



CPTED for a Safe Basti: A Case of Nardan Camp

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Abstract

Rapid urbanization has led to the incremental growth of Bastis in Delhi, and these Bastis have become major grounds for crime due to negligence, as well as spaces that become prone to dumping of garbage, criminal activities, and drug addiction. These spaces are generally located near the periphery, which often coincides with the entry to the forest or restricted areas, as in the case of Nardan Camp, Delhi. The residents have faced criminal activities such as theft, eve teasing, robbery, etc. on a daily basis, and women have been the easiest target for the same. The primary research, including the site visits, revealed that the crime was due to easy access to the Basti, lack of physical infrastructure, and behavioral changes in the youth. The study indicated that the problems may be addressed by a few interventions based on the concepts of CPTED. These interventions were proposed after a thorough understanding of the needs and the activity pattern with community participation to bring in a sense of belonging to the dwellers. The public spaces could be made safer by providing basic physical infrastructure such as streetlights, boundary walls, creating buffer zones on the periphery, installing cameras, etc. Also, by providing safe spaces for all age groups. These small interventions can bring a change in the Basti through CPTED and can help transform gloomy dysfunctional public spaces into celebrated community spaces while increasing livability and the quality of life.

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1. Introduction

Rapid urbanization and city development, as a result of ongoing migration, have caused several challenges in Indian cities. Slum relocation, unauthorized settlement, overpopulation, and economic inequality have all contributed to an increase in crime. Urban growth and city expansion frequently result in unforeseen spaces—concealed and neglected, they can become breeding grounds for criminals and drug users or waste dumping sites. These abandoned areas are dangerous and have become hotspots for criminal activity such as theft, eve teasing, robbery, and so on.

Delhi, India's capital, faces a persistent slum problem due to rapid urbanization, rural-to-urban migration, and a growing population. The city now houses over 2,500 slums, accommodating millions of people, constituting a significant fraction of the total population (Sinha & Shekhar, 2017). The influx of rural migrants seeking better economic opportunities has exacerbated the issue, leading to the rapid spread of slum settlements. Living conditions in these slums are characterized by overcrowding, lack of essential facilities, and inadequate housing, resulting in serious health hazards and poor overall well-being. Slum dwellers often lack proper sanitation, safe drinking water, and waste management systems. Apart from these, a major problem which has been neglected is the increasing crime rate in the unauthorized settlements of Delhi. In Delhi, 43% of slum residents reported that minor crimes like fights, brawls, and snatching have increased in their locality (Jyoti Mishra, 2022).

Nardan Camp in Delhi is an unauthorized settlement located near the protected forest area in Tughlakabad. The location of the Basti and unprecedented growth has led to the formation of land parcels near the approach of the Basti, which has led to shady places for criminal activities. These crimes have created an unsafe environment for the people of the Basti, especially for women and children. These crimes need to be addressed and prevented through design interventions in the Basti based on the methods of Crime Prevention Through Environmental Design (CPTED).



Figure 1. Entry of Nardan Basti



Figure 2. Streets of Nardan Basti

Crime Prevention Through Environmental Design (CPTED) is a multidisciplinary crime prevention method that employs urban and architectural design, as well as the management of built and natural settings. CPTED tactics seek to reduce victimization, dissuade offender decisions that lead to criminal actions, and foster a sense of community among residents to achieve territorial control of places, reduce crime, and diminish fear of crime (Singapore, 2003a).

1.1. Study Area

Nardan Basti is situated near Tughlaqabad on the Mehrauli-Badarpur road and covers an area of 38,757 sq km with 593 households. It is adjacent to the Asola Bhatti Wildlife Sanctuary, so the Basti site has contoured slopes and is surrounded by lush greens in the south. The designated land use in the Master plan is Regional Park under Recreational spaces. The Basti has 3 entry points: two from Mehrauli Badarpur road through Warsi and MST road, and one entry from Khatta camp through Prem Nagar Road. The Basti has dense development set along narrow streets with very few open areas. The frontage of the Basti near the main approach from the highway has quite a big open space, which is used for parking, construction material, and waste dumping. This area serves as a major breeding ground for criminal activities.



Figure 3. Delhi location in map of India.



Figure 4. Nardan Basti location in map of Delhi.

1.2. Aim

The aim of the research paper is to create safe public spaces and provide solutions for the increasing crimes in Nardan Basti through design interventions based on the methods of CPTED.

