

PREVENTING DISASTER : QUANTIFYING RISKS AT THE UP DILIMAN UNIVERSITY LIBRARIES

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DISCUSSION

Brief Background



Methodology



Data Collection and Analysis



Findings, Conclusions and Recommendations

UP DILIMAN LIBRARY SYSTEM

- 500 Hectares
- 33 Unit Libraries
- 1 Main Library
- Library, Archives, Museum in One

Gonzalez Hall

Home to the University Library,
University Archives, and Bulwagan ng
Dangal (University Heritage Museum)



The University of the Philippines
DILIMAN
CAMPUS
MAP

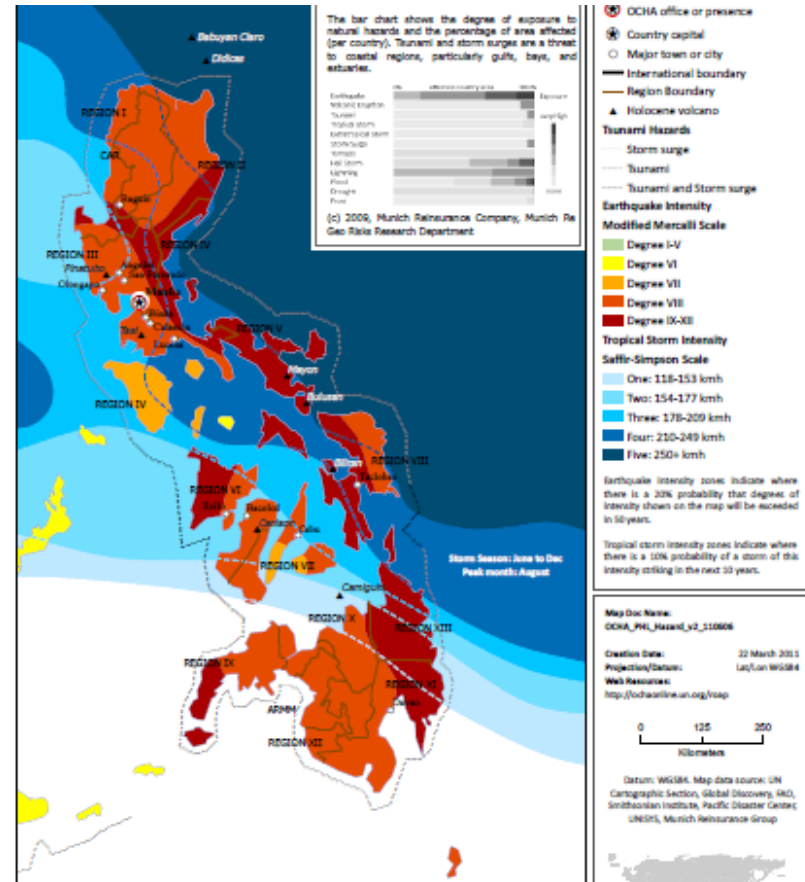
katipunan ikot tuki
philcoa, pantranco, sm



Most Disaster-Prone Country (2000)

