

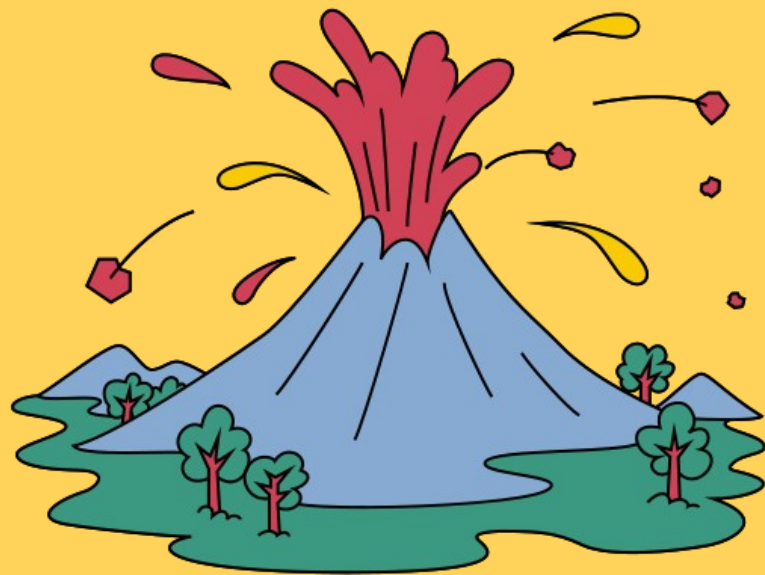
The background of the slide features a colorful illustration. On the left, a volcano with a red cone is erupting, sending a large plume of grey smoke into the yellow sky. In the foreground, two people are running away from the viewer towards the left. The ground is cracked with jagged black lines. In the middle ground, there are several buildings; some are intact, while others are partially collapsed. A yellow car is driving on a road that is also cracked. On the right side, two firefighters in red uniforms and yellow helmets are working amidst a pile of rubble and debris. The overall scene depicts the aftermath of a major disaster.

# **DISASTER PREPAREDNESS & MANAGEMENT IN LIBRARIES**

**BEST PRACTICES**

**DR. GITAU NJOROGE**

# OUTLINE



- DEFINITIONS
- THEORETICAL FOUNDATIONS



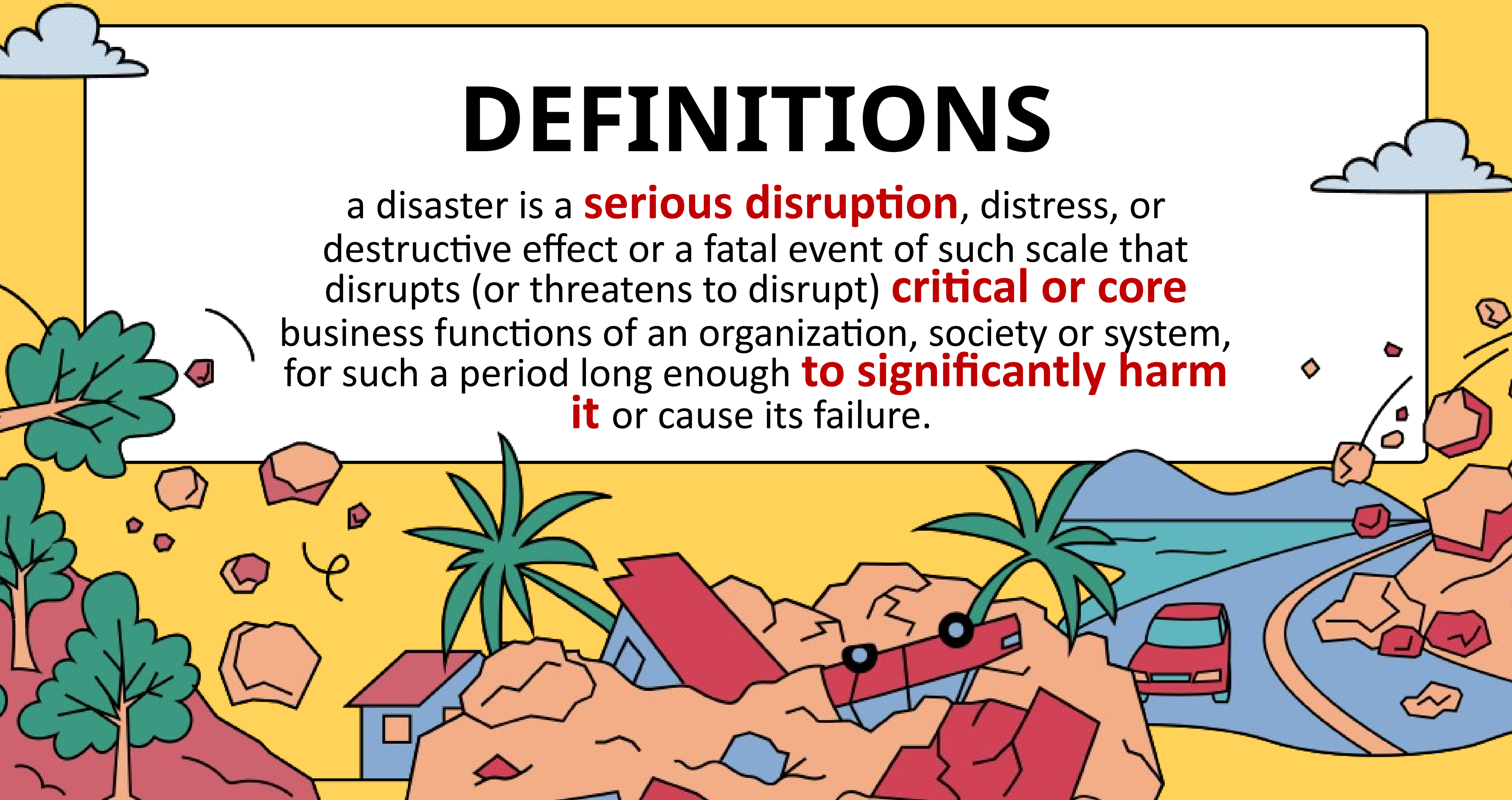
- TYPES OF DISASTERS
- DISASTER PREPAREDNESS AND MANAGEMENT



- PRESERVATION AND CONSERVATION
- CASE STUDIES
- LESSONS LEARNT

# DEFINITIONS

a disaster is a **serious disruption**, distress, or destructive effect or a fatal event of such scale that disrupts (or threatens to disrupt) **critical or core** business functions of an organization, society or system, for such a period long enough **to significantly harm it** or cause its failure.





# NOTE

It is the **consequences** of a disastrous event and the **inability** of its victims to **cope** with them that constitute a disaster, not the event itself.





