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# CONTENTS

| Sr. No. | TITLE & NAME OF THE AUTHOR (S)  | Page No. |
|---------|---|----------|
| 1.      | <b>MALL CHOICE CRITERIA: A QUALITATIVE STUDY WITH REFERENCE TO NEW MUMBAI SHOPPERS</b><br><i>DR. SUDHEER DHUME &amp; DR. ANKUSH SHARMA</i>                                      | 1        |
| 2.      | <b>PERFORMANCE ANALYSIS OF THE LIGHT RAIL TRANSIT'S (LRT's) TICKET-BASED SYSTEM IN STATION X USING SIMULATION SOFTWARE</b><br><i>MA. TEODORA E. GUTIERREZ</i>                   | 6        |
| 3.      | <b>DIVERSIFYING A PAKISTANI STOCK PORTFOLIO WITH REAL ESTATE CAN REDUCE RISK</b><br><i>AMMAR ASGHAR &amp; KASHIF SAEED</i>  | 10       |
| 4.      | <b>THE EFFECT OF FDI INFLOWS ON NIGERIA'S BALANCE OF PAYMENT FOR THE PERIOD 1980-2009</b><br><i>OMANKHANLEN ALEX EHIMARE</i>  | 17       |
| 5.      | <b>FINDING THE DETERMINANTS OF CAPITAL STRUCTURE: A CASE STUDY OF UK COMPANIES</b><br><i>MUKHIDDIN JUMAEV, JALAL HANAYSHA &amp; EMAD EDDIN ABAJI</i>                            | 21       |
| 6.      | <b>AN ASSESSMENT OF THE CONTRIBUTION OF PAY-AS-YOU-EARN TO THE INTERNALLY GENERATED REVENUE OF KANO STATE BETWEEN THE PERIODS 1999 TO 2008</b><br><i>ISHAQ ALHAJI SAMAILA</i>   | 26       |
| 7.      | <b>A FRAMEWORK FOR MINING BUSINESS INTELLIGENCE – A BOON TO NON MINING EXPERTS</b><br><i>B. KALPANA, DR. V. SARAVANAN &amp; DR. K. VIVEKANANDHAN</i>                            | 30       |
| 8.      | <b>UTILIZING THE POWER OF CLOUD COMPUTING TO PROMOTE GREEN LEARNING</b><br><i>DR. V.B. AGGARWAL &amp; DEEPSHIKHA AGGARWAL</i>   | 35       |
| 9.      | <b>WORK EXPERIENCE AND LENGTH OF WORKING HOURS ARE AFFECTING ON THE STRESS</b><br><i>DHANANJAY MANDLIK &amp; DR. PARAG KALKAR</i>   | 39       |
| 10.     | <b>AN EMPIRICAL INVESTIGATION INTO MANAGEMENT PRACTICES OF ACADEMIC LEADERS IN MANAGEMENT COLLEGES</b><br><i>SWAPNIL PRAMOD MACKASARE &amp; DR. UMESH VINAYAK ARVINDEKAR</i>    | 43       |
| 11.     | <b>USING NCDH SEARCH ALGORITHMS BLOCK MOTION ESTIMATION</b><br><i>R. KARTHIKEYAN &amp; DR. S. R. SURESH</i>   | 50       |
