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Citation for final published version:

Kamalipour, Hesam and Dovey, Kim 2019. Mapping the visibility of informal settlements. *Habitat International* 85 , pp. 63-75. 10.1016/j.habitatint.2019.01.002

Publishers page: <http://dx.doi.org/10.1016/j.habitatint.2019.01.002>

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Mapping the Visibility of Informal Settlements

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Abstract

Informal settlements in cities of the global South are generally identified by a dense, small-grain and irregular urban morphology. Such neighbourhoods are rarely entered by those from the formal city and their visibility within the urban landscape can have a significant impact on decisions over whether and how they might be upgraded or demolished. This paper explores this issue from the perspective of the role of topography and urban morphology in mediating the gaze from the formal to the informal city. A simple typology of spatial visibility is developed according to whether the formal gaze is an overview or streetview, and whether it is private or public. This framework is then used to map the visibility of three case studies at district scale in the cities of Bangkok (Thailand), Pune (India) and Medellín (Colombia). These cases are then used to illustrate how different types and degrees of visibility are introduced or erased through different forms of urban design, transport infrastructure, high-rise development and public policy. We conclude by discussing different approaches to the transformation of place identity: concealing or revealing informal settlements on the one hand, and blurring or accentuating informal/formal distinctions on the other.

Keywords: Image, Informal settlement, Visibility, Mapping, Typology, Urbanism

Introduction

“Perhaps the single persistent distinction between *favelas* and the rest of the city is the deeply rooted stigma that adheres to them and to those who reside in them ... Even after the extensive ... upgrading programs ... there is little doubt as to where the *asfalto* (pavement) ends ... The visual markers of each are unmistakable, whether viewed from above or on street level.” (Perlman, 2010, p. 30).

It is impossible to visit most cities of the Global South without noticing informal settlements (often labelled as ‘slums’) that are identified by a dense but low-rise and irregular morphology of room-by-room accretions and often makeshift materials. Yet, these visible settlements are generally a small proportion of those that can house a majority of the urban population. Some such settlements, including those lining pavements, escarpments, waterfronts and railway easements, are particularly exposed to the public gaze. Others are hidden behind formal street frontages, under freeways, within valleys or inaccessible locations and remain invisible even to those who live or pass nearby. Many informal settlements are quite literally ‘off the map’ or deliberately erased from the gaze of the state (Robinson, 2002; Shatkin, 2004).

The quote from Perlman above indicates that urban populations are generally alert to the urban boundaries between the formal city and its other, whether labelled ‘informal’ or a local euphemism for ‘slum’. Yet, this distinction between the formal and informal city is contested in academic circles and is never binary. In the strict sense there is no such thing as an entirely ‘informal settlement’ or ‘formal

city’ since informal and formal processes and practices intersect in complex ways in all cities. We use these phrases because the informal/formal distinction has long been and remains salient for the local populations of cities of the global South. While living and tenure conditions are neither visible at a distance nor synonymous with informality, the forms of informality become class signifiers of both poverty and illegality. Images of informality are signifiers of ‘slums’ and therefore of social class; they carry the stigma of poverty and crime. They also cut across dominant middle-class narratives of global modernity along with political and economic strategies of place marketing. As signifiers of lawlessness and disorder, images of informality undermine the legitimacy of the state. In this paper, we ask how different types of informal encroachment mediate visibility from and interaction with the formal city.

Informal settlements can be broadly defined as those urban districts that have developed outside state control over urban design, planning and construction. While such definitions are contentious, informal settlements accommodate at least a billion people worldwide (UN-HABITAT, 2006) and informal urbanism has been a key line of inquiry in urban studies (Davis, 2006; Dovey, 2012; Neuwirth, 2005; Roy & AlSayyad, 2004; Tonkiss, 2013). There is also an emerging body of knowledge on the morphologies and morphogenesis of informal settlements (Barros & Sobreira, 2008; Bhatt & Rybczynski, 2003; Kamalipour, 2017a; Kamalipour & Dovey, 2018; Ribeiro, 1997; Samper, 2017). While this urban population cannot be simply considered as marginal (Perlman, 1976), they are often spatially marginalized, invisible and are left off the official maps (Patel & Baptist, 2012; Robinson, 2002). The ways in which the visibility of informal settlements plays out in the context of the formal city has been little explored.

While research on the image of the city has burgeoned in the West, such studies are rarely focused on developing cities of the global South and we have little understanding of how informal urbanism works in terms of urban image and place identity. While ‘slum’ and ‘squatter’ settlements have been widely studied within legal, political, anthropological, sociological and economic frameworks, the specifics of form and space are often seen as contextual or irrelevant. Although researchers have pointed out the systematic forgetting of informal settlements in the discourses and the maps (Fernandes, 2004; Roy, 2004; Shatkin, 2004), none have studied such issues in detail. While many architects and planners have engaged with planning, design and upgrading projects where the transformation of image is one objective, there is little evaluation of particular outcomes.