# CATEGORIES

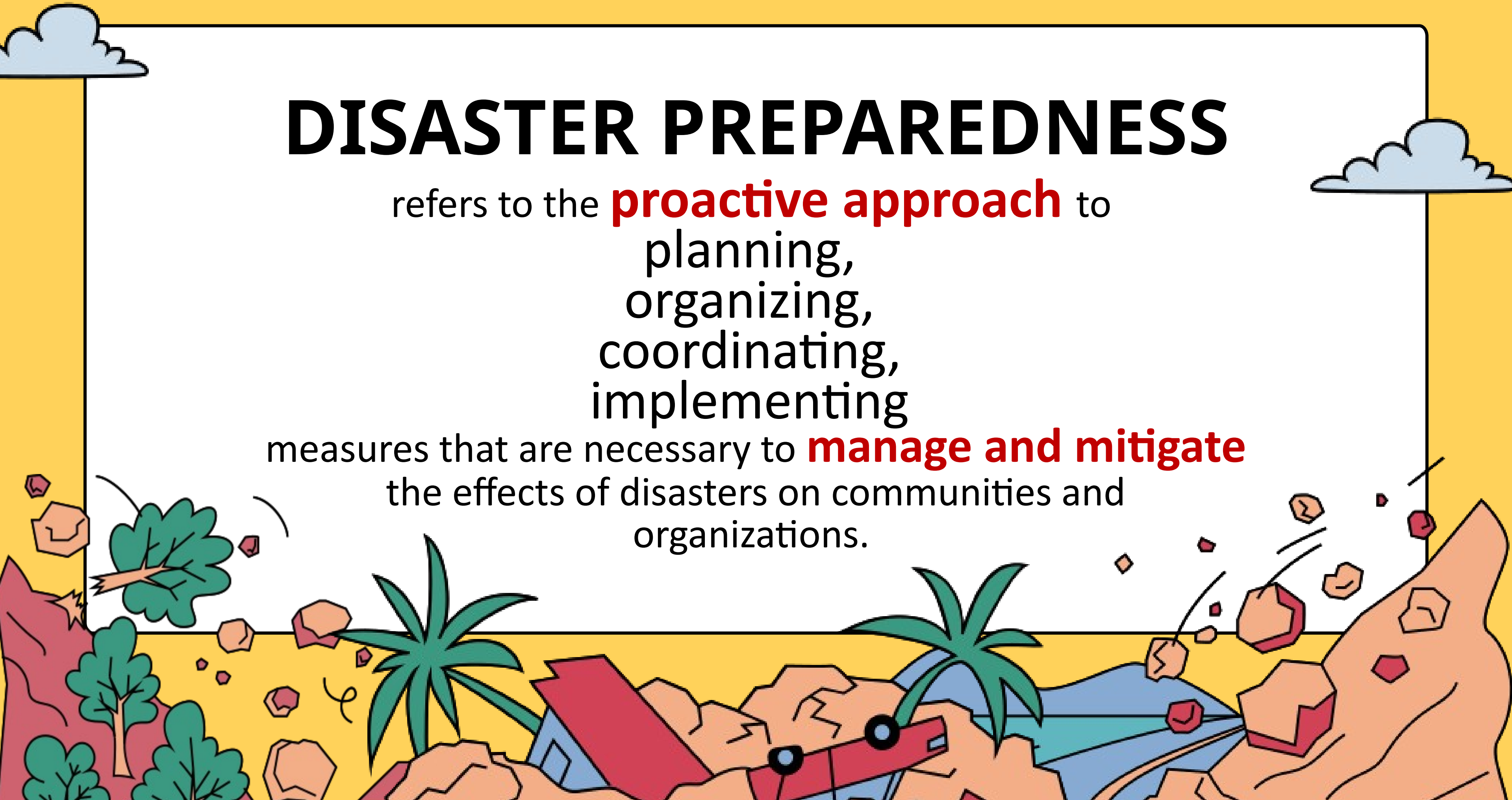
**Natural**

**Man-made**

- **Man-made disasters are always far worse than natural disasters.**

# DISASTER PREPAREDNESS

refers to the **proactive approach** to  
planning,  
organizing,  
coordinating,  
implementing  
measures that are necessary to **manage and mitigate**  
the effects of disasters on communities and  
organizations.



# IN LIBRARY CONTEXT

disaster preparedness and management is focused on

- **protecting resources**
  - **maintaining information services**
- **ensuring the safety of patrons and employees**
  - **preserving the continuity of operations.**



