



FOR THE RECORD: THE FATE OF LIBRARIES AND RECORDS OFFICES IN THE VISAYAS, PHILIPPINES DEVASTATED BY THE TYPHOON HAIYAN

Stephen B. Alayon

Aquaculture Department, Southeast Asian Fisheries Development
College of Education, University of San Agustin, Iloilo City, Philippines

Daryl L. Superio

Aquaculture Department, Southeast Asian Fisheries Development, Philippines

Reysa R. Alenzuela

Office of the Academic Affairs, Cabalum Western College, Philippines

Eimee Rhea C. Lagrama

University Archives and Records Depository, University of the Philippines

Carina C. Samaniego

University Archives, Ateneo De Manila University, Quezon City, Philippines

Florabel M. Fumar

University of the Philippines Visayas – Tacloban College

Tunchira Bunyaphiphat

Graduate School of Life and Environmental Sciences, University of Tsukuba

Toshiharu Enomae

Faculty of Life and Environmental Sciences, University of Tsukuba

Katsuki Ohe

Nara University, Nara, Japan

Yolanda Tsuda

Department of English, Kobe College, Hyogo, Japan

Mamoru Tsuda

School of Contemporary International Studies, Nagoya University of Foreign Studies, Japan

Abstract

A year after Typhoon Haiyan (local name: Yolanda) hit central Philippines, traces of destruction are still evident. Libraries and records offices were not spared from the damage. Recovery efforts on lives and properties have been attended to but the salvage of records that establish the existence of lives and properties have earned little attention. This paper described the result of the survey, assessment and documentation on the extent of damage to selected academic libraries and government offices in Eastern and Western Visayas, Philippines conducted five and nine months respectively after the disaster. It also identified the recovery, restoration and conservation initiatives done by librarians, archivists, records officers, office managers and volunteers. It further documented innovative ways done to recover flood – damaged documents. The study also determined the disaster preparedness and the level of knowledge of the library staff on disaster management. Despite the delay in the recovery efforts and assessment of the damages, the findings of the study are useful in sharing the lessons learned and identifying common areas in need of improvement. The findings can serve as baseline data for disaster preparedness projects and researches, document recovery initiatives, capacity building of records officers and librarians on disaster management, and in building back better libraries and records offices.

Keywords: disaster management, document recovery, typhoon Haiyan, Philippines

Introduction

The Philippines is visited by an average of 20 tropical cyclones each year and storm surges are common (Lagmay et al., 2015). The November 8, 2013 typhoon Haiyan (local name: Yolanda), apparently, was the strongest tropical cyclone to make landfall ever measured with sustained wind speeds of more than 310 kilometers per hour (Schiermeier, 2013). The storm

surges brought by the typhoon are one of the biggest in several decades and were primarily responsible for the 6,300 dead, 1,061 missing and 28,689 injured despite its early prediction (Lagmay et al., 2015). Based on hindcast results, the storm surge level was 5 – m and local amplification of water surface elevation due to seiche was found to be significant inside Leyte Gulf, the reason why the similar storm surge disasters occurred in 1897 and 2013 (Mori et al., 2014).

While disasters can never be prevented, effective Emergency Management can reduce its impact (Alcantara, 2014). Republic Act no. 10121, known as the “Philippine Disaster Risk Reduction and Management Act of 2010”, was enacted to strengthen the national disaster risk reduction and management system, providing for the national disaster risk reduction and management framework and institutionalizing the national disaster risk reduction and management plan (“Republic Act No. 10121 | Official Gazette of the Republic of the Philippines,” n.d.). However, the complexity of large-scale disasters in terms of size, scope and severity such that of Typhoon Haiyan, undermines existing policies and structures (Enriquez, 2013). No government could have anticipated and prepared for destruction – with massive losses to critical infrastructure, huge population displacement and casualties (Caballero – Anthony, Amul, & Trajano, 2013). The magnitude of Typhoon Haiyan overwhelmed the already limited Emergency Management capabilities of the Philippines (Alcantara, 2014) and tested the national government’s disaster management response system (Enriquez, 2013). The challenging task of undertaking search, rescue and relief operations is proving to be beyond the capacity of local and national officials (Caballero – Anthony, Amul, & Trajano, 2013). The government initiated a comprehensive rehabilitation and recovery plan and established the Office of the Presidential Assistant for Rehabilitation and Recovery (OPARR). The

office is mandated to put together an overall strategic vision and integrated short – term, medium – term, and long – term plans and programs. OPARR supervised the rehabilitation and restoration to build-back-better in four primary areas: infrastructure, social services, resettlement and livelihood (Official Gazette of the Republic of the Philippines, 2014). A year after the typhoon hit central Philippines, traces of the destruction are still evident. Recovery remains slow (McCall, 2014). Reconstruction could take as long as 10 years and cost more than rebuilding of Aceh (Francisco, 2013).

Libraries and records offices were not spared from the damage. The damage extended beyond the physical structures. The collection of these libraries and records offices such as rare books and vital office records are irreplaceable due their significant or permanent value. Without these records, the administrative and information services of these offices are negatively affected. Recovery efforts on lives and properties have been attended but the salvage of records that establish the existence of lives and properties earned little attention. After the typhoon, people were pre – occupied in recovering lives thereby placing the recovery of government offices records on hold. Recovery however will never be complete without the records from these offices that serve as basis of daily transactions, legal basis of ownership and identity of the people.

