

HOSPITAL SAFETY MANUAL



Version 1.0

CASUALTY

आपातकालीन सेवाएं उपलब्ध



HOSPITAL SAFETY MANUAL



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SEEDS, 2010

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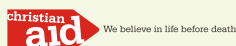
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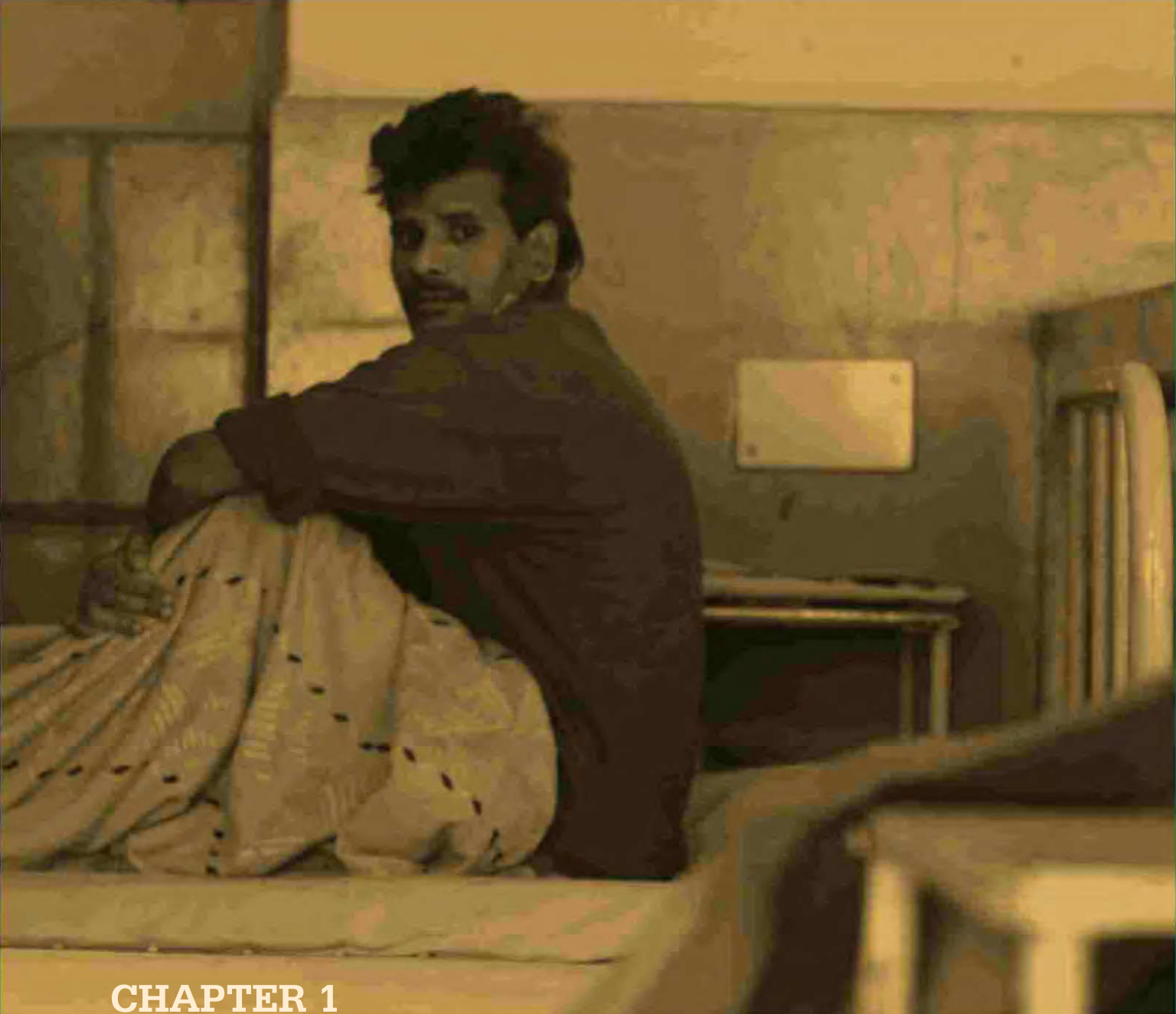
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INTRODUCTION

Hospitals are an important lifeline structure for communities. Over time, the challenges of keeping hospitals functional and operational during disasters has been enormous. The Gujarat earthquake (2001), the Ban earthquake (2003) and the Indian Ocean tsunami (2004) are proof that hospitals collapse and thereby fail to save and secure the life of occupants, nurses, doctors and other hospital staff during this crucial time.

This manual is based on the initial pilots carried out by SE EDS in Gujarat. This manual contains a step-by-step methodology to be followed in the implementation process. The methodology acts more as a reference guide for the implementers, however, it is important to keep the context in mind before implementation.



CHAPTER 1

HOSPITAL SAFETY INITIATIVE

The Aim

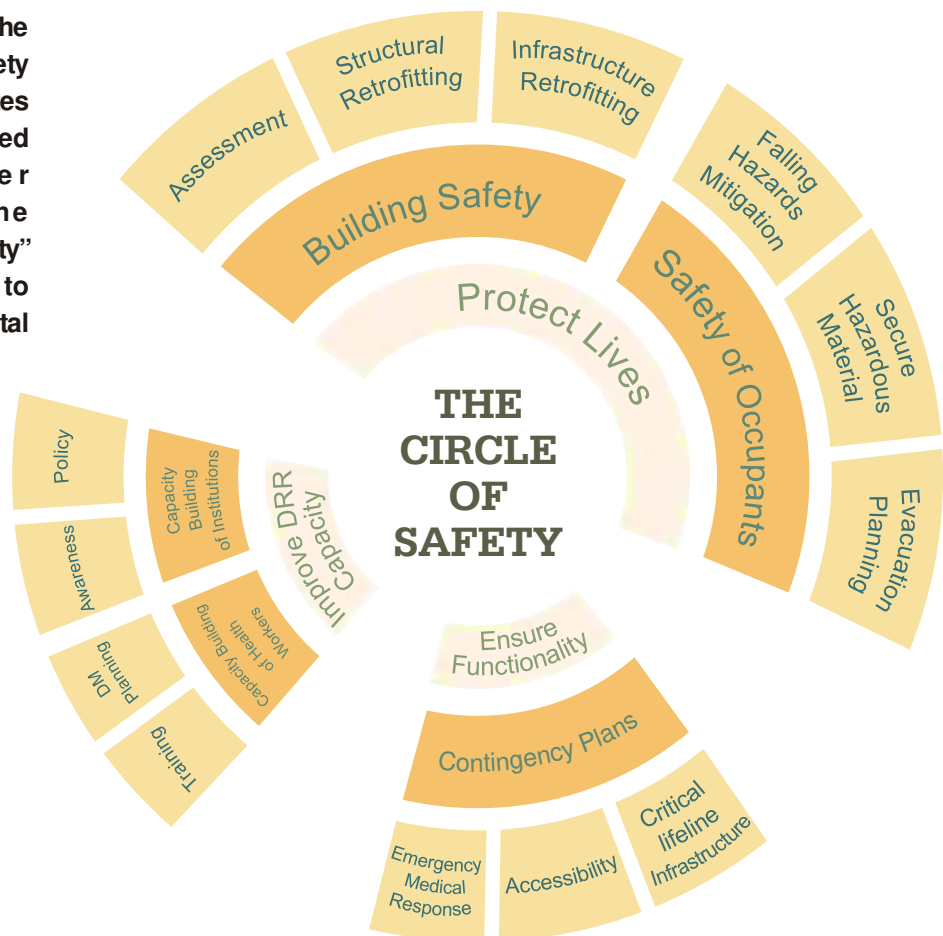
Hospital Safety Initiative has been built on the premise that the hospitals are not only expected to provide good medical care, but are also in a position to offer critical assistance to the local communities. Therefore, it is necessary that these hospitals remain functional during the time of disasters.

The main aim of the Hospital Safety Initiative is to raise awareness and to effect the change that will:

- a.1 Protect the lives of the patient and health workers by ensuring the structural resilience of the health facilities.
- a.2 Make sure the health facilities and health services are able to function in the aftermath of emergencies and disasters, when they are most needed.
- a.3 Improve the risk reduction capacity of the health workers and institutions, including emergency management.

Approach to the Hospital Safety

SEEDS has designed the approach to hospital safety to ensure that it contributes positively to the changed desire of disaster preparedness of the hospitals. A “Circle of Safety” has been developed to achieve the goals of hospital safety.



The Core of the Circle includes

- a. **Protect lives:** The loss of lives in hospitals can be due to two main factors – first, due to structural failure, that is the collapse of building or parts of the building itself, and second, due to falling hazards. Falling hazards are caused by non-structural elements of the building like partition walls, glass windows; by furniture and storage racks that may fall over people, equipment and other vital infrastructure that may break or get destroyed. Both structural failure and falling hazards can potentially cause injury or even death. They can block exit routes preventing timely evacuation. To ensure that the buildings do not collapse and the occupants are still protected from falling hazards, it is required that appropriate structural and non structural measures are carried out.
- b. **Ensure functionality:** During a disaster, it is necessary that all the critical functions such as the Intensive Care Unit, Operation Theatres, Incubators for infants, and other critical services remain functional, not only for handling mass casualty situations, but also for occupants who are already present at the time of disaster. Contingency Plans to ensure functionality would comprise a set of actions for disaster preparedness. These actions constitute critical decisions taken by the hospital management through prompt and efficient communication to ensure that the hospital is ready to handle a surge of patients.
- c. **Improve Risk Reduction Capacities:** Hospitals need to be aware of the potential disasters in their environment and measures that are needed to reduce them. If hospitals are located in a region vulnerable to earthquakes, the staff should be aware of the potential fall-out of an earthquake. This translates in terms of training and imparting knowledge to staff and workers of steps they can take as an individual in mitigating the level of damage. With a good capacity to handle disaster situations, hospitals are able to recover rapidly and thereby reduce the potential loss of lives in the community.