While there are many forms of informality that vary with context, there are also recognizable morphological patterns of both informal architecture and urban design (Dovey & Kamalipour, 2018). The dominant modes of informal production are incremental and self-organized – an informal settlement is the result of a large number of very small practices. Informal buildings are mostly constructed through room-by-room accretion in a process driven by the imperatives of poverty and the slow accumulation of scarce resources. Informal settlements can also be distinguished by their occupation of particular niches within the city. Some settlements line major traffic arteries and are hyper-exposed to the public gaze while others are hidden. Typical urban contexts are generally interstitial to the formal zones of urban space and include urban waterfronts, escarpments, easements, lining railways and freeways (Dovey & King, 2011). Informality also infiltrates the deeper spaces of the city where formal street façades hide informal alleys and dense informal housing. Informal constructions are often accretions within and upon formal buildings and infrastructure of the city. While some informal settlements are particularly exposed, many remain deeply invisible even to those who live or pass nearby. Even when visible from a distance, informal settlements are often enclaves, as impenetrable to outsiders from a different social class as gated communities.

One way of understanding the informal settlement within the larger urban field is as a place with negative symbolic capital. Here we draw from the work of Bourdieu (1984), who articulates the ways

aesthetic distinctions work to establish and mark distinctions of social class. Symbolic capital is one of a range of forms of capital – along with social, cultural, economic and political capital – that circulate within fields of power and are convertible to each other in different ways. Informal settlements become the ‘other’ of the formal city and therefore crucial in constructing its identity. This helps to explain why informality continues to signify the ‘slum’ even after slum conditions and tenure are upgraded (Perlman, 2010).

Informal settlements thus have negative symbolic capital – a stigmatised place identity that may also be linked to ethnicity. Visibility puts them on the cognitive map, where they are seen as a blight upon the city and the state. Governments are embarrassed by the visibility of informal settlements that signify poverty and a lack of law and order. There is often considerable political capital available for politicians who can gain support for cleaning up the city through eviction (Jenkins, 2006). Settlements that are exposed can be targeted for eviction, particularly if the city is host to major tourist or political events. During the APEC summit in Bangkok in 2003, a half kilometre long welcome banner for international guests was used to cover settlements that were otherwise visible from a key access route; bamboo fences were used to similar effect during the Commonwealth Games in Delhi 2010; and a shack settlement lining the airport freeway was cleared prior to the FIFA world cup in Cape Town in 2010 (Mayne, 2017). Visibility can also attract upgrading schemes but the focus on image can lead to superficial or *ad hoc* approaches (Huchzermeyer & Karam, 2006). Invisibility, by contrast, can protect residents from eviction since it enables the state to turn a blind eye. It also enables the state to abrogate responsibility; informal settlements can disappear from the cognitive map of those who allocate resources and are serviced accordingly. The visibility that can stimulate eviction, however, can also be turned to an asset in the transformation of place identity. There are examples of settlements that have rebranded themselves in ways that ensure that their visibility becomes a form of protection (Dovey & King, 2012; Weinstein, 2014).

The issue of visibility and image is complicated further by globalization; increasing flows of tourists and the transition to an information economy has placed new economic importance on the city image as a brand. Cities compete to attract flows of flexible capital and to establish themselves as global cities within these markets through the production of urban spectacle and iconography (Klingmann, 2007; McNeill, 2008). The construction of elevated freeways and railways together with residential and office towers means that the middle-class gaze penetrates ever further across the urban landscape where informal settlements are then seen as the next sites for redevelopment.

The issue of image and visibility is complicated by a burgeoning industry in slum tourism – the *khlong* tours of Bangkok and the slum tours of Bombay and Rio de Janeiro are prime examples (Freire-Medeiros, 2009; King & Dovey, 2012; Meschkank, 2011). There is no scope to explore this here, but the gaze of the slum tourist has a double edge in that it can both expose the hidden conditions of poverty while also working to produce an aestheticization of poverty (Roy, 2004). This ‘taste for slums’ often reveals more about the tourist than the settlement but it incorporates an aesthetic of both the sublime and the picturesque (Dovey & King, 2012). Slum tourism emerges partly in response to a pervasive invisibility of informal settlements – the tourist quest for authenticity. The developing state paradoxically needs tourists yet seeks to control the urban image for purposes of branding and to signify law and order.

It is critical to note that visibility is much broader than the everyday spatial visibility that we aim to investigate in this paper. The question of why certain settlements become visible or remain invisible on maps is geared to the implications of (in)visibility in policy making and the role of mapping in unravelling the relations between power and knowledge. Settlements may be physically invisible yet register on a broader geospatial or statistical visibility. In the Indian context government recognition and classified as a ‘slum’ can be crucial to secure access to basic services and tenure

security (Subbaraman et al., 2012). Practices of community-based enumeration and participatory mapping are often directed at the production of visibility (see: Archer, Luansang, & Boonmahathanakorn, 2012; Baptist & Bolnick, 2012; Livengood & Kunte, 2012; Patel, Baptist, & d’Cruz, 2012). While this broader conception of visibility plays a key role in the processes of policy making, this paper is focused on the links of visibility to urban topography and morphology; the links of this work to a broader statistical visibility remain to be explored.

While the research literature on the image of the formal city is pervasive, any focus on images of informality can be seen as superficial, as if this were to ignore the poverty that produces slums. We suggest that such a focus is not necessarily superficial, that it opens up issues that are crucial to the production and transformation of informal settlements and integral to any effective approaches to development and upgrading. In this paper we introduce an approach to mapping the ways informal settlements become visible or hidden within the urban landscape of the city, as seen from the formal city. To what degree are the spatial structures of informal settlements open or closed to through or passing traffic and how does this mediate visibility from, and interaction with, the formal city?