As an initial response to records recovery, the Society of Filipino Archivists (SFA) and the Professional Regulatory Board for Librarians (PRBFL) went on a mission with Japanese conservation expert last December 7 – 10 and 18-21, 2013. With their own funds and personal capacities, the team helped rescue and recover records and trained librarians and personnel of University of the Philippines Visayas – Tacloban College (UPV – TC) and some government agencies. During these missions conservation kits and supplies were given to affected offices. There was an attempt to seek funding for

freeze – dryers, but were not successful because of technicalities involved. In February 2014, the National Library of the Philippines (NLP) and the Assistive Technology Development Organization (ATDO) visited Eastern Visayas to determine the extent of damage to libraries, particularly public libraries, and cull – out stories as a first – hand information on the status of the libraries and librarians who were victims of the typhoon. As an onset to the library mapping in the affected areas, a forum / workshop on the Disaster Risk Reduction (DRR) was conducted in March 2014. Lecture on archiving stories and training on the use of the Plectalk equipment was conducted. The plans for the rehabilitation of the devastated libraries were also presented (Santos, 2014). The National Archives of the Philippines (NAP) conducted a seminar workshop on records recovery and disaster preparedness in Tacloban City on 21-25 April 2014. The seminar workshop provided free hands – on training on paper recovery and lectures on disaster preparedness and proper disposition of damaged records to 314 participants. It focused on how to salvage and recover records to government agencies affected by Typhoon Haiyan in accordance with R.A. 9470 known as “National Archives of the Philippines Act of 2007”. NAP is mandated to provide technical assistance to all requesting branches of government institutions in the planning, implementation and evaluation of their public records management and archives administration programs. Similar activities were prepared and held in Cebu City and Roxas City (National Archives of the Philippines, n.d.).

A group of volunteer Filipino librarians and archivists, and Japanese paper conservation experts worked on the recovery of records and augmented the government initiatives and programs on records recovery. Through a research grant from Japan Science and Technology (JST), teams of volunteers went to Eastern Visayas particularly in Tacloban City to render technical assistance in salvaging and recovering

documents and conduct and post-disaster assessment and survey.

This paper aims to assess and document the extent of damage to selected academic libraries and government records offices in eastern and western Visayas, Philippines conducted five and nine months after the disaster. It also identifies the recovery, restoration and conservation initiatives done by librarians, archivists, records officers, office managers and volunteers. It further documents innovative ways on the recovery of flood – damaged documents. With emphasis on libraries, the paper aims to determine the disaster preparedness and the level of knowledge of the library staff on disaster management. It also shares lessons learned and makes recommendations on how to respond disasters by salvaging and treating records.

Methodology

Substudy 1 – Impact of Haiyan to Libraries and Recovery Efforts Done by Librarians

Post disaster assessment through site visits and surveys were conducted in Western Visayas (WV) and Eastern Visayas (EV) in April 2014 and August 2014, respectively. Survey questionnaires were distributed through email and onsite among academic libraries with head librarians as respondents. Ocular inspections, interviews, and follow – up were conducted. Only twenty two (22) from WV and nine (9) from EV have complete data. The other four libraries have incomplete data and were not included in the analysis. The survey questionnaire is composed of eight parts: demographic characteristics of the head librarian, information about the library and its environment, disaster management and preparedness, impact of typhoon Haiyan, post-typhoon responses, recovery efforts and lessons learned. Preliminary findings of the survey for Western Visayas were reported in the paper of Superio & Alayon (2014).

Substudy 2 – Impact of Haiyan to Records Offices in Tacloban City

Post disaster assessment through site

visits and observations were conducted at the following selected government agencies: Civil Service Commission (CSC), Commission on Election (COMELEC), Department of Agrarian Reform (DAR), Civil Aviation Authority (CAA), Professional Regulation Commission (PRC), Department of Environment and Natural Resources (DENR), Mines and Geosciences Bureau (MGB), National Mapping and Resource Information Authority (NAMRIA) and the Land Registration Authority (LRA) located in Tacloban City, Leyte, Eastern Visayas. Records recovery and preservation needs were gathered through interviews with office directors, records officers and staff in – charge, assessment, observations, documentations and actual interaction during onsite visit, demonstration and training. The extent of damage on records, ongoing recovery efforts, disaster management practices and needs, and the lessons learned were documented.

Results and Discussion

Substudy 1 – Impact of Haiyan to Libraries and Recovery Efforts Done by Librarians

Status and Profile of the libraries

Table 1 shows the profile of libraries surveyed. Thirty one (31) academic libraries were included in the study: with 77.42% from State Universities and Colleges (SUC) (WV=17; EV=7) and 22.58% from Private (P) Institutions (WV=5; EV=2). The library buildings of these institutions were categorized as concrete (61%: WV=13; EV=6) and mixed (38.71%: WV=9; EV=3). Majority of the libraries are situated more than 100m away from the shoreline/river (n=9) or in the capital (n=11) while there are 3 (9.68%) situated less than 25m from away from the shoreline/river. Most of the libraries in this survey are located in the capital and most of them did not expect that a storm surge will reach their place. Those near the shoreline and rivers almost lost all their collections.