| 12.     | <b>SERVQUAL IN FINANCIAL SERVICES: CASE STUDY OF LIFE INSURANCE CORPORATION OF INDIA</b><br><i>DR. KESHAV SHARMA &amp; BEENISH SHAMEEM</i>                                      | 56       |
| 13.     | <b>INFORMATION ORIENTATION AND ETHICAL PRACTICES IN GOVERNMENT ORGANISATIONS: A CASE OF HEALTH SECTOR</b><br><i>ANJU THAPA &amp; DR. VERSHA MEHTA</i>                           | 60       |
| 14.     | <b>DO THE TEENAGERS EVALUATE THE PRODUCT WHILE INFLUENCING THEIR PARENTS TO PURCHASE?</b><br><i>DR. A. S. MOHANRAM</i>  | 65       |
| 15.     | <b>RIGHT TO EDUCATION: EFFECTIVE USE OF ICT FOR REACHING OUT TO SOCIALLY AND ECONOMICALLY WEAKER SECTIONS IN INDIA</b><br><i>PRABIR PANDA, DR. G P SAHU &amp; THAHIYA AFZAL</i> | 69       |
| 16.     | <b>WEB RESOURCES FOR GREEN REVOLUTION</b><br><i>M. PADMINI, M. SURULINATHI, T. R. SAJANI NAIR &amp; T. SUHIRTHARANI</i>   | 76       |
| 17.     | <b>IPOs GRADE AND POST ISSUE PERFORMANCE: AN EMPIRICAL STUDY</b><br><i>DR. ISHWARA. P &amp; DR. CIRAPPA. I. B</i>   | 79       |
| 18.     | <b>INVENTORY LEANNESS IMPACT ON COMPANY PERFORMANCE</b><br><i>RENU BALA</i>   | 83       |
| 19.     | <b>A STUDY OF BUSINESS OPERATION OF RRBs OF GUJARAT</b><br><i>JAIMIN H. TRIVEDI</i>   | 85       |
| 20.     | <b>SKILLS &amp; COMPETENCIES FOR THE AGE OF SUSTAINABILITY: AN UNPRECEDENTED TIME OF OPPORTUNITY</b><br><i>DR. B. REVATHY</i>   | 87       |
| 21.     | <b>CORPORATE SOCIAL RESPONSIBILITY @ ICICI BANK</b><br><i>MANISHA SAXENA</i>  | 94       |
| 22.     | <b>INVESTMENT DECISIONS OF RETAIL INVESTORS IN MUTUAL FUND INDUSTRY: AN EMPIRICAL STUDY USING DEMOGRAPHIC FACTORS</b><br><i>SHAFQAT AJAZ &amp; DR. SAMEER GUPTA</i>             | 101      |
| 23.     | <b>AN EVALUATION OF SERVICE QUALITY IN COMMERCIAL BANKS</b><br><i>DR. V. N. JOTHI</i>   | 109      |
| 24.     | <b>APPRAISAL OF QUALITY OF SERVICES TO EXPRTERS IN PUBLIC SECTOR BANKS</b><br><i>SAHILA CHAUDHRY</i>  | 113      |
| 25.     | <b>MANAGEMENT OF HOSPITAL DISASTERS: A STUDY OF HOSPITAL DISASTER PLAN</b><br><i>RAMAIAH ITUMALLA</i>   | 118      |
|         | <b>REQUEST FOR FEEDBACK</b>   | 122      |