Methodology

The methodology for hospital safety includes the following steps:

STEP 1: Identification of the Hospital



STEP 2: Collection of Baseline Data



STEP 3: Risk Assessments and Risk Ratings



STEP 4: Stakeholder Analysis



STEP 5: Hospital Risk Management Planning



STEP 6: Hospital Action Plan

Step 1: Identification of the Hospital

The selection of the hospital is based on the following criteria:

- 1.1 Mandate of the Organization
- 1.2 Exposure to the Risk
- 1.3 Cost Analysis
- 1.4 Hospital affected in past disasters
- 1.5 Severity of the community's exposure to disaster risks

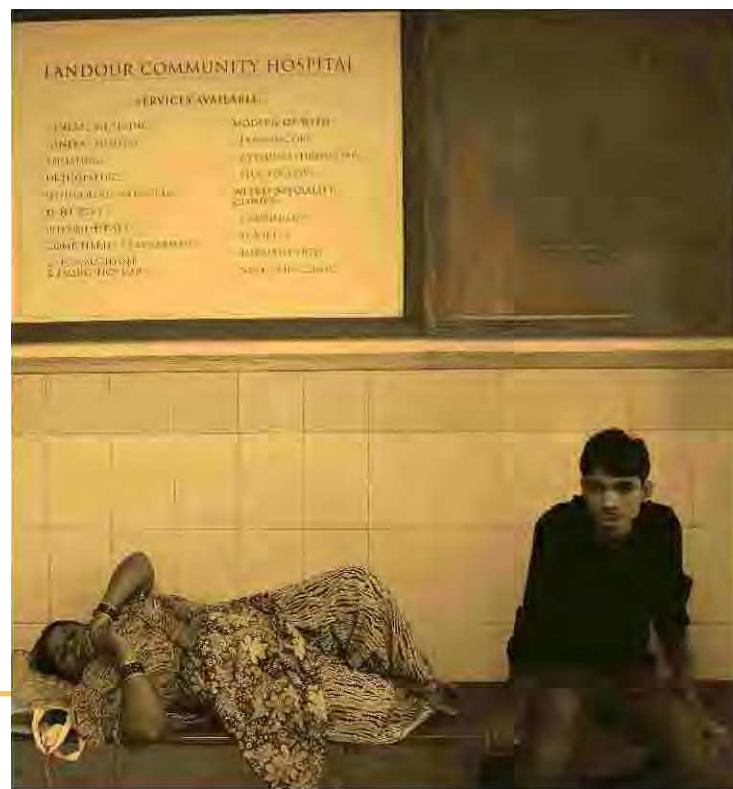
1.1 Mandate of the Organization: In most of the cases, Hospital Safety forms the overall part of the organization's mandate. Two types of organizations usually have hospital safety as their mandate: [1] Organizations / Institutions working in Health sector [2] Organizations having a mandate of Disaster Management and preparedness.

1.2 Exposure to the risk: This method is an objective assessment of the risks that the hospitals are exposed to. Different hospitals have different vulnerabilities depending upon their geographic location and their inherent capacities to deal with disasters. Primarily, the location and geographic terrain is the key indicator to determine the exposure to the risks.

1.3 Cost Analysis: The cost analysis actually looks into the actual benefit reaching the beneficiaries with the amount spent. The process involves, whether explicitly or implicitly, weighing the total expected costs against total expected return of one or more actions in order to choose the best or more feasible option. The aim is to gauge the efficiency of the intervention in the terms of available resources and the targeted population. Most of the time, the decision makers need to measure the effectiveness of an intervention since the funds for DRR initiative received are very less.

1.4 Hospitals affected in past disasters: The hospitals may be selected by virtue of being affected in the event of disaster. If the hospital occupants, building and functions are directly affected by the disasters, it becomes the center of attention for the intervention of an implementing organization.

1.5 Severity of the community's exposure to disaster risks: This is an objective assessment of the risks and vulnerabilities that the communities are exposed to. Hospitals are the nerve centers for the communities and therefore if these hospitals are located in the most vulnerable location, it is required that their coping capacities are increased such that they are able to reduce their risks on the longer run. The selection of hospitals or the ward in a hospital is done through a thorough assessment process which is complex and involves an array of activities like hazard mapping, economic assessment, capacity assessment, etc.



Step 2: Collection of Baseline Data

After having selected the hospital for intervention, it is required that the baseline survey is done for the hospital. The baseline data collection is done with the help of the Hospital Safety Evaluation Manual developed to gather basic information and primary data. This collection of the data builds the profile of hospital, areas and facilities surrounding the hospital, as well as specific details on structural, non structural and over all capacity of the hospital to cope with the disaster or an emergency situation.

The Evaluation check list is filled by the field worker along with the key staff people of such hospitals such as matron, engineer and administrator. These are the permanent employees of the hospitals who are also involved in the maintenance of the critical elements of the hospitals.

Annexure 1: Hospital Safety Evaluation Form



Step 3: Risk Assessment and Risk Ratings

Based on the information collected on the Hospital Safety Evaluation Form, the risk assessment is carried out. The risk assessment is developed on five key factors that would ascertain the vulnerability of the hospital and gauge the coping capacities in the event of disaster. The five factors include:

- a. Percentage Occupancy
- b. Structural Resilience
- c. Non Structural Resilience
- d. Capacity of the Hospital
- e. Disaster Management aspects of the hospital

All the above factors are directly linked with capacity of these hospitals and they are the key components which play a vital role during the time of disasters. The Risk Matrix is scaled on the high, moderate and low. The rare card is developed further to determine the scale of risks. Each level of risks displays high, moderate and low levels and has a numeric value put for calculation.

Risk Assessments and the Rate Card is a determinant of classifying the level of vulnerabilities within and amongst the hospital buildings. It also assesses the capacities of the hospital staff to cope with disasters with the existing resources. The method also helps to identify specific training and capacity-building aspects for the hospitals.

General hospitals are usually huge and complex structures. The vulnerabilities are therefore must

be ascertained for the particular wing or ward of the hospital. In cases where the general hospitals have separate buildings, the vulnerability has to be ascertained for that particular building.

The Risk Matrix created out of Risk ratings helps to ascertain the most vulnerable ward, wing or a building.

Methodology:

5 primary indicators are taken into consideration viz.

1. Percentage Occupancy of the Hospital Building
2. Structural Safety of the Hospital
3. Non Structural Safety in the Hospital
4. Capacity of the Hospital
5. Disaster Management Aspects of the Hospital

These broad categories are given weightage on the basis of the level of importance that each indicator holds. The weightage is arrived at after having discussed with more than 8 to 10 team members from the hospitals. To arrive at weightage, the indicators are ranked from 1 to 3. The degree of importance is as follows:

- 1 = least important
- 2 = moderately important
- 3 = most important

For eg.: If there are 8 team members. Ask the team to rank each indicator as below:

Indicators	A	B	C	D	E	F	G	H
% of Occupancy	1	2	1	2	1	2	1	2
Structural Safety of the Hospital	3	2	3	2	3	3	1	3
Non Structural Safety in Hospital	3	3	3	2	3	2	1	2
Capacity of the hospital	2	1	2	1	3	3	1	1
Disaster Management Aspects	3	3	3	3	3	3	3	3

Now, to derive the weightage, total it horizontally and vertically. And then find out % weightage of each indicator.

Indicators	A	B	C	D	E	F	G	H	Total	% weightage
% of Occupancy	1	2	1	2	1	2	1	2	12	$[12/89]*100=13.48$
Structural Safety of the Hospital	3	2	3	2	3	3	1	3	20	$[20/89]*100=22.47$
Non Structural Safety in Hospital	3	3	3	2	3	2	1	2	19	$[19/89]*100=21.35$
Capacity of the hospital	2	1	2	1	3	3	1	1	14	$[14/89]*100=15.73$
Disaster Management Aspects	3	3	3	3	3	3	3	3	24	$[24/89]*100=26.97$
Total		89								100

Divide the % of indicators equally amongst the sub indicators as follows:

S. No.	Indicators	% WEIGHTAGE
1	% Occupancy of the Building	13.48%
2	Structural Safety	22.47%
2.1	Condition of the Building	5.1675%
2.2	Building standards followed	5.1675%
2.3	Structural resilience to hazards	5.1675%
2.4	Accessibility of the hospitals	5.1675%
3	Non Structural Safety	21.34%
3.1	Power back up system	3.048%
3.2	Water storage	3.048%

3.3	Communication systems	3.048%
3.4	Fuel storage	3.048%
3.5	Medical gases	3.048%
3.6	Medical and laboratory equipment	3.048%
3.7	Architectural elements	3.048%
4	Capacity	15.73%
4.1	Adequate medical Staff	3.9325%
4.2	Adequate beds	3.9325%
4.3	Adequate medicines	3.9325%
4.4	Adequate emergency facilities	3.9325%
5	Disaster Management Aspects	26.96%
5.1	Mass casualty plans	4.493%
5.2	Evacuation maps and plans	4.493%
5.3	Emergency alarm systems	4.493%
5.4	Disaster management plans	4.493%
5.5	Trained medical staff	4.493%
5.6	Practice regular evacuation drills	4.493%

Having put the weightages as above, looking at the Rate Card, the field implementer requires to filling for each ward or building as the case may be. The Rate Card is as follows. The Rate Card

gives indication of risk for each sub indicator and is rated in range of 1 to 3, where 3 indicates highest degree of vulnerability, while 1 indicates the lowest vulnerability.