Only six (19.35%) of the libraries surveyed have a written disaster management plan (DMP)

mostly under the university-wide DMP and not specific to libraries. The existing DMPs were developed to ensure the safety of the personnel in the event of a disaster and minimize loss of life; no specific DMP was developed to protect records and library collection in the event of a disaster. Twenty one (21) answered that they have no DMP but intended to write and implement one. Only four have no plan or intention to write and implement one. Ellis (2009) found that each institution develops different procedures in the wake of disasters, and creating a unique disaster plan and response is a key to the successful recovery of collections. Vast resources for disaster preparedness, response and planning are available for libraries (Adcock, Varlamoff, & Kremp, 1998; Eden & Matthews, 1996; Kahn, 2012), libraries and archives (Fortson, 1992; Lyall, 2009), and libraries, archives and museums (Matthews, Smith, & Knowles, 2009). Walsh (2003) provided a ready reference on salvaging water damaged archival collections. Other useful resources are listed in brief in the Manual on Disaster Preparedness and Planning (McIlwaine, 2006) by the International Federation of Library Associations and Institutions (IFLA). The Post Disaster Needs Assessments (PDNA)

Volume B - Culture is a useful reference in conducting an integrated assessment of the

impacts of disaster effects on the sector, including repositories of heritage (libraries, archives and museums) and collections such as archival records and manuscript (PDNA Guidelines, 2014). It also aims to define the main lines of a recovery strategy that would incorporate disaster risk reduction considerations.

Due to the magnitude of impact of typhoon Haiyan to libraries, existing disaster management plans should be reviewed and revisited. For example, a phone tree could be difficult to implement or be manually carried out, as all telecommunications lines and electricity are down. Electricity came back in some areas 3 – 4 months later. Figure 1 shows the perceived damaged to library buildings and collections. Most of the totally damaged libraries are in Leyte and mostly near the shoreline. The Commission on Higher Education (CHED) reported at least 40 public and private higher education institutions (HEIs) were damaged by typhoon as of 23 November 2013 (Geronimo, 2013). There is no available summary report on the number of actual or estimated volumes of books that were lost or damaged. Figure 2 shows the fate of Eastern Visayas State University (EVSU) – Tanauan Campus Library which was totally damaged by Typhoon Haiyan (photo credit: EVSU Tanauan Library).

Table 1. Profiles of Libraries Surveyed

	Western Visayas	Eastern Visayas	Total (%)
State Universities and Colleges (SUCs)	17	7	24(77.42)
Private	5	2	7(22.58)
Physical Structure			
Concrete (Cement and Steel)	13	6	19 (61.29)
Mixed (Cement and Wood)	9	3	12 (38.71)
Distance from the Shoreline			
Less than 25 meters	2	1	3 (9.68)
25.1- 50	0	1	1 (3.23)
50.1- 75	2	1	3 (9.68)
75.1-100	3	1	4 (12.68)
100.1-500	5	4	9 (29.03)

In the capital (too far from the shoreline/river)	10	1	11 (35.48)
With Disaster Management Plan?			
Yes*	4	2	6 (19.35)
No	18	7	25 (80.65)
Intends to draft and implement DMP			
Yes	15	6	21 (84)
No	3	1	4 (16)
TOTAL	22	9	31 (100)

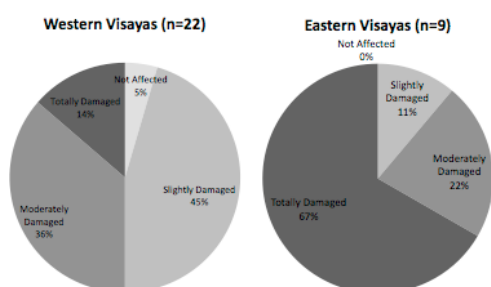


Figure 1. Perceived Damaged to Library Buildings and Collections



Figure 2. Eastern Visayas State University – Tanauan Campus Library

The study documented some of the preparations done by the libraries. Figure 3 shows the preparations done in libraries before typhoon Haiyan struck. Twenty one (WV=14: EV=7) out of 31 (67.74%) libraries surveyed covered the collections and equipment with plastic or tarpaulin. Important and valuable collections were relocated to other rooms/buildings in the university (n=18), moved to higher places (n=14) or relocated to other places (n=13). Some libraries (n=14 or 45.16%) also checked roofing and other possible water leakage. A few libraries managed to cover their windows with Ply board or GI sheets. Some used tarpaulins to cover books in the shelves. Large polyethylene bags

commonly used to transport fish fry was utilized in one fishery school to protect their important records such as certificates and student records. Luckily, the documents were spared from water – damage as the polyethylene bags just floated in the water.