# INVOLVES

**regular risk assessments**

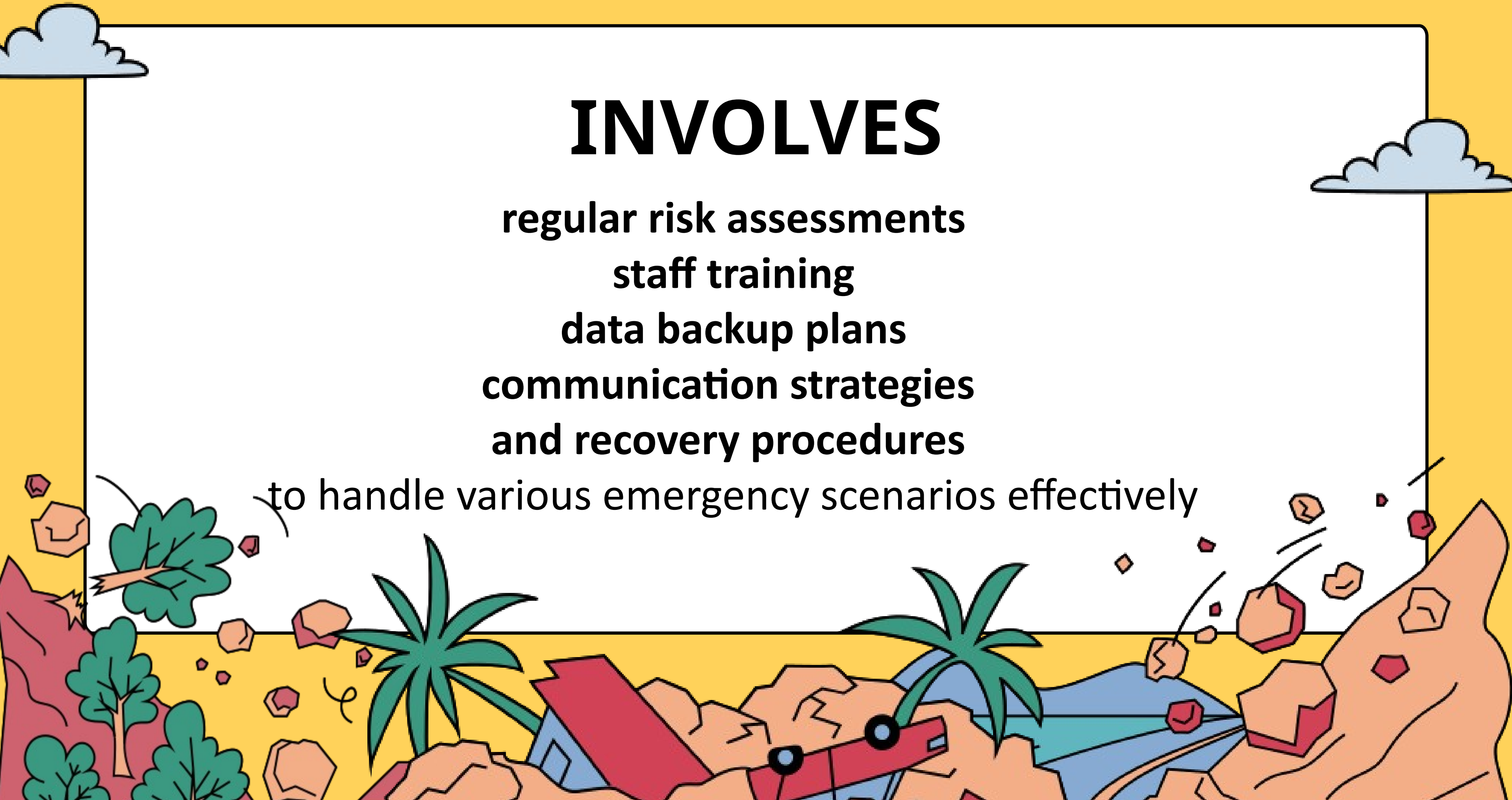
**staff training**

**data backup plans**

**communication strategies**

**and recovery procedures**

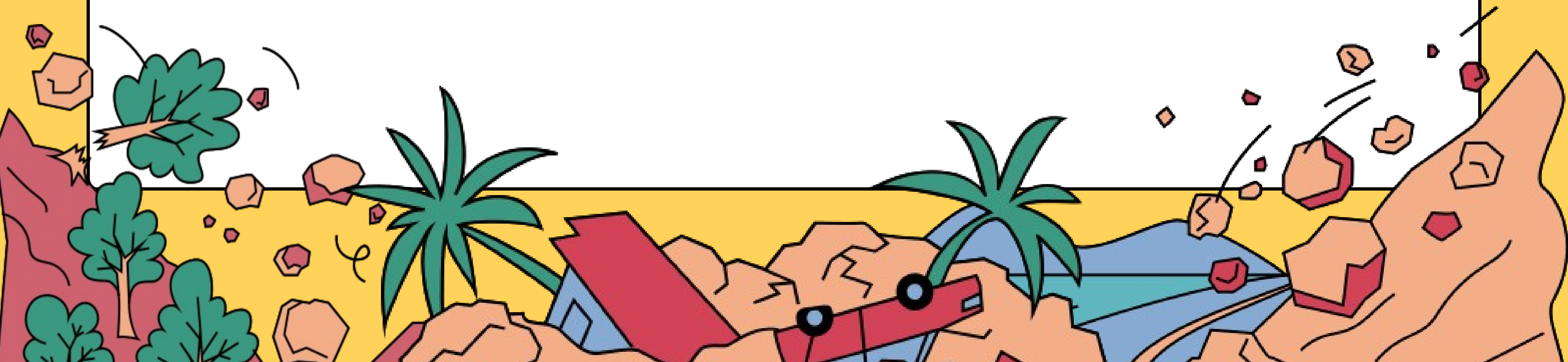
to handle various emergency scenarios effectively





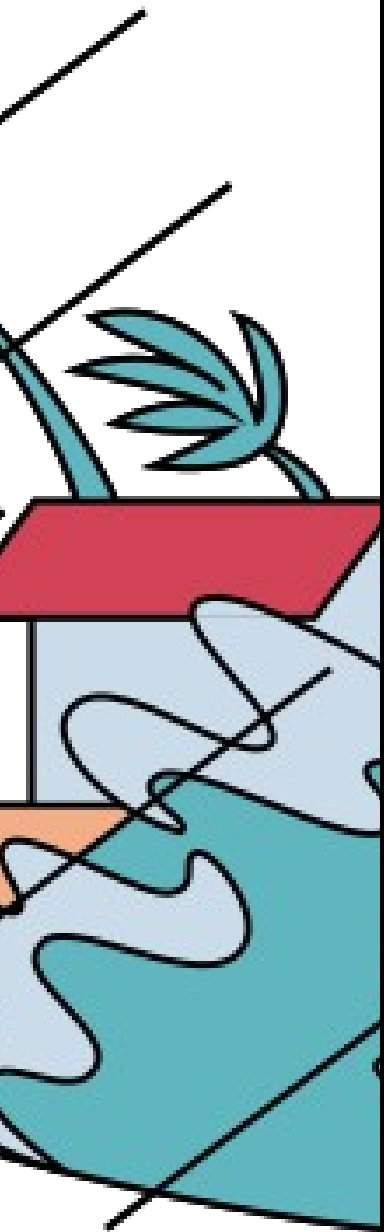
# FOCUSED ON..

- protecting resources
  - maintaining information services
- ensuring the safety of patrons and employees
- and preserving the continuity of operations



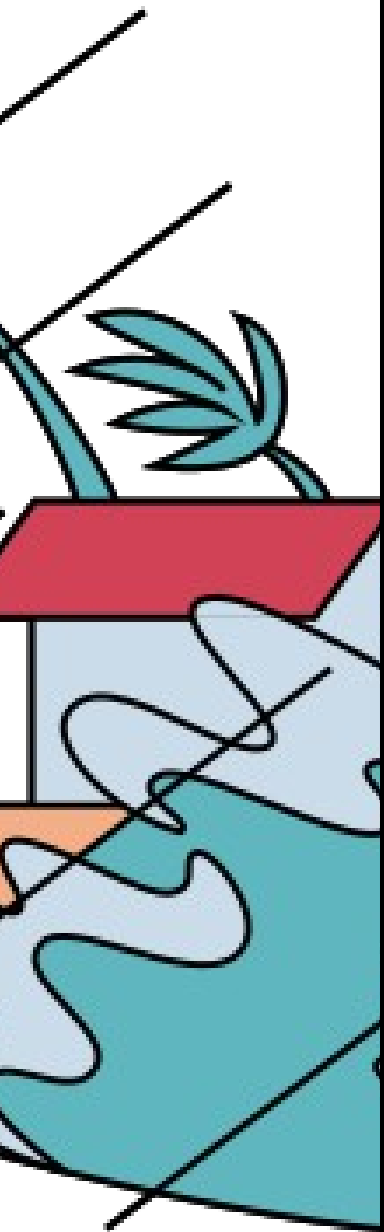
# Chaos theory

- summarized by Edward Lorenz (1965) teaches us to **expect the unexpected.**
- Chaos is the science of surprises, of the nonlinear and the unpredictable.
  - Chaos Theory deals with nonlinear things that are effectively **impossible to predict or control**



# Chaos theory

- theory explains a disaster as a crisis which is a **low-probability, high-impact event** that threatens the organization's viability and is characterized by **ambiguity of cause, effect, and means of resolution**, as well as by a belief that **decisions must be made swiftly.**







