

## A STUDY ON STAMPEDE DEATHS

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### ABSTRACT

A stampede is uncontrolled concentrated running as an act of mass motivation among group creatures or a jam of individuals in which the group (or group) by and large starts running, frequently trying to get away from an apparent threat. Species related with charge conduct incorporate dairy cattle, elephants, blue wildebeests, walruses, wild horses, rhinoceros, and people. Human charges and squashes regularly happen amid religious pilgrimages and expert donning and music occasions, as these occasions have a tendency to include many individuals in a thick region (packed). They likewise happen during alarm (e.g. because of a fire or blast) as individuals endeavor to escape. As indicated by specialists, genuine "rushes" (and "frenzies") once in a while happen with the exception of when many individuals are escaping in fear, for example, from a fire, and trampling by individuals in such "charge" conditions once in a while causes lethal wounds. Squashes are frequently alluded to as charges be that as it may, not at all like genuine rushes, they can cause numerous death. It has been proposed that crowd density instead of size is essential, with a density of around four individuals for each square meter starting to be dangerous, regardless of the possibility that the group is not extensive. Presently in this paper we will deal about counteracting charge death with the extent of disaster administration system

### OBJECTIVES OF THE STUDY

The objectives of the study were to examine the following,

- To know about stampede and causes of stampede deaths

- To know about an overview of loss of human lives on stampede deaths
- To do a detailed research on crowd management techniques to prevent stampede deaths .

### **HYPOTHESIS:-**

As death toll due to stampede are rising to a huge extent at various places, basically when it is crowded. It is essentially because of absence of appropriate crowd management procedures. Advance the general population are additionally not aware of the convenient activities that should be taken if there should be an occurrence of a crisis circumstance. The Government additionally is not proficient at lower levels that however there are different disaster management systems to counteract charge death, it is not been actualized legitimately.

### **RESEARCH METHODOLOGY**

This is a doctrinal research. Only secondary sources have been referred for this study. The primary sources which include interviews with people were not possible. Secondary sources include books related to the code of civil procedure and research articles on reasons for delay in civil suits were referred. Ample websites and blogs have also been referred for the study.

### **RESEARCH QUESTION**

What are the steps taken by the Government to reduce Stampede Deaths .

### **LIMITATIONS:-**

The limitations of the study is,

- Sample size of the study is too small that the topic is been dealt with only human stampedes.

### **CHAPTERISATION:-**

#### **Chapater 1: Stampede – Meaning:-**

Crushes are very often referred to as stampedes but, unlike true stampedes, they can cause many deaths. It has been suggested that crowd density rather than size is important, with a density of about four people per square meter beginning to be dangerous, even if the crowd is not very large.

Scholarly specialists who consider crowd movements and crushing disasters contradict the utilization of the expression "charge". "The talk of "rush" is regularly used to infer that the group is carnal or careless", University of Sussex crowd behavioral master Anne Templeton told Newsweek, remarking on the 2015 Mina fiasco, which happened amid the Hajj outside Mecca, Saudi Arabia. "The thickness of the Hajj has been appeared to reach up to 6–8 individuals for every square meter, so I would be exceptionally astounded if a charge (inferring individuals running thoughtlessly) could happen in any case.<sup>1</sup>" Most announced "Stampede" are better comprehended as "dynamic group breakdown": starting at densities of around six or seven people for every square meter, people are squeezed so intently against each other they can't move as people, and shockwaves can go through a group which, at such densities, carries on to some degree like a liquid. In the event that a solitary individual falls, or other individuals reach down to enable, rushes of bodies to can be automatically hastened forward away from any confining influence space. One such shockwave can make different openings in the group close-by, accelerating further pounding. Unfit to draw breath, people in a group can likewise be pounded while standing. Journalistic abuse of the expression "rush", says Edwin Galea of the University of Greenwich, is the aftereffect of "unadulterated obliviousness and lethargy ... it gives the feeling that it was a thoughtless group just thinking about themselves, and they were set up to pulverize individuals." as a general rule, people are specifically smashed by others close-by who must choose between limited options, and the individuals who can pick are excessively far off from the epicenter, making it impossible to know about what is going on<sup>2</sup>.

Among reasons for deadly pulverizes, some of the time portrayed as "rages", is the point at which a substantial group is endeavoring to get toward something; regularly happening when individuals at the back of a huge group keep pushing forward not realizing that those at the front are being squashed, or in view of something that constrains them to move.

A typical outcome of a smash with genuine results is that those in charge of the occasion where the squash occurred, specialists, for example, police and government bodies, and news media accuse the group and the casualties for being crazy and causing the pulverize, in some cases to the degree of a full conceal. Later examination, in some cases after those really mindful have resigned, may demonstrate that the catastrophe was to a great extent caused (in the good and lawful as opposed to physical sense) by activities of those arranging or in expert

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<sup>1</sup> Moore, Jack (September 24, 2015). "What Caused the Hajj Tragedy?". *Newsweek*

<sup>2</sup> Moore, Jack (September 24, 2015). "What Caused the Hajj Tragedy?". *Newsweek*.

of the occasion, as in the Hillsborough debacle which executed 96 football onlookers; activities by the group were faulted until examinations two decades later discovered complex mistakes by those in charge of sorting out and controlling the football occasion, with individuals from the group being hapless casualties<sup>3</sup>.