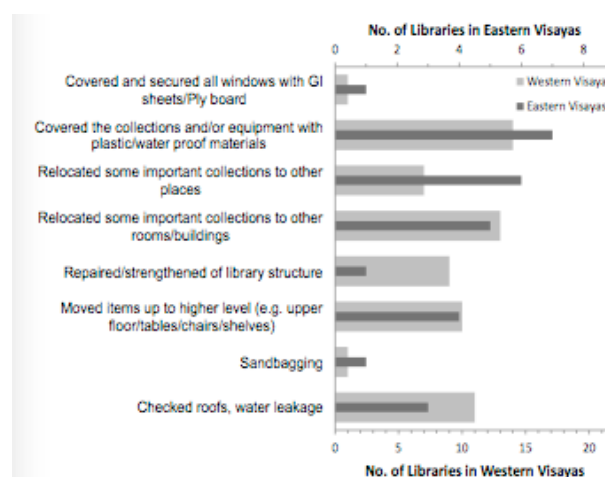


Figure 3. Preparations done in Libraries before typhoon Haiyan struck

Figure 4 shows the recovery efforts done by librarians in Eastern and Western Visayas. The top recovery efforts are removing or draining all standing / visible water inside the library (n=25), air – drying the affected collections inside (n=22), books / documents were opened and positioned vertically (n=20). Two libraries answered they have dehumidifiers but may be confused on how it differs from air-drying or “dehumidifying” manually. Dehumidifier is not commonly used in Philippine libraries. Freezers may be available in the area while freeze dryers are not. A few research institutions and laboratories may own small ones, which could

not accommodate the massive amount of books damaged by the typhoon. Also, the power supply in many areas returned after a few months.

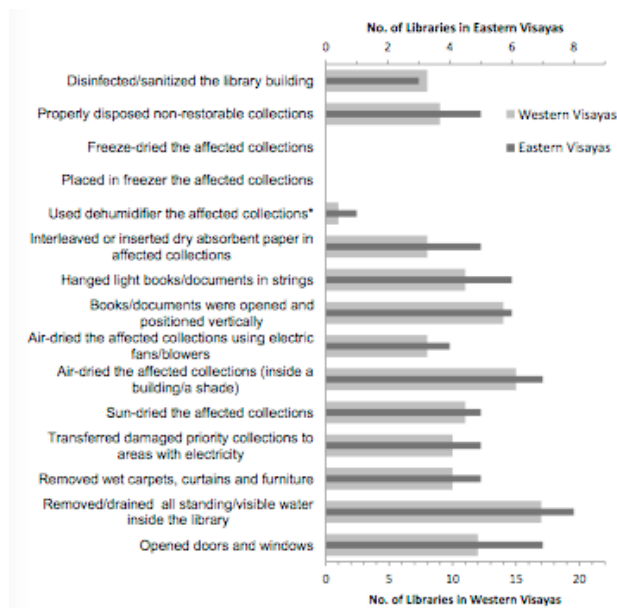


Figure 4. Recovery efforts done by librarians in Eastern and Western Visayas

Substudy 2 – Impact of Haiyan to Records Offices in Tacloban City

Selected government offices were also included in this study as the subjects and recipients of assistance in recovery efforts. Majority of them are located near the shore / river. Records recovery efforts were initiated a week (and months to some offices) after the occurrence of the disaster. Damaged records include original maps made of polyethylene and paper, administrative records, service records, voter's registry, land titles, birth and other citizenship – related documents, local licenses among others. More than 40,000 land titles were soaked in seawater and nearly 2,000 could have been lost (Reuters, 2013). To have a land title reconstituted, property owners may need to spend around PhP 40,000.00 to PhP 80,000.00 and a case has to be filed in court which was also affected by the typhoon.

Documents located on the ground floor were mostly lost due to the storm surge and / or flood. Those saved were usually soaked in seawater with sand, mud and other particles. Documents located in 2nd level of the building

were intact but soaked in rain water due to damaged windows and roofing. It was observed that records in some offices were deteriorating due to mold growth and termite infestation. Majority of the damaged records stuck together (Figure 5a), some with salt crystals forming, while some are still wet and moldy. Some documents were beyond recovery (Figure 5b) and hazardous to health. Only basic air – and sun – drying methods were applied to these records



Fig 5. Examples of documents (a) to be recovered and (b) beyond recovery

Despite the initial training given to records officers and staff on how to recover records, most of them could not start as they do not have the tools, equipment and chemicals needed. The teams of volunteers conducted basic conservation and preservation trainings and donated some basic tools and supplies, such as bamboo spatulas, sticks and brushes. The team warned the staff on the possible health hazards due to exposure to dusty and sometimes moldy salvaged documents. Hence, masks, gloves, aprons and alcohol were also distributed to personnel recovering documents in some offices. Sun drying was stopped upon the recommendation of the archivists, librarians and conservators. Indoor air drying in mesh wire and hanging lines were recommended instead and its application was also demonstrated. Silica gel and RP agent oxygen and moisture absorbent were also used on some documents.

Molds were observed more on documents

soaked in rainwater than in seawater. Salt in sufficiently higher concentration can inhibit the growth of fungi to flood-damaged paper (Higashijima, Hori, Igarashi, Enomae, & Isogai, 2012 and Gu, Kigawa, Sato, & Katayama, 2013). A method on salt water immersion was developed (Bunyaphiphat, Nakagawa – Izumi, & Enomae, 2015) to inhibit mold growth on flood – and tsunami-damaged paper. The team conducted an on-site experiment on the use of tert-butyl alcohol (TBA) to treat damaged paper. Immersion and spraying of TBA were tested for their efficacy to reduce paper adhesion, drying time, and ink – bleeding compared to water.