Mapping visibility

The visibility of informal settlements can be explored in at least two interrelated dimensions. First is through the propagation of representations in the form of maps and photographs in books, journals, websites, film, television and other media. On official maps, such as street directories, informal urbanism is generally rendered invisible through being omitted or represented as an opaque zone without street networks. In cities where Google Streetview is available, one of the easiest ways to identify informal settlements is to look for the mismatch between the aerial photo and the Streetview map – areas of dense settlement where Streetview does not penetrate. By contrast, there are also selected views of particular informal settlements that are widely propagated to illustrate research, highlight problems, justify international development projects, raise development funding, demonstrate projects, aestheticise poverty or to sell slum tours (see: Basu, 2012; Dovey & King, 2012; Frenzel, , Koens, , & Steinbrink, 2012; Frenzel, 2016; Gonzaga, 2017; Jones & Sanyal, 2015; Roy, 2004; Roy, 2011; Sanyal, 2015). Any critique of such literature is beyond the scope of this paper, our focus instead is on the visibility of informal settlements to the gaze of the formal city in everyday urban life. We introduce a typology of spatial visibility and then apply it to mapping three case studies: Comuna Nororiental in Medellin (Colombia), Yerawada in Pune (India), and Khlong Toei in Bangkok (Thailand). These cases were selected to incorporate a range of different informal morphologies and topographic conditions as part of a larger study of the detailed morphologies of urban informality (Kamalipour, 2017b). This selection of case studies was guided by criteria of access for field research and to cover variation in terms morphological and contextual conditions in a global context (Flyvbjerg, 2004); there is no claim for any kind of random sample. Fieldwork took place in 2014 and 2015. The main research methods include direct observation, photographic survey, archival records and urban mapping. Aerial images from Google Earth have been used as a base; Google Streetview was available for Medellin and Bangkok, but with only partial penetration into the informal settlements. The extent of the informal settlements was based on morphological criteria as evident on aerial photographs and supplemented by field observation. These criteria include a combination of single room accretions with high land coverage and irregular access networks (Dovey & Kamalipour, 2018). While such morphologies vary with different morphogenetic processes and boundaries between formal and informal are not always sharp, they are clear enough for our purposes here. An area of about 4 square kilometres was analysed for each case study using morphological mapping as a key method. As access to high-resolution aerial photos or accurate GIS base data was not possible, potential viewpoints and viewsheds have been mapped based on aerial images from Google Earth, field observation and photos taken in field study visits.

The typology we have developed is based on three kinds of visibility that we have termed ‘street view’, ‘public overview’ and ‘private overview’ respectively. The ‘street view’ is the view from those streets that form the traffic flows of the formal city, where pedestrians and vehicles pass along the edge of the informal settlement. We have excluded the streets and lanes within the settlement except those used for through traffic. In the case of the overview, we distinguish between the gaze from publicly accessible locations (such as elevated freeways and public transport systems) and those from private spaces (such as high-rise residential or office buildings) with a range of about 200–300 m. The street view is often a close-up view that reveals details of construction and everyday life but is generally limited to the edges of a settlement; the overviews are more distant but more revealing of the extent of the settlement. What we have termed the ‘public overview’ often emerges after the implementation of urban development projects such as elevated highways or transport corridors. The topography of the city can also create conditions where informal settlements on hillsides become a highly visible part of the urban landscape from a distance. The ‘private overview’ is generally the result of formal high-rise developments in close proximity to informal settlements. While views from the street and public overview are more broadly accessible to the general population, they are ephemeral and often encountered while passing with eyes on the road. The private overview is more exclusive, static and less temporal; from this view the settlement can become a subject of contemplation.

These three conditions of visibility are mapped across the three case studies with streetview in red, public overview in orange and private overview in pink. Those parts of the informal settlement that remain invisible are yellow. These categories are of course blurred into each other as is the case in everyday life. The locations from which such views are accessible are marked as broad white lines (streets and freeways) or thin white lines (private building facades).

Bangkok: Khlong Toei

Bangkok is a flat water-based city established on a broad river delta where a network of *khlongs* (canals) once provided water-based mobility; it is now a highly congested and globalised city (Dick & Rimmer, 2003; King, 2011). The population of the city is more than 6.5 million people with about one million living in informal settlements, which are mostly fragmented and distributed in proximity to *khlongs* (Kamalipour, 2016a,b; Kramer, 2006; Wattanawanyoo, 2012). Khlong Toei is a district located a few kilometres south of the commercial centre of Bangkok that incorporates both very large and smaller settlements. Most of these settlements emerged in the 1960s when job opportunities became available in proximity to the adjacent port authority (Askew, 2002; Berner & Korff, 1995). The *khlong* runs east-west and for much of this length is now covered by an eight-lane elevated expressway which overlooks much of the larger informal settlement on port land to the south. Informal settlements also line most edges of the *khlong*, even where it continues under the elevated expressway. Fig. 1 maps the visibility of these settlements across this district and shows that visibility from the street (red) is limited to those locations where major streets (marked in thick white) pass directly adjacent to informal settlements. The public overview (orange) is primarily produced by the elevated expressway. The map also shows the prevalence of private overview (pink), which occurs where taller private building facades (thin white lines) overlook the settlements. This map shows that while the private overview is the most pervasive, many parts of the settlement remain completely invisible (yellow). Fig. 2 illustrates typical overviews from both the expressway and private buildings. High-rise buildings provide a permanent private overview while the elevated highway offers a temporal public overview across the informal morphologies.



