude that university libraries' level of disaster preparedness in the country is low. According to Ilo et al. (2018), several factors (beyond the scope of this study) could be responsible for why university libraries only prepare for fires. However, the researchers' closest reason could hypothetically deduce from this development is that a larger portion of library materials are made up of paper — highly flammable material.

Find out if a correlation exists between availability of disaster equipment and disaster preparedness and response practices in the University of Baguio Libraries.

Table 5 presents the correlation coefficient (r = 0.20), which indicates a very weak positive relationship between the availability of equipment and the existence of disaster preparedness and response practices in the University of Baguio Libraries. This indicates that while the respondents indicate that the equipment is available for disaster response and prevention, they would agree that disaster response practices are carried out. However, it is important to note that the relationship is statistically not significant while there is a positive correlation. The result illustrates that if a respondent can use disaster equipment when a disaster occurs, then we can say that response practice is being carried out because you can only carry out disaster response measures if the disaster equipment is available. However, this does not necessarily mean that provision of disaster equipment cannot automatically translate to disaster preparedness and response practices. There is a need for proactive steps to integrate them into the library operations with appropriate/adequate training, regular drills, and exercises to instill disaster consciousness into library personnel.



Table 5

Correlation Coefficient between Availability of equipment (Available) to perceived response practices (Agree) in the University of Baguio Libraries

Agree	Available
Pearson Correlation Coefficient	.200
Sig.	.534
Ν	12

*Coefficient is significant at @.05

*Coefficient is significant at @ .01

Conclusion and Recommendations

The study has examined the availability of disaster equipment and its impact on disaster preparedness and response activities in the University of Baguio libraries. The study has shown that there is a positive but weak correlation between the availability of disaster equipment and the extent of disaster preparedness and response in terms of practices in university libraries. However, the provision of disaster equipment cannot automatically translate to disaster preparedness and response practices. There is a need for proactive steps to integrate them into the library operations with appropriate/adequate training, regular drills, and exercises to instill disaster consciousness into library personnel. Until this is achieved, the equipment provided will be of doubtful relevance concerning disaster preparedness and response practices.

Arising from the previous results, the following recommendations are made:

a. Since disasters are a sudden natural or man-made occurrence with catastrophic effects such as loss of life and damage to properties, their form of occurrence is largely volatile and unpredictable. As a result, effort should be made to ensure that there is equipment to mitigate and recover without complete loss in whatever form disaster occurs. To this end, the procurement of equipment basic to all potential disasters is necessary.



- b. In the 21st century, university libraries are taking advantage of Information Technology (IT) and depending less on human factors in monitoring users' delinquent actions such as pilfering, mutilation, and outright stealing of books from the library. Equipment such as 3M technology (e.g., Self-Check Systems, RFID Detection Systems, ISO RFID Tags, etc.) should be adequately deployed to deter library patrons from defacing library materials.
- c. It is not enough to acquire disaster equipment, but it is important to harness them and benchmark their usage with world-class libraries. This will further help elicit information necessary for the appropriate deployment of disaster tools following international best practices.



References

- Abareh, H. (2014). Survey of disaster preparedness by heads of academic libraries in north eastern Nigeria. *Global Journal of Academic Librarianship*. https://www.ripublication.com/gjal/gjalv3n1_05.pdf
- Alegbeleye, B. (1993). *Disaster control planning for libraries, archives and electronic data processing centers in Africa*. Ibadan: Option Book and Information Services.

Benguet profile. (2011). http://www.benguet.gov.ph/index/php/profile/history

Buchanan, S. (2002). Disaster planning: preparedness and recovery for libraries and Archives: A RAMP study with guidelines. Paris: UNESCO.

- Eden, P., Mathews G. (1996). *Disaster management in libraries. Library Management*, *17*(3) 5-12. https://www.scopus.com/record/display. uri?eid=2-s2.0-84957365175&origin=inward&txGid=767bbe71326af4e 22f8c74d6c52d71f8
- Espinueva, S. & Nilo, P. (2011). Lessons learned from community-based early warning system in the Philippines. New York: Nova Science Publishing.
- Flores, H. (2018). Philippines unprepared for major catastrophes. *The Philippine Star*, Vol. XXXIII, p. 6.
- Gibson, R., Garry, A. (2011). Encyclopedia of occupational health and safety. https://scholar.google.com/scholar?q=R.%20Gibson,%20A.%20 Garry,%20Encyclopedia %20of%20Occupational%20Health%20and Safety%20edited%20by%20Armstrong,%20James,%20R.%20and%20 Menon,%20Raji,%202011.
- Hassanain, M. A. & Ashwal, N. A. (2005). An approach to assess fire safety requirements in library facilities . *Facilities*, 23(5/6), 239–252. https://doi.org/10.1108/02632770510588646
- Ilo, I., Izuagbe, R., Mole, A. J.C., Ekwueme, L. (2018). Measuring disaster preparedness and response practices in university libraries in Nigeria: the role of disaster equipment. *International Journal of Disaster Risk Reduction*, 31(2018) 85-91. https://www.sciencedirect. com/science/article/pii/S2212420918301614
- International Federation of Red Cross and Red Crescent Societies (IFRC) (2012). *What is a disaster*? http://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/what-is-a-disaster/



