Infrastructure, often ignored by social scientists for its invisible and hence normalised qualities, is a design project and not a static thing (such as a pipe). A process animating the making of permanence: physically, politically, socially and institutionally.

The site for this article is Savda Ghvera, one of many large resettlement colonies on the peri-urban fringe developed in parallel to the demolition of approximately 95,000 houses from central Delhi. These resettlement colonies develop in a piecemeal fashion with little or no state services to support their growth.

To give some historical context, the resettlement of Savda Ghevra did not involve housing but instead simple relocation on large semi-serviced blocks of plots. The individual plots within each block are serviced with electricity but no water or sewage; with residents reliant on tankers for water and communal toilets or neighbouring fields as their toilets. This resettlement strategy resulted in an urban formation that is the accumulation of multiple individual decisions, which can be understood as a spectrum of housing types.

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At the poorer end of the spectrum 'kuccha' (made with temporary building materials such as bamboo and tarpaulin) dwellings are usually too basic to form a foundation for improvements; whereas moving from the 'semi-pucca' (brick walls with corrugated tin roofs that cannot take loads) to the 'pucca' (reinforced concrete and load-bearing brick walls and roofs) allows for stage improvements to happen more easily. At the top end of the spectrum, residents have the means but also individualised values which can be in conflict with collective efforts for improvement.

When I first arrived to Savda back in 2010, I was conducting interviews to understand the accelerators and barriers for housing investment (along the spectrum) and realised that a tipping point was the desire for an in-house toilet – often triggered by a young girl coming of age or a bride entering the family home. This observation started a long project in collaboration with CURE, a local NGO, to design and implement a sanitation project. It was in this process that the 'politics of shit' (stealing a term from the social-cultural anthropologist Arjun Appadurai) is turned on its head and the humiliation and victimisation (of not having a toilet) was transformed into exercise of technical capacity and self-dignification. Women's groups were established that formed the long term management of the project and the first Resident Welfare Association was formed in a Delhi resettlement colony. This form of politics becomes a kind of infrastructure itself which is so important because, the aggregate of individuals is often the opposite of 'community.' It needs to be acknowledged that 'community' is often found in intermediate conditions such as a temple, hair salon, or sanitation system.

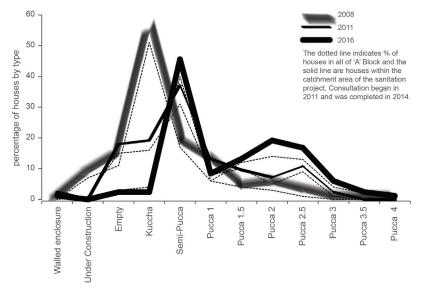
A question remains if these infrastructures (and de facto formalisation of property) benefit the most vulnerable populations or whether they potentially kickstart a gentrification process which further marginalises the intended 'beneficiaries?' If so – and infrastructure leverages housing construction – what is the relationship between those who move along the spectrum and benefit and those who don't?

The changes from 2008 to today are visually compelling upon visiting the settlement but it is impossible to tell how much of this change is the direct result of

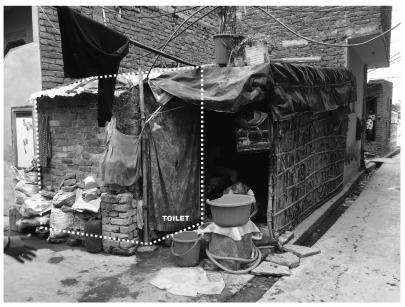
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Editors, Sofia Pia Belenky Tobias Hentzer Dausgaard Hunter O'Brien Doyle Design, technofle.sh Print, hatopress.net the arrival of sewage compared to the natural progression in a city changing rapidly with a growing local population and improved transport links. Taking data collected in 2008, 2011 and 2016 - which shows the % of households by type (along the spectrum), it is possible to speculate.



The data shown is for the entirety of 'A' Block where the project was located (dotted line) and for the specific portion of 'A' Block, 322 households, where the project was implemented (solid line); as the pilot did not cover the whole block. What is clear from the onset is that the portion of the block with the pilot has by and large always been slightly higher than the average. What is most compelling to see is that while the arrival of sewage has led to an above average spike in pucca houses the majority still remain single storey semi-pucca houses. The percentage of precarious homes whilst they have drastically reduced at the kuccha stage, at the semi-pucca have increased since 2011. On the one hand it is undisputed that communities benefit from infrastructural improvements, it remains contentious if there are sufficient institutional capacities to sustain, support and maintain these processes. The high percentage of semi-pucca homes suggests that limited access to funds (reflecting wider systemic issues from employment opportunities to inequitable access to finance) means that while families might invest in a toilet, they fail to make those investments further up the spectrum; such as this kuccha house with a semi-pucca toilet.



What this suggests is that for design to play a role in addressing issues of urban inequality we need to think about practices and interventions that challenge the profession beyond residential morphologies but to also consider tenures, strategies, processes and economies as design drivers to extend, enhance and democratise urban life. ♥