One office surveyed is undergoing ISO certification so the records officer kept track of affected, damaged and / or destroyed records. Another office started their digitization before the typhoon but their digital records saved in a computer were also destroyed by the typhoon. One office was granted with cash for work program from OPARR. Trimming or “grooming” was done to already dried documents and ordinary tape was used to hold edges. In this case, grooming of documents meant that damaged areas of the documents were trimmed or cut with scissors and were then placed inside plastic envelopes. Workers were taught to not cut any information and keep the documents intact, as much as possible. Archivists were not on hand to recommend alternative solutions to conserving their documents. Due to budgetary constraints, non – archival materials were used in this office. Digitization of documents was also done by outsourcing a private document scanning service company.



Fig 6. Document cleaning and recovery by casual workers under the supervision of a Japanese conservator

A cash for work program was initiated by the Japanese and Filipino team for two offices. Casual workers were hired to continue the work done by the volunteers (Figure 6) since the regular employees of offices are busy with their regular tasks. In addition, some are overwhelmed by personal loss to respond to disaster recovery needs at work similar to what Carmicheal (2005) has reported. Research volunteers demonstrated salvaging and recovering of documents to both regular employees and casual workers. They were trained in the mechanical cleaning, sorting and filing of documents. Work continued under the supervision of a regular employee, while research volunteers moved on to other offices due to their limited time to stay in Tacloban City. Figure 7 shows the output of cash for work (7 – 10 workers) for 16 days of work at an office to handle registry of voters. An average of 597 pages per day per worker with a total output of 77,328 pages of documents were cleaned and recovered. Only first aid cleaning was done by brushing off dried muds, spraying alcohol for disinfection, separating stuck papers (Figure 8). Acidity and corrosion problems were not addressed.

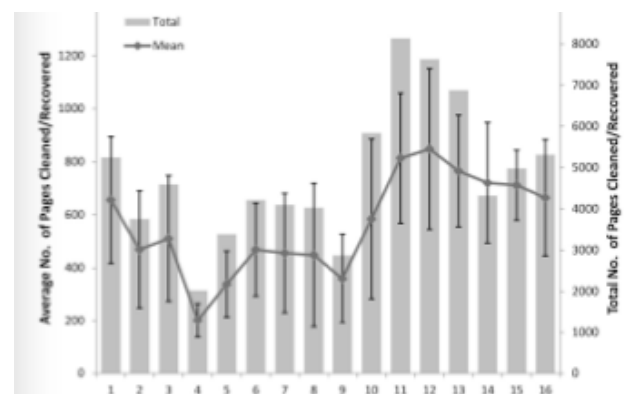


Figure 7. Number of pages cleaned by Cash for Work program casual workers



Fig 8. Example of documents to be cleaned by casual workers and basic tools being used

Conclusion

Typhoon Haiyan left death, destruction and damage in its wake. Recovery in libraries and records offices appeared to be slow as responses were not immediate, and reconstruction could take long. This paper documented and assessed the damage to selected academic libraries in the Eastern and Western Visayas. Of the 31 academic libraries surveyed, nine were totally damaged, mostly in Eastern Visayas and near the shoreline. The librarians of these libraries were well-aware of the possible damage, that Haiyan could do, and preparations were made to mitigate the impact. The most common preparation these libraries did were to cover their collection with plastic or tarpaulin (n=21), followed by relocation of the more important collections to other areas in the building (n=18). However, librarians were overwhelmed by the magnitude of impact to their library building and collection. Basic recovery efforts were made such as removing or draining all standing /visible water inside the library and air – drying the affected collections inside. As the power supply in many areas returned only after a few months, the use of dehumidifiers, electric fans and freezers was not viable.

For the select government offices, this study focused on their efforts to recover the damaged records. Four of these offices had Cash-For – Work programs to expedite the recovery and at the same time provide much needed work to the people. Two of these programs were funded by the project under the Japanese Science and Technology. In offices where such program is not available or possible, volunteer librarians and archivists provided assistance by training the staff how to do manual cleaning of their records. The instruments they used were also donated to them as well. However, much needed supplies were still lacking and still needed to help continue the recovery efforts.

Japanese paper conservators and Filipino archivists, librarians and volunteers conducted preservation treatment of official and permanent

records. The method that had been used after the East Japan Great Earthquake – Tsunami were applied to suit to the Philippine condition. Basic cleaning, re – drying, and anti – insect treatment that were feasible under limited circumstances were conducted and demonstrated. Another team also conducted an on – site experiment on the use of tert – butyl alcohol (TBA) to treat damaged paper. Immersion and spraying of TBA were tested for their efficacy to reduce paper adhesion, drying time, and ink – bleeding compared to water.

Despite the delay in the recovery efforts and assessment of the damages, the findings of the study are useful in sharing the lessons learned and identifying common areas in need of improvement. The findings can serve as baseline data for disaster preparedness projects and researches, document recovery initiatives, capacity building of records officers and librarians on disaster management, and in building back better libraries and records offices.

