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Aerial Photography as Technology of Power and Resistance From Below in Cape Town's Informal Settlements

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Aerial Photography as Technology of Power and Resistance From Below in Cape Town's Informal Settlements¹.

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Abstract

Dominant technology for site analysis and reconnaissance in urban informal settlements is seen as deepening existing inequalities in Cape Town and is highly contested by residents of these areas. Municipal decision making for basic service provision in informal settlements has relied on aerial photography and its interpretation by technocrats has led to non-provision of services on the grounds of high density and non-availability of space. This paper uses data based on observation of meetings between the officials of the city's Informal Settlement Unit and residents, to show how the latter makes themselves visible and challenge the local state to meet its responsibility. Earlier ethnographic research has shown state's use of enumeration technologies mainly for legibility-effects and enhancing governmentality. Urban grassroots mobilisations in the slum have simultaneously resisted the use of this tool that has kept the municipalities off the hook, by displaying their own efforts of site analysis and reconnaissance. They exhibited their own 'insurgent planning' (a process they call 'blocking-out') where they reach a consensus amongst themselves to readjust their plots with the objective of opening up space for toilets and roads, and orienting their shacks in a spatial order that minimizes risks associated with fire outbreaks. These spaces were created and city officials then acknowledged that the municipality had no reason any longer to refuse delivering basic services. Professional planners were taken to some 'training or capacity building' by the lay people on how to respond to the needs of the urban poor. The paper concludes that the contestations bordered on the use and users of aerial photography to portray technology of power and the resistance from below. Theoretically, the paper illustrates an extension of legibility-effects and articulation of slum dwellers' insurgent citizenship through their agency and innovations of engaging with the state in ways that work for them.

Keywords: aerial photography, legibility, informal settlements, blocking-out, resistance, and insurgent urban citizenship.

¹ * Working in progress. Do not cite without permission.

Introduction

Maps generated from aerial photographs have been used as technology of representation in decision making processes of service delivery in informal settlements in Cape Town. This practice has however met rebuttal from slum dwellers that have not only resisted use of archived maps by city's officials to define the feasibility of infrastructure and service provision but have gone further to treat the maps as empty spaces. They have used their agency to inscribe their own interests and made possible what was regarded as technically impossible. I take the dominant argument that urban informal settlements are not manifestations of illegality but are one of alternative and pluralistic efforts within the holistic housing provision processes (Kievani and Werna 2001, Lemanski 2009). Whether this tolerance and recognition of the informal mode is progressive (Huchzmeyer 2006); a neoliberal recognition of 'potential of community-based organizations for helping [local governments] solve their fiscal as well as legitimization problems' (Mayer 2009:364); or abandonment through responsabilisation (Clarke 2005) is not the scope of this paper. Informal settlements are taken as realities of housing access for the urban poor, and hence cannot be ignored or be treated as objects to be eradicated. Cape Town has 253² informal settlements and having a housing backlog of 410 000, this informal mode of housing attracts both policy and fiscal space. The *Isidima* Strategy at the provincial (Western Cape) level has the implementation of the Informal Settlement Upgrading Programme, while at the city level the Informal Settlement Unit signifies attention. Given that the grassroots mobilisation associated with citizenship in urban areas have been built around an axis of accessibility of housing and provision of basic urban services to urban dwellers (Miraftab and Wills 2009), I will discuss the issue of urban services and role of maps in this intervention. The limitations of turnkey approach of handing over keys for finished housing units through the Reconstruction and Development Programme (RDP) has led to the Breaking New Ground (BNG) on in-situ upgrading. The later has so much focused on providing basic services mainly due to legal pressures and official status of these informal settlements. Legally, informal settlement dwellers have evoked the constitutional provisions, and won court rulings to their favour, thus holding urban authorities responsible to ensure their constitutional rights to housing. Municipalities on their part have made sure they are seen as respecting the rule of law in complying with these court rulings.

It is the official status of the settlements that has given primacy to basic services provision, one of the elements of contestation in the townships. To label this status, I borrow Oren Yiftachel's concept of 'grey space', which is similar to Holston's (2008) differentiated citizenship. According to Yiftachel, grey spaces are located between the "... 'whiteness' of legality/approval/safety, and the 'blackness' of eviction/destruction/death" (Yiftachel 2009: 88). They are political geographies of urban informalities, vulnerable to a 'creeping urban apartheid' where incorporation and citizenship is "...stratified and essentialized, creating a range of unequal urban citizenship(s)... which accord unequal 'packages' of rights and capabilities to the various groups, as well as fortify the *separation* between them" (ibid: 93-

² To be verified and updated since there are different statistics (see Housing Development Agency 2012).