		High Vulnerable	Med. Vulnerable	Less vulnerable	
Sr. No.	Indicators	Rate: 3	Rate:2	Rate :1	No Info.
1	% Occupancy of the Building	70%-100%	40% - 70%	less than 40%	
2	Structural Safety				
2.1	Condition of the building	Low grade material used and building deteriorated with irregular cracks	Deterioration of building due to weathering only and average material used	No cracks, no deterioration and good material used	
2.2	Building standards followed	Safety standards not applied	Safety standards partially applied	Safety standards followed completely	
2.3	Structural resilience to hazards	Building is very weak to stand against the disasters	Building has some weaker sections which can be impacted during disasters	Building resilience is excellent	
2.4	Accessibility of the hospitals	Located in densely populated area and accessibility to the building is difficult and has only one exit and entry	Building is located in densely populated area, but is accessible from more than one entry point	Building is located in thinly populated area and has more than one entry and exit points	
2.5	Impact during last disaster	Worst affected	Partially damaged	No impact	
3	Non Structural Safety				
3.1	Power back up system	Generator meets only 30% of the demand. It is installed in unsafe place and electricity not available in critical areas	Generator meets 31% - 70% demand. It is installed at a place which requires improvement and electricity available in critical areas , but fixtures unstable	Generator meets 71% - 100% demand. It is installed at a safe place and electricity is available in critical areas.	
3.2	Water Storage	Water cannot serve more than 24 hours; tanks are located at unsafe places and alternate water source not available.	Water can serve for more than 24 hours but less than 72 hours, tanks can cause a functional failure and alternate water source is available	Water is guaranteed for more than 72 hours , tanks are at safe location and alternate water system available	
3.3	Communication Systems	Poor communication System, absence of alternative communication system and lack of safety of equipments	Satisfactory communication system, alternative communication system and safety of equipments	Good communication system, existence of alternative communication system and excellent safety provision for the equipments	

3.4	Fuel storage	Fuel storage not secured and have less than 3 days capacity	Fuel storage has some security and has capacity from 3-5 days	Fuel storage secured and have more than 5 days capacity	
3.5	Medical gases	Medical gas supply less than 10 days, storage of medical gases not accessible and no areas reserved safe for storage	Medical gas supply for 10 -1 5 days, Storage accessible but hazards exists and areas are reserved for storage of medical gases but safety measures are inadequate	Medical gas supply at least for 15 days, storage is accessible and areas are reserved for storage of medical gases and no risks persists	
3.6	Medical and laboratory equipment	Equipments are in poor condition and are not in secured place	Equipments are in fair condition but not in secured condition	Equipments are in good condition and are in secured places	
3.7	Architectural elements	Poor condition of elevators, stairways , doors , windows , roof	Fair condition of elevators, stairways, doors, windows, roof	Good condition of elevators , stairways, doors , windows , roof	
4 Capacity					
4.1	Adequate medical staff	Low staff and unavailable	Staff is inadequate during peak times	Staff adequate and is available	
4.2	Adequate beds	Cannot meet regular needs	Can meet regular needs but not during emergencies	Can meet both the regular and emergency needs	
4.3	Adequate medicines	Always in short of regular medicines	Medicines available only for regular demands	Medicines available for regular and emergency demands	
4.4	Adequate emergency facilities	Facilities to cope with emergency is not available	Some of the facilities are available, but critical facilities such as emergency operation needs or mass casualty etc unavailable	Adequate emergency facilities to cope up with mass casualties available	
5 Disaster Management Aspects					
5.1	Mass casualty plans	No mass casualty plans available	Mass casualty plans available but not practiced	Mass casualty plans available and practiced	
5.2	Evacuation maps and plans	Evacuation maps and plans are not available	Evacuation maps and plans are available but not practiced	Evacuation maps and plans available and practiced	
5.3	Emergency alarm systems	Emergency alarm systems uninstalled	Emergency alarm system installed but not operational	Emergency alarm system installed and are operational	
5.4	Disaster management plans	DM plans not made	DM plans are made but not many of them are aware	DM plans are made and staff is aware of the same	
5.5	Trained staff for disaster preparedness	Staff not trained to cope with the disasters	Staff trained but have not been practicing	Staff trained and does practice	
5.6	Evacuation drills	No evacuation drills are practiced	Evacuation drills are not practiced as per planned	Evacuation drills practiced	

On the basis of the above the ratings, each indicator is rated on absolute basis and then multiplied by the weightage of each indicator.

This would give risk rating for each indicator in the hospital for each wing/ward or building.

S. No.	Indicators	% Weightage	Hospital 1		Hospital 2		Hospital 3		Hospital 4		Hospital 5	
			Rasul Khan Zanana	Rasul Khan Weightage	Pandit Dindayal	Pandit Weightage	KT Children Hospital	KT Children Weightage	Gulabch & Hospital	Gulabch & Weightage	Padma Kunwarba	Padma Kunwarba Weightage
1	% Occupancy of the Building	30%	3	0.9	3	0.9	3	0.9	2	0.6	3	0.9
	Subtotal [1]			0.9		0.9		0.9		0.6		0.9
2	Structural Safety	15%										
2.1	Condition of the building	3.75%	2	0.075	2	0.075	2	0.075	1	0.0375	2	0.075
2.2	Building standards followed	3.75%	2	0.075	2	0.075	2	0.075	2	0.075	3	0.1125
2.3	Structural resilience to hazards	3.75%	3	0.1125	1	0.0375	2	0.075	2	0.075	3	0.1125
2.4	Accessibility of the hospitals	3.75%	2	0.075	2	0.075	2	0.075	2	0.075	2	0.075
	Subtotal [2]			0.3375		0.2625		0.03		0.2625		0.375
3	Non Structural Safety	19.95%										
3.1	Power back up system	2.85%	3	0.0855	1	0.0285	3	0.0855	3	0.0855	1	0.0285
3.2	Water storage	2.85%	3	0.0855	2	0.057	2	0.057	3	0.0855	3	0.0855
3.3	Communication systems	2.85%	3	0.0855	1	0.0285	2	0.057	2	0.057	2	0.057
3.4	Fuel storage	2.85%	3	0.0855	0	0	0	0	0	0	0	0
3.5	Medical gases	2.85%	3	0.0855	1	0.0285	1	0.0285	0	0	3	0.0855
3.6	Medical and laboratory equipment	2.85%	2	0.057	2	0.057	0	0	2	0.057	2	0.057
3.7	Architectural elements	2.85%	3	0.0855	1	0.0285	2	0.057	2	0.057	2	0.057
	Subtotal [3]			0.57		0.228		0.285		0.342		0.3705

4	Capacity	10%										
4.1	Adequate medical staff	2.50%	3	0.075	2	0.05	2	0.05	3	0.075	2	0.05
4.2	Adequate beds	2.50%	2	0.05	1	0.025	2	0.05	2	0.05	2	0.05
4.3	Adequate medicines	2.50%	2	0.05	1	0.025	2	0.05	2	0.05	2	0.05
4.4	Adequate emergency facilities	2.50%	2	0.05	2	0.05	2	0.05	3	0.075	2	0.05
	Subtotal [4]			0.225		0.15		0.2		0.25		0.2
5	Disaster Management Aspects	24.96%										
5.1	Mass casualty plans	4.16%	3	0.1248	3	0.1248	3	0.1248	3	0.1248	3	0.1248
5.2	Evacuation maps and plans	4.16%	3	0.1248	3	0.1248	3	0.1248	3	0.1248	3	0.1248
5.3	Emergency alarm systems	4.16%	3	0.1248	3	0.1248	3	0.1248	3	0.1248	3	0.1248
5.4	Disaster management plans	4.16%	2	0.0832	2	0.0832	2	0.0832	2	0.0832	3	0.1248
5.5	Trained ,medical staff	4.16%	3	0.1248	3	0.1248	3	0.1248	3	0.1248	3	0.1248
5.6	Practice regular evacuation drills	4.16%	3	0.1248	3	0.1248	3	0.1248	3	0.1248	3	0.1248
	Subtotal [5]			0.7072		0.7072		0.7072		0.7072		0.7488
	Total of Subtotal [1-5]			2.7397		2.2477		2.3922		2.1617		2.5943

The total indicates which hospital is more vulnerable than other based on the calculations.



Step 4: Stakeholder Analysis

In the hospitals, there are multiple stakeholders who are directly involved in the disaster management process. They can influence the process and effectiveness of the disaster management in hospitals. The primary stakeholders in the process are the Hospital Authorities and Staff. However, the process can be also affected by the external factors such as Community [patients], The health department of the government, etc. As a precursor to the hospital disaster management process, the roles of each stakeholder must be clearly spelt out and the level of awareness, power and influence of each stakeholder group should be ascertained. The internal stakeholders play a very active role and are direct responders and recipients of disaster management initiatives. The internal stakeholders include the Executive or Management Committee of the Hospital, Medical Superintendent, Chief Matron, Administrative authority, Resident Medical Officer, Chief Medical Officer, Nurses, Doctors, Ward boys, Security officers and Class IV officers. On the other hand, the external stakeholders equally influence the process at the macro level. These mainly include the local health department, community members [patients], local government,

community - based organizations, non government organizations and private sector [doctors, pharmacists etc]. The external stakeholders are responsible for a number of activities from local planning to promoting policies and advocacy for hospital disaster management planning.