By the Center for Research on the Epidemiology of Disasters

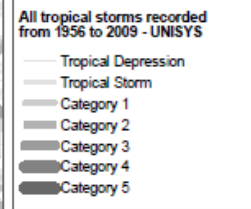
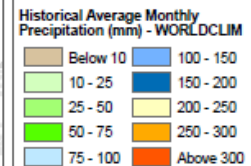
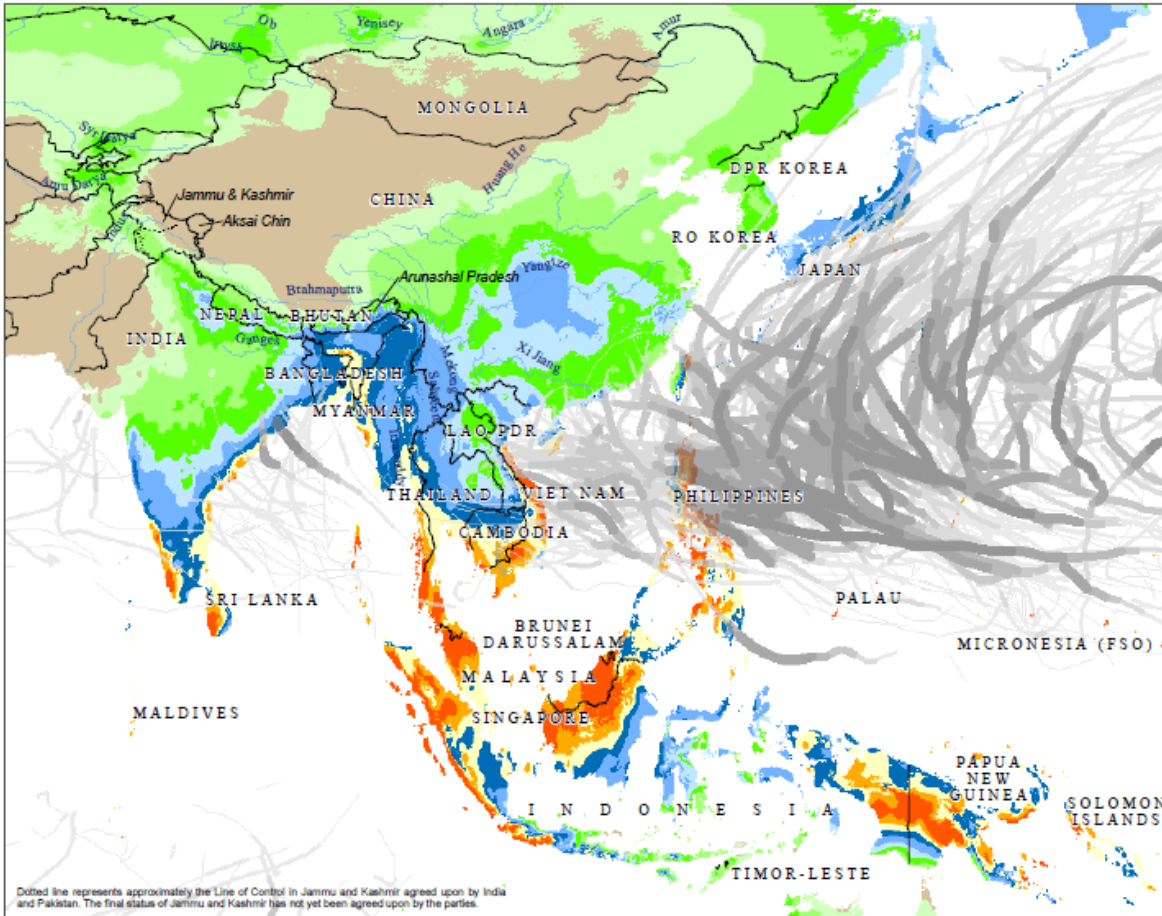
Map: United Nations Office for the Coordination of Humanitarian Affairs. Regional Office for the Asia and the Pacific. (2006). *Hazard maps*



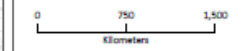
Historical Monthly Data on Average Precipitation and Tropical Storms

Average monthly precipitation and all tropical storms recorded for the month between 1956 and 2009

OCTOBER



Map Doc Name:
OCHA_ROAP_Monthly_Clima_Oct_v3_110519
Creation Date:
19 May 2011
Projection/Datum:
Behrmann
Web Resources:
<http://ochaonline.un.org/roap>



Map data source(s):
WORLDCLIM, UNISYS, UN Cartographic Section, Global Discovery

Disclaimer:
The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.



Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

GOVERNMENT SUPPORT



National Disaster
Coordinating
Council

- Disaster Response



National Disaster
Risk Response and
Management
Council

- Disaster Preparedness

But these
agencies are
for saving
human lives,
not cultural
properties

REPUBLIC ACT NO. 10066 (OR THE NATIONAL HERITAGE ACT OF 2009)

...for the protection and conservation of the national cultural heritage, strengthening the National Commission for Culture and the arts (NCCA) and its affiliated cultural agencies, and for other purposes (p. 1)

In times of armed conflict, natural disasters, and other exceptional events that endanger the cultural heritage of the country, all National Cultural Treasures or national historical landmarks, sites or monuments shall be given priority protection by the Government. (Art III, Section 7)

DEFINITION OF TERMS

Risk Management

- a formal method for collecting information about something (in this case, collections) and identifying current or potential risks, prioritizing these risks according to their predicted occurrence and severity, and then using that information to decide what activities will best contribute to the longevity of the collection (Matthews & Feather, 2003).