Fig. 1. Spatial visibility in Khlong Toei. Map: Hesam Kamalipour, Satellite images: Google Earth.



Fig. 2. Public and private overviews of Khlong Toei. Photos: Google Streetview (upper), Hesam Kamalipour (lower).



A: *Khlung* settlement from bridge



B: *Khlung* settlement from road



C: *Khlung* settlement under expressway

Fig. 3. Streetviews of *khlung* settlements in Khlong Toei. Photos: Google Streetview (a–b), Kim Dovey (c).

Fig. 3 shows the ways that *khlung* settlements are exposed, adapted to visibility and screened from public view. Those settlements lining the *khlung* often have both a frontage to the street and to the canal (which may also be under the expressway). While the *khlung* frontages remains highly informal (Fig. 3a) the street frontages are mostly semi-formalized and adapted to take advantage of retail opportunity. The informal settlement that extends underneath the expressway is highly visible from a major street located immediately across the *khlung* (Fig. 3b). A landscaping project along part of this edge is clearly designed to screen these views of the settlement with a line of trees (Fig. 3c).

Pune: Yerawada

The city of Pune, southeast of Mumbai, has a population of about 3 million people with about 40 percent living in informal settlements (Sen, Hobson, & Joshi, 2003). Yerawada is one of the largest settlements about 4 km northeast of the city centre; first developed in the 1960s it now includes more than 15,000 informal structures (Bapat, 1981; MASHAL, 2011). The settlement occupies about 66 ha of land on the northern bank of the Mula-Mutha River and is directly adjacent to the main route between the airport and central city. Fig. 4 shows that the vast bulk of this informal settlement is largely invisible to the public since there is no public overview; large tracts are visible however from surrounding private buildings (pink) and the view from the one taller formal building in the centre of the settlement reveals the extent of the settlement (Fig. 5a). These areas located deep within Yerawada are otherwise hidden from the gaze of the formal city. The edges of the district, which face formal streets are visible at street level. However, these public façades often have a formal ‘crust’, a frontstage along the public edge that keeps the settlement invisible to the public gaze while accessible through small gaps in the streetwall (Fig. 5b and c).

The story in Yerawada is generally one of invisibility from the gaze of the formal middle-class city – one could live in Pune for many years and never see inside this settlement so close to the city centre. Yerawada is also the site of a much celebrated and highly innovative community-based upgrading program (Desai, 2012; Desai & Patel, 2010; Pieterse, 2011; Rashid, 2011). While some results of this are visible to the restricted private overview (Fig. 5a) they remain largely invisible from the formal city.