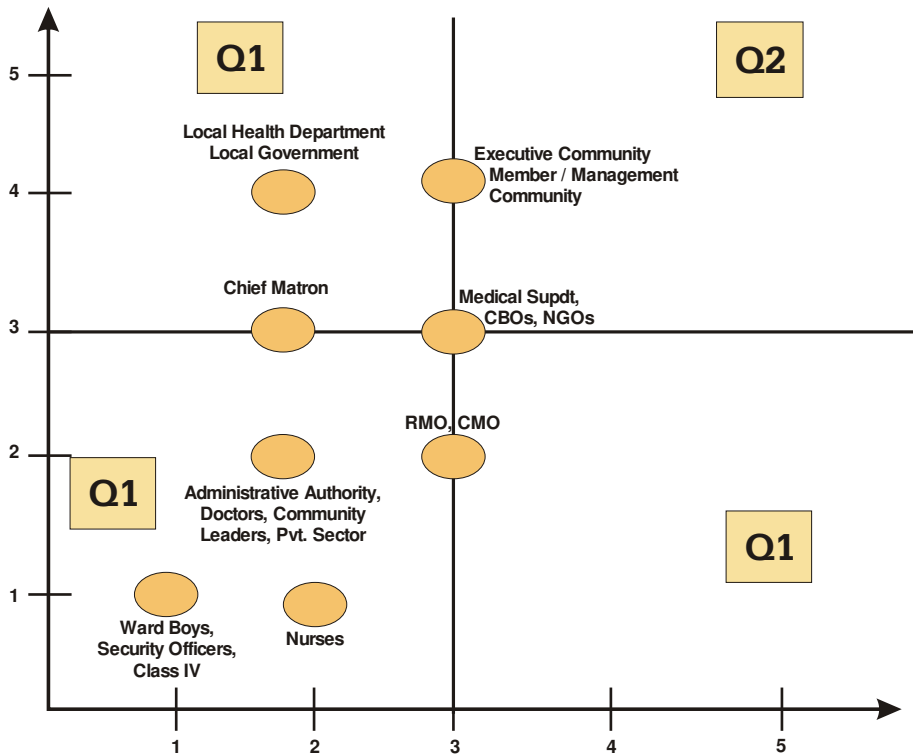
Having identified the key stakeholders, it is necessary to analyze their level of awareness and level of influence in order to develop a plan and strategies so that the final objective of mitigating and preventing risks and making hospital communities resilient is achieved.

- **Level of Awareness:** It is the amount of the information and knowledge about the risk reduction activities
- **Level of Power/Influence:** It is the amount of power that this people have to take decisions on hospital safety and whose support is required to implement.

Both the level of awareness and influence can be measured from 1-5 on XY axis. The lowest number indicates a low level of awareness and influence, while the highest number indicates high level of awareness and influence.

Stakeholders	Level of Awareness	Level of Influence
Executive/ Management Committee of the Hospital	3	4
Medical Superintendent	3	3
Chief Matron	2	3
Administrative Authority	2	2
Resident Medical Officer	3	2

Chief Medical Officer	3	2
Nurses	2	1
Doctors	2	2
Ward Boys	1	1
Security officers	1	1
Class IV workers	1	1
Local Health Department	2	4
Local government	2	4
CBOs/NGOs	3	3
Community Leaders	2	2
Private Sector [Doctors, pharmacists]	2	2



Here,

- Q1: *Depicts Low level of Awareness and High level of Influence*
- Q2: *Depicts High level of Awareness and High level of Influence*
- Q3: *Depicts Low level of Awareness and Low level of Influence*
- Q4: *Depicts High level of Awareness and Low level of Influence*

The main objective of the stakeholder analysis is to understand the capacity of the stakeholders and formulate the strategies so that after implementation of an intervention, the stakeholders attain the highest level of awareness and influence to reduce disaster risks, i.e. through training and capacity building the stakeholders reaches to Q2 level.



Step 5: Hospital Risk Management Planning

Hospital Risk Management Planning is the way in which all the stakeholders make or propose concrete steps or measures for risk reduction based on the level of risks that they are exposed to, capacities and resources that they have and which they would require to reduce their vulnerability. Disaster Risk Management Planning for hospitals includes:

1. Disaster Management Planning
2. Training and Capacity Building

The hospital prevention and management plan must be updated frequently by the hospital staff. Such plans should also be shared with the health departments.

1 Disaster Management Planning:

Based on the hospital evaluation check list and the risk assessments, disaster planning for the hospitals is required. To move forward in collective activities for disaster reduction, it is necessary that the hospital community build strategies that outline what can be achieved.

- **Forming Disaster preparedness/management committee:** Disaster Management Committee is formed with the representatives of the hospital authorities and key staff members. This Disaster Management Committee must play an active role, especially during an emergency. All the key decisions and coordination is taken up by this Disaster Management Committee.

The role of each member of the committee should be ascertained, so as to take charge immediately emergency response. The preparedness activities and the roles and responsibilities, thereby, should be discussed in the community.

- **Setting up of Emergency Operation Center:** For effective coordination and information sharing internally and externally with media and local government, an Emergency Operation Center should be set up within the hospital. A nodal officer should be appointed to operate this center. The EOC will also coordinate with Disaster Management Committee during the time of emergency to act proactively.
- **Defining the Communication and Early Warning Mechanisms:** A clear line of communication must be defined while planning the disaster prevention plan. It is important to establish the external links with the government authorities and the communities to receive timely information. Early warning mechanisms help educate the scope of rumors and the hospitals are ready to act promptly.

Also the line of communication internally requires to be established such that there is no duplication of information, at the same time, the key staff members receive the information promptly which they subsequently pass to the subordinates. The defined line of coordination reduces the ambiguity as well as reduces panic among the hospital members. The information should be clear and should be disseminated in the language that each staff member understands.

Hospitals have also laid down a few mechanisms to alert the staff in the event of different kind of disasters.

The Alert Mechanism is dependent on two categories of Disasters;

Category 1 : Hazards which can be predicted

Category 2: Hazards which are sudden

Category 1: Hazards which can be predicted

There are certain disasters which are predicted by the meteorological department such as floods, cyclones, storms, heat waves, etc. As a result of which it gives sufficient time for the hospital staff to prepare before disaster and respond to the impacts of disasters sufficiently.

The modus operandi of alert mechanism in category 1 is as follows:

- a. The nodal officer for sending alerts to the various departments as per line of coordination should be fixed.
- b. The hospital should have fixed language or coded language to alert all the staff, such that it does not create panic
- c. A simple mechanism for such early alerts can be through loud speakers: it should be loud, clear and audible
- d. On receipt of alert the patients and occupants can be evacuated safely through a well defined evacuation routes.

Category 2: Hazards which are sudden

There are some disasters which are sudden and therefore alert mechanisms needs to be spontaneous and timely. Such disasters include earthquakes, landslides, bombings, forest fire etc. The alert mechanism needs to be subtle and prompt such that it does not lead to chaos. The hospitals require practicing such alert mechanisms in advance to safely evacuate people.

The modus operandi of the alert mechanism in category 2 is as follows:

1. The nodal officer also in this case alerts the staff and gives directions for safe evacuation.
2. It is recommended that the hospitals develop a color coded systems such that these are clearly understood by the staff, but without creating panic situation for the hospitals. The following coding system is an example and can be adopted accordingly

Color Code	Name Of Disaster
Red	Fire
Blue	Floods, Tsunami
Orange	Hazardous Material Spill or Release
Gray	Earthquake
Silver	Person with Weapon/Hostage Situation/Combative Person/ Abduction
Yellow	Landslide
Black	Cyclone, Storm

Disaster Management Plan: This is a complete guide stating steps that the vulnerable hospital communities must take to combat disaster risks. The plan also includes the standard operating procedures of the stakeholders as well as a detailed mitigation plan. The plan also includes the evacuation maps as well as resource maps which describes the available and existing resources and capacities of the communities.

2 Training and Capacity Building:

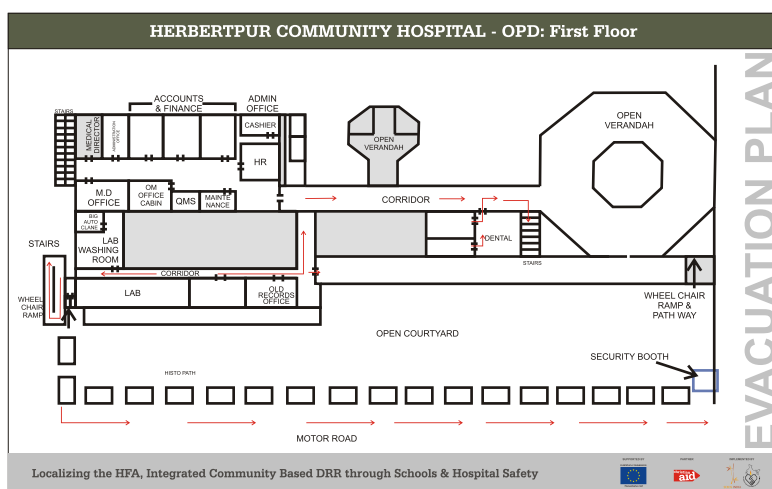
Training and Capacity Building is need to be given to the hospital staff to enhance their understanding on hazards, risks, vulnerabilities, risk reduction and preparedness. Such training and capacity building programs help increase the coping capacities of the hospital. Stakeholder Analysis actually gives an idea of the level of awareness that the hospital staff possesses. Hence training should be designed contextually. The trainings can be in two parts:

a. **Sensitization training to hospital communities:** The basic orientation and training is given to the hospital staff. Such training enhances the efficiency of the hospital communities to act during the event of emergency. Such sensitization trainings should be held twice or thrice a year.

b. **Specific training to hospital communities:** While sensitization workshops are there to refresh the basic elements of disaster management and planning, specific training should be imparted to hospital communities in relation to the alert mechanisms, task force trainings for fire safety and search and rescue. Such trainings are given to a chosen group of staff who can act promptly in the event of disaster.