2. Methodology

The primary research included site visits to the Basti, focused group discussions, interviews with stakeholders, and activity mapping in the area. The site visit was conducted to understand the ground reality and observe the activity pattern. Additionally, focused group discussions were arranged with the women and youth of the Basti with the help of an NGO already working in the Basti. The discussion included approximately 20 women aged 14 to 70 and around 10 children. The secondary research includes reports regarding crime in Delhi Slums and CPTED methods for crime prevention, along with guidelines, principles, and objectives.



Figure 5. Site Visit of Nardan Basti.



Figure 6. Focused Group discussion.

3. Literature Review

Crime Prevention Through Environmental Design (CPTED) is a proactive or reactive strategy that modifies the environment to decrease the likelihood of criminal activity. CPTED includes six main components: territoriality, surveillance, access control, image and maintenance, activity support, and target hardening (Cozens et al., 2005). Territoriality involves clearly identifying ownership of land or property through symbolic and real barriers. Surveillance includes formal, informal, and mechanical methods to deter potential offenders. Access control restricts or redirects movement within a location through physical or perceptual barriers. Image and maintenance promote a positive image and show guardianship through upkeep and eliminating disarray. Activity support encourages intended patterns of use and community engagement. Target hardening involves physical barriers and reinforcement to deny or limit access to a target. Excessive reliance on target hardening can create a fortress mentality and damage the self-policing capacity of the environment. CPTED can effectively reduce opportunities for crime and the fear of crime. Refinements to the strategy may include more risk assessment and socio-economic and demographic profiling (Abdul, n.d.). CPTED strategies can be tailored to specific issues, such as reducing open-air drug sales and use.

The Crime Prevention Through Environmental Design (CPTED) Guidebook (Singapore, 2003b) emphasizes the role of the community, homeowners, planners, developers, and architects in integrating CPTED principles and concepts into the design and management of the physical environment for effective crime prevention and control. The designated purpose of a space can be evaluated using the Three D's (Design, Deterrence, and Detection) framework, which considers factors such as legibility, transparency, familiarity, and territorial reinforcement. Visibility and lighting play a crucial role in enhancing natural surveillance and reducing concealed or isolated routes, entrapment areas, and crime opportunities. Activity generation, including cultural and entertainment activities, can contribute to the vitality of business districts and town centers, attracting more people and tourists. Design elements such as open railings, well-defined entrances, visible washroom entrances, and sufficient lighting contribute to continuity, clear ownership, and safety.

The authors Al-Ghiyadh and Al-Khafaji in the IOP Conference have mentioned that urban planning and urban design play a crucial role in creating safe cities and improving security conditions in urban areas. The combination of urban planning and urban design is essential in the process of building safe cities (Al-Ghiyadh & Al-Khafaji, 2021). The paper suggests that various elements of urban planning and design, such as street planning, land use, building density, and management and good governance, can reduce opportunities for crime and increase security. The authors emphasize the importance of designing for territoriality, access control, defensible space, accessibility, activity support, building image, visibility, lighting, and maintenance in order to enhance security in urban areas. The paper also highlights the need for proper organization, cooperation with city authorities, and the implementation of policies and tasks such as successful planning and design, good governance, professional police personnel, and modern surveillance technologies to create safe cities (Al-Ghiyadh & Al-Khafaji, 2021).

The review of two decades of research on violence against women in urban slums of India concludes that crime against women in these areas is widespread and persistent. The prevalence of any form of violence against women in urban slums, as reported in the studies, ranged from 15% to 59.3% (Jungari et al., 2022). The review also highlights that the risks of violence and crime against women in urban slums have not changed over time due to unsafe spaces in the

locality and lack of physical infrastructure. The studies reviewed were mostly concentrated in Mumbai, indicating a need for in-depth studies covering slums in other major cities to gain better insights into the issue.

4. Discussion and Findings

4.1. Crime in Nardan Basti

Nardan Basti, due to its location, unrestricted access through the highway, and proximity to the forest area, has led to an increase in crime in the Basti. Eve teasing, snatching, and theft have become a daily affair. The main access to the Basti is from the Mehrauli Badarpur Road, but the stretch from the highway to the Basti is covered with wilderness on both sides. These areas become hiding places for thieves; they attack people in broad daylight using sharp weapons and snatch valuable items. Also, due to the absence of streetlights in the Basti, it becomes way more dangerous at night. Although the Basti is near the highway, it does not have a bus stop; the nearest bus stop is more than 1 km away from the Basti, making it difficult for women, children, and the elderly to travel, especially at night. The areas in the Basti adjacent to the forest areas are unsafe due to thieves entering houses easily and then running back to the forest. Women face eve teasing while returning from work or school on the main street, which creates an unsafe environment for women due to the lack of lights and surveillance.