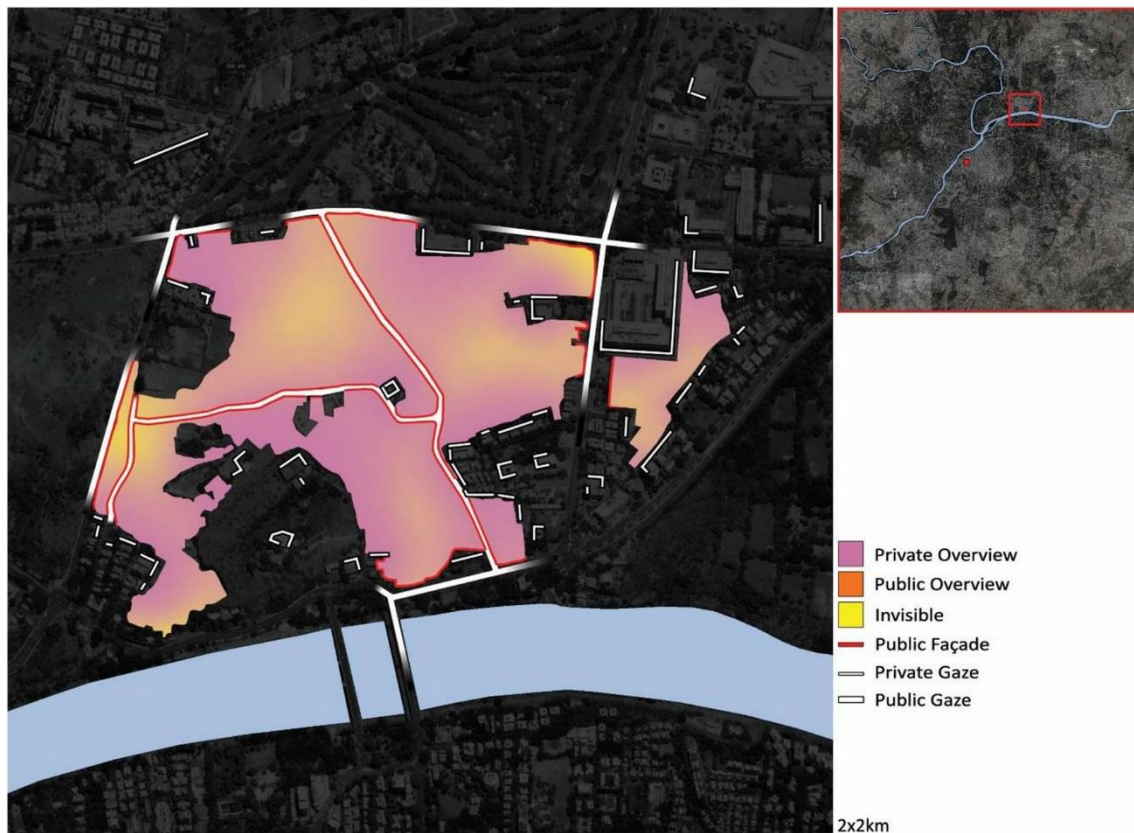


Fig. 4. Spatial visibility in Yerawada. Map: Hesam Kamalipour, Satellite images: Google Earth.



A: View from formal high-rise building



B: View from formal street



C: A small gap in the streetwall

Fig. 5. Private overview and two streetviews of Yerawada. Photos: Hesam Kamalipour (a–b), Kim Dovey (c).

Medellin: Comuna Nororiental

Medellin is a city of about 3 million with a population of more than 250,000 living in informal settlements (Imparato & Ruster, 2003). Most informal settlements are located on steep escarpments and along the urban fringes. Comuna Nororiental has been settled since the 1950s through informal development of an escarpment about 5 km north of the city centre. This particular escarpment has been the subject of a major upgrading project from 2004 that included the construction of a cable metro system providing fast access to the informal escarpments from the main metro line (Brand & Davila, 2013; Echeverri Restrepo & Orsini, 2012; URBAM, 2012). This project was in part a response to the gang violence and control that previously prevailed in these settlements; while there was a very distant overview of the escarpment it was a no-go area and largely invisible from the formal city. The cable metro effectively saturates the settlement with public overview of the landscape underneath (Figs. 6–7).

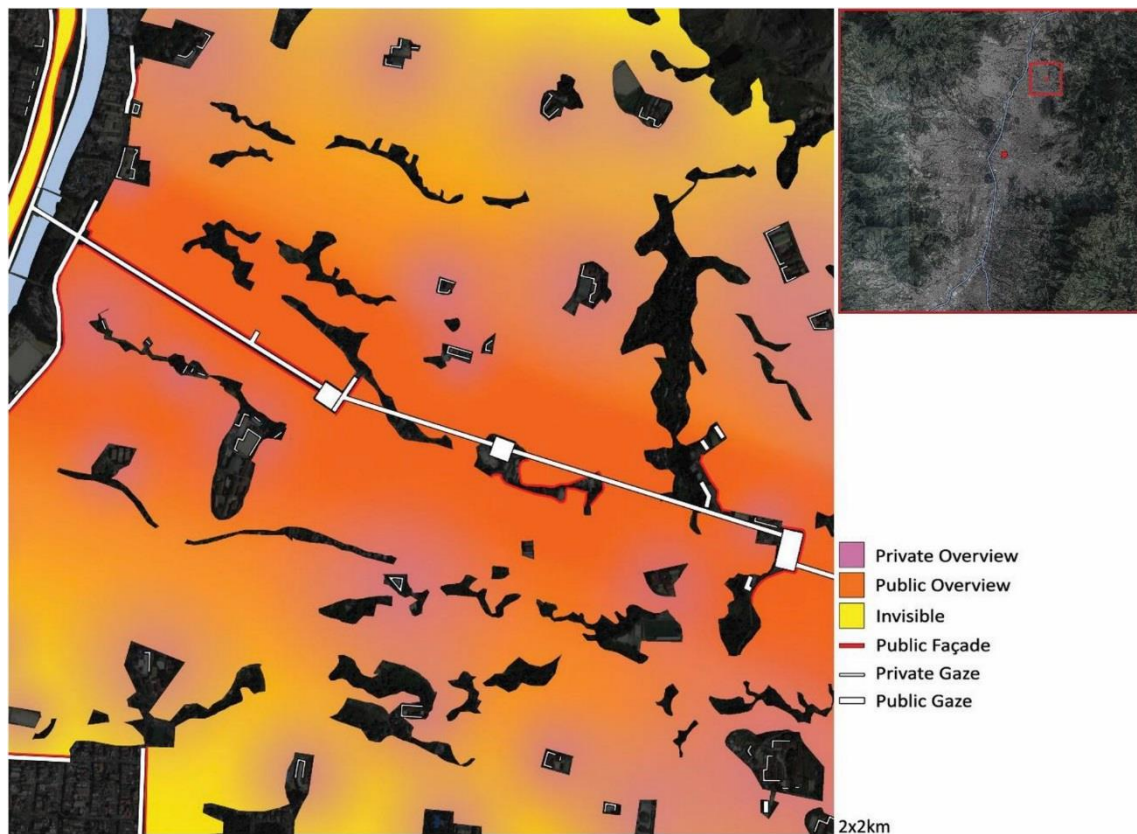


Fig. 6. Spatial visibility in Comuna Nororiental. Map: Hesam Kamalipour, Satellite images: Google Earth.