DEFINITION OF TERMS

Risk Analysis

- The evaluation of the possibility of incurring loss, damage, or injury and a determination of the amount of risk that is acceptable for a given situation or event. (Moses, 2005).

Risk Assessment

- The collection, organization and analysis of information regarding risks. (Matthews & Feather, 2003).

DEFINITION OF TERMS

Disaster Management

- Steps taken by a library or archives to prepare for serious damage to facilities, collections, and/or personnel in the event of a major occurrence such as a fire, flood, or earthquake, including preventive measures, formulation of an effective disaster plan, maintenance of adequate insurance, etc. (Reitz, 2010)

DEFINITION OF TERMS

Hazard

- a possible source of peril, duress or difficulty (Webster's Third New International Dictionary of the English Language Unabridged, 1971).
- a condition that creates or increases the chance of loss (Rejda, 2008).

Risk

- dangerous element or factor, often used with qualifiers to indicate that degree or kind of hazard (Webster's Third New International Dictionary of the English Language Unabridged, 1971).
- an uncertainty concerning the occurrence of a loss (Rejda, 2008).

METHODOLOGY

RISK FORMULA



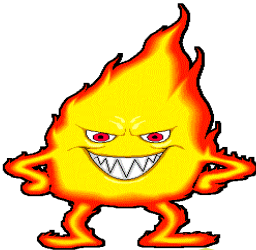
TYPES OF RISKS

INTENSITY	F R E Q U E N C Y		
	Constant	Sporadic	Rare
Catastrophic			Type 1
Severe		Type 2	
Gradual/Mild	Type 3		

AGENTS OF DETERIORATION (MICHALSKI) (I)



Physical forces



Fire



Water



Criminals

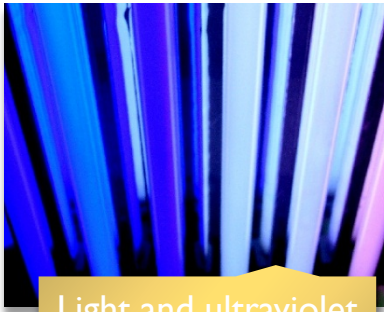


Pests



Contaminants

AGENTS OF DETERIORATION (MICHALSKI) (2)



Light and ultraviolet radiation



Incorrect temperature



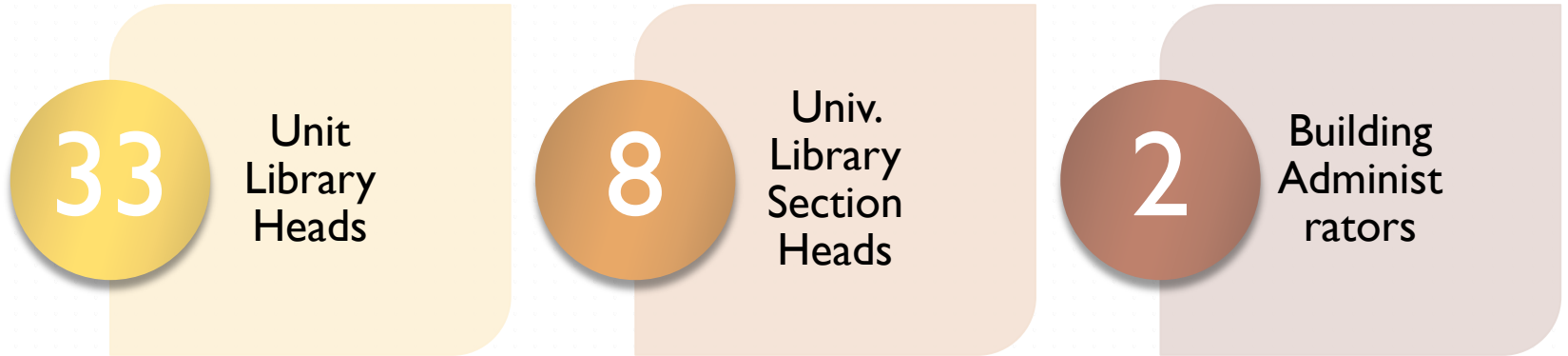
Incorrect relative humidity



Dissociation
(custodial neglect)

DATA COLLECTION AND ANALYSIS

RESPONDENTS



HAZARDS (I)

Building damage/Collapse

- geologic activity, e.g. earthquakes, volcanoes; building construction, etc.