94). “These partially incorporated people, localities and activities are part of a growing urban informality... [that]... are neither integrated nor eliminated, forming pseudo-permanent margins of today’s urban regions...” (ibid: 89). I argue that slum upgrading has a potential to be a grey space given that it is “carried out not only in the name of ‘progress’, but also ‘beautification’” (Davis 2006:98) – and even more as a form of ‘neoliberal aestheticization’ (Pow 2009). Despite this status, the city administration has committed itself to provide basic services to the informal settlements. However, decision making for service delivery has to a greater extent been mediated by use of maps generated from aerial photographs. The officials have regularly responded to slum dwellers’ plea for basic services (mainly water, sanitation, electricity and roads) by citing non availability of space in the existing informal settlements. These pleas and complaints are not necessarily based on absence of services but under-provision. For example, Table 1 shows prevailing dire water and sanitation conditions where 78 and 471 people share one toilet and one water tap respectively. One can question the criteria used for the provision of the initial few services – humanitarianism or arbitrariness, or both?

Table 1: State of basic urban service (water and sanitation) under-provision

Name of settlement	Population ³	No of toilets	Ratio of toilet/population	No of water taps	Ratio of water taps /population
Europe	4413	411	1:11	17	1:260
Mshini Wam	450	16	1:28	3	1:150
Masilunge	700	9	1:78	3	1:233
Sheffield Road	504	7 ⁴	1:72	3	1:168
Barcelona	6600	166 ⁵	1:39	14	1:471
Joe Slovo	8046	706 ⁶	1:11	38	1:236

(Data adapted from each Community’s Self-Enumeration Reports 2009-2011)

Just to bring out the power of scale of this map, only a map at a scale of 1:1 mirrors the territory it represents, albeit not in its totality. However, the standard scales for aerial photographs obscures space availability, particularly because in the conventional plan-service-build-occupy (PSBO) framework (Barros 1990), infrastructure and services routing is guided by a spatial layout plan (see Figure 1). In certain standardised scales, the maps are semi-legible, a bit silent as they “cannot be said simply to speak for themselves; [but]... must be made to speak, through the exertion of effort, expertise, or both” (Mnookin 2012:1). The fact that the geometry and block alignment illustrated in the expert-produced layout plan is not present or visible in the organically produced settlement leads to such reason/excuse of

³ A certain small proportion of residents have refused to be included in this community-driven enumeration exercise, due to their opposition to the proposed shack upgrading preferring (or expecting) a formal house instead.

⁴ Excluded in this are 8 dysfunctional ones.

⁵ Excluded in this are 160 self-made pit toilets that are often not used.

⁶ This excludes 150 dysfunctional ones.

‘space unavailability’. This excuse is also path dependent in that planners and engineers’ training, practice and tradition is that water and sewerage infrastructure provision precedes housing construction and construction⁷. So the in-situ upgrading constitutes an alien process to planners trained in the existing pedagogies that are embedded with PSBO process and treats organic spatial organization as an affront to urban design ideologies. PSBO is a status quo, and maps constitute authoritarian representations to sustain it.

The paper is structured as follows: theoretical review of maps, mapmaking and paradigms; power of maps, maps as technologies of power; counter-mappings in Cape Town’s informal settlements; critique of cartographies of resistance; their legibility effects. The paper concludes that despite their entanglements, slum dwellers have specifically illustrated how maps lie in their selective representation and semi-legality. They have even gone beyond by resisting experts’ reading maps against them; their decision making on improved service delivery being based on hegemonic maps, centralised enumeration and archived infrastructure data.