## CHAPTER 2 CAUSES OF DEATH AND CROWD CONTROL:-

Deaths from human crushes and stampedes are observed to be caused basically by compressive suffocation; trampling is a lesser executioner. This is because of group smash or group fall. In a group smash individuals are subjected to compressive strengths by being pushed from all sides (or against an obstruction, for example, a divider) with no place to move into. In a dynamic group crumple one individual falls, making a space in the jam into which others fall, making a much bigger gap. The individuals who have fallen are squashed by the heaviness of many individuals over them (vertical stacking). Pressure in either case is frequently lethal. A squash is ordinary of a crowd pushed into a restricted territory; a dynamic jam fall may happen in an expansive group moving consistently advances along a bound course.

Group control is an open security hone where huge group are figured out how to keep the episode of group crushes ,affray, battles including alcoholic and scattered individuals or mobs. Jam smashes specifically can cause a large number of fatalities. Group control can include secretly contracted security protects and additionally cops. Group control is regularly utilized everywhere, open social events like road fairs, music celebrations, stadiums and open rallies. At a few occasions, security protects and police utilize metal locators and sniffer puppies to avert weapons and medications being brought into a scene.

Materials, for example, stanchions<sup>4</sup>, crowd control hindrances<sup>5</sup>, wall and decals painted on the ground can be utilized to coordinate a group. Keeping the group agreeable and loose is additionally basic, so things like shades, cooling fans (in hot climate), and entertainment are some of the time utilized also. For controlling mobs and exhibitions, see revolt control.

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<sup>3</sup> Scrutiny of Evidence relating to the Hillsborough football stadium disaster, Lord Justice Stuart-Smith, February 1998, Page 83

<sup>4</sup> Berka, Justin (2007-06-21). "AT&T's terrible secret of space crowd control". ArsTechnica.

<sup>5</sup> Aschoff, Susan (2005-07-15). "Barricades at BayWalk make protesters wary". St. Petersburg Times.

Particular items that are utilized to execute line administration and open direction in high movement regions incorporate retractable belt frameworks (which consolidate a stanchion post and the retractable tape) and divider mount frameworks (likewise fusing a retractable belt yet are surface mounted). Post and rope frameworks are likewise well known, particularly in banks and theatres. A crowd controller is additionally another name for a bouncer or custodian.

### **CHAPTER 3: PREVENTION OF STAMPEDE DEATHS:-**

It is believed that most real group disaster can be counteracted by basic crowd administration procedures. Human charges can be forestalled by association and activity control, for example, obstructions. Then again, boundaries at times may pipe the group towards an effectively stuffed zone, for example, in the Hillsborough catastrophe. Thus obstructions can be an answer in anticipating or a key factor in causing a charge. One issue is absence of criticism from individuals being squashed to the group squeezing behind – input can rather be given by police, coordinators, or different onlookers, especially raised eyewitnesses, for example, on stages or horseback, who can overview the group and utilize amplifiers to convey and coordinate a group.

There is danger of a pound when crowd thickness surpasses around four individuals for every square meter. For a man in a group a flag of threat, and a notice to escape the group if conceivable, is the impression of being addressed each of the four sides. A later, more genuine, cautioning is the point at which one feels stun waves going through the group, because of individuals at the back pushing forward against individuals at the front with no place to go. <sup>6</sup>Keith Still of the Fire Safety Engineering Group, University of Greenwich, said Know about your environment. Look forward. Tune in to the group. In the event that you begin ending up in a group surge, sit tight for the surge to come, run with it, and move sideways. Continue moving with it and sideways, with it and sideways.

After the 1883 squash known as the Victoria Hall debacle which slaughtered 183 kids, a law was passed in England which required all open stimulation settings to be furnished with entryways that open outwards, for instance utilizing crash bar locks that open when pushed. Crash bars are required by different construction laws.

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<sup>6</sup> By Amanda Ripley, [Slate.com](http://Slate.com) Monday, Jan. 19, 2009, Article acknowledges traffic engineer John J. Fruin and G. Keith Still of Crowd Dynamics Ltd.