# **TYPES OF DISASTERS**

**Natural**

**Technological**

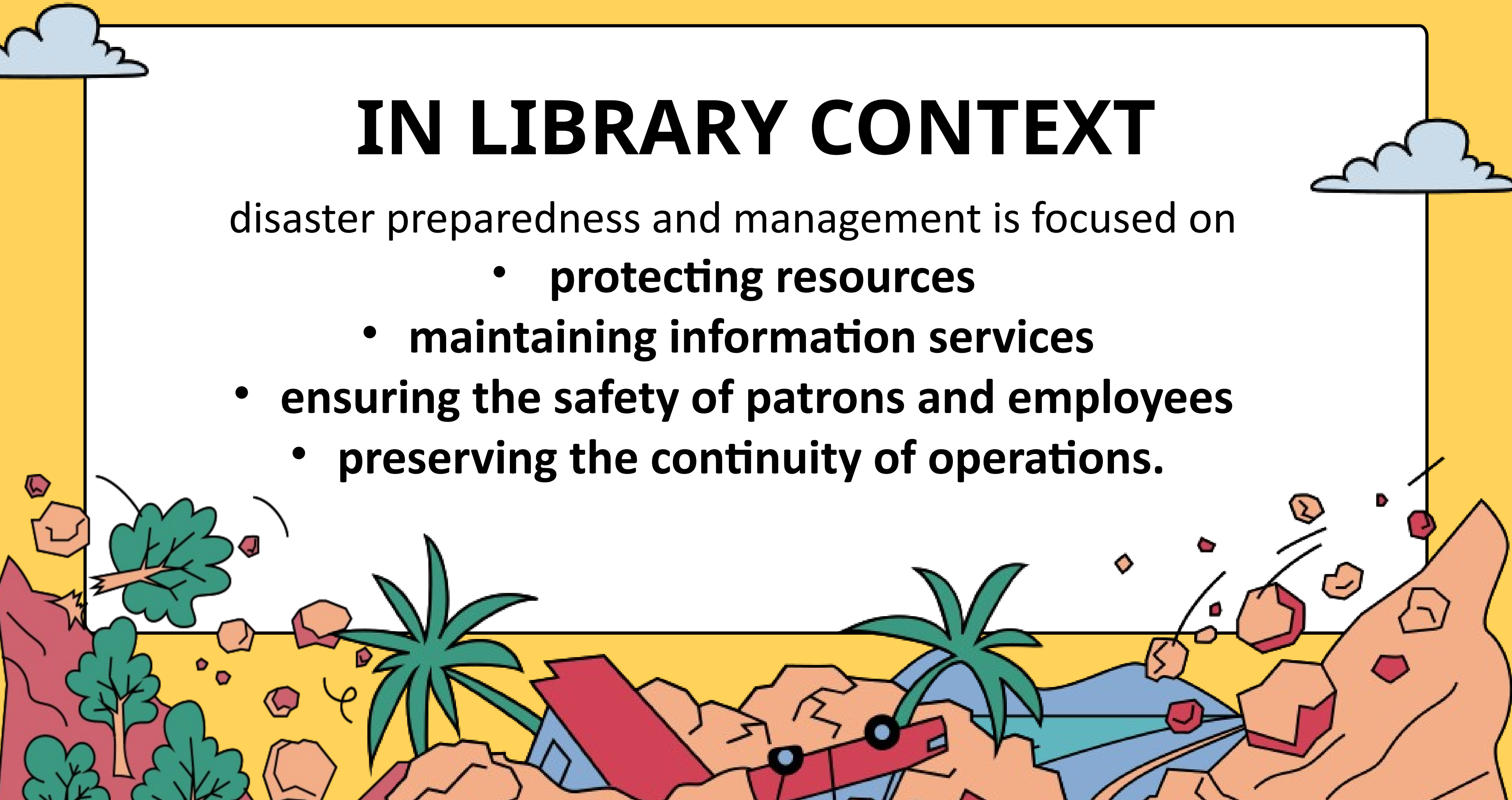
**Human Caused**



# IN LIBRARY CONTEXT

disaster preparedness and management is focused on

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# NATURAL

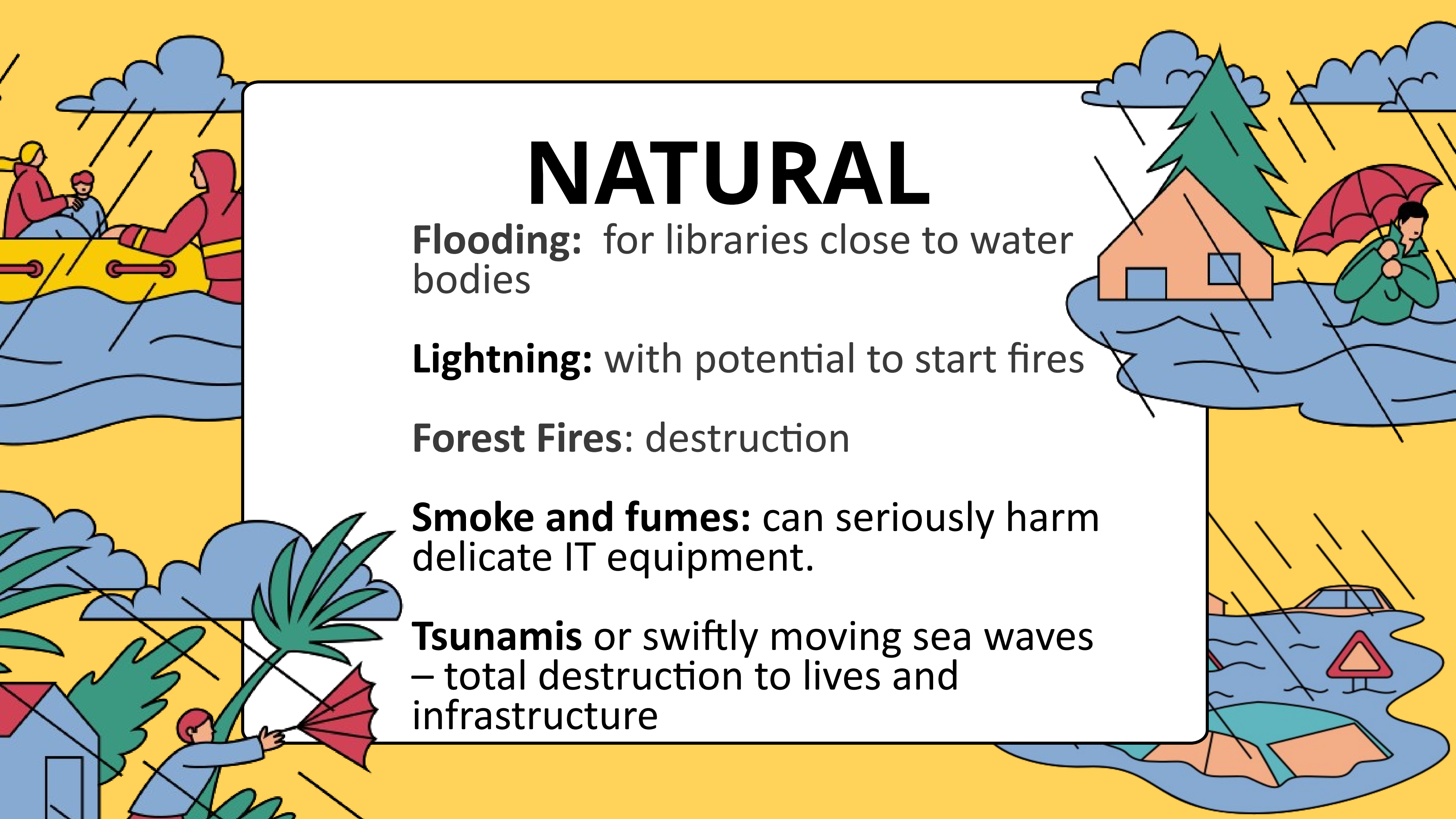
**Flooding:** for libraries close to water bodies