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**REVIEW OF LITERATURE**

**NEED/IMPORTANCE OF THE STUDY**

**STATEMENT OF THE PROBLEM**

**OBJECTIVES**

**HYPOTHESES**

**RESEARCH METHODOLOGY**

**RESULTS & DISCUSSION**

**FINDINGS**

**RECOMMENDATIONS/SUGGESTIONS**

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- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

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**MANAGEMENT OF HOSPITAL DISASTERS: A STUDY OF HOSPITAL DISASTER PLAN**

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**ABSTRACT**

*In the last few years, some of the worst disasters in India have been resulting in significant loss of life and destruction of property and infrastructure. The disaster sometimes occurred inside health institution which affected hospital staff, patients, visitors and the community and also outside of the hospitals. Healthcare facilities are expected to respond to these emergencies in a coherent fashion since hospitals definitely play an important role in disaster management. The study adopted the descriptive research design to understand the disaster plan in healthcare. The study was based on the secondary data. The aim of the present paper is to discuss the Hospital Disaster Plan and explain the challenges of establishing hospital disaster plan.*

**KEYWORDS**

Hospital, Disaster, Disaster Plan, Hospital disaster manual.

**INTRODUCTION**

The word Disaster is derived French word “*Desastre*” meaning bad or evil star. This is a very narrow conception of disaster and in broader context; disaster means any situation in which there is a sudden disruption of normalcy within society causing widespread damage to life and property. Disasters are the events which usually characterized by negative human impact and exceptional demands for interventions are inevitable. Impact can be substantially reduced by adequate preparation, early warning, and swift, decisive responses. Disaster Management encompasses all aspects of planning for and responding to disasters. It applies to management of both risks and consequences of disasters.

Typology of disaster- A disaster can be either natural such as rain, flood, cyclone, storm, landslides, earthquake, volcanoes; or manmade such as war including biological, arson, sabotage, riots, accident (train, air, ship), industrial accidents, fires (forest fires), bomb explosions, nuclear explosions and ecological disasters. Future disasters are inevitable. The impact can be significantly reduced by development policies and strategies that target the most vulnerable, provided that interventions are co-ordinated, and sustained beyond the immediate emergency phase.

**THEORY OF DISASTER**

A disaster is “a natural or human-caused event, occurring with or without warning, causing or threatening death, injury or disease, damage to property, infrastructure or the environment, which exceeds the ability of the affected society to cope using only its own resources”. Disasters can be natural (arising in the environment and outside our control) or human caused (from identifiable human actions, directly or indirectly, deliberate or not). Often disasters such as famine or drought have interacting human and natural causes. Sudden disasters can lead to emergency: an unforeseen event that calls for immediate measures to minimise its adverse consequences. Slow onset disasters result when the ability of people to support themselves, and sustain their livelihoods, slowly diminishes over time. Such disasters may also be aggravated by ecological, social, economic and political conditions. Which events qualify as ‘disasters’ is a social issue? Is HIV or TB a disaster? Poverty, taxi violence and global warming? Oil spills and threatened penguins? While all these problems are serious, we should remember that a disaster is an exceptional event. It should have some negative human impact and reach a scale where abnormal interventions are required.

Disasters need to be declared in a legal sense to release government resources. In general, smaller, insidious, and environmental events, affecting poor and remote communities, are less likely to be officially recognized as disasters. It is not true that disasters are entirely unpredictable. Floods occur in valleys and flood plains; fires occur after the accumulation of dry material; wars after the accumulation of weapons. Earthquakes and cyclones occur mostly in places with a known history of such events. Mudslides may occur in uninhabited areas; but when there are homes in their path they can become disasters. Hazards are threats to life, well-being, property and/or the environment. Hazards result from extreme natural processes, technological developments, and various forms of social exclusion. They are risks that can be described in advance.

Vulnerability results from the interaction of a community, its environment and those hazards. Storms of equal magnitude might cause minimal disruption in the USA, but kill thousands in Bangladesh - people in Bangladesh are more vulnerable to storms. Disaster management encompasses all aspects of planning for and responding to disasters, including hazard analysis, vulnerability reduction (preparedness), prevention, mitigation, response, recovery and rehabilitation. It may refer to the management of both the risks and consequences of disasters. Contingency planning relates to events, which may or may not occur, in which objectives and scenarios are agreed, managerial and technical actions defined, and potential responses put in place to prevent, or respond to an emergency situation.

Mitigation is action to reduce the consequences of a disaster. While it may not be possible to prevent all disasters, the effects can be modified or reduced if appropriate steps are taken. Responses can be divided into early and late phases. Early responses are rescue and relief; later responses are rehabilitation and reconstruction. The first people to respond to any disaster are communities themselves, not governments. Their resourcefulness and resilience is the key to disaster mitigation. Local people are also the main drivers of reconstruction and continued development. In developing countries, longer-term effects of a disaster on local economies, social conflict, nutrition and disease patterns can cause far more deaths than the event itself.