## **CHAPTER 4: DISASTER MANAGEMENT TECHNIQUES TO PREVENT STAMPEDE DEATHS:-**

As per specialists, genuine "stampedes" (and "frenzies") once in a while happen aside from when many individuals are escaping in fear, for example, from a fire, and trampling by individuals in such "charge" conditions once in a while causes lethal wounds. Following are some of the crowd management techniques that could be adopted to prevent stampede deaths,

### **A. Standards for Advance Planning and Training:**

1. The preparation for an event is based on background information, ticket sales, previous crowd behavior and the experience of other facilities hosting same event.
2. Facility representatives at times travel to other localities to observe crowd responses and crowd handling, along with the production of the show.
3. Special planning is done for difficult events.
4. House rules are publicized and enforced.
5. Training manuals are prepared by facility management and are distributed to all staff.
6. A crowd management plan and an emergency plan are prepared in writing.
7. Decisions to stop an event are made jointly by police, facility, promoter and entertainers.
8. The facility management works cooperatively with Fire Division personnel on the inside and with law enforcement officers on the outside to help develop appropriate safety plans.
9. A formal chain of command for both exterior and interior crowd management personnel is developed and shared with concerned parties.
10. Adequate communication is maintained between interior and exterior security.
11. Special notices and prohibitions for an event are publicized in advance.
12. There are sufficient medical emergency services, personnel and equipment.
13. Crowd management plans and techniques are periodically reviewed for effectiveness.

### **B. Techniques for Interior Crowd Management**

1. The facility assumes responsibility for interior patron behavior.

2. The facility is well maintained and clean at all times, including the time when an event is in progress,
3. Facility operators and/or event promoters make decisions concerning events inside with consideration to the possible effects of those decisions on the exterior crowd situation.
4. Alcohol is not sold when it may negatively affect crowd behavior.
5. Aisles and steps are well lighted or clearly marked.
6. Ushers seat patrons at reserved seating events.
7. Facility staff members are trained in crowd management.
8. Fire codes are enforced.
9. Medical emergency services are adequate for the event. First-aid room location is publicized to patrons.
10. Disabled and handicapped patrons receive special attention.
11. Facility lights are not turned off completely during the performance if there is no secondary lighting for aisle ways and corridors.
12. Security is familiar with emergency plans and building layout.
13. Ushers remain at positions until the event is over.

### **C. Techniques for Exterior Crowd Management**

1. The time set to open the facility is advertised and doors can be opened earlier if circumstances require.
2. The facility keeps the crowd informed about what is occurring inside.
3. The crowd is queued and its entry into the facility may be controlled by metering.
4. Concessionaires are permitted on the outside of the facility to sell refreshments, especially to waiting crowds.
5. More than one entrance is used, whenever possible.
6. Local government assumes responsibility for exterior crowd management on public property.
7. Police are trained in crowd management.
8. The size of a police detail for an event reflects the anticipated crowd size and behavior.
9. Patrons are kept from amassing against a facility.
10. The facility staff helps direct pedestrian traffic on the outside.

11. The public address system has adequate volume and clarity for outside and inside use.
12. The exterior security commander, the inside manager, security chief and medical care unit can communicate directly with each other.
13. Crowds outside are afforded the necessary accommodations while waiting (water fountains, portable toilets, waste baskets, musical broadcasts, etc.).

#### **D. Techniques for Facility Security**

1. Security has appropriate crowd management training and is familiar with the facility and emergency procedures.
2. Security personnel screen patrons for contraband.
3. House ushers and their personnel have names or identifying numbers on their apparel.
4. Security personnel enforce house rules.
5. Security personnel treat patrons with respect.
6. Security personnel cooperate with law enforcement officers and accept orders and directives in emergency situations.
7. Facility security personnel are neatly dressed.
8. Security personnel are provided with a training manual which explains and delegates roles of authority and responsibility.

#### **E. Techniques for Tickets and Ticket Processing**

1. Under normal conditions, one ticket taker per 1,000 patrons is used.
2. If intensive contraband inspection is necessary after ticket taking, 1.5 ticket takers are used per 1,000 patrons.
3. Tickets indicate which entrance the patron is to use.
4. For superstar events where demand for tickets is overwhelming, the date tickets go on sale is not announced until the tickets are available for sale, or tickets are sold by mail order.
5. A warning specifying contraband is displayed on tickets and at ticket entrances.
6. Tickets are legible; tickets for different events are readily distinguishable from one another.



### **Conclusion and Recommendations:-**

The most effective crowd management clearly delineates areas of responsibility and authority and especially underscores the need for cooperation and communication between public and private parties. When those elements are absent problems can arise at an event. In order to avoid all those the above said crowd management techniques must be strictly followed. Further local facilities should study the crowd management techniques and plans of other facilities to help them in formulating a comprehensive crowd management plan. The crowd management techniques when applicable should be employed by facility management for the safety of their patrons. Thus stampede deaths can be reduced to a huge extent by proper application of disaster management techniques.

### **Steps Government Should Take To Avoid Stampede Deaths :**

- Should create awareness among the Crowd regarding the Stampede Deaths .
- Should be prepared physically and mentally to manage the crowd .
- Government must should provide and maintain framework for prevention of Disaster
- Government should train the NDRF properly to maintain the Crowd

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