Lessons Learned and Recommendations

The extent of damage and delay in the recovery of records shows the state of planning at all levels, coordination and networking, response, manpower and resources in these selected libraries and offices in the Visayas. The call for investment in resilience and the call to lead this effort by addressing disaster risk as an integral part of development are by no means new or innovative (Asian Development Bank, 2013). Aside from the general concept of disaster management, one aspect which is most neglected is the disaster planning, response and recovery of documents. Initiatives and projects pertinent to records recovery after natural disasters are seldom found. Libraries and records offices have much to learn about disasters and its impact, such as what happened during the 2004 tsunami in Sri Lanka (Amarasiri, 2005) and the hurricane Katrina in the U.S. (Carmicheal, 2005). Amarasiri (2005)

described the devastation caused by the tsunami to public, school and other kinds of libraries and public records and the rebuilding efforts done. Carmicheal (2005) shared the lessons learned after an assessment of the impact of Hurricane Katrina on record-keeping facilities including public buildings and libraries. Strudwick (2006) listed selected bibliography detailing disasters in libraries, as well as disaster planning and recovery resources.

Records recovery responses were not immediate and some of the initial efforts were not the standard in the records management practice. One obvious reason for the delay in paying attention to records was that the staff and/or the records officers / managers in these offices had to deal with reconstructing their lives first. While the efforts in recovering the destroyed and affected records were underscored in this paper, it is important to note that these people were also victims. Some of them suffered from loss of property, loss of family members, incurred physical injuries, and in the first days after the disaster, did not have access to food and clean water especially in Eastern Visayas. Obtaining security for themselves and their family were of utmost importance. After securing their safety and ensuring stability, next came rebuilding of their lives and property. Assistance from the national government, volunteer associations and international community was not just a welcome relief, but is truly needed, especially in the period of recovery. The delay in the requests for materials and the idea that the records are not on top priority added to the inefficient recovery and absence thereof. It is suggested, that there should be a provision of supplies and equipment for recovery in every area or region. It should be stored in a strategic location in a building, preferably on a higher level / floor, most likely not stricken by flood or water leak. Allotment of budget specifically for supplies and equipment necessary to carry out disaster preparedness (e.g. gloves, masks, flashlights, plastic bins, ziploc bags,

brushes, spatulas, trash bags, plastic sheets, etc.) will help institutions minimize the effects of disaster to their records. In addition, valuable time and money immediately after the onset of disaster can be saved if such supplies are readily available. Martha & Otomo (2007) was able to preserve the available important maps and records damaged by the tsunami in Aceh, Indonesia with the use of freezers and freeze dryers. The project was assisted by Japan International Cooperation Systems (JICS) and Japan International Cooperation Agency (JICA). The procurement of freezers and freeze dryers could have expedited the recovery process in Philippines.

Filipino society has evolved certain “coping mechanisms” to come to terms with the constancy of hazards and to mitigate the worst effects of disasters (Bankoff, 2003). A rapid response team should be established and provided with adequate resources as suggested by Amarasiri (2005). The team should be able to respond and visit the affected area the soonest time possible in collaboration with local librarians, records officers, archivists, among others. The collaboration could result to fast identification of vulnerable resources, rapid assessment of damage and taking of remedial action. Featherstone, Lyon, & Ruffin (2008) described the multiple roles of librarians during and in the aftermath of the disasters, and underscored the value of collaborative relationships between libraries and local and national government disaster management agencies and organizations. While some methods of treatment are common sense, specialized training is more important to minimize irreversible damage to records. Such trainings are offered by select organizations like the NAP and SFA. Good intentions in the absence of preparation, training, and coordination confer little benefit (Cranmer & Biddinger, 2014). Librarians and information professionals should be equipped with skills in disaster response and recovery. Several capacity building seminars and workshop were

initiated by SFA, PLAI, National Commission for Culture and the Arts – National Committee on Libraries and Information Services (NCCA-NCLIS), Association of Special Libraries in the Philippines (ASLP) in partnership with Special Libraries Association (SLA) – Asian Chapter, and other library and librarian associations. Librarians and staff in charge of records in all of the affected institutions should undergo training in disaster preparedness, response and recovery to minimize the effects of disasters on records in their custody. Periodic trainings and review of policies regarding disaster management is also recommended. Librarian-volunteers learn a lot from the experience with guidance from expert archivists and conservators.

Amarasiri (2005) emphasized the need to keep libraries on the reconstruction agenda. Affected libraries have lost their collections, furniture and worst, their library buildings. While the government allotted for the rehabilitation and reconstruction of damaged SUCs (Geronimo, 2013), rebuilding of libraries and its collections remains a challenge. One state university surveyed is charging Php 50.00 only per student for the library fee. Some librarians have initiated in their own capacities to solicit donations for books and other library resources. For rebuilding efforts, the Philippine Librarians Association, Inc. (PLAI) launched the outreach program “One Million and Counting Project: Book Drive for Libraries, Victims of Calamities” to solicit not only books but financial donations and relief goods. Several library organizations, IFLA and the American Library Association (ALA) responded to the call. ALA initiated the Philippines’ Library Relief Fund and raised \$6,000.00 from generous donors. The World Bank also donated through PLAI, 60 used system units and monitors to Eastern Visayas. Philippine libraries, library and librarians association, book publishers, distributors and dealers, and individual donors also launched donation drives. Books and other library materials, canned goods, blankets, clothing and

medicines were distributed to stricken areas. The NLP embarked on massive outreach drive to address the needs of the public libraries devastated by the typhoon Haiyan and earthquake in Bohol. Some school libraries received donations from local and foreign organizations and donors. U.S. author Mitch Albom partnered with the National Book Store Foundation and launched a drive to rebuild at least 10 libraries in Tacloban City. The Department of Science and Technology – Science and Technology Information Institution (DOST – STII) developer of Science and Technology Academic and Research – Based Openly Operated Kiosk Station (STARBOOKS) turned over several kiosks in affected areas. STARBOOKS is a one – stop – shop for Science & Technology information that can be accessed even without Internet.