Many international disasters have been described in terms of the ideal management, and what actually happened. Characteristically, even quite predictable and regular events have not been planned for; communities have been far more vulnerable than they could have been; and authorities have been slow to recognize and declare disasters. Responses have ranged from superb to downright incompetent or absent; relief has often been too little, too late, misdirected, or inappropriate. Often disaster responses are clouded in apathy and confusion; there are often severe deficiencies in communication and information systems.

The usual distortions from a rational response are caused by political and media factors, corruption, inadequate resources, and various local and foreign agencies working at cross purposes. Disaster responses often focus on short-term, high profile rescue operations and neglect the bigger, long-term issues. Finally, several authors have described the interconnections between disaster management and sustainable development. While good disaster planning minimizes interruptions to development, poor responses can divert scarce resources, increase dependency, and actually increase vulnerability to further disasters. Post-mortems, enquiries and evaluations are an essential part of the cycle. While it is easy to criticize after the event, they are also opportunities to do better the next time.

**NEED FOR HOSPITAL DISASTER PLANNING**

In the last few years, some of the worst disasters have been in India resulting in significant loss of life and destruction of property and infrastructure. The disaster sometimes occurred inside health institution which affected hospital staff, patients, visitors and the community. Healthcare facilities are expected to respond to these emergencies in a coherent fashion since hospitals definitely play an important role in disaster response due to the hospitals treatment role and are an integral part of the nation's disaster response efforts. As well hospitals are charged with preventing and reducing disease and injury [E. A. Heide, 2006]. In

the event of a disaster, hospitals themselves have two-pronged missions: provide patient care and protect their own staff and facilities [American Hospital Association, 2001].

To increase a hospital's resilience to deal with disaster, some literatures mention about the importance of having hospital disaster planning by establishing a predetermined level of operational sustainability that will carry it through a disaster [C. C. Barrett, 2007]. Thus a hospital can minimize the results of injuries, suffering, and death that accompany a disaster and provide continued quality care to those patients in the hospital. Other literature states that hospital preparedness is an essential requirement in the current atmosphere of man-made and natural disasters [Babar and R. Rinker, 2006]. The major accidents and disasters can only be mastered and controlled by intelligent planning [B. Hersche and O.C. Wenker, 2000].

## OBJECTIVE OF THE STUDY

The present study has twofold objectives. They are: To Study the Hospital Disaster Plan, To find out the challenge of establishing disaster plan in hospital, from process of planning, implementation, monitoring and evaluation and To find recommendation from literature to help planners to avoid common disaster management pitfalls thereby can improve performance during a disaster.

## METHODS

The study adopted the descriptive research design to understand the Hospital Disaster Plan and Challenges of Establishing Hospital Disaster in Hospital. The study was based on the secondary data such as articles in various journals and the internet materials.

## HOSPITAL DISASTER PLAN

Here are the details of Hospital Disaster Planning according to Dr. Shakti Kumar Gupta.

## AIM OF HOSPITAL DISASTER PLAN

To provide prompt and effective medical care to the largest number of people needing that care in order to bring about early recovery and reduce the death and disability associated with the disaster incident

## OBJECTIVES OF HOSPITAL DISASTER PLAN

- \* Prepare the staff and institutional resources for optimal performance
- \* Make the community aware of the importance of the disaster plan, how it is executed and the benefits it provides
- \* Train staff
- \* Carry out periodic drills & its evaluation to update plans Guidelines

## GUIDELINES

- ❖ Establishment of Communication intramural and extramural
- ❖ Mobilization Immediate & sustainable
- Manpower
- Materials and supplies
- Provisioning of the space
- Transportation
- Public relations
- Documentation

## PRINCIPLES OF DISASTER PLANNING

Pre-disaster preparedness & properly drawn up disaster plan can minimize effect of disaster. The plan should be:

- Simple- Easily understood by everybody so that it can be put into action immediately
- Flexible - To fit different types of disaster
- Clear & concise - Can be acted upon during noise & confusion
- Adaptable- Applicable for any time of the day including off time/day
- Extension of normal hospital working- working- So that staff can act upon it in routine manner
- Practiced regularly
- Permanent and periodically updated
- A part of a Regional Disaster Plan

## WHO SHOULD MAKE THE HOSPITAL DISASTER PLAN?

Hospital Disaster Management Committee would make the hospital disaster plan. The suggested membership of hospital disaster plan is Director/executive head of the hospital, Departmental heads, Nursing Superintendent/CNO/SNO, Hospital Administrator, I/c Casualty Services, Maintenance and Engineering Staff, Staff representative and Representatives from other supportive & utility services as required

## FUNCTIONS OF HDMC

The functions of the Hospital Disaster Management Committee are: to develop the Hospital Disaster Plan, to develop Department Plan in support of the hospital plan, to plan allocation of resources, to allocate duties to hospital staff, to establish standards for emergency care, to conduct and supervise training programme, to supervise drills to test the hospital plan and to review and revise the Disaster Plan at regular intervals.

## COMPONENTS OF HOSPITAL DISASTER PLAN

The components of Hospital Disaster Plan are:

1. Efficient system of alert
2. Staff assignments
3. Unified Medical Command
4. Mobilization of resources
  - a. Medical, nursing, administrator staff
  - b. Medical stores supply and equipment
  - c. Conversion of use use-able space and clearly defined areas for reception, triage, observation and immediate care
5. Procedure for prompt intra intra-hospital transfer of patients
6. Procedure for discharge/referral/transfer of patients including transportation
7. Prior establishment of public information centre



8. Security arrangements
9. OT utilization planning
10. Planning for X-ray Lab & Blood Bank services

## HOSPITAL DISASTER MANUAL

Every hospital should have the hospital disaster manual which has to be including the written statement of Disaster Plan and to be activated during disasters. The Hospital disaster manual is advised to be divided into five sections such as: Section I - Introduction, Section II - Responsibilities, Section III - Action Plan, Section IV - Check Lists and Section V - Rehearsals.

## CHALLENGES OF ESTABLISHING HOSPITAL DISASTER PLAN

### PLANNING

The Hospital Disaster plans are generally developed through discussions, meetings, articles from the internet, seminars, training, staff suggestions, and disaster plan from another hospital, accreditation guidelines and past experience. The Hospital also can undertake a disaster risk analysis before developing the plan. When designing the plans, the hospitals are encountered several challenges.

- a) **LIMITED STAFF:** The main challenge was a human resources matter such as limited staffing. Due to the limited number, staff had many jobs and made it difficult them together to discuss or establish the plans. Besides, since the disaster plan was a new issue, few staff had little skills and expertise in the field. Moreover, as the plans closely related to an emergency response, the idea and initiative for establishing the plan usually come from the Emergency Department.
- b) **LIMITED BUDGET:** Another challenge was the limited budget. The preparation of disaster plan needs many tools and infrastructures for example communication equipment and decontamination area with hot and cold water supply. Due to budget limitation, the hospitals could not comply with literature guidelines. Then the disaster committee modified the plan such as using intercom rather than radio communication for alternative communication.
- c) **CREATING AWARENESS:** All hospitals have to make an effort to make the hospital personnel aware of the hospital disaster plan. Usually the hospitals disseminate the plan through training such as fire, evacuation and Basic Life Support; and simulation.

Furthermore, staff could identify problems and apply lesson learned from past experienced. Usually before training and simulation, to introduce disaster plan matter, it is important since disaster plans are still a new issue in India.

### IMPLEMENTATION

After the planning the next important aspect of disaster planning is Implementation. Each hospital had different risks to anticipate as well as disaster plan implementation. The hospital may experience a disaster and/or mass casualty situation. Though the disasters plan exists in the hospitals, they may encounter the following challenges when using their own disaster plans.