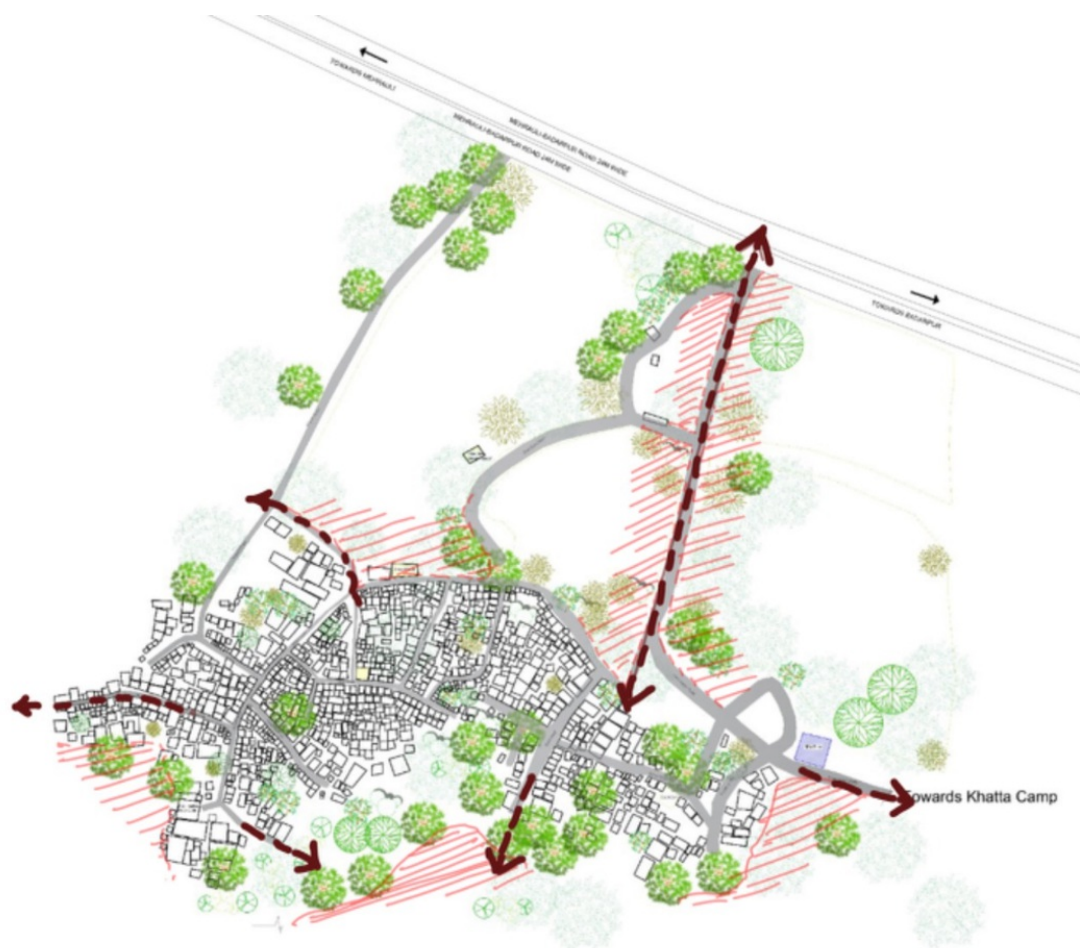


Figure 7. Basti Base Map showing crime Hotspot and dead spaces.



Figure 8. Entry of Basti.



Figure 9. Gathering at Entrance.



Figure 10. Bati open from forest side.



Figure 11. Poor Solid waste management.

4.2. Aspirations of the Basti's People

The focused group discussion with the women and youth of the Basti brought forth various problems and demands of the people for a safe environment. The people aspire to feel safe in public spaces, and the women and children of the Basti need safe spaces for recreational activities. The elimination of criminal activity from the Basti through environmental design will lead to a positive impact on the youth, as these shady areas lead to breeding grounds for drug addiction. The Basti people also demand a security checkpoint to be established near the main entrance for the purpose of safety.



Figure 12. Children playing area.



Figure 13. Safety of women.



Figure 14. No drug.

