Review of: ""Examining GITAM (Deemed to be University) and Osmania Universities in Hyderabad for Crime Prevention through Environmental Design measures": A foundation towards a safe CPTED exterior campus model"

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The paper begins by emphasizing the significance of campus violence in India as a pressing public health issue, affecting individuals physically and psychologically. The inclusion of statistical data from the Global Coalition to Protect Education from Attack (GCPEA) adds credibility to the problem, pointing out 136 crime incidents in India, resulting in harm to 2,385 individuals. Notably, the rising crime rate in Telangana is highlighted, setting the stage for the study's relevance. The central focus of the paper is introduced as an exploration of emerging problems within Indian campuses and the role of Crime Prevention through Environmental Designing (CPTED) in addressing these challenges. The author, identified as an architect, outlines the need for careful planning of spaces to prevent crime, an objective achieved through surveys and analysis at Gandhi Institute of Technology and Management (GITAM) and Osmania University (OU) campuses in Hyderabad.

The abstract concludes by highlighting the incorporation of secondary data from relevant research papers, the formulation of architectural findings, and the identification of implications for college authorities in India. The promise of practical solutions and student-friendly frameworks to curb violence on a macro level in campuses suggests the potential impact of the study.

Section 1. introduction succinctly establishes safety and security challenges as perennial issues in campus environments. The author suggests that effective planning, designing, and detailing are crucial in mitigating campus crime, emphasizing the architectural element of "safety and security." The introduction then introduces the two case study campuses, GITAM and Osmania University, providing essential details such as location, size, and student-staff ratios.

Crime Prevention through Environmental Design (CPTED) is introduced as a cost-effective strategy, elaborating on its key principles: natural surveillance, access control, territorial reinforcement, and space management. The incorporation of a revised CPTED model enhances clarity for readers. The mention of Geographical juxtaposition as a new theory in CPTED adds an innovative aspect to the study.

A visual representation (Figure 1) of the revised CPTED model is provided, showcasing the elements of CPTED principles. The introduction concludes by listing macro-level problems identified on campuses, such as increased crime rates, lack of structured parking, poor fencing, and planners' negligence. This effectively sets the stage for the subsequent

sections, laying the groundwork for the study's objectives and significance.

Sub-section 1.1. CPTED theory illustrates the fundamentals of the CPTED theory, originating with C. Ray Jeffery and further developed by Oscar Newman, and then delineated into three generations. The first generation, rooted in the 1960s-70s, focuses on urban planning strategies that were later applied to school campuses. The principles include natural surveillance, access control, territoriality reinforcement, and management and maintenance. The second generation, spanning the 1980s-90s, broadens the scope to include neighborhood health and social ecology, incorporating social cohesion, connectivity, threshold capacity, and community centers. The third generation, from the 2000s to the present, adopts a holistic approach considering psychological and emotional factors, emphasizing inclusivity, sustainability, and deep community needs.

Sub-section 1.2. Crime statistics in Hyderabad shows how crime statistics in Hyderabad, particularly in Telangana, reveal a 4.4% increase in crime rates from 2021-22, with a notable focus on attacks against women and girls, including sexual violence. The GCPEA survey reports 55 attacks during education-related protests, underscoring the urgency of addressing safety concerns on campuses.

In **Sub-section 1.3. CPTED Principles** the paper explores key CPTED principles, starting with geographical juxtaposition, emphasizing the influence of surrounding spaces on safety. Territoriality reinforcement involves defining zones to enhance security, while natural surveillance relies on visibility to deter potential offenders. Access control focuses on denying targeted access, and maintenance underscores the importance of a well-kept environment for fostering a sense of safety.

The subsequent **Sub-section 1.4. CPTED Design Considerations** delves into specific design considerations for entrances, lighting, fencing, landscaping, car parking, public areas, blind corners, and building geometry. Notable recommendations include visible entrances, proper lighting adhering to national codes, fencing heights for natural surveillance, strategic landscaping to avoid entrapment, and careful planning of parking areas to minimize dark spots.

The article concludes by posing relevant research questions, addressing issues such as identifying building types with a high probability of crime occurrences, proactive approaches for architects in crime prevention at the planning level, the potential benefits for future campuses, strategies to avoid blind spots, and the necessity of making CPTED measures mandatory in building bye-laws. These questions set the stage for the practical implications and applications of the study's findings in real-world scenarios.