There is an extensive array of disaster risk management tools and mechanisms available in Asia and the Pacific but that they are not being applied as often, or as effectively, as they could be (Asian Development Bank, 2013). An institutionalized Disaster Management Program specifically for records will greatly help eliminate or reduce the risks and effects of disasters to institutions and its vital records. This plan should cover all the stages: Preparedness (Pre – Disaster), Response (Immediately After) and Recovery (Post – Disaster) and must be implemented institutionally. However, in many cases, respondents stated that while their institutions have existing Disaster Management Plans, these do not include the records of their offices. Rather, they are focused on the safety and rescue of personnel in such events. Also, because the value of records is not realized until after these are lost or damaged, they are never included in their institution’s Disaster Plan. It is also important to identify the vital records before a disaster occurs (Carmicheal, 2005). Vital records must be systematically and comprehensively duplicated and should be sent to remote, secure storage. Digitization can be introduced to secure the valuable records on the

final processing (Martha & Otomo, 2007). In initiating digitization projects certain standards must be followed. Support from the national government, main offices and local government must be solicited by libraries and records offices. Libraries, records offices, institutions, government and non – government must join forces to create a sound disaster management system. The importance of disaster planning and risk reduction needs serious and concerted efforts with a multi – layered cooperation and coordination between all the stakeholders. A coordinated approach to resilience is encouraged (Asian Development Bank, 2013). Of paramount importance is the integration of records recovery in disaster plan. Practical measures could be employed to minimize risk. Librarians and records officers must adopt disaster management response and recovery strategies. Further study should be conducted to document recovery efforts beyond this study, structural repairs or modifications made, impacts of trainings, integration of records recovery in disaster management plan, and adoption of practices and strategies in mitigating impact and managing risks in libraries and records offices.

Acknowledgment

The authors are grateful to Ms. Emma Rey and Ms. Lourdes David for reviewing the manuscript; and to all librarians, records officers, managers, casual workers for participating in this study. The study in Western Visayas was supported by SEAFDEC / AQD and by a grant from the International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC) while the study Eastern Visayas was supported by a grant from the Japan Science and Technology.

References

- Adcock, E. P., Varlamoff, M.-T., & Kremp, V. (1998). *IFLA principles for the care and handling of library material*. International Federation of Library Associations
- and Institutions, Core Programme on Preservation and Conservation.
- Alcantara, P. (2014). Lessons learned from the Philippine government's response to Typhoon Haiyan. *Journal of Business Continuity & Emergency Planning*, 7(4), 335–346.
- Amarasiri, U. (2005). Rising from the Wreckage: development of tsunami – affected libraries in Sri Lanka. *IFLA Journal*, 31(4), 307 – 314.
- Asian Development Bank. (2013). *Investing in Resilience: Ensuring a Disaster-Resistant Future*. Asian Development Bank. Retrieved from <http://www.adb.org/publications/investing-resilience-ensuring-disaster-resistant-future>
- Bankoff, G. (2003). *Cultures of Disaster: Society and Natural Hazards in the Philippines*. Psychology Press.
- Bunyaphiphat, T., Nakagawa-Izumi, A., & Enomae, T. (2015). Influences of saltwater immersion on properties of wood-cellulosic paper. *Carbohydrate Polymers*, 116, 255 – 260.
- Caballero-Anthony, M., Amul, G. G., & Trajano, J. (2013). Typhoon Haiyan's aftermath : testing resilience in complex emergencies. *RSIS Commentaries*, 211/2013.
- Carmicheal, D. W. (2005). *11 Lessons That Katrina Taught Me*. Retrieved from <http://www.statearchivists.org/prepare/11%20lessons%20katrina%20taught%20me.pdf>
- Cranmer, H. H., & Biddinger, P. D. (2014). Typhoon Haiyan and the Professionalization of Disaster Response. *New England Journal of Medicine*, 370(13), 1185 – 1187.
- Eden, P., & Matthews, G. (1996). Disaster management in libraries. *Library Management*, 17(3), 5 – 12.
- Ellis J. (2007). Lessons learned: the recovery of a research collection after Hurricane Katrina. *Collection Building*, 26(4), 108 – 111.
- Enriquez, K. L. (2013, December 18). *Disaster Response Put to the Test: Lessons from*

