Abstract

India is a country rich in culture and beliefs, we believe in the idea that communal meetings and gatherings help in enriching our culture and keeping the essence alive, may it be a small wedding function, a kirtan evening or urban level conventions like Jayanti or religious fairs. Our cities becoming denser and hence, host more such gatherings. In such scenario, the need of planned, and computed approaches of crown management becomes a necessity. Cities in which such events are being hosted must cater to different types of need for the variety of crowd that approaches to it. The planning challenges for such events and gatherings led urban planners to embark on new studies that offer entirely new design approaches for crowd management. And on another hand the aspect of such design being temporary must be also considered. This article discusses planning strategies that may help any city in catering any such event and again getting back to normal functioning without hindering much the normal urban transactions. An example of Simhasth Maha Kumbh, 2016 Ujjain is taken to learn from and make the outcomes substantial for the study in general. The aim is to come with a strategic plan for any city to cater mass gathering related to religious, cultural and social celebrations.

Keywords: Urban Planning, Crowd Management, Religious Events, Social Gatherings, Temporary Planning

Introduction

India has many cities with diverse culture hosting many social and religious mass gathering many times in a year. Crowd Management by providing proper amenities and services becomes a major issue. Such events demand special type of attention and expertise when it comes to planning. Urban planning strategies for a city or town are designed to cater demands of future and that too for citizens sharing maximum share of permanent use of those services, but on other hand mass gatherings and conventions are temporary happening and require temporary solutions for planning and spatial needs.

Kumbh Mela is one of such gatherings and is the best example for such study as it is considered as a Mega Religous gathering of priest and devotees. The Kumbh Mela can be considered as a case study which can help demonstrating how certain smart systems can be used for a low-impact, more efficient and economical urban planning. It can also be used for educating large populations on sustainable living strategies, or even disaster response. Planners consider that certain aspects of ‘permanent’ 20th-century planning have failed in such gatherings and temporary and flexible planning can fill in the gaps today.
Literature Study

Kumbh Mela

Kumbh Mela is a mass pilgrimage in which Hindus gather to bathe in one of many sacred rivers. Traditionally, four faith fairs are widely recognized as the Kumbh Melas: Haridwar Kumbh, Allahabad Kumbh, Nashik-Trimbakshwar Simhastha Kumbh, and Ujjain Simhastha Kumbh. These four fairs are held periodically at one of the following places by rotation: Haridwar, Allahabad (Prayaga), Nashik district (Nashik and Trimbak), and Ujjain. The main festival site is located on the banks of a river: the Ganges (Ganga) at Haridwar; the confluence (Sangam) of the Ganges and the Yamuna and the invisible Sarasvati at Allahabad; the Godavari at Nashik; and the Shipra at Ujjain. Bathing in these rivers is thought to cleanse a person of all sins. The exact date is determined according to a combination of zodiac positions of the Jupiter, the Sun and the Moon. At Nashik and Ujjain, the Mela may be held while a planet is in Leo (Simha in Hindu astrology); in this case, it is also known as Simhastha. At Haridwar and Allahabad, an Ardha (“Half”) Kumbh Mela is held every sixth year; a Maha (“Great”) Kumbh Mela occurs after 144 years. The priests at other places have also claimed their local fairs to be Kumbh Melas. For example, the Mahamaham festival at Kumbakonam, held once in 12 years, is also portrayed as a Kumbh Mela.

Understanding any Indian religious or social gathering system

The World Health Organization (WHO) defines a mass gatherings as “gathering of more than a specified number of persons at a definite location for a specific purpose for a defined period of time”. The number of persons may be as few as 1000, but the available literature suggests that gatherings exceeding 25,000 persons are considered to be a mass gathering. Gatherings like Kumbh Mela happen in a city with importance like one with a really known temple or birth-place of some famous personality, or a place with a shrine. In such gathering what is more important that shall be considered is that though it magnets a certain type of crowd but still there is a type of versatility in it. Factors that create that versatility are, the proximity of crowd with the host, the importance of groups in the crowd, social difference among the crowd and so on.

Planning Considerations

Transportation

A proper display of direction and important information will reduce chaotic situations in such events. Vehicle movement needs to be closely monitored and regulated in the area of the event. Restriction on vehicles in crowded area, their diversion to some other non-crowded routes and permission to ply only small non-polluting vehicles such as “Thela” and manual Rickshaw should be given.

Temporary Structures

There can be temporary hazards such as damaged approach roads, bridges, pedestrian ways, subways etc. These temporary hazards can easily be removed by a dressing of roads, repairing bridges, proper tiling of pedestrian ways, repairing of other structures such as walls etc.
in such events continues even at late evening hours, the roads should be properly illuminated and the area should be lighted with adequate street lights. This will even help to curb anti-social activities.

Figure 4. Samanantar Bridge to distribute load from single bridge

Water Supply

Safe drinking water is one the basic requirements and adequate measures should be taken to ensure its constant supply during the period of the event. Water supply though tankers, temporary pipelines, and regular underground pipelines should be made available to people.

Figure 5. Water tanks that helped in branding too

The quality of drinking water should be a high priority. Waters tanks should be chlorinated. Temporary outlets/taps for drinking water and bathing should be provisioned separately to meet the surge in demands.