Maps, map-making and paradigms

Maps and cartography is a “primary part of the geographer’s technology, methodology and language” (Bradlaw and Williams 1999:250 in Perkins 2003:34). In the essentialist and modernist view, maps reveal earth and nature in the sense that they confess the “truth of the landscape” (Crampton 2003:7). This view considers maps as inherently factual and argues that any problematization on maps should be located on the utilisation of maps, that is, the bad things people have done with maps (Wood 1993). This was theoretically enshrined in the “map communication model [MCM]...” (Crampton 2001) where the cartographer and the user were dichotomised and the goal was to “...produce a single, optimal (best) map” (ibid: 237). This production of optimal and archived map has aligned and still aligns itself to the notion of governmentality where ‘visibilising’ the space over which the ‘all-seeing state’ (Joyce 2003) superintends is rendered necessary (Rose 1999). This ‘panoptic’ view (one viewing many) was challenged by the democratisation rhetoric of ‘omnioptic’ (many viewing many). I argue that the omniopticon is rhetorical in urban informal settlements because the field of ethnocartography – ‘the study of non-western mapping practices’ (Wood and Krygier 2009) – on slum research is yet to be charted, if not viewed as unproblematic as well⁸.

Harley’s (1988, 1989) application of Foucault’s power/knowledge debate on the MCM critique constitutes a polemic work. He highlighted the ‘politics of mapping’ where the privileged and dominant discourses subjugate ‘other’ representations of space. However, his

⁷ For instance, in renewal projects and other brownfield developments, demolition facilitates this practice.

⁸ However, it has been undertaken as ‘indigenous mappings’ in rural and Aboriginal studies (Peluso 1995; Nietschmann 1995; Walker and Peters 2001) and critical ecology (Harris and Hazel 2006).

critique has been rendered incomplete by Jeremy W. Crampton who took it further. Crampton (2001) views maps as 'social constructions'. This denaturalisation of the map is not only directed at MCM but to Geographic Visualisation (GVis)⁹ (MacEachren, 1992; MacEachren and Taylor, 1994) which is sense-making activity through exploration of spatial data patterns and map usage. This sense making will be elaborated by the concept of 'semi-legibility' (Mnookin 2012) where maps are *made* to make sense through exertion of expertise, often in discretionary and inconsistent way on matters or decisions relating to informal settlement service provision.

Pickles (2004) extended Crampton's critique on maps' representationalist claim by stating that "maps are not representation of the world, but an inscription that does (or sometimes does not do) work in the world" (p67) by producing the territory we inhabit. This production of space – with "...maps as actants in the world" (Kitchin and Dodge 2007: 7) – has an "...authorial and ideological intent" (ibid: 6). These two authors extend (by challenging) the arguments of Crampton and Pickles by questioning the ontological security of maps which is taken for granted by the later. Kitchin and Dodge (2007) argue that maps are *ontogenetic*, in the sense that they are emergent products of-the-moment "brought into being through practices...*always* re-made every time they are engaged with...[hence]...mapping is a process of constant re-territorialisation" (p8, emphasis in the original). Their view put primacy on pragmatism and bricolage of everyday practices (a concept they call transduction) that bring the ontology of map to the world. Mapping processes are thus contingent – and people's engagements with maps are emergent and contextual – because maps are brought "into being to solve relational problems" (p17) and are "constantly in a state of becoming ... [and]...have no ontological security" (p16).

This is what can be read from the slum dwellers' resistance to archived maps as they campaign for improved service delivery. This 'relationality' reflects Wood, Fels and Krygier's (2010) current view of 'maps in protest' where maps are said to be tools of argumentation, and is reflected in informal settlements while the same maps are 'immortalised' in formal settlements. Slum dwellers' argumentation will be discussed in relation to the latest grassroots *self-enumeration* efforts aimed at raising their visibility and legibility – with a significant use of maps and transformation of aerial photographs by some informal settlements in Cape Town. Self-enumeration is a community-run and owned household survey exercise devised by Slum Dwellers International (SDI) and refined in various countries by its affiliates that consists of "... shack counting and numbering; mapping of the settlement; administration of a questionnaire devised and adjusted in community meetings, with all the relevant information about each household; elaboration of the information collected; verification and amendments; presentation to the public. In particular, this body of data would be shared with Government and hopefully used by the latter as the main source of information" (Informal Settlement Network [ISN], Sheffield Road