4.3. Design Interventions as per CPTED

The proposed design interventions for the Basti are based on first-generation CPTED principles, such as natural surveillance, territoriality, access control, image and maintenance, activity support, and target hardening. These interventions can be made possible through second-generation community engagement. The proposals include public parks, bus stops, solid waste management, creating buffer zones between the forest and Basti, and the installation of streetlights and CCTVs for surveillance, among others.



Proposals:

1. Public Park
2. Bus stop
3. Buffer Zone
4. Streetlights and CCTV Cameras

Figure 15. Proposed Plan for Nardan Basti



Figure 16. Bus Stop.



Figure 17. Bus Stop.



Figure 18. Solid waste management



Figure 19. CCTV Surveillance and Street lights

4.3.1. Public Park

A public park alongside the main street connecting the highway and the Basti will help create a safe recreational space and lead to natural surveillance due to the presence of people in the park and their watchful eyes on the street.

Developing the park will also improve the image of the street. Activities in the park, such as interactions among people, swings for children, walls for kids to draw on, and a multipurpose central space, will contribute to creating an active environment and avoiding shadiness in the area.



Figure 20. Playing area - Activity.



Figure 21. Children drawing on wall - Activity.



Figure 22. Safe Entrance of Basti due to nearby bus stop and streetlights. - Activity

4.3.2. Bus Stop

The bus stop at the main entrance of the Basti, which was once functional, was demolished to develop a new one that is now more than a kilometer away. This situation has led to various problems while traveling for women, children, and elderly people. Hence, a bus stop can be proposed at the main entrance to facilitate safety and security, even during the night, and add a sense of territoriality.



Figure 23. Sitting space for activity in Buffer Zone and fencing done by recyclable material for access control.



Figure 24. Urban Farming in Buffer Zone. - Activity

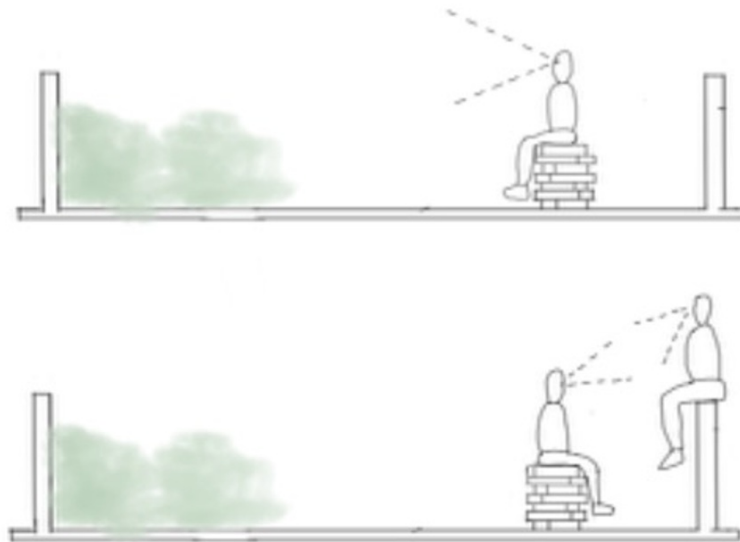


Figure 25. Natural Surveillance in Buffer Zones

4.3.3. Buffer Zone

Buffer zones can be created in areas adjacent to the forest to control access to the Basti. These buffer zones will have fencing made from recyclable materials such as cycle rims, tires, metal scraps, etc. In addition to the fencing, the buffer zone will be a landscaped area with seating and space for urban farming. As a result, the buffer zone will control access, add activity, and contribute to the factor of image and maintenance in the area, making it more lively.

5. Conclusion

Nardan Basti, an unauthorized settlement, lacks physical infrastructure and is prone to criminal activities due to easy access and its proximity to the forest, among other factors. CPTED methods-based interventions, such as natural surveillance through activity in public parks and buffer zones, can help reduce crime. Additionally, access control through fencing and the provision of bus stops can add a sense of territoriality to the Basti. The youth of the Basti are proactive in bringing about change, making second-generation CPTED community participation an effective means for implementing interventions. These small interventions can create a significant transformation, turning previously inactive and shady areas into vibrant spaces that ensure safety and security in the Basti.

Intervention	CPTED Component
Public Park	Activity Support, Image and Maintenance, Natural Surveillance
Bus Stop	Activity Support, Territoriality
Buffer Zones	Access Control, Activity Support, Image and Maintenance, Territoriality
Streets Lights and CCTV	Surveillance, Access Control

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