Civil disturbance

- including conflicts, terrorism, wars, riots

Chemical spills/leaks

- gas leaks or improper storage conditions

Collapse of shelving

- overloaded shelves

Fire

- arson, electrical fires or incendiary items

Flooding

- faulty plumbing, leaky roof

Insect/vermin infestation

- Food particles, influx of infected items

Mold outbreaks

- Influx of infected items

HAZARDS (2)

Pilferage

- defined as the act of stealing small amounts of articles

Power outage

- Loss of electricity

Sewage leak

- faulty plumbing

Storm/typhoon damage

- Meteorological occurrence

Theft

- defined as the act of stealing property

Tornadoes

- Meteorological occurrence

Vandalism

- uninformed/disinterested users, inadequate security

GRADING THE HAZARDS : PROBABILITY

1	Rare (1 in 100 years)
2	Sporadic (1 in 50 years)
3	Unusual (1 in 10 years)
4	Likely (happens every couple of years)
5	Almost certain (1 per year)

GRADING THE HAZARDS: EFFECT

1	Insignificant (loss of ≤ 1 working day / no damage to collection / no injuries)
2	Low (loss of ≤ 2 working days / up to 5% damage to collection / no injuries)
3	High (loss of ≤ 3 working days / up to 10% damage to collection / minor injuries)
4	Severe (loss of ≤ 4 working days / up to 25% damage to collection / major injuries)
5	Catastrophic (loss of 5+ working days / up to 50% or more damage to collection / major injuries and fatality/ies)

RANKING THE RISKS

High 18.75 – 25.00	Must be eliminated or significantly reduced
Significant 12.50 – 18.74	Must be monitored; mitigation plan must be in place to reduce risk
Moderate 6.25 – 12.49	Must be monitored, but less rigorously and are less urgent in nature
Low 1.00 – 6.24	Demand less attention, but not to be totally ignored