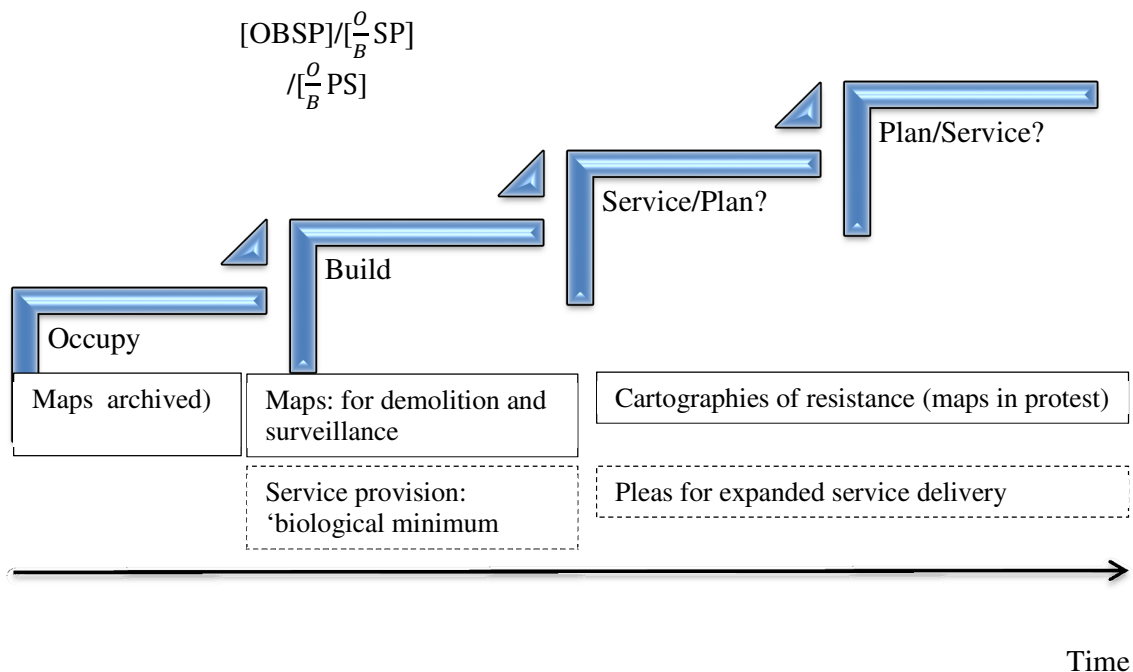
⁹ Encapsulating later technologies such as geographical information systems (GIS).

Community Leadership and Community Organisation Resources Centre [CORC], 2009: 5). It is “... a way of addressing the larger concept of spatial reconfiguration versus the simple delineation of sites. The difference is between focusing on individual households or space that is used by whole communities. The space can be used for communal amenities or to create lanes for installation of services such as water, sanitation and electricity” (Bradlaw 2011 cited in Baptist and Bolnick 2012:61). In these bottom-up cartographic and enumeration practices, maps are remade to resist imposed ontologies, especially so far as it constrains service provision in informal settlements.

Technology of power: power of maps, counter-mapping processes in Cape Town

Within the subject matter of informal settlements’ resistance to dominant discourses on urban built environment creation and their wider struggles for urban citizenship, critical cartography is still yet to chart its debate. Maps have been used as *technologies of knowing* with concomitant social consequences such as social interventions in built environment creation. It is then that map use is seen as a “...highly partisan intervention, often for state interest” (Crampton and Krygier 2006:16), and this is profound in decision making processes related to the extent or feasibility of slum upgrading. In Cape Town’s informal settlements, maps (generated from archived aerial photographs) have been produced and used *initially* for surveillance and this prior purpose has, later, been extended to facilitate service provision. This extension is hereby problematized (see Figure 1).