- Typhoon Yolanda | In Asia*. Retrieved from <http://asiafoundation.org/in-asia/2013/12/18/disaster-response-put-to-the-test-lessons-from-typhoon-yolanda/>
- Featherstone, R. M., Lyon, B. J., & Ruffin, A. B. (2008). Library roles in disaster response: an oral history project by the National Library of Medicine. *Journal of the Medical Library Association : JMLA*, 96(4), 343 – 350.
- Francisco, R. (2013, November 27). *Philippines' typhoon rebuilding may cost more, last longer than Aceh*. Reuters. Manila. Retrieved from <http://www.reuters.com/article/2013/11/27/philippines-typhoon-rebuilding-idUSL4N-0JC2JQ20131127>
- Fortson, J. (1992). *Disaster Planning and Recovery: A How-to-Do-It Manual for Librarians and Archivists*. Neal-Schuman.
- Geronimo, J. Y. (2013, November 23). *40 universities, colleges damaged by Yolanda*. Rappler. Retrieved from <http://www.rappler.com/move-ph/issues/disasters/typhoon-yolanda/44439-nov23-ched-yolanda-update>
- Gu, J.-D., Kigawa, R., Sato, Y., & Katayama, Y. (2013). Addressing the microbiological problems of cultural property and archive documents after earthquake and tsunami. *International Biodeterioration & Biodegradation*, 85, 345 – 346.
- Higashijima, K., Hori, C., Igarashi, K., Enomae, T., & Isogai, A. (2012). First aid for flood-damaged paper using saltwater: The inhibiting effect of saltwater on mold growth. *Studies in Conservation*, 57, 164 – 171.
- Kahn, M. B. (2012). *Disaster Response and Planning for Libraries* (Third Edition.). American Library Association.
- Lagmay, A. M. F., Agaton, R. P., Bahala, M. A. C., Briones, J. B. L. T., Cabacaba, K. M. C., Caro, C. V. C., ... Tablazon, J. P. (2015). Devastating storm surges of Typhoon Haiyan. *International Journal of Disaster Risk Reduction*, 11, 1 – 12.
- Lyall, J. (2009). *Disaster Planning for Libraries and Archives: Understanding the Essential Issues*. National Library of Australia Staff Papers. Retrieved from <http://www.nla.gov.au/openpublish/index.php/nlasp/article/view/979>
- Martha, S., & Utomo, D. (2007). Some efforts for re-mapping the area and securing the available documented articles affected by tsunami in Aceh, Indonesia. *E-Perimetron*, 2(4), 261–269.
- Matthews, G., Smith, Y., & Knowles, G. (2009). *Disaster Management in Archives, Libraries and Museums*. Ashgate Publishing, Ltd.
- McCall, C. (2014). Scars of typhoon Haiyan still run deep 1 year on. *The Lancet*, 384(9955), 1656 – 1657.
- McIlwaine, J. (2006). *IFLA Disaster Preparedness and Planning: A Brief Manual*. IFLA-PAC.
- Mori, N., Kato, M., Kim, S., Mase, H., Shibutani, Y., Takemi, T., ... Yasuda, T. (2014). Local amplification of storm surge by Super Typhoon Haiyan in Leyte Gulf. *Geophysical Research Letters*, 41(14), 2014GL060689.
- National Archives of the Philippines. (n.d.). *Records Recovery and Disaster Preparedness Seminar Workshop in Tacloban City*. Retrieved from <http://www.nationalarchives.gov.ph/?p=4557>
- National Economic and Development Authority. (2013). *Reconstruction Assistance on Yolanda*. Retrieved from <http://www.gov.ph/downloads/2013/12dec/20131216-RAY.pdf>
- Official Gazette of the Republic of the Philippines. (2014). *Ronda Yolanda: Latest rehabilitation updates*. Retrieved from <http://www.gov.ph/2014/08/20/ronda-yolanda-latest-rehabilitation-updates/PDNA-Guidelines>. (2014) (Vol. B - Culture). Global Facility for Disaster Reduction and Recovery, World Bank, European Commission, United Nations Development Programme.
- Republic Act No. 10121 | Official Gazette of the Republic of the Philippines. (n.d.). Retrieved from <http://www.gov.ph/2010/05/27/republic-act-no-10121/>

- Reuters. (2013, December 23). *Leyte land titles lost, damaged by Yolanda*. ABS-CBN News. Retrieved from <http://www.abs-cbnnews.com/focus/12/23/13/leyte-land-titles-lost-damaged-yolanda>
- Santos, A. (2014). The Philippines, Libraries and Hurricane Yolanda: ATDO ties up with NLP: Forum on Inclusive Disaster Risk-Reduction. *Focus on International Library & Information Work*, 45(2), 44 – 46.
- Schiermeier, Q. (2013). *Did climate change cause Typhoon Haiyan?* *Nature*. doi:10.1038/nature.2013.14139
- Strudwick, J. (2006). A Selected Bibliography of Library Disaster Stories: Before, During, and After. *Public Library Quarterly*, 25(3-4), 7 – 16.
- Superio, D. L., & Alayon, S. B. (2014). *Typhoon Yolanda: Its impacts to the libraries in northern Panay, Western Visayas, Philippines*. Presented at the 40th IAMSLIC Conference and 2nd PIRG Meeting, Noumea, New Caledonia.
- Walsh, B. (2003). *Salvage Operations for Water Damaged Archival Collections: A Second Glance*. Canadian Council of Archives. Retrieved from <http://cool.conservation-us.org/waac/wn/wn19/wn19-2/wn19-206.html>