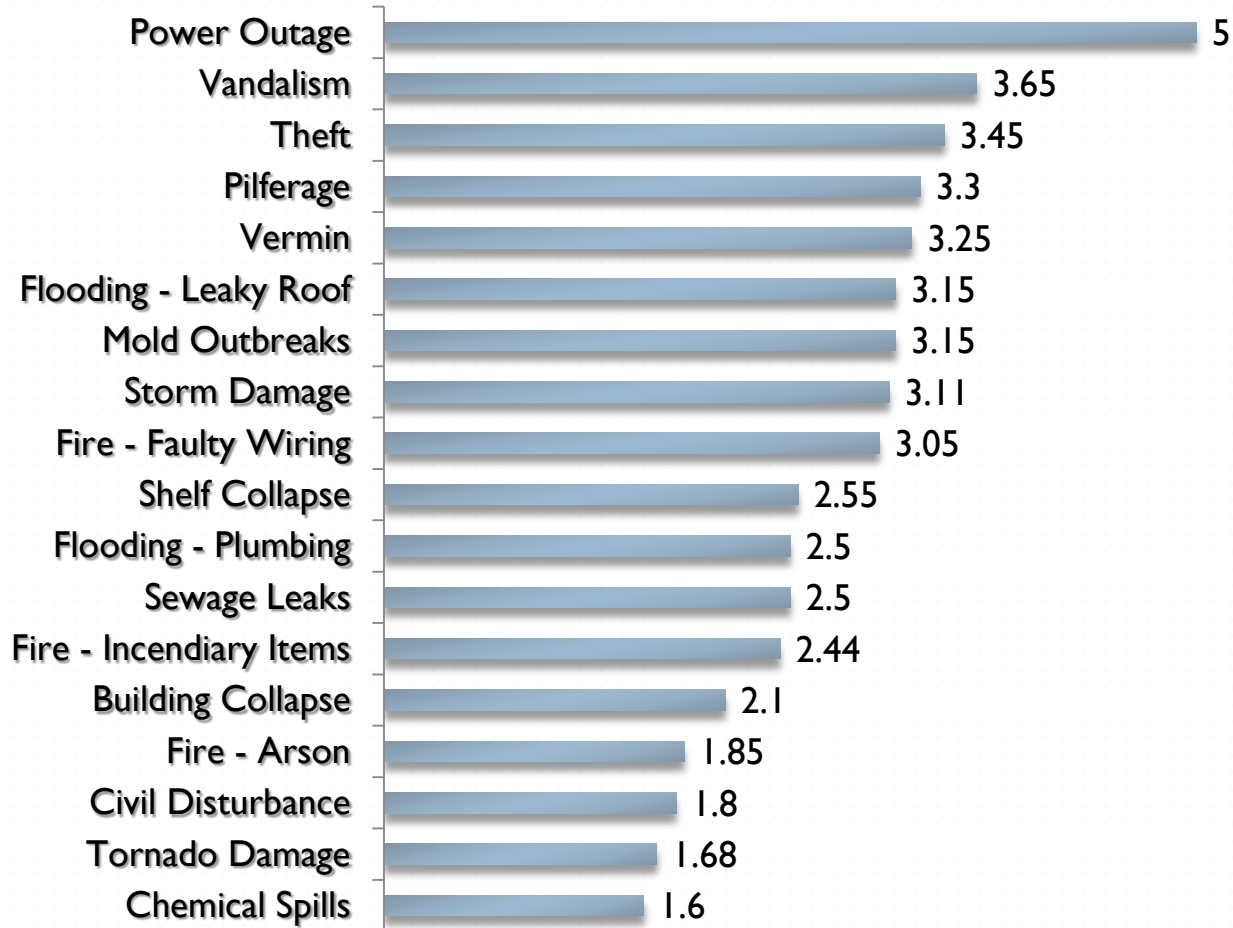
ADDITIONAL RESPONDENTS' INPUTS

Probable Cause

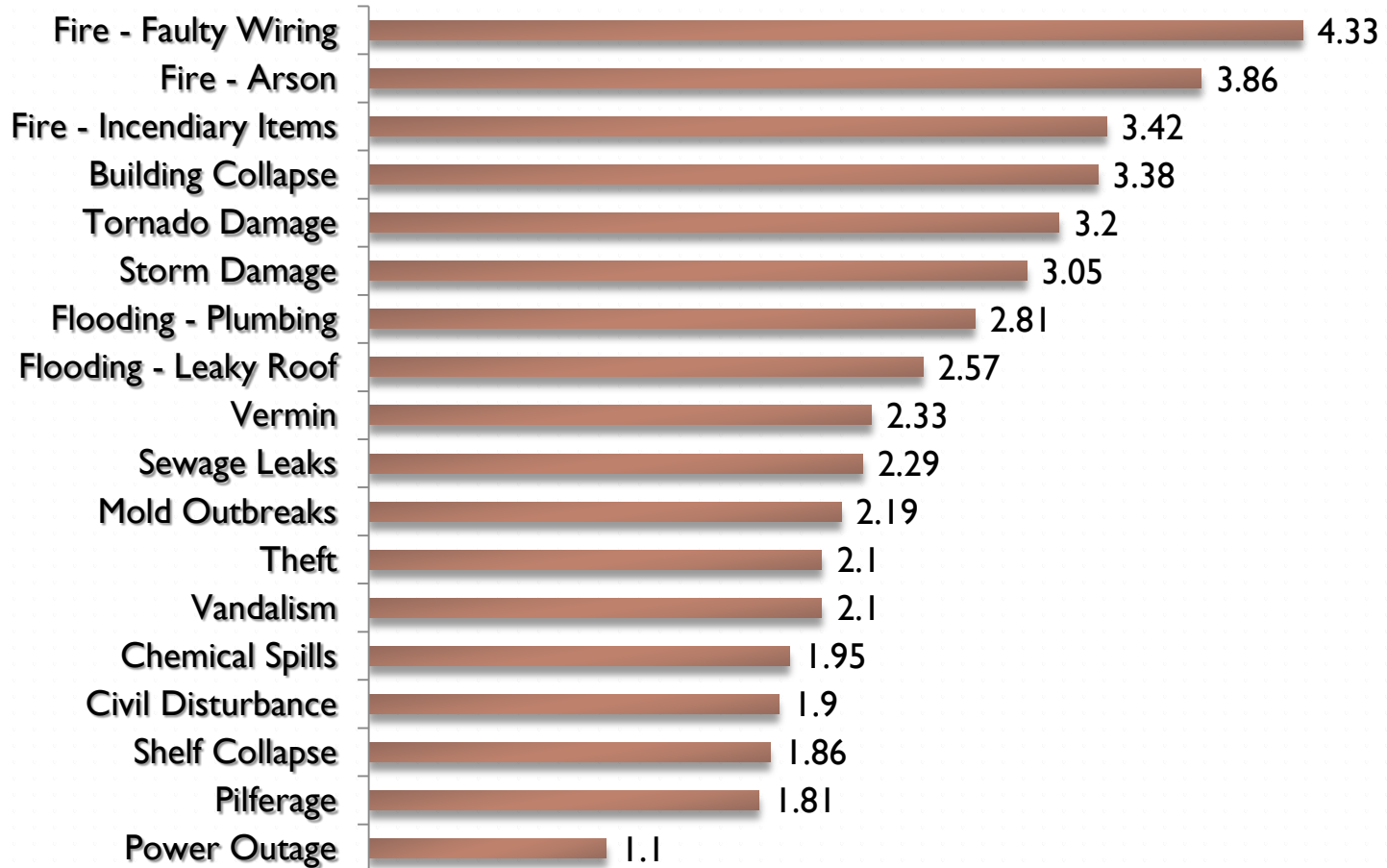
Suggestions for preventive action