Figure 1: Reversal/Convolution of the Formal (PSBO) Spatial Order



While institutional urban spatial organization follows the PSBO sequence, informal settlements have been initiated and consolidated through the urban poor's resistance and circumvention or convolution of the PSBO sequence mostly in OBSP or OBPS permutations (see Figure 1). Prefixing most informal settlements' development processes with 'O' (land occupation) highlights the significance of informal land occupation or invasion as a mode of urban land access and exposes the PSBO path as 'spatial injustice' (Berner 2000, Harvey 2003; Iveson 2011). It is important also to note that the city, and its socio-spatial organization, is inherently designed to satisfy the logics of capital (Harvey 2003) and has to be *designed* or *planned*, but in the global South most urban settlements grow organically/informally, governed by people's 'multiple modernities' (Chatterjee 2004; Thomassen 2010). Maps and mapping processes play significant role in subsequent phases of framing/assembling spaces and infrastructure investment, to the extent that organic spatial developments outside these normative frames are not only rendered invisible to the state but also alienate themselves from infrastructure and services networks. Furthermore, the urban poor have not produced their own spatial order but have also appropriated the phrase 'slum-dweller' or 'informal settlement dweller' to strip its pathological connotations and used it boldly to advance their cause. In Cape Town, informal settlements have assumed identities and names – which are 'rooted in actions and give rise to specific practices' (Charmaz 2006) – (e.g. 'Enkanini'¹⁰, which means a place of stubbornness, resistance and force) and are used to activate their 'latent self-help potential and capacities' (Berner and Phillips 2005). A study of these grassroots mobilisation can then illustrate the lived social, political and economic relations to represent the slums' spaces of poverty and forms of popular agency that remain invisible and neglected in critical urban theory (Roy 2011). Studying everyday life of slum dwellers has the potential to provide an understanding of modes of creating visibility and 'alchemic ability' (Crerar 2010 in Roy 2011) to survive and thrive. Surviving and thriving is crucial because the dream (of a finished house¹¹) has been elusive for slum dwellers, hence 'improved life' *in-situ* becomes paramount. The claims for slum improvement or upgrading have been actualised through forms of spatialized activism similar to 'insurgent and transgressive citizenship' in Brazil by Holston (1991, 1995 and 2008) and Earle (2012); 'globalisation from below' and 'deep democracy' by Appadurai (2000 and 2002); and Chatterjee's 'popular politics' by a 'population whose very livelihood or habitation involves violation of the law' (2004: 40). These concepts are deployed in this paper by explaining the role of maps in mediating decisions for improved urban provision in informal settlements.

The subjugating role of maps and mappings (or mapping processes/map-making) is nascent in the study of slum dwellers' insurgent citizenship. The mapping component in PSBO practice is so embedded and ingrained to the extent that contestations and rebuttals against the way in which formal spatial ordinances 'sweep away the poor' (Watson 2009) have not isolated the hegemonic tradition of mapping processes. Mapping in PSBO has two main roles: transcription of the environment and surveillance. The first role undergirds the PSBO

¹⁰ Actually there are 3 settlements going by this name (Khayamandi, Khayelitsha and Langrug)

¹¹ Usually RDP house.

processes in that site analysis inform almost all land development since, for instance, spatial plans are made after some reconnaissance of the plan area. I need to point out here that this site analysis is not anti-poor, since most ‘low-income’ housing projects have been built on ‘developable sites’¹², while informal settlements’ self-help has paradoxically targeted ‘undevelopable land’ (sloppy, mountainous, along river banks). Generally, illegally land invasions target road/rail reserves, open spaces and other so-called ‘precarious and undevelopable’ land parcels identified during site analysis and institutionalised by spatial plans when housing development is *prohibited* in these areas. The argument here is that land survey maps that renders some areas (un)developable is assumed to be “neutral nor unproblematic with respect to representation, positionality, and partiality of knowledge” (Harris and Hazen 2006:101). Therefore, the fact that informal settlements not only evolve on the very sites that are designated as prohibited for housing development but also go further to demand expanded service provision in the very sites that are technically not feasible signify “turning those spaces into a new territorial principle of order” (Rao 2006:227). According to Wood and Fels (1986) and Harley (1989) scientifically produced maps privilege accuracy and impose technical authority, when in actual fact they involve political processes which select features and characteristics of the earth to be represented (Crampton 2001) and influence subsequent spatial development. Technocracy’s dominance in built environment creation processes has naturalised the map by campaigning for its primacy, objectivity and value-neutrality. Evidence in this paper shows technocrats arbitrarily using older aerial photographs when new ones are available, thus bringing doubt on their objectivity. This apoliticisation of maps and production of a monolithic, ideal, representationalist and optimal map is very dangerous particularly in its silencing and disempowering tendency and arbitrariness (Harley 1989; Crampton 2001). Slum dwellers have then politicised the erstwhile unproblematic maps by (re)producing space in ways that ruptures in the PSBO sequence.