Apart from the basic orientation, the hospital community should be refreshed specifically on certain issues such as:

- Specific roles and responsibilities during emergency.
- The information and skills required to perform duties during emergency.
- The backup communication system to use during disaster or emergency.
- How supply and equipment are obtained during disaster.
- Specific training for evacuation of patients in early warning or at the time of disaster.
- Line of coordination amongst the line departments, horizontally and vertically.



Step 6: Hospital Action Plan

The Hospital Action Plan basically looks into the planning process both for short term and long term purposes. The immediate plan looks into response and recovery, while the long term plans include that of mitigation and preparedness efforts. Hospitals must inculcate the culture of disaster risk reduction and should lead to a greater and sustained impact on reducing vulnerability.

Hospital Action Plan includes:

6.1 Preparedness Plan

6.2 Hospital Functionality Continuity Plan

6.3 Mitigation Plan

6.4 Risk Communication

6.1 Preparedness Plan:

Based on the risk rating and assessment, the disaster management planning must be carried out in the hospital. For collective and effective risk reduction measures, it is required that a consensus is built upon the most critical elements in the hospital by various stakeholders in the hospital.

The hospital should have a preparedness check list with verifiable indicators.

S. No.	Verifiable Indicators	Remarks Yes/No
1	A hospital plan for the facilities, equipment and staff of that particular hospital based on "The Guide to Health Management in Disasters" has been developed.	
2	Orientation and training for disaster response plan and procedures have been undertaken.	
3	All hospital staff has been informed about the possible disasters in the district, likely damages and effects, and information about ways to protect life, equipment and property.	
4	Preparedness Measures taken Details/Remarks the department is familiar with disaster response plan and disaster response procedures are clearly defined.	
5	An area of the hospital has been identified for as a Safe Evacuation Area along with the evacuation routes.	

- **Evacuation Plans:** Evacuation Plans are one of the major components for making hospitals prepared for disasters. There are three components to this exercise:

- 1 **Method of Evacuation:** Hospital structures are complex and the most critical aspect is the type of patients they need to deal with during an emergency. For example the hospital staff should be

fully prepared with all the details as to what equipment or methodology they would use to evacuate ICU patients. There are also different people involved in looking at ward activities, so who actually is responsible to evacuate these patients must to be ascertained.

Therefore, it is required that the method and responsibility is finalized by the

hospital staff, so that safe evacuation takes place. It is also required that the methodology of evacuation equipment is utilized as per the needs of the different kinds of patients such as ICU, old age patients, pregnant women, infants, orthopedic and other such vulnerable groups. Importantly, the evacuation methodology will also be different for different disasters such as earthquakes, landslides, floods, fires, etc.

- 2 **Safe Evacuation Place:** It is also required that the hospital authorities ascertain a safe evacuation place. It is possible that during a disaster, the hospital building itself could collapse and therefore the patients need to be moved. Make shift hospitals or tents should be established on wide ground. Sometimes hospitals may decide to shift some of their critical patients to the nearby hospitals or nursing homes. In such a case, the hospitals should have proper contact numbers, addresses and other such details in order to ensure safe evacuation.
- 3 **Evacuation route:** Hospitals are complex in structure and sometimes have more than one entry and exit point. It is therefore necessary that evacuation plans for both critical and non critical patients from their respective wards are chalked out beforehand, so that it avoids confusion, stampede or blockades during the time of evacuation. Such evacuation routes should be marked on the layout plan of the hospital and should be made public so that everyone can follow such path. The signage should be put on the exits at each stage.

An Evacuation Plan can be derived by having focus group discussions with all the important stakeholders of the hospitals.

Once finalized the plan should be discussed with all the stakeholders and general consensus on methodology, safe evacuation places and evacuation routes should be built up.

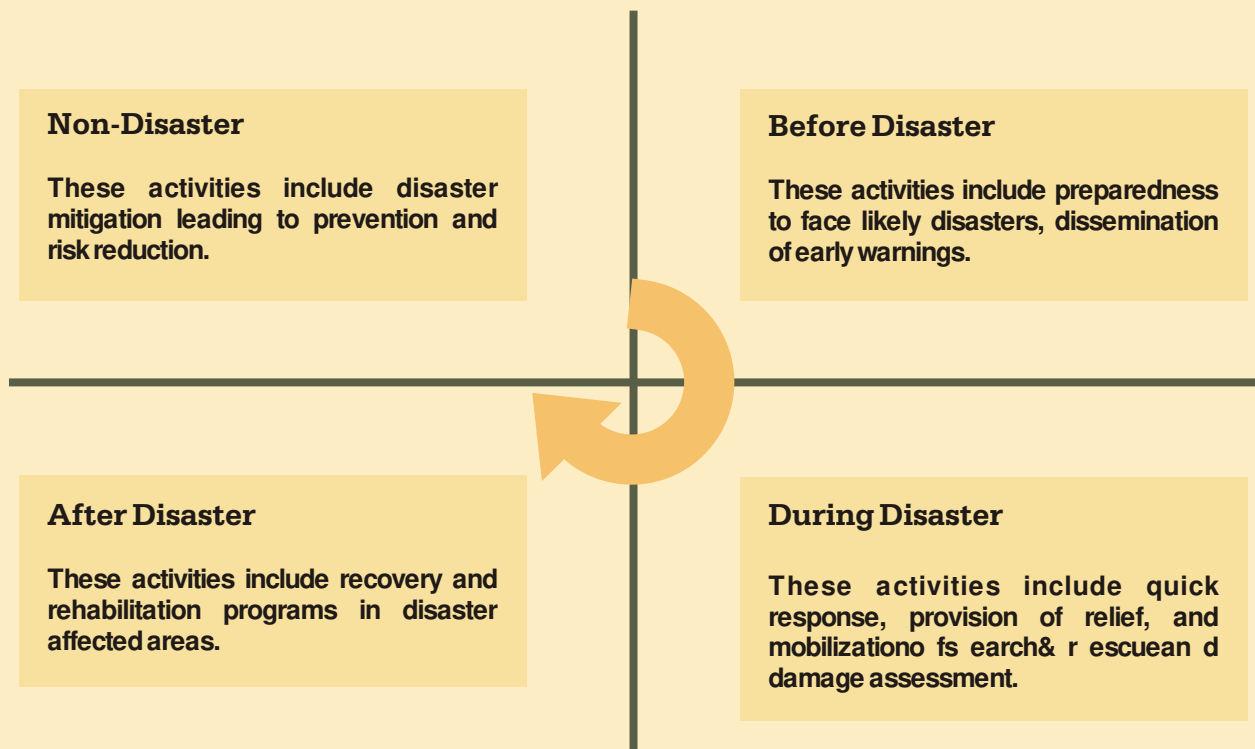
- **Formation of Disaster Preparedness /Management Committee:** The Disaster Preparedness/Management Committee is formed with the representatives of the hospital authorities and key staff members. Such Disaster Management Committee must play an active role especially during an emergency. All the key decisions and coordination is taken up by this Disaster Management Committee.

The role of the committee should be ascertained, so as to take charge immediately for an emergency response. The preparedness activities and the roles and responsibilities, thereby, should be discussed in the community.

- **Preparedness planning for all the departments in the hospital:** The preparedness plan is the key for effective disaster response and therefore all the departments should be ready at any given point of time to respond effectively. The critical departments of the hospitals such as Communication, Transportation, Store Department, Personnel planning of medical and non medical staff, finance department, Ancillary Service department, etc.
- **Establishing Emergency Resources:** For an emergency response, it is necessary that the hospital is fully geared with required medicines and equipment; however, it is always not possible to have access to the required materials and equipment during the time of emergency. Hence, the hospitals should maintain and identify the sources from where the equipment and material can be procured in an emergency. This data should be validated and updated twice a year. The department

should identify the trained manpower, the equipment and the material required for distributing the responsibilities assigned under the District Emergency Management Plan and prepare an inventory of the same. It should also try to identify the external sources in the community and the market for procuring the same with the assistance of the District Crisis Group.

- **Standard Operating Procedures:** The roles and responsibilities of the hospital communities, especially the key office bearers and officials should be ascertained so that they are able to respond to any emergency situation. The SOPs should mention the list of activities that each individual or group of hospital staff requires carrying out during different phase of a disaster management cycle.



The roles and responsibilities of the Hospital Disaster Prevention and Management Committee will reciprocate in accordance to the phases of the Disaster Management Cycle. The following activities have been appropriated in 4 stages of disaster cycle for effective disaster management planning at the Hospital. These activities are:

1. **Before Disaster:** The hospitals in event of early warnings from the authorized sources safely evacuates the occupants and also issues alert to the respective department
2. **During Disaster:** Hospital authorities are engaged in mass casualty and emergency response to the disaster
3. **After Disaster:** Hospitals look into recovery and rehabilitation activities if there is immense damage and loss to property and equipments
4. **Non Disaster:** Hospitals prepare themselves to cope with the next disaster through effective planning to prevent loss of human lives and properties

6.2 Hospital Functionality Continuity Plan:

The 'safe hospitals' not only ensures that hospitals are able to execute mass casualty management adequately, but also make sure that the hospitals could continue to function safeguarding their staff, health workers, relatives and emergency services.

In the event of disaster, it is absolutely essential that critical functions such as the Intensive Care Unit, Operation Theatres, Incubators for infants, and other such critical services remain functional, not only for handling mass casualty situations, but also for occupants who are already present at the time of disaster. Contingency Plans to ensure functionality would comprise a set of actions for disaster preparedness. These actions constitute critical decisions taken by the Hospital Management through prompt and efficient communication on ensuring that the hospital is ready to handle surge of patients.