Additional hazards not included in the list

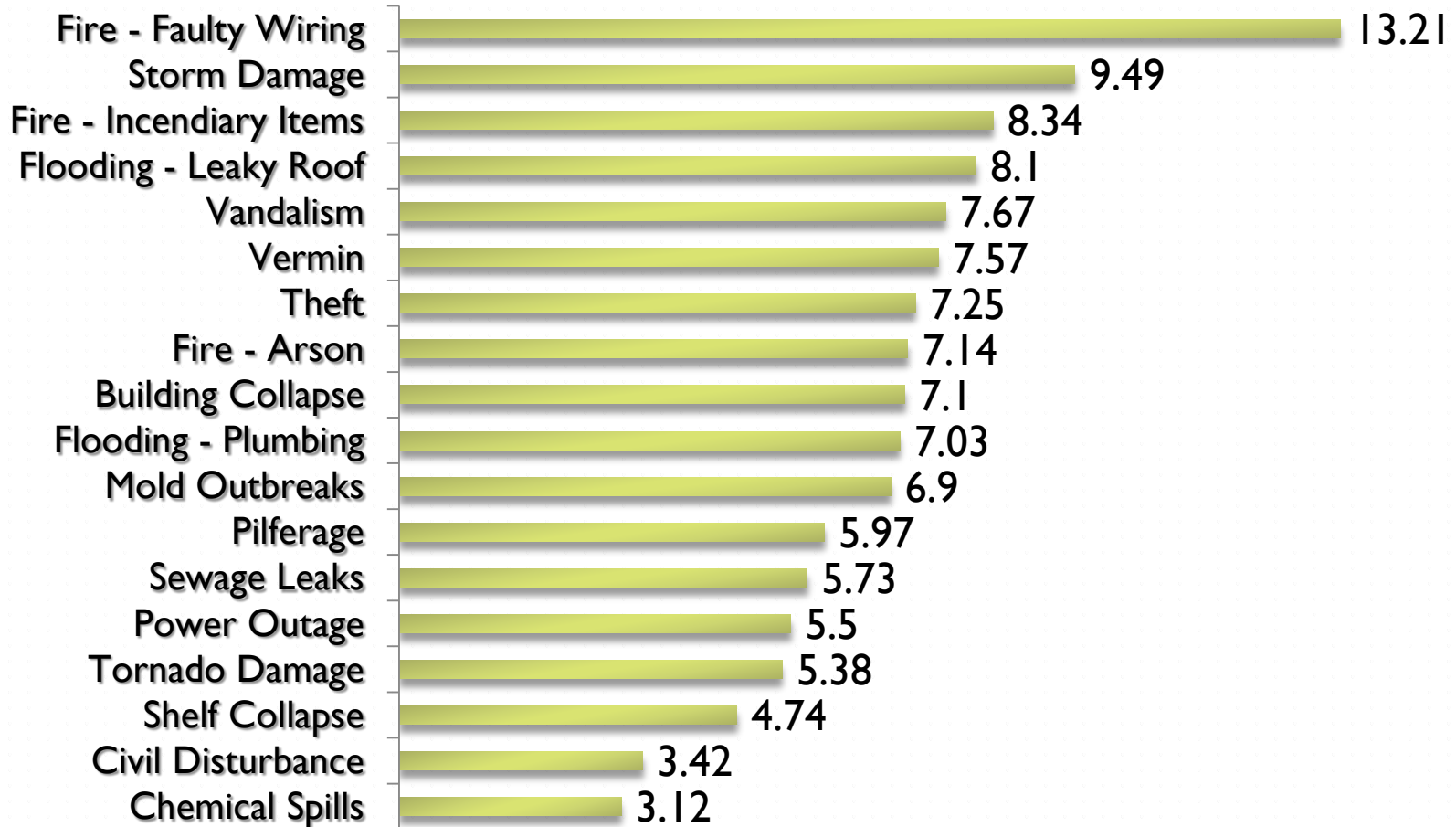
PROBABILITY RATINGS



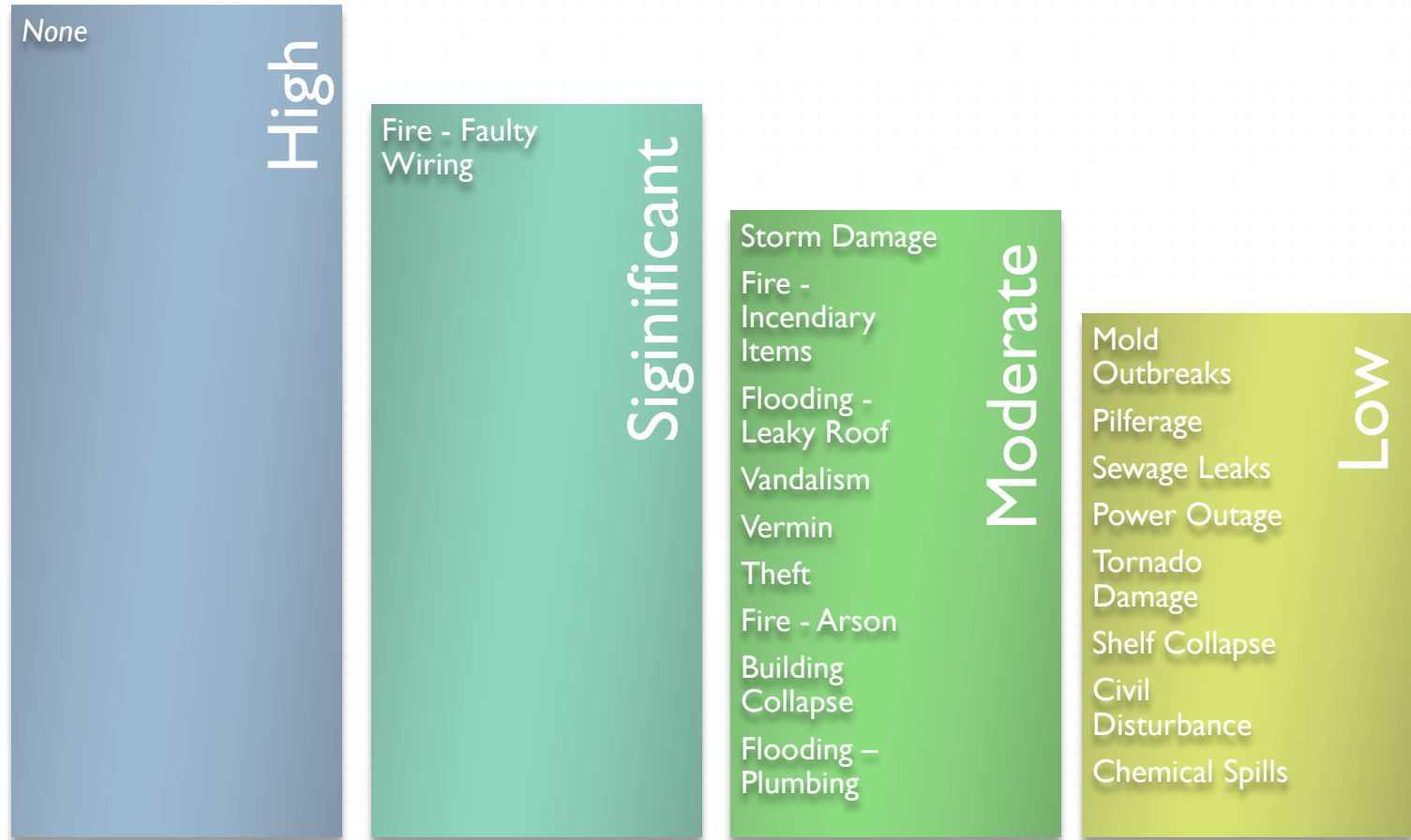
EFFECT RATINGS



RISK RATINGS



RISK GROUPS



FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

FIRE AND WATER

Study reinforces the fact that these 2 elements (in whatever guise) are the biggest threats to library collections