- The first challenge was a limited budget.
- Second was the limited competency of hospital personnel about disaster planning topics.
- The third challenge is an ineffective command control system. Hospital have to concerned on the command control system and revised the system before to prevent the system cannot work on disaster situation
- Limited medical equipment and thus the hospital cannot handle the patients which were in need of sophisticated equipment and in these cases the patients would need referral to another hospital which has better facilities.
- Low human resources capacity issues and thus the hospitals needed to engage in a process of staff capacity building.
- Another challenge is the risk of ineffective coordination with the government field coordination unit and also within hospital.

### MONITORING

The major problem in this stage of the Hospital Disaster Plan is that the hospital doesn't implement a comprehensive hospital disaster preparedness measurement system. The reasons for not doing so were that there was no indicator or measurement tool and there was no department/division that had responsibility to do the monitoring. The measuring the plan is important to test the hospital system as a whole.

### CONCLUSION

There should be a clear understanding at the planning level that almost any part of the plan may fall through, and contingency plans should also exist:

- When establishing hospital disaster plans the involvement of a multidisciplinary team is required. Thus disaster planning committees should have multidisciplinary members including administrative staff.
- The disaster plan has to be decided locally on the basis of hazard analysis and proper disaster planning. In the case of these, it may be effective if Health Department can facilitate hospitals to meet and discuss about disaster plans so that there is congruence and sharing of resources.
- Regarding the Human recourse challenges, the hospitals have to deal with them by increasing human resources capacity in disaster and emergency response, regular training of staff in Basic Life Support and evacuation so that the staff will be ready to cope with disasters.
- The hospital has to disseminate the plan through training such as fire, evacuation and Basic Life Support; and simulation. Furthermore, staff could identify problems and apply lesson learned from past experienced. Usually before training and simulation, to introduce disaster plan matter, It is important since disaster plans are still a new issue in India.
- The plans must be simple and flexible since disasters never go according to the plan and it is crucial that the plan should be made by the people who are going to execute them
- When dealing with limited resources need to be cost-effective and focus on priority issues consequently, rather than doing everything possible to save an individual patient, it will be necessary to allocate limited resources in a modified manner to save as many lives as possible.
- Hospital should assign disaster team roles and responsibilities in terms of position rather than individuals.
- Hospital should establish tools and method for monitoring and evaluating disaster plan.
- The primary goal of disaster planning is increasing a hospital's resilience by establishing a predetermined level of operational sustainability that will carry it through a disaster. To create resilience, a hospital should integrate preparedness in its daily operations, fund it in its budget, implement it with standard operating procedures, and measure it through drills and performance evaluations.
- To be effective, plans must be practical, acceptable by all users, inter organizational, and based on valid resource information.
- Management should not focus on production of a written document since what need to be created are not only documents.

Hospital need to review their plan to improve it over time. To establish hospital preparedness towards disaster, hospital should establish operational sustainability that will carry it through disaster. Therefore hospital can reduce number of injuries, suffering and death during disaster and provide continued quality of care. Disaster plan can improve the hospital's capacity to deal with disasters. Using disaster plans, help hospital staff know what to do, when and how to do it, who they should help first and make coordination; and where is they should go. Moreover, the plans also give guidance to hospital what to do before and after disasters happen thus emergency response become more prepare, more organized and faster. Even though there were challenges in designing and implementing the plans, the hospital has to be prepared. This is lacking in many hospitals because they thought disaster was rarely happen thus the implementation of the plan was not necessary. Major accidents and disasters can only be mastered and controlled by intelligent planning However, even

disaster plan is nonprofit issue even need money; managers, administrators and clinician from all hospital have commitment to apply hospital disaster plan due to patient and staff safety.

**"Well plan is half work done"**

**"The best managed disaster is the disaster which is prevented!"**

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