Primarily, the hospital functionality continuity plan requires to be prepared and discussed by the hospital management. The necessary actions and steps are required to be identified to

- Ensure Safety of Staff Members
- Ensure Safety of Occupants
- Ensure functionality of the Emergency Services

6.3 Mitigation Plan

Mitigation activities are planned in the hospital, especially for the structural and non structural elements of the hospital. The mitigation plan can be strategized for long term and short term interventions. The non structural elements can be further divided into components such as architectural elements, major medical equipments, medical stores, ICUs, etc. The following chart helps to decide measures to be taken for each component depending upon the risk. Also against each measure the cost estimation requires to be done for implementation. For example:

Sr. No.	Name of Item	Location	Qty	Unit	Vulnerability	Mitigation measures	Cost for Mitigation
1	Electricity and Power Back						
1.1	Transformer	Out side of campus	1	No's	H	Support at top and anchorage at base	
1.2	Generator with fuel tank	In the generator room	1	No's	M	Properly bolt with ground	
1.3	Main Switch board	At each ward	12	No's	M	Properly bolt with wall	
1.4	Electric wires line	Each room	Multiple	lines	H	Open wiring need to be converted in conceals.	

A few steps should be taken before making mitigation plan:

- All the internal stakeholders should be consulted and involved in identifying resource needs and other possible sources.
- For each component, the short term risk reduction measures and long term risk reduction measures should be identified.
- The required resources should be mentioned which should resources include human, financial, technical, physical and material
- It should clearly mention the responsibilities and the time frame required to complete risk reduction activities
- Mitigation Plans should be further linked to the expansion plans of the communities.
- For each short term and long term intervention, the budget should be estimated.

Mitigation Plan Matrix

NSM Component	Problems		Solutions	Resource Needs					Responsibility		
	Short term	Long term		Physical	Human	Technical	Financial	Material	Hospital	Govt	Ngo
Electricity	Generator to be bolted with ground	Maintenance of the generator	Get the generator bolted Annual maintenance contract	✓	✓	✓	✓	✓	✓		✓

6.4 Risk Communication:

Risk Communication is separate from general awareness activity. “Public awareness” is an external approach, where in the experts outside the community create public messages for risk reduction as perceived by their understanding. “Disaster Risk Communication” is an internal approach, in which stakeholders collectively form an understanding about risks and mitigation actions. Risk communication is used to prevent, solve or mitigate the risk problems with customized information (risk messages) for specific target groups within hospitals.

Risk Communication primarily has the following objectives:

- Facilitate the exchange of ideas/perceptions or creating a consensus on understanding about the nature and impact of existing risks in the hospitals
- Consensus helps standardize strategies and methodology and approach for risk treatment
- Influence decision makers to formulate policies and programmes that would induce DRR issues

Risk communication can be carried out through distribution of materials to the hospital communities like posters, leaflets, brochures, booklets, videos etc. Risk communication should be carried out as an ongoing activity.



CHAPTER 2

SUSTAINABILITY

It is important that the Hospital Safety Initiative is sustainable and has increased coping capacities amongst hospital communities. In order to do so, it is necessary for the hospital communities to be involved in the project. Sustainability of hospital safety results from substantial community participation and how well the project has created a positive impact on the community and the degree of community cohesion achieved.

In order to maintain “Safe Hospitals”, it is essential to inculcate a culture on disaster management and preparedness. To do so, constant monitoring and evaluation is required. The process must therefore be participatory in nature in order to ensure maximum output.

Hospital Safety can be further extended and integrated with school communities and communities at large. Involvement of local NGOs and community based organizations through the community outreach program of hospitals helps to bridge the gap between knowledge and practice amongst the communities on disaster preparedness and management. Hospitals are

symbolic for the communities, as it is for schools. While hospitals are the center for medical aids, the schools act as a “Safe Haven” during an emergency. If hospitals are capacitated, then during the emergency, it not only remains functional for post disaster response, but also a space to gather their act fast to respond to the affected local communities.

The important aspect to sustain any such activities on site and off site activities, funds are required. The local NGOs, government and the private sector can help create such fund, which can facilitate and continue the process of hospital safety. The hospitals can have public fund raising systems in place to create such funds.

The other aspect of sustainability is the horizontal and vertical linkages of the disaster management plans. The horizontal linkages of the disaster prevention plan can be linked to community based disaster management plans and the school disaster management plans, while the upward linkages can be made to the district and state level disaster management plans.



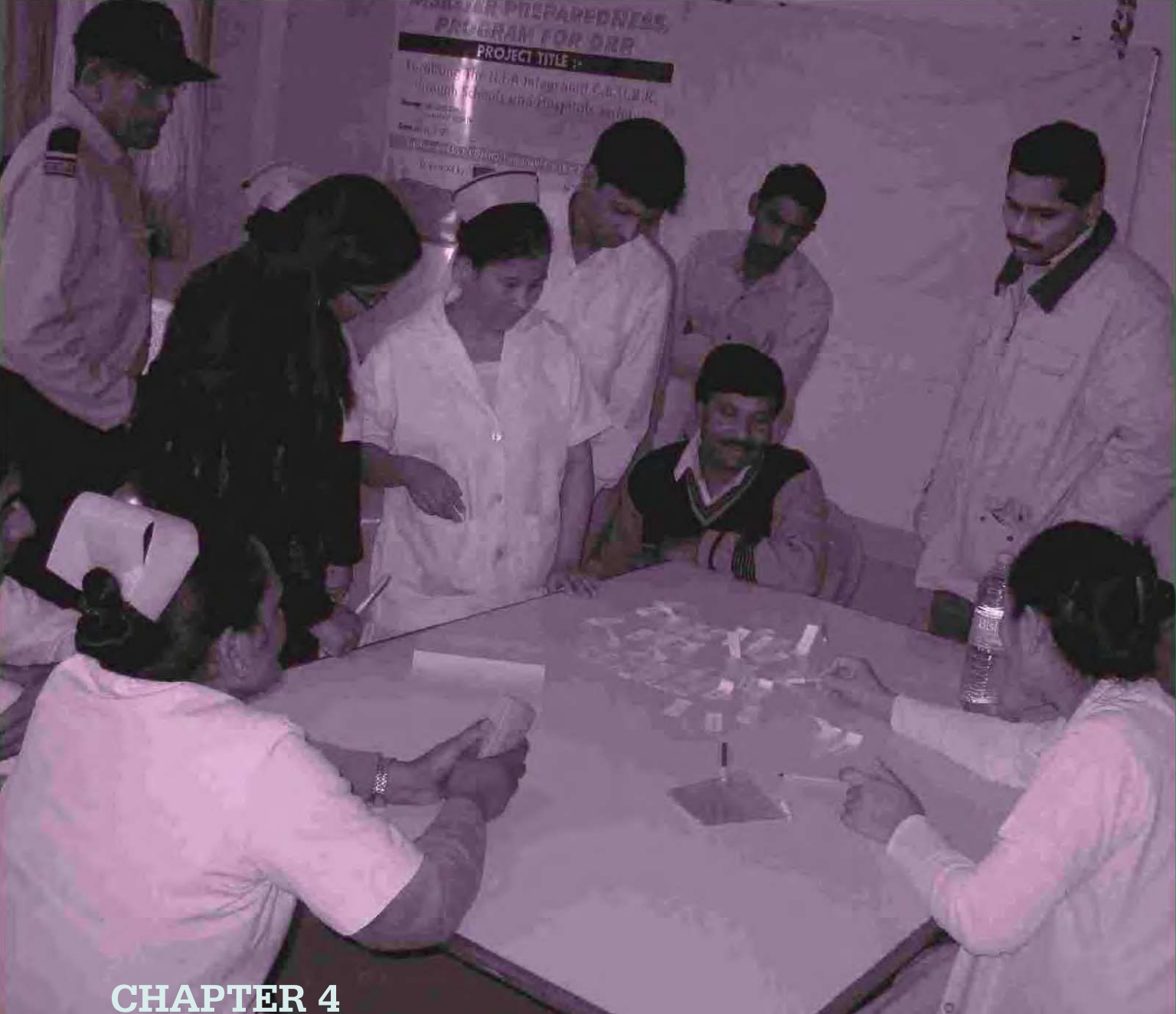
CHAPTER 3

ADVOCACY

Advocacy is necessary to influence people, policies, and systems within hospital communities. The Disaster Risk Reduction (DRR) activities require to be included sectorally as well as internalized within the institutions to sustain the efforts on a long run. Advocacy amongst the hospital staff and internal key stakeholders is required through the workshops at different levels.

Advocacy issues can be further divided into following categories:

- **Understanding the hospital community's potential in DRR:** The key stakeholders, especially the hospital management and authorities should realize the need to the DRR. The consensus should be built into integrating the community based disaster management. The strong integration of hospital communities and the health government can help achieve sustainable development. Also, enough resources are also needed for installing basic infrastructure such as early warning systems, safe evacuation points, structural and non structural mitigation. The resources can be made available from the developmental budget of the hospitals, government or non government organizations.
- **Building hospital's perspective on vulnerability:** The hospital management and community should hold a dialogue with their respective government to influence decisions and take efforts to make the system realize its responsibilities. Hospital safety as well as community based disaster management loses enthusiasm to carry on preparedness activities periodically, primarily because of lack of understanding the holistic approach on community based disaster management. Advocacy therefore should be carried out to understand and reduce the vulnerabilities of the hospitals.
- **Mainstreaming DRR:** Generally, the mass casualty is the prime focus for any hospitals and therefore DRR takes back seat. Hence the DRRap proachm ustb ei ntegratedi ntot he development activities of the hospital management. It is essential to develop tools and strengthen capacities for mainstreaming DRR into development programmes and activities of the hospitals. The mainstreaming of hospital disaster risk reduction should get linked to the government's plan on infra structure safety – in particular that of hospitals. This mainstreaming will also consider enhancing the capacities of the hospital staff in order to increase efficiency of the hospital staff to act promptly for reducing risks. The government health departments should come out with the national schemes and incentives for the local hospitals to take up DRR as their mainstream agenda.