- Khalid, S., & Dol, N. (2015). Disaster preparedness for academic libraries in Malaysia: an exploratory study. World Academy of Science, Engineering and Technology International Journal of Social, Behavioral, Educational, Economic and Management Engineering (e-journal). http://eprints.um.edu.my/14495/1/Disaster-Preparedness-for-Academic-Libraries-in-Malaysia-An-Exploratory-Study.pdf
- Khan, M. (2012). *Disaster response and planning for libraries*. Third edition. Chicago: ALA Editions.
- Leytem, M., & Stark, E. (2016). *The role of social influence on how residence hall inhabitants respond to fire alarms. Journal of College & University Student Housing, 43*(1), 60–73. http://search.ebscohost.com/login.aspx? direct=true&db=tfh&AN=1250 29487&site=ehost-live
- Ngulube, P. (2005). Disaster and security management in public archival institution in ESARBIA region. *African Journal of Library, Archives, and Information Science, 15*(1) 15-20.
- Nyanga, E., Nengomasha, C. T., & Beukes-Amiss, C. M. (2018). Disaster preparedness and management at the National Archives and the National Library of Namibia. *African Journal of Library, Archives* & *Information Science*, 28 (1) 77–91. http://search.ebscohost.com/login. aspx?Direct=true&db=aph&AN=130261951&site=ehost-live
- Paquitol, O. (2018). *Risk reduction management in disaster-prone areas in Benguet.* Unpublished dissertation: University of Baguio.
- Philippine disaster management framework. (2007). https://www2.wpro.who. int/internet/files/eha/tookit_health_cluster/Philippine%20Disaster%20 Management%20Framework%20NDCC%202005.pdf
- Polloni, D. & Harkins, B. (1996). Picking up the pieces: an organizational profile of the library disaster centre. *Library Management*, 17(1), 37. https://doi.org/10.1108/01435129610106100
- Qi D., Huizhang S., Jidi Z., & Xiaomin G. (2016). Conformity behavior during a fire disaster. *Social Behavior & Personality: An International Journal*, 44 (2) 313–324. https://doi.org/10.2224/sbp.2016.44.2.313
- Qiwen J., Jianbo C., Jialin H, Yanhua L. (2018). Research on building energy management in HVAC control system for university library. *Energy Procedia*, 152, 1164-1169. https://doi.org/10.1016/j.



egypro.2018.09.152.

- Republic Act 10121 (2008). *Philippine disaster reduction and management act.* http://www.lse.ac.uk/GranthamInstitute/law/philippine-disasterreduction-and-management-act-ra-10121/
- Republic Act No. 10121 (2010). *Philippine disaster risk reduction and* management act. Philippines: NDRRMC.
- Simpson, D. M. (2002). Earthquake Drills and Simulations in Communitybased Training and Preparedness Programmes. *Disasters*, 26(1), 55. https://doi.org/10.1111/1467-7717.00191
- The Hyogo Framework for Action 2005-2015: *Building the resilience of nations and communities to disasters*. https://www.unisdr.org/we/coordi nate/hfa
- Third UN World Conference on Disaster Risk Reduction (March 18, 2015). Sendai framework for disaster risk reduction 2015 - 2030. Sendai, Japan. https://www.unisdr.org/we/inform/publications/43291.
- Tkachuck, M., Schulenberg, S., & Lair, E. (2018). Natural disaster preparedness in college students: implications for institutions of higher learning. *Journal of American College Health*, 66 (4) 269– 279. https://doi.org/10.1080/07448481.2018.1431897
- Welton-Mitchell, C., James, L., Khanal, S., & James, A. (2018). An integrated approach to mental health and disaster preparedness: a cluster comparison with earthquake affected communities in Nepal. *BMC Psychiatry*, 18 (1). N.PAG. https://doi.org/10.1186/s12888-018-1863-z