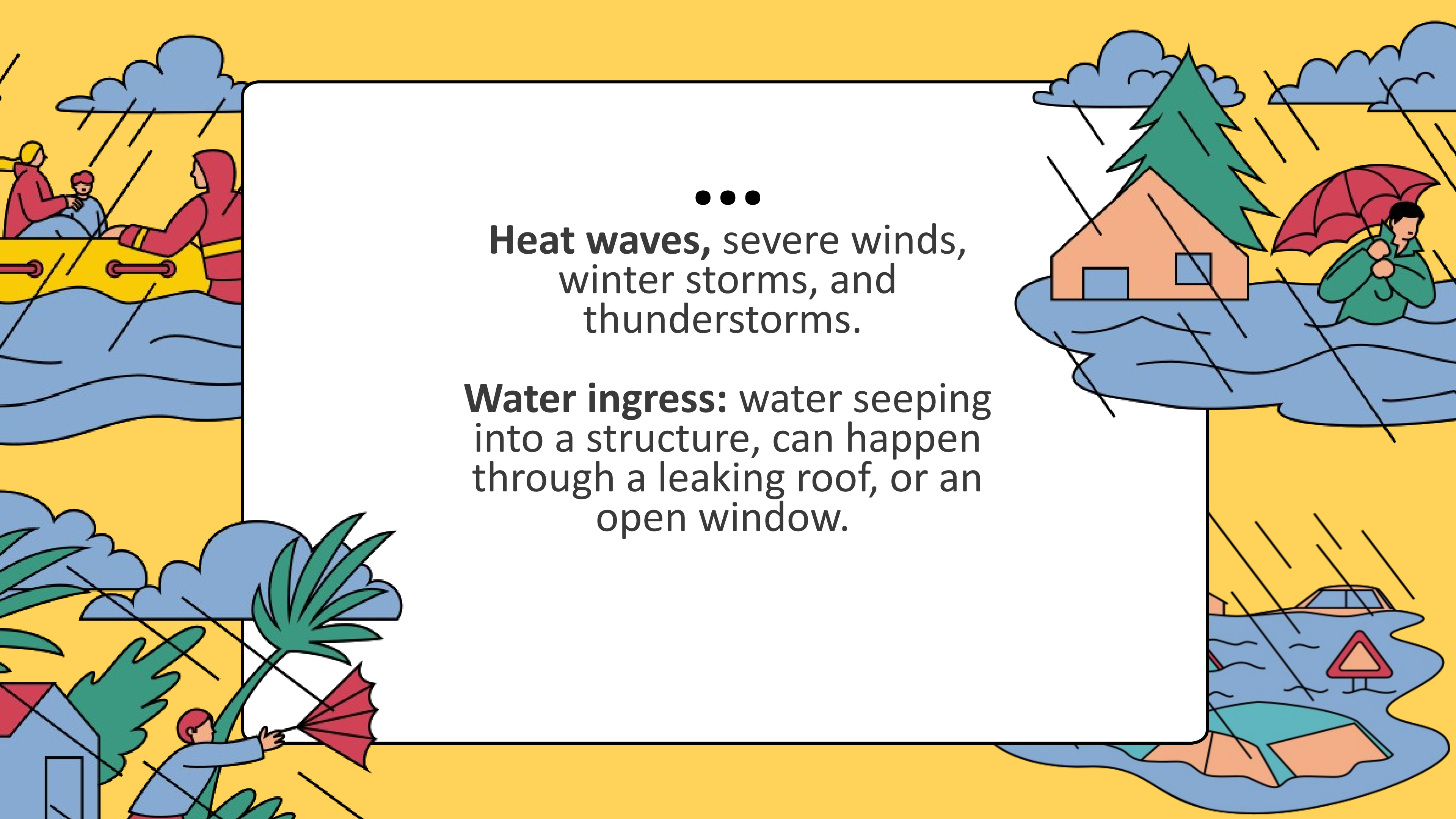
**Lightning:** with potential to start fires

**Forest Fires:** destruction

**Smoke and fumes:** can seriously harm delicate IT equipment.

**Tsunamis** or swiftly moving sea waves – total destruction to lives and infrastructure






...

**Heat waves,** severe winds,  
winter storms, and  
thunderstorms.

**Water ingress:** water seeping  
into a structure, can happen  
through a leaking roof, or an  
open window.





# HUMAN

**War :** for centuries of humanity history

**Rioting and civil disturbances**

**Hostile groups and individuals**

**Human caused Fires**

**Vandalism**

**Terrorism**







# TECHNOLOGICAL

**Power failures** power surge and spikes

**Cyber-attacks** may result in data loss  
electrical equipment to overload and  
hence loss of data.

**Inadvertent deletion:** can all cause  
data loss

**Media degradation:** an outdated  
medium causing deterioration.

# DISASTER PREPAREDNESS AND MANAGEMENT

## PREPARATION


- entails taking **corrective action** such as continuous planning, organizing, and training as a critical cornerstone that focuses on **readiness to respond to incidents, hazards, and emergencies.**
- The **preservation of the library's collections and facilities** becomes a top priority once the safety of humans is guaranteed

## MANAGEMENT

- It is the **organization, planning, and application of measures**, preparing for, responding to, and initial recovery from disasters.
- focuses on plans to **decrease the impact of disasters** and **build back better.**
- Disaster Management encompasses **response, recovery, mitigation, and continuity planning.**



# DISASTER PREPAREDNESS & MANAGEMENT

- Employing both **preventive** and **mitigation** methods together is essential.
  - A **high degree of readiness** enables libraries to respond to a range of disruptive problems and offer well-coordinated and efficient crisis management.
  - Librarians must possess the knowledge, abilities, and tactics necessary to **anticipate and handle** changes in the face of any crisis.
- 



# **DISASTER PREPAREDNESS**

**1. CONDUCT RISK ASSESSMENT**

**2. PREPARE DISASTER PLAN**

**3. CONDUCT STAFF TRAINING / DRILLS**

**4. DESIGN POST-DISASTER RECOVERY AND  
RESTORATION**





# 1. CONDUCT RISK ASSESSMENT

- **Identifies vulnerabilities** unique to library collections (rare books, archives, digital assets)
- **Prioritizes protection** of irreplaceable cultural heritage materials
- **Quantifies** potential financial and cultural losses
- **Helps secure** funding for preventive measures
- **Creates awareness** among staff about potential threats
- Forms the **foundation** for all disaster preparedness activities

*Why?*





# RISK ASSESSMENT...

- Form a **dedicated assessment team** including library staff and facility managers
- **Identify and inventory all valuable and vulnerable** collections
- Assess **building infrastructure** (roof, plumbing, electrical systems)
- Evaluate **geographical** and **environmental risks** (floods, earthquakes, humidity)
- Analyze **historical incidents** and **near-misses**
- Calculate the **potential impact and likelihood** of each identified risk
- Document **findings** in a **comprehensive report** with clear recommendations

*How?*





## 2. PREPARE DISASTER PLAN

- Create a structured **disaster preparedness and response manual** tailored to different types of emergencies.
- Establish **designated roles** and responsibilities for staff during an emergency.
- Develop a **communication system** to quickly inform patrons and employees about emergencies through alarms, SMS alerts, or public announcements.
- Install **backup power supplies**, such as generators, to maintain essential operations during power outages.

*How?*



A colorful illustration of a tropical storm. In the top left, a yellow boat with three people (two adults and one child) is on the water. In the bottom left, a person is holding a red umbrella. In the bottom right, a car is on a road with a red triangular warning sign. The background is a bright yellow sky with blue clouds and rain falling diagonally across the scene.

## 2. PREPARE DISASTER PLAN...

**Key components** of a disaster response plan

- **Emergency contact** information and a clear chain of command
- **Evacuation procedures** for staff and patrons
- **Specific protocols** for salvaging different material types
- Equipment and **supplies inventory** and locations
- **Documentation procedures** (photographs, incident reports)
- **Communication strategy** for staff, public, and media
- **Recovery workflow** with assigned responsibilities

*How?*





# **SAMPLE DISASTERS**

**A. WATER DAMAGE**

**B. FIRE**

**C. NATURAL DISASTERS**

**D. HUMAN CAUSED  
EMERGENCIES**



A cartoon illustration of a coastal city being hit by a massive tsunami wave. The wave is a large, curling blue mass that has inundated the city. In the background, there are houses with red roofs. In the foreground, a person in a red shirt is running through the water. A wooden cross is partially submerged in the water. At the bottom, there are blue buildings representing a city skyline.

# WATER DAMAGE

**Immediate Response:** Establish protocols for water shut-off, electrical safety, and initial damage assessment

**Collection Triage:** Develop prioritized salvage lists for wet materials (freeze rare books within 48 hours, air-dry photographs, etc.)