CHAPTER 4

INTEGRATED DRR APPROACH Hospitals, Schools & Communities

Hospitals and Schools are the important nerve centers of the communities. Communities become automatically dependent on the hospitals and schools during the event of disaster. While the hospital is mostly needed for immediate health aid and response, the schools are regarded as ‘Safe Havens’ and provide opportunity to the local communities to use it as safe shelters during the time of emergency. However, the integrated approach calls for the larger role of the communities in cases where the hospital building has collapsed or the schools have been affected. The communities need to cope with such disasters with more efficiency in order to protect lives in the affected communities. The communities are therefore trained and oriented on disaster preparedness and also the life saving skills. It is imperative that the disaster management plans are more integrated and coordinated and the approach towards risk reduction is a collaborative one. This holistic approach therefore calls for defining roles and responsibilities of all the key stakeholders in

disaster management and preparedness. The approach ensures that while the hospitals, schools and communities are able to cope with their onsite disasters, in the event where there are multiple functional failures in schools, hospitals and communities, the stakeholders are able to come together and process the recovery of the communities faster. The outcome of this integrated methodology is the overall ‘Community Action Plan’. Community Action Plan includes joint assessment of risks, preparation of preparedness plans, mitigation plans, advocacy and risk communication strategies. The Community Action Plan is comprehensive and have explicitly defined roles and responsibilities of the stakeholder in the different phase of disasters [before, during, after and non disaster time]. It also lists down the mitigation plan for the communities and leads to an overall sustainable developmental plan for the communities.



ANNEXURE

EVALUATION FORM FOR HOSPITAL SAFETY INITIATIVE

GENERAL INFORMATION ABOUT THE HOSPITAL FACILITIES

Respondent's Details

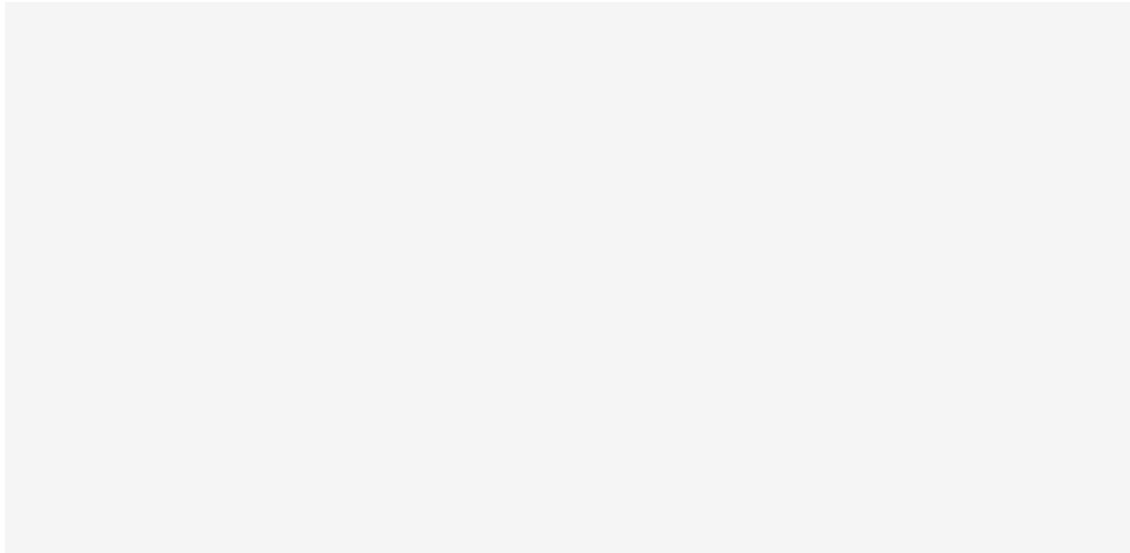
Name: _____

Contact Number: _____

Sr.No.	GENERAL SECTION	DETAILS
1	Name of the Hospital	
2	Address of the Hospital	
3	Telephone Number (with area code)	
4	Fax Number (with area code)	
5	Email Address	
6	Website	
7	Name of the Superintendent	
8	Contact Details of Superintendent	
9	Total Number of Beds	
10	Hospital Occupancy Rate in normal situations	
11	Category of Hospital : Government/Municipal/Private	
12	Total Number of Medical Staff (Permanent) a. Doctors b. Nurses c. Consultants	
13	Total Number of Other Staff (ward boys, cleaners etc.)	
14	Total Number of Patients served per year	

15. Initial inspection of the Hospital building:

15.1 Facilities' map around the Hospital building (Map indicating Fire Services, Police Station, Other Hospitals, Schools):



15.2 Description of the area where Hospital is located:

15.3 Area impacted during last disaster: (in last 10 years)

- Yes No

15.4 Disasters during last 10 years in the area?

- | | |
|---|-----------------------------------|
| <input type="checkbox"/> Earthquake | <input type="checkbox"/> Flood |
| <input type="checkbox"/> Cyclone | <input type="checkbox"/> Tsunami |
| <input type="checkbox"/> Storm Surge/ High Tide | <input type="checkbox"/> Riot |
| <input type="checkbox"/> Bomb Explosion | <input type="checkbox"/> Stampede |

15.5 If yes, which was the most affected Public Building in the area?

Schools: _____

Hospitals: _____

Residential Buildings: _____

Other Community / Public Buildings: _____

15.5 Was the Hospital impacted during last disaster?

Yes

No

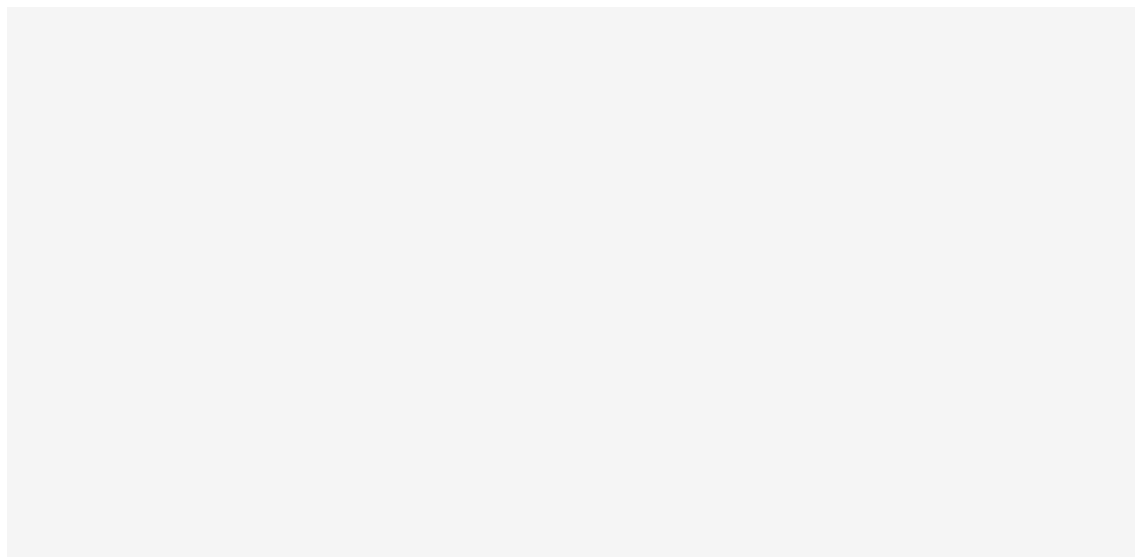
15.7 If yes, which part of the building was impacted the most? What measures were taken after the disaster?

15.8 Was the Hospital involved in mass casualty during last disaster?

Yes

No

16. Rapid Visual Structural Survey of the Hospital: (with sketches and pictures)



16.1 Describe each building within the premises of the Hospital along with physical distribution of the services and facilities.

17. Hospital capacity: (Number of beds and additional requirement during emergencies)

a. Internal medicine

Department/ Service	Number of beds	Observations on department	Additional capacity required during emergency
General Medicine			
Pediatrics			
Cardiology			
Pneumology			
Neurology			
Endocrinology			
Hematology			
Gastroenterology			

Dermatology			
Physiology and Rehabilitation			
Psychiatry			
Others, specify			
Others, specify			
Others, specify			
Total			

b. Surgery

Department/ Service	Number of beds	Observations on department	Additional capacity required during emergency
General surgery			
Obstetrics and Gynecology			
Orthopedics and Traumatology			
Urology			
Otolaryngology			
Ophthalmology			
Neurosurgery			
Plastic surgery			
Cardiovascular surgery			
Others, specify			
Others, specify			
Total			

c. Intensive Care Unit (ICU)

Department/ Service	Number of beds	Observations on department	Additional capacity required during emergency
General intensive care			
General intermediate care			
Cardiovascular ICU			
Pediatrics ICU			
Others, specify			
Total			

d. Operation Theatres

Types of operation theatres	Number of operation theatres	Observations on department	Additional capacity required during emergency
Septic surgery			
Aseptic surgery			
Pediatrics surgery			
Obstetrics and Gynecology surgery			
Emergency surgery			
Others, specify			
Total			

EVALUATION FORM FOR HOSPITAL SAFETY INITIATIVE

1. ELEMENTS RELATED TO GEOGRAPHIC VULNERABILITY OF THE HOSPITAL

Hazards	Number of Hazards	Hazard Level			Who is at Risk?	Risk Treatment
		Low	Medium	High		
Earthquakes						
Tsunamis						
Landslides						
Cyclones						
Epidemics						
Chemical Explosions/Fire						

