

Lighting: connecting infrastructures to understand safety and security

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Disconnected infrastructures and VAW: Innovating digital technologies to address VAW in Indian cities

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1. Infrastructures are not gender neutral

2. Broad definition of infrastructure to refer to *physical infrastructure*, *digital infrastructure*, *social infrastructure*

3. Scales of analysis: connecting up international-national-regional to local level knowledge and practice



Connecting lighting and safety...

- Lighting is synonymous with safety
- BUT Professional/academic knowledge base is poor, sparse, ambiguous and often misused
- We don't have accurate data on 'how lighting impacts X' (crime, perception of safety, 'anti-social behaviour')



Methodology:

- measurement of light levels for both installed lights and ambient lights (from shops, cars, etc) throughout both enclaves;
- Photo and video documentation and analysis of light and shadow on a metre by metre basis throughout the enclaves, including documentation of public gathering spaces and pedestrian routes through the neighbourhoods
- Observation of night-time practices in public spaces (both men and women, children)
- Interviews with women in situ about their use of public space and what they think about the lighting.
- In Trivandrum some 'experimentation' – changing light bulbs in people's houses to explore light qualities with residents.



Trivandrum, Kerala

- Women feel safe in enclave (but *very* unsafe at home and outside their enclave)
- Concerned about the safety of their husbands and sons (alcohol, drugs, fighting, all blamed on outsiders).
- Tall mast:
 - enables visibility of ‘our’ people and ‘outsiders’
 - women distinguish brightness from colour rendering (CRI): colour temperature
 - ‘good light’ = **clarity** = facial recognition
 - Safety - we can police ourselves
 - Lighting infrastructure supports social infrastructure



Kochi, Kerala

- Women-light- safety connections *reversed*
 - Public space of enclave perceived as dangerous (home and city are less dangerous)
 - Concerned about men, drugs, alcohol and fighting
- Strong division between two ethnic communities who blame the danger on each other.
 - Community self-policing is not an option. People send girls out of the neighbourhood entirely if possible.
- Need to light the few places that women go after dark (public water taps) to publicly support right to be outside
- Lighting can't be divorced from social infrastructure



Other findings

- What do we mean by 'safety'?
 - Safety – falls into road, ditches, rubbish, collisions with vehicles and people (Trivandrum)
 - Security – direct forms of violence (Kochi)
- Care and maintenance
 - Repairing lights not just about *functionality* (safety and security)
 - *Politically symbolic*
 - (low value of value of their neighbourhood by the state, marginality, powerlessness as citizens)



Conclusion

- **Different levels of analysis** provide different lens to examine how infrastructures are lived
- Standardized measures have to be **localized wherever possible**
- Lighting is not a magic bullet that impacts safety routinely and predictably. To the contrary, our main finding and recommendation is that cities need better *social* understanding of how both light *and* safety