**Equipment Readiness:** Maintain inventory of water extraction tools, dehumidifiers, fans, and plastic sheeting

**Vendor Relationships:** Pre-establish contracts with water damage restoration and freeze-drying services

**Prevention Measures:** Install water detection systems near valuable collections and automatic shut-off valves



# FIRE

**Evacuation Protocol:** Create detailed evacuation maps, meeting points, and staff roles during fire emergencies

**Fire Suppression Knowledge:** Train staff on the proper use of different fire extinguishers for various materials

**Collection Protection:** Implement regular drills for covering collections with fire-resistant tarps

**Documentation:** Maintain digital backup inventory of collections with prioritization for salvage

**Coordination Plan:** Establish communication procedures with the fire department regarding collection locations and priorities



# NATURAL DISASTERS

**Earthquake Preparation:** Secure shelving to walls, implement overhead restraints for tall stacks, use book snakes

**Flood Mitigation:** Elevate valuable collections, install flood barriers, maintain sandbag supply

**Power Outage Management:** Maintain generators for climate control systems to prevent humidity damage

**Geographic Considerations:** Tailor plans to region-specific threats with seasonal preparation checklists





# HUMAN-CAUSED EMERGENCIES

**Security Breach Protocol:** Develop lockdown procedures, silent alarm systems, and staff communication codes


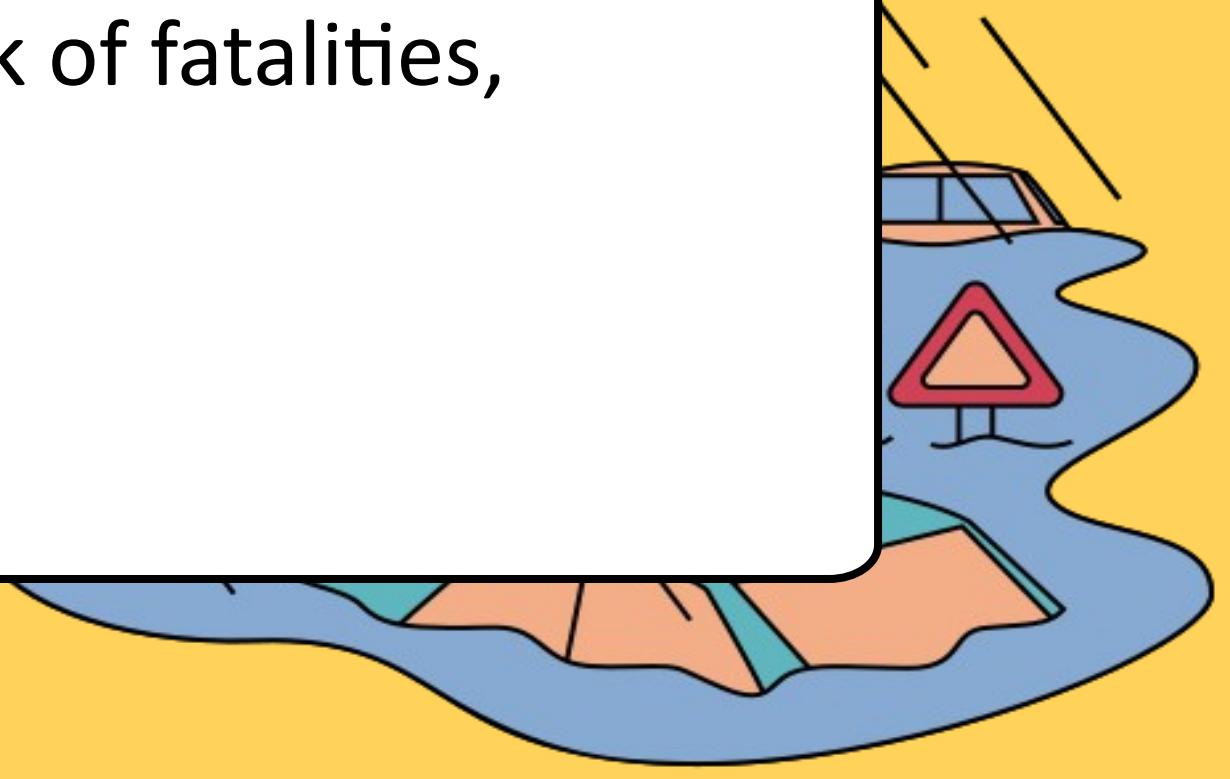
**Theft Prevention:** Implement tagging systems, surveillance, and special handling procedures for rare items

**Vandalism Response:** Create documentation procedures for damage assessment and insurance claims



### 3. STAFF TRAINING & DRILLS

Types of training staff should undergo


- Conducting **mandatory staff training** sessions using press clipping, pictures, and videos of relevant disasters in other institutions
  - Exercises around responses to '**mock disasters**' help test the preparedness of the emergency services and others.
  - Conducting **training** on how to manage emergencies can contribute to lowering the risk of fatalities, injuries, and property damage.
- 
- 



### 3. STAFF TRAINING & DRILLS

- **Serve as the cornerstone** of effective disaster preparedness - offering far more than simple procedural practice.
- When regularly conducted, these exercises **build essential muscle memory** for emergency procedures, ensuring that staff can respond instinctively rather than hesitating during critical moments.
- Drills **identify gaps and weaknesses** in emergency response before a real disaster strikes

*Why?*





The background of the slide features a colorful illustration of a tropical storm. In the upper left, a yellow boat with three people inside is shown on blue waves under a blue sky with white clouds and rain falling. In the lower left, a person in a blue shirt is holding a red umbrella next to a green palm tree. In the lower right, a blue car is partially submerged in water, with a red triangular warning sign visible. The entire scene is set against a yellow background.

## 4. POST DISASTER RECOVERY & RESTORATION

- Develop a recovery plan prioritizing the **salvage and restoration** of critical collections and digital assets.
- Establish **partnerships with restoration experts** and institutions specializing in document preservation.
- Use **digital backups and cloud storage** to restore lost data efficiently.
- Conduct **post-disaster evaluations** to identify lessons learned and update disaster plans accordingly.



The background of the slide features a colorful illustration of a tropical storm. In the upper left, a yellow boat with two people inside is shown on blue waves under a blue sky with white clouds and rain falling. In the lower left, a person in a blue shirt is holding a red umbrella, standing near a green palm tree and a blue building. In the lower right, a red triangular warning sign is partially submerged in blue water. The entire scene is set against a solid yellow background.

## 4. POST DISASTER RECOVERY & RESTORATION

### Steps for rapid damage assessment

- Assess the extent of damage (structural, water, mold, fire).
- Document losses with photos and reports for insurance claims.
- Prioritize the safety of staff and visitors before re-entry.

*How?*



## 4. POST DISASTER RECOVERY & RESTORATION

Priorities in salvaging collections and resuming services

- **Dry and stabilize** wet/damaged books (freeze-drying, dehumidification).
- Recover **digital data** from backups/cloud.
- Reopen **essential services** gradually while rebuilding infrastructure.
- **Seek community** and funding support for long-term restoration.

How?




## 4. POST DISASTER RECOVERY & RESTORATION

### Regular Review and Updates

- Ensures relevance with changing technologies and threats.
- Keeps policies aligned with current best practices and standards.
- Addresses new risks and emerging vulnerabilities.
- Improves efficiency and effectiveness of response strategies.
- Helps maintain compliance with legal and regulatory requirements.

*Why?*







## 4. POST DISASTER RECOVERY & RESTORATION

### Learning from past incidents

- Analyzing past failures helps identify gaps and weaknesses.
- Allows for continuous improvement in disaster preparedness.
- Enhances staff awareness and training based on real-case scenarios.
- Strengthens mitigation strategies to prevent recurrence.
- Encourages a proactive approach rather than a reactive response.