The **methodology section 2.** outlines challenges encountered during the survey, particularly addressing the sensitive issue of participants feeling safe while providing genuine opinions. To mitigate the fear of expressing concerns, the survey ensured anonymity by refraining from disclosing names and other personal details. The study presents survey results from both GITAM and Osmania University, accompanied by visual representations (Figures 15-30). The findings are showed below in our **Table review.1** for Gitam University and Osmania University respectively:

Survey Results	Gitam University	Osmania University
Inappropriate Location	✓ As per user feedback	-
Visibility Issues	✓ Trees and bushes obstructing lighting	✓ Lack of zoning for monitoring on-street activities
Face Identification	✓ Difficulty beyond 25 meters	-
Signages and Lighting	✓ Insufficient, creating escape opportunities	✓ Difficulties in wayfinding
Parking Safety Concerns	✓ Safety concerns related to parking areas	-
Staircase Safety	✓ High chances of vandalism	-
Security System Functionality	✓ Inadequate functioning	✓ Similar challenges
Wayfinding and Monitoring	✓ Lack of proper wayfinding and monitoring of activities	✓ Difficulties in wayfinding and monitoring on-street activities
Blind Spots	✓ Presence of blind spots compromising overall security	✓ Identification of blind spots
Scattered Buildings	-	✓ User discomfort with scattered buildings
Intrusion of Outsiders	-	✓ Despite security measures at entrances
Harm Caused by Dogs	-	✓ Entry of dogs causing harm to users
Perception of Accessibility	-	✓ Perception of campuses as accessible to public transportation and in the city center

This table provides a concise overview of the commonalities and differences in the survey results between Gitam University and Osmania University.

Both universities share common issues, such as security system inefficiencies, blind spots, and concerns about safety and wayfinding. However, specific challenges differ, with GITAM facing problems related to campus location and visibility, while Osmania University deals with issues of zoning, scattered buildings, and the entry of outsiders and animals. Visual aids, including Figures 29 and 30, depict blind spots at Osmania University and design solutions at GITAM Campus for Crime Prevention through Environmental Design (CPTED) measures, respectively. These results contribute valuable insights for developing practical solutions and strategies to enhance campus safety and security.

The **discussion section 4.** outlines key recommendations for creating an exterior safe campus model based on Crime Prevention through Environmental Design (CPTED) principles. These recommendations are derived from the survey results and align with existing research findings. The proposed changes for future campus planning are as follows:

- *Strategic Site Selection*:
  - New campuses should be situated in city centers or connected to unisolated towns or villages with accessible public utilities.
  - Collaboration with local communities is essential to reduce crime and enhance safety.
- *Zoning and Wayfinding*:
  - Site-level zoning and effective wayfinding should be implemented to enhance organization and navigation within the campus.

- *Strong Boundaries*:
  - Construct boundaries using robust materials like wrought iron or a combination of solid walls with fences on top to minimize outsider entry.
- *Building Geometry*:
  - Adopt O, U, or H-shaped building geometries to promote natural surveillance.
  - Design windows to ensure visibility of street activities and parking spaces.
- *Blind Spot Avoidance*:
  - Utilize building geometry to avoid blind spots.
  - Cover entrapment spots under staircases.
- *Playground Accessibility*:
  - Ensure that playgrounds are accessible from all sides of the building or, at the very least, from administration areas.
- *Vegetation Management*:
  - Trim trees up to a height of 2.4m and limit shrub height to 600-750mm.
  - Plan vegetation away from the building line.
- *Lighting Standards*:
  - Maintain street lighting levels of at least 5 lux as per SP7:2010 code.
- *Reducing Graffiti*:
  - Implement measures to reduce graffiti, including the use of green walls.
- *Optimizing Wayfinding*:
  - Simplify wayfinding through thoughtful planning.
- *Limited Entry Points and Proper Zoning*:
  - Minimize the number of entry points to no more than four based on the site's scale and accessibility.
  - Implement proper zoning based on public, semi-public, and private zones.
- *Closing Unused Areas*:
  - Areas not in use after college hours should be closed with mesh or fencing to restrict access.

Suggestions:

- Incorporate more insights from Waynick's spatial analysis of perceptions of safety, crime, and lighting on college

campuses.

- Consider the importance of facility design for school safety, as highlighted by Želimir and Mihalić.
- Reflect more on Moore and Powers' Florida Safe Schools 1993 design guidelines for additional insights.

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