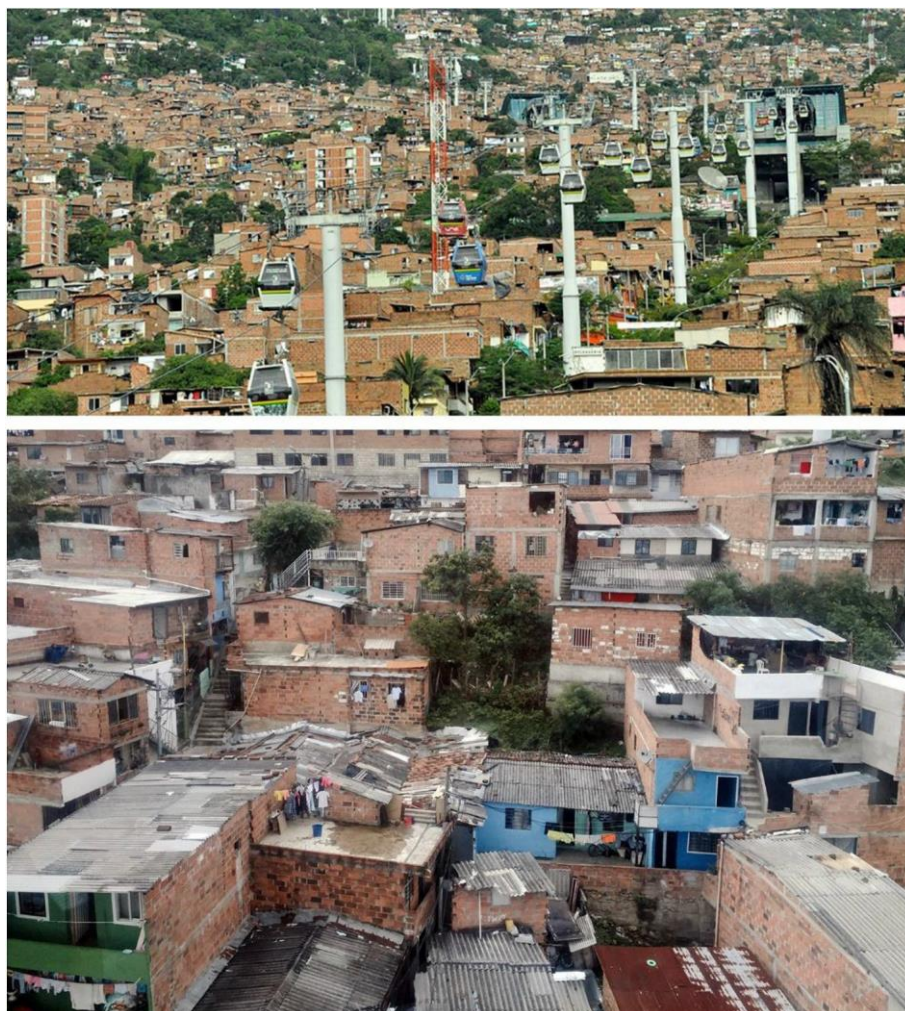


Fig. 7. The cable metro and public overview. Photos: Kim Dovey.

The cable metro continues through these settlements to a major public park and has served to open them up to local visitors and tourists, integrating them with the larger city. The highest metro station of Santo Domingo has also been redeveloped with new open spaces and public facilities to become a primary model for informal settlement upgrading. While there are no formal ‘slum tours’ operating, it has become a common part of the tourist itinerary. In some cases, residents located beneath the cable metro have taken advantage of the public visibility to sell their rooftop as a billboard (Fig. 8 – upper). At street level the most public facades have been rendered and or painted through a community-based process, but the informal morphology is revealed rather than camouflaged (Fig. 8 – lower). Residents who have been displaced to make way for the metro stations and other facilities have been re-housed in taller buildings distributed throughout the settlement. These buildings are mapped in Fig. 6 to show the private overview, however, we note that without the socio-economic difference this does not replicate the social conditions of the gaze from middle-class offices and housing.

The urban topography of Medellin means that those settlements located on the escarpments have long been a part of the everyday urban landscape – but at a considerable distance, stigmatised and impenetrable. While there is not scope here for a full evaluation of this larger redevelopment project, it has been widely celebrated as successfully integrating issues of visibility and access into a larger project of transforming social, economic and spatial conditions (Brand & Davila, 2013; Brodzinsky, 2014; Martin-Onraet, 2014; Samper, 2017).



Fig. 8. Public visibility and the new streetview. Photos: Hesam Kamalipour (upper), Kim Dovey (lower).

Concealing and revealing informality

In this paper we have mapped three cases that cover a broad range of degrees and types of visibility. They show the various ways in which visibility is enabled and constrained by topography, urban design, transport infrastructure and landscape design. The key issue at stake here is the way the spatial visibility of informal morphologies is linked to the production of negative place identity: the imagery of informal urbanism cuts across middle-class visions of the modern city as well as political and economic strategies of place marketing, signifying a failure of the state to enforce law and order. Informal settlements are conceived as ‘other’ to the ‘formal’ city - avoided by the middle classes, yet integral to both the image of the city and the ways in which it functions. In comparing the maps of these cases (Figs. 1, 4 and 6) we can see that in Bangkok and Pune the settlements remain more or less invisible and visibility is seen as a problem – formal facades and screens are produced to create or maintain invisibility (Figs. 3 and 5). Nonetheless, this screening is never more than partial; these settlements are at once largely invisible, yet so pervasive as to be impossible to ignore. Strategies to render informal settlements invisible may range from demolition/eviction to the erection of walls and manipulation of visual media representations including official and online maps (Steinbrink, 2013, pp. 134–135).