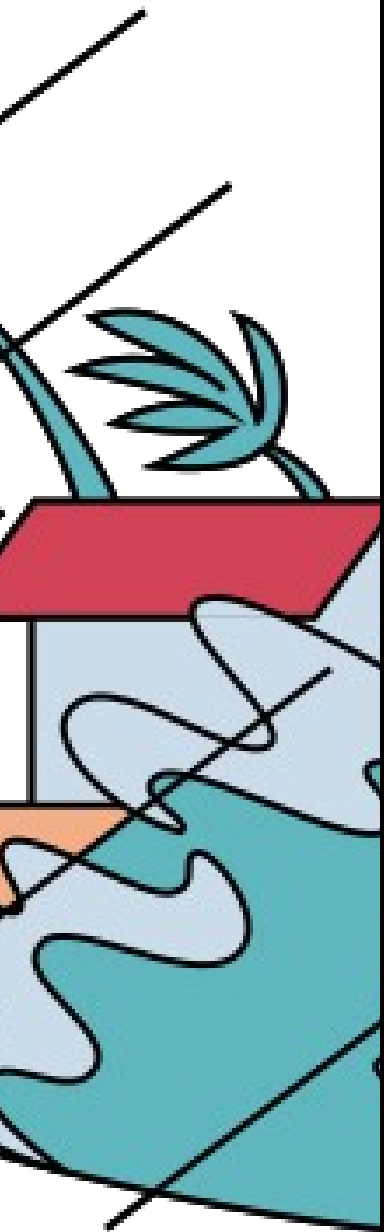
Why?

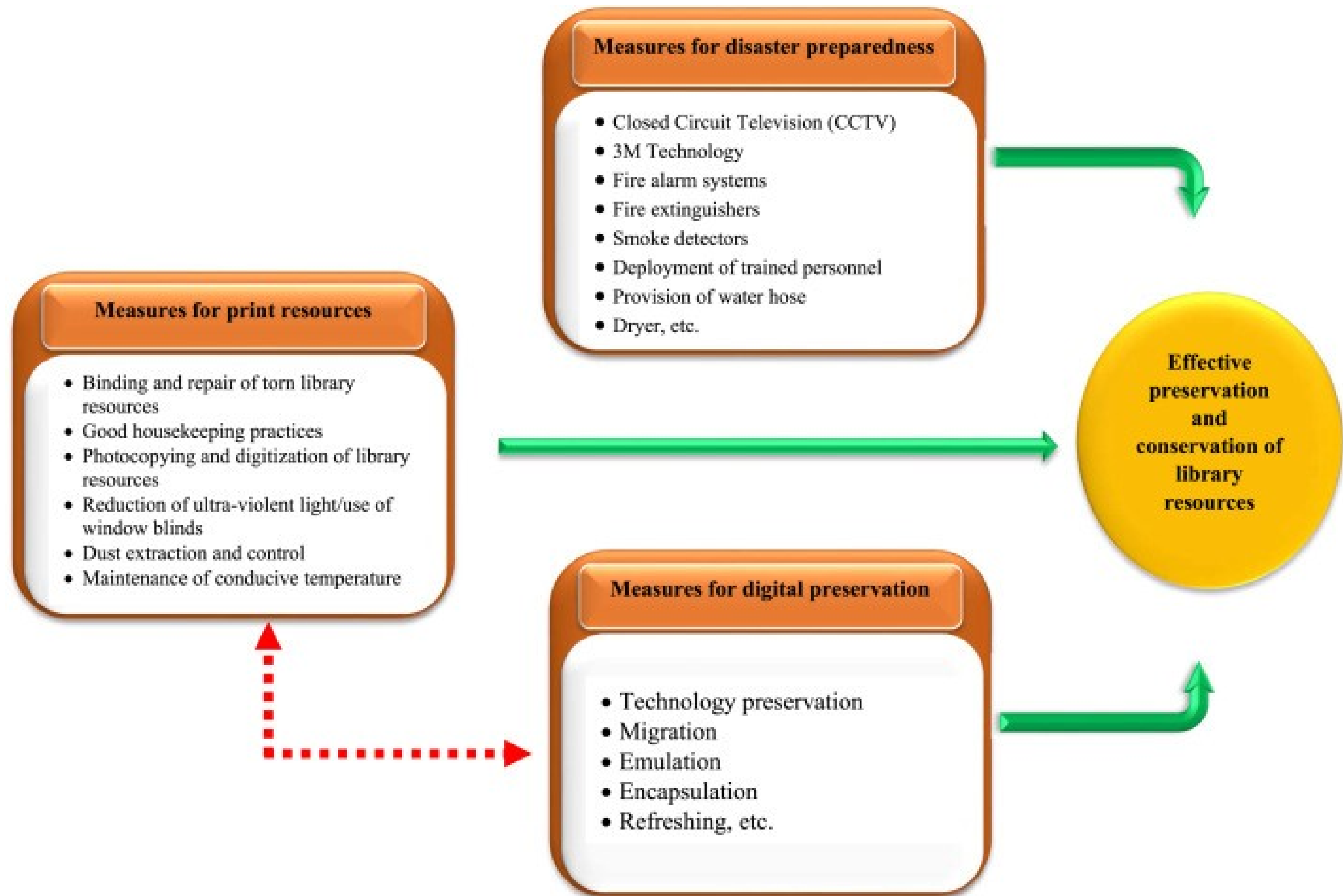




# Preservation and Conservation of Library Resources


- Disasters destroy library resources
- It is critical that libraries put preservation and conservation as a top priority in disaster preparedness







# PRESERVATION OF PAPER-BASED RESOURCES

- **Acid-free** enclosures and storage materials
  - Regular inspection for **pests or mold**
  - **Digitization** of rare/valuable items
  - Water-resistant **protective coverings** for priority items
  - **Disaster-specific response kits** for salvage operations
- 



# **PRESERVATION OF DIGITAL MEDIA**

- Regular backups stored in multiple locations
- Cloud-based preservation systems
- Migration strategies for obsolete formats
- Redundant storage systems
- Specialized recovery procedures for water/fire damage





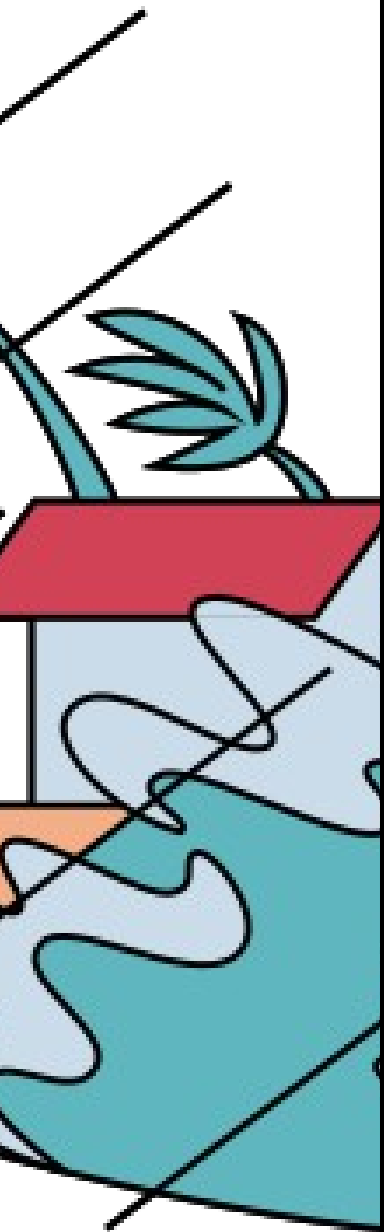
# CLIMATE CONTROL OF RESOURCES

- Prevents deterioration caused by fluctuations in temperature and humidity.
- Controls mold growth, which thrives in humid conditions.
- Reduces the risk of pest infestations (e.g., booklice).
- Slows down the degradation of paper, bindings, and media materials.

Why?