2. STRUCTURAL SAFETY OF THE BUILDING

Prior events affecting Hospital safety	Safety Level			Remarks
	Low	Medium	High	
Has there been structural damage to the building due to natural phenomena? (if there are no damages, then leave the boxes blank)				
Was the Hospital built / repaired using current safety standards? Low: Current Safety Standards not applied Medium: Current Safety Standards partially applied High: Current Safety Standards fully applied				

Condition and type of materials used in the building				
Condition of the building Low: Deterioration due to weathering, development of cracks, irregular heights Medium: Deterioration due to weathering only High: Condition is good, no deterioration or cracks observed				
Construction material used Low: Low grade material Medium: Average quality of material High: Good quality material				
Building Built Low: Before 1970 Medium: Between 1970 – 1990 High: After 1990 with building codes				
Foundation Low: Information is lacking or foundation depth is less than 1.5 m Medium: Plans and soil studies missing, but foundation is more than 1.5 m High: Plans, soil studies are available and foundation depth is more than 1.5 m				
Structural resilience to various phenomena: Estimate structural resilience in response to different hazards Low: Low structural resilience Medium: Average structural resilience High: Excellent structural resilience				

3. NON STRUCTURAL SAFETY: EQUIPMENTS / COMPONENTS AND SYSTEMS NECESSARY FOR OPERATION

Critical Systems	Safety Level			Remarks
	Low	Medium	High	
<p>Power Back Ups</p> <p>Generator has capacity to meet 100% of demand during emergency: Verify whether generator is operational within seconds of the Hospital losing power, covering power demands for the entire hospital particularly in the emergency department, Intensive Care Unit, sterilization unit, operation theatres etc. Low: Generator starts manually or covers only 30% of the power demand Medium: Generator starts automatically in more than 10 seconds and covers 31% -70% demand High: Generator starts automatically in 10 seconds and covers 70% - 100% demand</p>				
<p>Regular tests of generators carried out in critical areas: Determine the frequency of generator performance tests that have satisfactory results Low: Tested every 3 months Medium: Tested every 1 to 3 months High: Tested at least once in a month</p>				
<p>Generator placed safely to protect against any natural phenomena Low: No Medium: Partially, place requires improvement High: Yes</p>				
<p>Electricity available in critical areas Low: Not available Medium: Available but fixtures unstable High: Yes available</p>				
<p>External electrical systems installed on Hospital grounds Low: No electrical substation installed on Hospital grounds Medium: Substations installed but do not provide enough power to the Hospital High: Electrical substations installed and provides enough power to the Hospital</p>				

Telecommunications	Low	Medium	High	Remarks
<p>Condition of low-voltage systems (internet, telephone connections/cables) Low: Poor or does not exist Medium: Satisfactory High: Good</p>				
<p>Existence of alternative communication system (radio communications, satellite telephone, internet etc.) Low: Poor or does not exist Medium: Satisfactory High: Good</p>				
<p>Safety of internal communication systems: Verify the condition of public address systems, speaker systems, loud speakers etc Low: Poor or does not exist Medium: Satisfactory High: Good</p>				
Water Supply System				
<p>Water tank has permanent reserve that is sufficient to provide water for atleast 72 hours Low: Sufficient for only 24 hours or less Medium: Sufficient for more than 24 hours but less than 72 hours High: Guaranteed for atleast 72 hours</p>				
<p>Water tanks are located at safe places Low: It is not at a safe place Medium: It can cause some functional failure High: It is absolutely at a safe location</p>				
<p>Supplementary pumping system: Identify the existence and operation of supplementary pumping system in case water supply is interrupted Low: No back up available and operational capacity does not meet the daily demand Medium: All pumps are in satisfactory condition High: All pumps and back up systems are operational</p>				

Fuel Storage (Diesel, Gasoline)	Low	Medium	High	Remarks
<p>Fuel tanks have at least 5 day capacity Low: Fuel storage not secured and has less than 3 days fuel capacity Medium: Fuel storage has some security and has 3-5 days fuel capacity High: Fuel storage is secure and has capacity of or more than 5 days</p>				
<p>Accessibility to fuel storage & location at a safe place Low: Located at an unsafe place and storage not accessible Medium: One of the two conditions have been met High: Fuel storage are accessible and located at safe place</p>				
Medical Gases (Oxygen, Nitrogen)				
<p>Sufficient medical storage for minimum 15 days supply Low: Less than 10 days supply Medium: Supply for 10 – 15 days High: Supply for at least 15 days</p>				
<p>Anchors for medical gas tanks, cylinders and related equipments Low: Anchors are lacking Medium: Quality of anchors is inadequate High: Anchors are of good quality</p>				
<p>Appropriate location for storage of medical gases Low: Storage is not accessible Medium: Storage is accessible but hazards exist High: Storage is accessible and there are no hazards</p>				
<p>Adequate safety in storage areas Low: No areas reserved for storage of medical gases Medium: Areas are reserved for storage of medical gases but safety measures are inadequate High: There are areas reserved for storage of medical gases and the site does not present risks</p>				

Office and storeroom furnishings and equipment (fixed and movable) including computers, printers etc.	Low	Medium	High	Remarks
<p>Anchors for shelving and safety of shelf contents: Verify that shelves are anchored to the walls and/or braced and that the contents are secured Low: Shelving is not attached to the walls Medium: Shelving is attached but contents are not secured High: Shelving is attached and contents are secured</p>				
<p>Safety of computers, printers, office furnishing and other equipments: Verify that the computer tables are anchored, table wheels are locked, anchors checked, bracing on furnishing in office done Low: Poor Medium: Satisfactory High: Good or does not require anchor</p>				
<p>Medical and laboratory equipment and supplies used for diagnosis and treatment</p>				
<p>Medical equipments in operation theatres and recovery rooms: Verify that the equipments like surgical tables are operational and that table or cart are locked Low: Equipments in poor condition and not secured Medium: Equipments in fair condition but not properly secured High: Equipments in good condition and secured</p>				
<p>Condition and safety of radiology and imaging equipments: Verify that the ray and imaging equipment is in good condition and secured Low: Equipments in poor condition and not secured Medium: Equipments in fair condition but not properly secured High: Equipments in good condition & secured</p>				
<p>Condition of safety of laboratory equipment Low: Equipments in poor condition and not secured Medium: Equipments in fair condition but not properly secured High: Equipments in good condition & secured</p>				

<p>Condition of medical equipments in emergency service units Low: Equipments in poor condition and not secured Medium: Equipments in fair condition but not properly secured High: Equipments in good condition and secured.</p>				
<p align="center">Architectural Elements</p>				
<p>Condition and safety of doors and entrances Low: Subject to damage and damage to elements would impede the performance of this and other components, systems or operations Medium: Subject to damage, but damage would not impede functions High: No or minor potential for damage that would impede the performance of this and other components, systems or operations</p>				
<p>Condition of safety of windows and shutters Low: Subject to damage and damage to elements would impede the performance of this and other components, systems or operations Medium: Subject to damage but damage to elements would not impede functions High: No or minor potential for damage that would impede the performance of this and other components, systems or operations</p>				
<p>Condition & safety of roofing Low: Poor roofing Medium: Requires repair High: Good roofing</p>				
<p>Condition and safety of parapets (wall or railing placed to prevent falls on roofs, bridges, stairs etc.) Low: Subject to damage and damage to elements would impede the performance of this and other components, systems or operations Medium: Subject to damage but damage to elements would not impede functions High: No or minor potential for damage that would impede the performance of this and other components, systems or operations</p>				

<p>Safe condition for movement outside building Low: Damage to structure or road and walkways will impede access to buildings or endanger pedestrians Medium: Damage to structure or road and walkways will not impede pedestrian access, but will impede vehicle access High: No or minor potential for slight damage which will impede pedestrian or vehicle access</p>				
<p>Safe condition for movement inside the building (corridors, stairs, elevators, exit doors etc.) Low: Subject to damage and damage to elements will affect the movement inside the building and endanger occupants Medium: Damage to elements will not impede movement of stretchers, wheeled equipment High: No or minor potential for slight damage which will not impede movement of people or wheeled equipment</p>				
<p>Condition and safety of Elevator System: If no elevators leave it blank Low: Poor condition Medium: Satisfactory High: Good condition</p>				
<p>Condition and safety of stairways Low: Elements subject to damage and damage would impede the performance of this and other components systems or operations Medium: Elements subject to damage, but damage would not impede function High: No or minor potential for damage that would impede the performance of this and other components, systems or operations</p>				
<p>Hospital access routes Low: Access routes blocked and not marked Medium: Access routes marked, but blocked High: Access routes clear and marked</p>				

4. HOSPITAL SAFETY

Organization of the Hospital Disaster Management Committee and Emergency Operations Center (Assess the level of organization achieved by the Hospital Disaster Committee)	Level of Organization			Remarks
	Low	Medium	High	
Disaster Management Committee formed to respond to major emergencies Low: Committee does not exist Medium: Committee exists but not functional High: Committee exists and is functional				
Space is designated for the Hospital Emergency Operation Centre (EOC) Low: Non-existent Medium: Space has been officially assigned High: EOC exists and is functional				
EOC is in safe location Low: Not in a safe location Medium: EOC is in safe location but not accessible High: EOC is in safe, protected and accessible location				
Disaster Management Plan				
Disaster Management Plan exists Low: Does not exist Medium: Exists but never operational High: Exists and operational				
Staff trained on Disaster Management Low: No Medium: Trained once but not upgraded High: Trained and upgraded				
Simulation & Evacuation Drills Low: Not carried out Medium: Carried out irregularly High: Practiced and carried out regularly				

Notes

A series of 20 horizontal dashed lines for writing notes.



SEEDS is a non-profit voluntary organization working to make vulnerable communities resilient to disasters. For this, SEEDS adopts a multi hazards locally based approach seeking to empower communities through awareness generation, training and action.

SEEDS

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