The social significance of the conditions of visibility in Bangkok and Pune is linked to the issue of scale. While spatial visibility works across multiple scales ranging from 10 m (streetscape) to 2 km (district) and beyond, the strategies of the state to make them invisible are often limited to interventions at the micro scale where everyday urban life takes place. A formalized facade with some small gaps in the streetwall, as shown in the case of Pune (Fig. 5c), can be understood as both a strategy to screen and a tactic to protect and territorialise what is behind the streetwall. The screening strategy in Bangkok (Fig. 3c) is a form of beautification, an attempt to produce an illusion of order and a boundary condition between the middle class and the dwellers of *khlong* settlements.

In Medellin by contrast we find visibility being deliberately accentuated and the informal place identity is both upgraded and celebrated. This is the opposite of the more traditional authoritarian approaches that seeks to either erase or cover images of informality. In both Bangkok and Medellin, the public overviews have been produced by transport infrastructure, yet the Bangkok expressway produces a glancing view from the car while in Medellin the view is panoptic. While this panoptic visibility from the cable metro may seem invasive, it has also played a role in countering the formerly extreme levels of street violence by drug-gangs in these communities. What is happening in the case of Medellin is an attempt to reveal and celebrate informality and further invest in it as an attraction. It is also a demonstration of how connectivity and spatial visibility work together to make informal settlements visible to the gaze of not only the middle-class living in the city but also tourists.

These are very different cities and we are in no way suggesting that lessons from any case might be applied to any other context. Our concerns here are primarily analytic – to develop a mode of mapping and analysis that might help to understand how such issues play out in different locations. At one level these maps are rather banal and not particularly revealing of how such settlements work, yet they represent a lens that might be useful for comparative studies. We suggest that the typology of public street views plus public and private overviews can be a useful lens to show just how much of an informal settlement is visible from the formal city and under what conditions. It is critical to note that our categories of ‘private overview’ and ‘public overview’ are somewhat unstable since they are related to class-based access to different modes of transport and housing. The elevated highway in Bangkok carries middle-class outsiders while those riding the Medellin cable cars are mixed-class; residents in the high-rise buildings in Medellin are former slum dwellers who were rehoused during upgrading.

There are many related questions that are beyond the scope of this paper and lend themselves to future research. How are informal settlements seen and conceived within the broader socio-spatial field of the formal city with regard to social class and ethnicity? How are images of informality portrayed in the mass media and how, if at all, do they impact upon urban branding and tourist literature? How does the urban image mediate the local politics of upgrading and eviction/demolition as well as the larger political economy of urban spectacle, place marketing and slum tourism? What are the possibilities for urban design and planning strategies to transform the place identities of informal settlements or to blur the distinctions between informal and formal morphologies embodied within the urban landscape? There will be no easy answers to any such questions, however, to address them will require an approach that is able to encompass both the materiality of the city and its meanings - both spatial and discursive practices. Informality is a mode of production that produces a range of urban morphologies that become identified as 'slums', a sticky form of place identity that can be difficult to remove even once the settlement is upgraded (Perlman, 2010, p. 30). The fact that a house is built one room at a time or that access lanes are narrow does not necessarily mean it is substandard; the discursive link between informal morphologies and sub-standard conditions is arbitrary and needs to be deconstructed. However spurious the binary distinction between formal and informal might be, it persists because it satisfies a desire to locate the socio-economic or ethnic other in urban space. The cases in Medellin and Pune are each sites of globally celebrated upgrading programs. In one case visibility from the formal city has become part of the upgrading and a means of integration between formal and informal; the other has become globally visible while remaining locally invisible.

We now seek to open this discussion to a broader set of questions about two general approaches to the transformation of imagery of informal settlements that we might call the cover-up and the celebration (Fig. 9). The cover-up is evident in the landscape screening, billboards and banners, but also in the formalized facades and the many ways in which informality hides in the back blocks and interstices of the city. It is an attempt to conceal and make informal settlements invisible. Examples of this approach have been documented in relation to the impacts of mega events in the cities of the global South where informal settlements are considered as a 'staging' problem (Mayne, 2017; Steinbrink, 2013; Steinbrink, Haferburg, & Ley, 2011).