# CASE STUDIES



A colorful illustration of a rainy day. In the upper left, a yellow boat with two people inside is on blue water. Rain is falling diagonally across the scene. In the lower left, a person in a blue shirt is on a yellow ground, holding a red umbrella. There are green bushes and a blue house with a red roof nearby. In the lower right, a blue road with a red triangular warning sign is visible, with a car partially shown. The background is a solid yellow color.

# 1994 NORWICH FIRE

- The 1994 Norwich Central Library fire, which was started by an electrical malfunction and destroyed a whole collection of books, manuscripts, and archive items, was the most destructive in the United Kingdom
- OVER 100,000

# In photos: The Norwich fire which destroyed 100,000 books

24TH AUGUST 2022

[HERITAGE](#)

[NORWICH](#)



Firefighters tackling the roaring blaze at the Norwich Central Library fire on August 1, 1994 - TH. (Image: Archant Library)

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A colorful illustration of a rainy day. In the upper left, a yellow boat with two people inside is on blue water. Rain is falling diagonally across the scene. In the lower left, a person in a blue shirt is on a yellow ground, holding a red umbrella. There are green plants and a blue building nearby. In the lower right, a blue path leads to a red triangular warning sign, with a blue car visible in the background. The entire scene is set against a yellow background.

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# 2022 RUSSIA'S DESTRUCTION OF UKRAINE CULTURAL HERITAGE

- UNESCO has verified damage to 110 sites since Russia's invasion began on February 24. That includes 48 religious sites, 10 museums, 22 historic buildings, 11 buildings dedicated to cultural activities, 13 monuments, and **six libraries**.
- 





# Los Angeles FIRES 2025

Complete destruction of the Los Angeles Public Library's (LAPL) Palisades Branch Library.

Another library affected by the wildfires is the Malibu Library, which sustained smoke and water damage as firefighters worked tirelessly to prevent the structure from igniting. Many books and digital resources were destroyed



# ARSON ATTACKS ON LIBRARY

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by Glen Creason Apr 24, 2012



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- 




# LESSONS LEARNT

Any building that has a valuable collection must have

- sufficient **fire alarm system** and smoke detectors and the facility must be divided into sections using fire division walls.
  - install **automatic fire extinguishing** systems can provide the best possible protection.
  - Comprehensive **Disaster Plans**
  - **Climate Control** and Protective Storage
  - Digital Preservation plans
  - **Strengthened Security** and Fire Prevention Measures
  - **Collaboration** in Recovery Efforts
- 
- 



# OUTCOMES ACHIEVED

- Increased Investment in Disaster Preparedness
  - Advancements in Library Infrastructure
  - Growth of Digital Archives
  - Policy and Legislative Changes
  - Greater Public Awareness and Support for Libraries
- 

A cartoon illustration of a landscape on the left side of the slide. It features a volcano with red lava flowing down its side, green trees, and blue mountains. A yellow comet is streaking across the yellow sky, and several red flowers are floating in the air.

# **WAY FORWARD**

**Integration of Technology in Disaster Management**


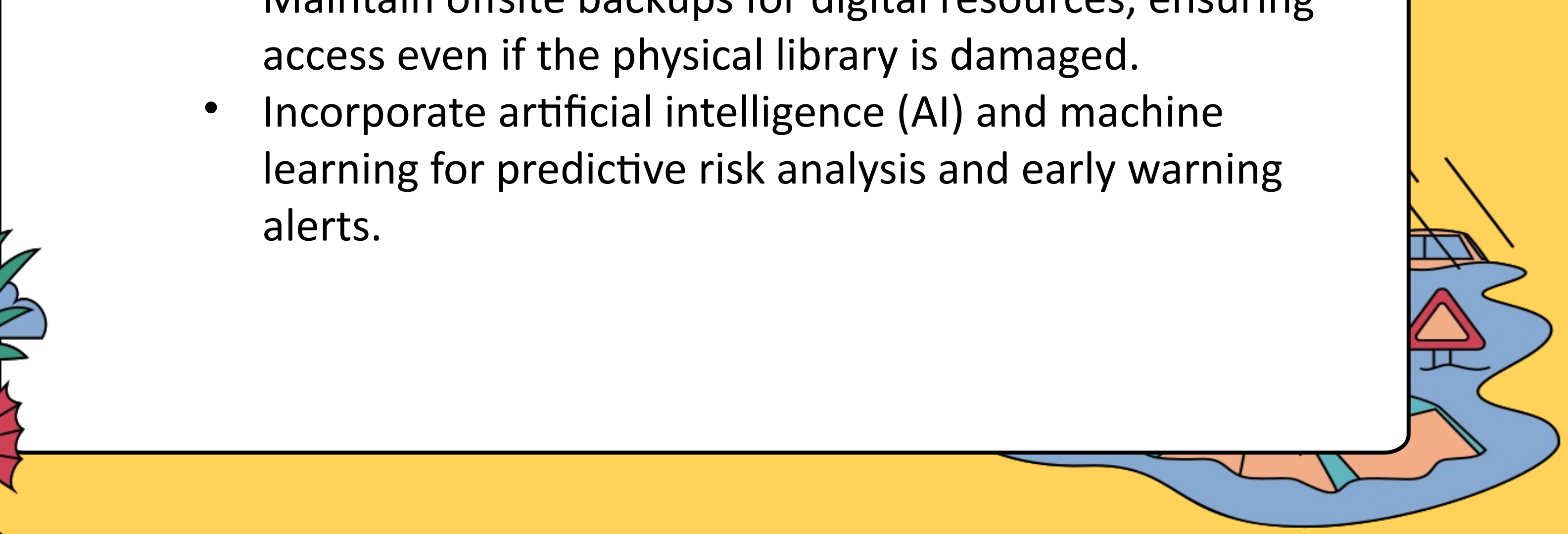
**Sustainable and Adaptive Disaster Management**

**Collaboration with Community and External Organizations**





# Integration of Technology in Disaster Management

- Implement an automated inventory system to track library assets and facilitate recovery after a disaster.
  - Utilize Geographic Information Systems (GIS) to analyze environmental risks and plan accordingly.
  - Maintain offsite backups for digital resources, ensuring access even if the physical library is damaged.
  - Incorporate artificial intelligence (AI) and machine learning for predictive risk analysis and early warning alerts.
- 
- 



# Sustainable and Adaptive Disaster Management

- Implement environmentally sustainable disaster mitigation strategies, such as flood-resistant building designs and energy-efficient backup power systems.
- Regularly review and update disaster preparedness plans to address emerging threats, such as cyberattacks and climate change-related disasters.
- Foster a culture of resilience among library staff and patrons by continuously promoting preparedness training and awareness programs.





# Collaboration with Community and External Organizations


Partner with emergency services, fire departments, and disaster response agencies to enhance preparedness. Engage in disaster awareness programs to educate library users on emergency procedures.

Establish agreements with nearby libraries and institutions for resource-sharing and mutual assistance during crises.

Participate in government and international initiatives focused on disaster management and cultural heritage preservation.





A cartoon illustration of a landscape on the left side of the slide. It features a blue mountain range in the background, a green valley with two green trees, and a large volcano in the foreground. The volcano has a red interior and is emitting a large plume of white smoke. The sky is yellow with a few small clouds and a small red dot.

# CONCLUSION

Although **risks cannot be totally eliminated**, their impact can be lessened in several ways.

libraries may face **risks and challenges** that could turn into **opportunities** if well handled.

**Disaster preparedness and management** therefore plays a crucial role in safeguarding libraries and information centers

implementing **proactive disaster management** strategies, libraries can mitigate risks, respond effectively, and recover swiftly from unexpected crises.



**BEING READY IS YOUR  
SECRET POWER, GUIDING  
YOU THROUGH TOUGH  
TIMES WITH COURAGE.**