Libraries must eliminate or reduce triggers to these hazards.

MOST PROBABLE HAZARDS

Power Outage

- Periodic occurrences
- System failure
- Inclement weather

Vandalism

- Only discovered after the fact
- User education and awareness helps in its reduction

Theft

- CCTV and inspection of bags reduce incidences

MOST DESTRUCTIVE HAZARDS

Fire Due to
Faulty
Wirings

Fire Due to
Arson

Fire Due to
Incendiary
Items

TOP 3 HAZARDS

Fire due to Faulty Wirings

- Significant – 13.21
- Evaluate existing measures, update periodically
- Upgrade electrical wirings

Storm Damage

- Moderate – 9.49
- Evaluate existing measures, update as needed
- Exercise vigilance in times of inclement weather

Fire due to Incendiary Items

- Moderate - 8.34
- Evaluate existing measures, update as needed
- Enforce preventive measures

NO *HIGH* THREATS

Respondents'
perception
towards
disasters

Disconnect
towards
certain
threats

MODERATE THREATS

Needs less monitoring, but librarians must remain vigilant regarding triggers.

Some libraries already have existing preventive measures in place

LOW THREATS

Libraries
can choose
to ignore or
not monitor
these
threats

Consider
placing
mitigating
measures

Product/Outcome

Risk Profile

Risk	Fire - Faulty Wiring			
Probability Rating (1-5)	3			
Effect Rating (1-5)	4			
Risk Rating (R=PxE)	12			
Priority Rank				
Existing Preventive Measures	Fire extinguishers in various points in the library Automatic sprinklers in the stacks area of the archives Buckets of sand in various points of the library			
Mitigation Plan	Periodic check-up of wall outlets and wirings No excessive use of any one wall outlet Report immediately when a faulty wall outlet is found Train staff how to operate fire-extinguishers, put out fires Only authorized / certified personnel can make repairs Install smoke detectors in stack areas			
Contingency Plan	Use fire extinguishers to put out fire Call fire personnel			
Monitoring Plan	Monitor semi-annually Update whenever training programs have been conducted and after inspection of CMO			
Tracking History	Initials:	Date:	Initials:	Date:
	Initials:	Date:	Initials:	Date:

CONCLUSION

Risk ratings allow for logical ranking of threats

Hazards are identified

Preventive measures can be placed

Responses can be drawn up

ADDITIONAL RESOURCES

- ▶ Northeast Documentation Conservation Center,
<http://nedcc.org/home.php>
- ▶ International Committee of the Blue Shield,
<http://archive.ifla.org/VI/4/admin/protect.htm>
- ▶ National Archives and Records Administration – Preservation,
<http://www.archives.gov/preservation/internal/>
- ▶ Office for the Coordination of Humanitarian Affairs – Maps,
<http://ochaonline.un.org/roap/MapCentre/HazardMaps/tabid/3725/language/en-US/Default.aspx>

Diolch Kiitos Sheun umesc Kasih Mamnoon Todah
 Shnorhakalutun Shokriya Mamnoon Dzekuje
 Gamsahapnida Ngiyabonga Dzekuje Shokrun
 Dank Gamsahapnida Takk Te°ekkur Dekuju/Dekujeme Hvala
 Kop Salamats Mercigr Gra or al Xie Ači
 Dhanyavaad Dhanyavaad Dhanyavaad Dhanyavaad
 Dhanyavaad Khopjai Kun Arigatou Faleminderit
 Tack krap Daw Waad Dhanyavaad Kun Shukriya or Dhonebaad
 Grazzi raibh Gracias Wandree Blagodariya Gomapsupnida Euxaristo Kun Shukriya ederim Hain Dhan daa
 Fyrir Terima Enkosi Danke dank