Images of informality always play out in the context of a larger political economy of the city. In Manila in 2008 the front section of an informal settlement was demolished as part of a road widening project and replaced with a façade that was then painted pink to identify it as an urban cleansing project by a prominent politician (Fig. 9a-b). The cover-up is often applied to the relatively close-up public street views that are most politically sensitive, and geared to an ideology of denial and erasure. The pressure to demolish slums, while generally veiled in humanitarianism, is also a form of urban cleansing fuelled by a middle-class and elite desire to make poverty disappear. While urban poverty cannot be eradicated through eviction and demolition, invisibility enables the middle classes to sustain the illusion of a modern formal city. The celebration is evident in the attempt to render informal settlements more rather than less visible - to bring outsiders into the settlement and to take pride in its image as an integral, if different, part of the city. A change of image has become a part of many upgrading projects with the focus on those parts of the settlement that are visible to the public gaze. There are approaches that deal directly with formal imagery as a means of generating new forms of place identity including street art and house painting. The street artist JR designed a project in Nairobi where waterproof tarpaulins printed with giant images of local women were used to cover rooftops in the settlement of Kibera. While the project re-covered about 2000 square metres of rooftops and sealed the houses (Ferdman, 2012, p. 18), the images could only be viewed from above and the audience was the global arts community. In another project (by artists Haas&Hahn) the entry plaza of the Santa Marta *favela* in Rio de Janeiro was given a facelift, in this case the

transformation in everyday life is dramatic but cosmetic (Fig. 9c). At the same time residents of another part of the same *favela* who were threatened with a demolition, used their visibility for self-organized displays of political resistance (Fig. 9d). Deploying a visible informality as a form of politics has a longer history that is evident in a highly visible riverbank settlement in Yogyakarta called Gondolyu. Here, a community-based urban art project, initiated in the 1980s by architect Roma Mangun, has effectively prevented demolition of a highly visible settlement for over 30 years (Fig. 9e). The *kampung* improvement program in Indonesia has often been driven by aesthetic imperatives among others, to create an image of civic order (Kusno, 2000, p. 129). A more recent example of the Warna-Warni *kampung* in Malang shows how the process of rebranding leverages the public visibility of informal morphologies to change the image through a combination of house painting and street art (Fig. 9f). While a coat of paint will never be enough, it may be part of a community-based approach to effective transformational change. The long-term success or failure of such approaches to increase visibility and celebrate informal morphologies is a crucial research question. As Frenzel (2016: 106) argues, such artistic projects may arguably use informal settlements to raise the international visibility of the artist rather than contributing to the everyday struggle of the residents for recognition.

This celebration of the forms of informality stands in stark contrast to the impulse to erase informal settlements but also embodies a contradiction. On one hand, it recognises the informal morphologies as places to be seen rather than avoided. On the other hand, by celebrating informality it accentuates the informal/formal division, highlighting informal morphologies as 'other' to the formal city. In other words, upgrading and community pride may not be enough to overturn the symbolic regime upon which the social distinctions of the larger city are based. While commissioned projects such as painting informal settlements may change the visual appearance, they rarely address the underlying challenges. At worst they create an illusion of transformational change, cleaning up the image of the city, attracting tourists and generating political capital for their benefactors. This approach also runs the risk of what is known as the 'aestheticization of poverty' – a reductionist understanding of informal settlements in which informality is confused with poverty and upgrading is limited to aesthetic aspects of the physical environment (Roy, 2004, 2005). The success of any upgrading strategy relies on a good understanding of informality as a both a material mode of production and the ways that the imagery of the 'slum' is constructed in the urban landscape, mediated in turn by a larger assemblage of political and economic interests.

When we take this larger view, we find that all of the agencies involved in informal settlement upgrading benefit when such projects produce visible results. While the eradication of poverty is generally invisible, highly visible projects produce symbolic capital; this can be cashed as political capital and new flows of funding as politicians are seen to be cleaning up the city and funding agencies can see results on the ground. The need for such imagery can distort the priorities of development agencies and the state who have an interest in identifying the distinction between formal and informal when the larger task is to blur it.



A: Manila, 2008



B: Manila, 2008



C: Santa Marta, Rio de Janeiro, 2012



D: Santa Marta, Rio de Janeiro, 2012



E: Gondolyu, Yogyakarta, 2012



F: Warna-Warni, Malang, 2016

Fig. 9. Transforming images of informality. Photos: Kim Dovey (a-d), Wiryono Raharjo (e-f).

Our approach in this paper has been limited in terms of both scale and scope, focused on mapping some ways that informal settlements become visible or hidden within the urban landscape of the city - particularly as seen from the formal city. We have only mapped spatial visibility with little attention to the semantic or symbolic dimensions of this visibility which is a much more complex study and many of the questions with which we began remain. We want to finish by opening up the range of research questions that might be usefully pursued in this regard. To what degree are the spatial structures of informal settlements open or closed to through or passing traffic? How are informal settlements seen and conceived within the broader socio-spatial field of the formal city with regard to social class and ethnicity? How do the dreams of a modernist city and the middle-class gaze from high-rise towers and elevated toll-roads intersect with the realities of informal everyday life? How are informal settlements portrayed in the mass media? How, if at all, do they impact upon urban branding and tourist literature? How does the place identity of informal urbanism impact on the politics of upgrading and eviction/demolition? How does it mediate a larger political economy of urban spectacle, place marketing and slum tourism? What are the transformative possibilities of slum-upgrading strategies on the place identity of informal settlements? How does such an understanding link with critical urban theory and how can urban planning and design strategies be re-thought? All of these questions are but a means to the larger end of building a more substantial knowledge base for the development of informal settlements. While a focus on image can easily be superficial, we need to put an end to any notion that questions of image and visibility can be ignored. Informal settlements are enmeshed in a complex assemblage of both material and expressive practices that cannot be separated.

Acknowledgements

The first author received APA, IPRS and RTP scholarships for his research at the University of Melbourne.

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