Sanitation and Solid Waste Management

Adequate numbers of garbage containers should be placed at all locations. The containers should be emptied frequently, at least twice a day, to maintain a clean and safe environment. The number of containers will depend on the size of the event, the population density, crowd movement and the amount of waste generated per day. The placement of these dustbins at strategic positions like near the venue, near vending shops, market places etc. will help to keep the area clean. The municipal corporation should ensure that there is the availability of adequate sweepers and waste disposal units covering the entire area and sweeping is done every day before the crowd movement starts. Daily timely pickup and disposal of solid waste should be made. Waste disposal sites/landfill sites should be identified well in advance and it should be out of the vicinity of the city. To prevent open air defecation, zero discharge toilets need to be constructed. Additionally, an adequate number of mobile toilets should be arranged. The drainage system of the city/event area should be properly inspected to unclog it so as to prepare the area for any unprecedented hydrological event such as flash flood or cloud bursts. Regular fogging, sprinkling of bleaching powder and other pest control measures should be taken to contain communicable/non-communicable diseases. A Health Inspector should be deputed in major areas to supervise the sanitation and solid waste management related activities. Regular and frequent cleaning of Ghats and areas around water bodies should be carried out. Filtering of pollutants and waste material from water bodies should be done regularly to prevent diseases and skin related ailments. Green initiatives such as banning of polythene bags during event period and use of paper bags, clothed carry bags etc. should be promoted.

Figure 6. Water Tank with filtration system to cater the water demand

Spacial attention for vulnerable group of people

In general, elderly citizens, pregnant women and children form a very sensitive and vulnerable group of the society. Hence, they need special care and attention. Hand-pulled rickshaw, thela, and battery operated vehicles etc. should be made available to such groups. Temporary/permanent changing room for women near the Ghats should be provided for privacy and to reduce anti-social activities.

Figure 7. Separate Temporary Ghats for ladies and elderly

Fire Services

Temporary fire station should be set-up at strategic locations based on the flow of the crowd and the density of shops and other establishments. Bike mounted firefighting equipment should be installed at all the important locations to increase accessibility of areas where fire-tenders can’t reach. There needs to be a specialized and dedicated team ready to respond to any emergency. Prepositioning of the officers and staffs should be done for the entire period. Additional water pipes should be laid and water drums should be kept at regular intervals to meet the demands for firefighting. Fire extinguishers should be installed at the places where the congregation is within an enclosure/
Participants in the crowd very seldom act in unison. The crowd is more of a process, it has a beginning, the topography of the city, the geography of the city, the existent planning of the city, the duration of execution, sanitation and waste disposal system of the system.

It is made of several types of “groups”, which arrive, remain and function together. Participants in the crowd do not necessarily assume a sense of anonymity in them, Participants in the crowd very seldom act in unison and, if they do, it rarely lasts long, The crowd is more of a process, it has a beginning, middle, and end.

Participants in the crowd are not distinguished by the chaos but on the basis of their demands.[3]

1. The Crowd
   - It is not a homogeneous entity.
   - All participants in the crowd are not same.
   - It is not made up of many types of isolated individuals
   - It is made of several types of “groups”, which arrive, remain and function together.
   - Participants in the crowd do not necessarily assume a sense of anonymity in them.
   - Participants in the crowd very seldom act in unison and, if they do, it rarely lasts long.
   - The crowd is more of a process, it has a beginning, middle, and end.
   - Participants in the crowd are not distinguished by the chaos but on the basis of their demands.[3]

2. The Duration
   - The duration of the main event
   - The duration of planning
   - The duration of execution
   - The duration of post-event and packing up.

3. The City
   - The geography of the city.
   - The climate of the city during the event.
   - The topography of the city.
   - The existent planning of the city.
   - The commercial traits of the city.
   - Demographics of the city.
   - The transportation system of the city.
   - Sanitation and waste disposal system of the system.

4. Understanding Stakeholders

Planning Strategies and Methodology
Planning for such events must cater each and every demand of participants and that too with adequate levels of service. The deficiency of units providing such services may create menace, so it must be considered. The basic fundamental of urban planning for such events is to support the design of a temporary city that can house so many pilgrims. The planning even being temporary must complete many aspects of urbanisms like spatial zoning, enough electricity supply, adequate food and water distribution, physical infrastructure, mass vaccinations, first aid. Hosting such an event is equivalent to establishing and functioning a new city for a quite short period of time but with all amenities. The best way is to mix the planning with existing planning of the city.

Conclusion
With a large population that gathers in such mega religious and social events, it usually becomes a herculean task for the administration to manage the crowd. Though there is always prior planning done to manage such events many gaps still remain unfilled and unmanaged by the administration, and hence isolated incidents of, stampede, serious injury or even life loss or any other such accidents are observed. Not only these, but after the event, the city experiences chaos for a period of time and it hinders normal urban transactions. Events like The Simhasth Mela is acknowledged to be traditionally managed over the years; however, in 2016 the state government introduced modern technologies to manage the crowd and provide them the amenities. There were CCTV cameras, smart money and finance models, modern firefighting instruments, websites, android application, well-equipped search and rescue team etc. The total effort was a planned, strategic execution of design and hence most of the activities during the fest were executed seamlessly. There was, however, some gap in the planning or can say geographical barriers as the administration could not prevent the mishap of the flood. Therefore, a more aggressive awareness generation or sensitization campaign was lacking so as to educate people on their personal safety measures. Despite the shortfalls, one must appreciate that the government has done splendid work in managing this event of mass gathering and it has been able to handle a crowd of 120 million in a small city like Ujjain. Additionally, it has adopted some of the best practices that have captured attentions of many practitioners, governments, international research firms etc.

This case study undertaken during the research aims to capture these best practices from Kumbh Mela. It may be useful for the other government bodies in managing or similar events of mass gathering for safety and better execution.

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