Secondly, when maps get ‘naturalised/immortalised’ through the production of spatial plans – thus making not only some land parcels (un)developable but also making plans legal instruments and outlaw any organic spatiality – mechanisms of policing compliance are institutionalised by use of aerial photographs. These aerial photographs are then used to produce maps used by the well-funded Cape Town’s Anti-Land Invasion Unit (ALIU) to censure illegal occupation of land and unauthorised alterations or extensions on permitted developments. Demolitions that often take place during land invasion are guided by aerial photographs and plans that portray occupied land either as vacant space, rail/road/river buffer zones. Thereafter, maps have relatively influenced service provision in informal settlements in three main ways: pre-occupation maps that shows these areas as empty or undeveloped; immediate post-occupation aerial photographs and the shack count by the City’s GIS Branch since 2002. Pre-occupation aerial photographs have been used, to a greater extent, for demolition. However, given the ‘recognition’ and non-demolition that often occurs soon after some negotiations and court cases, there is some form of visibility and legibility about informal settlements in the city. The visibility is however limited by the enumeration and

¹² Sites which minimize cost of infrastructure (e.g. by utilising natural gravity for drainage) and avoid any earth stabilization.

mappings (by ALIU) that happen soon after official recognition. Since resistance and negotiation during initial occupation last several months, an interesting aspect of 'official recognition' is the City authorities' agreement with occupants' representatives that building of new shacks should cease by a certain date. Generally, violations of such agreements occurred as building of new of shacks usually continued at a massive pace just before the lapse of the 'deadline', though they also continued slowly thereafter. Usually during the initial demolitions, law enforcement officers do an enumeration of the shacks. For instance, some mapping and enumeration at Enkanini (Khayelitsha) saw bright pink letter Xs sprayed on the side of some of the shacks, marking them out for demolition in January 2004 (Skuse and Cousins 2007). However, not all enumerations by the city authorities was for demolition, neither was it for upgrading but more to do with surveillance, disciplining practices and threat (that was not enforced) to demolish any new occupation after this enumeration. However, these same enumerations and aerial photographs soon after that constituted the database of shack count. Such 'quick and dirty' enumerations end up feeding into the City's Meta data sets (of informal settlements) whose compilation requires each service department to overlay its own statistics. Even though these settlements get some form of recognition, that 'favourable' official status serves only to halt demolitions and the rough statistics at hand are not used to provide services.

For example, when the demolitions for Mshini Wam (Joe Slovo) stopped in late 2007, three taps were provided in October 2011 for a settlement of 250 shacks. Sixteen out of the promised twenty toilets were installed with the four being forfeited on the grounds of non-availability of space. While each informal settlement has its own unique genealogy of occupation, demolition, recognition and under-provision of basic services, it is in their claims for improved services that maps are generally used by the City to argue that the settlements are very dense and hence lack the space for expanded services. A question can be raised as to why maps seem to come to the fore on the claims for expanded service provision while this cartographic element is almost absent in the initial service provision.

In response, the residents in these settlements have refused to take maps' representation as fixed by, first, challenging legibility of these maps and, secondly, interpreting that the 'density' argument keeps the City off the hook in fulfilling its constitutional mandates on service delivery 'to all'. Maps have then been spaces of refusal, with their ontology challenged by the slum dweller's recent ritual called 'blocking-out'. The components of this ritual include the bottom-up re-mapping of the informal settlements and land re-adjustment for each shack. This readjustment brings out a re-arrangement of shack in a spatial order that open spaces for service. However, while I recognise the slum dwellers' 'alchemic' agency, it is necessary to explain the initial service provision in the informal settlements. I argue that initial services were provided on some arbitrary basis or according to Agamben's (1998) 'camp or bare life'¹³: interpreted as zone of exception where sovereign power is exercised both within and outside the law. This outplay of sovereign power has tended to keep the initial under-provision of services in place. That is, the city's suspension of its zoning and

¹³ In the context of refugees and undocumented migrants in migration studies.

other spatial ordinances (to recognise these settlements) and acting within the constitution to provide (inadequate) basic services, makes contestations very messy as long as the status of 'exception' prevails. The exercise of biopower in service provision in these settlements before blocking-out, I argue, has reduced slum dwellers to a biological minimum where adequacy is not an issue but is in a state that Butler (2004: 67) terms "suspended life and suspended death". In this state service provision is not according to law specifying standards or ratio of water taps or toilets per household but more of emergence response¹⁴. The greyness of the settlement limits advocacy based on minimum standard service delivery. This can be contrasted with the PSBO format, where the number of toilets is even determined by number of bedrooms instead of occupants. From a different angle, what are the implications of the free services currently being provided (water, wastewater and solid waste collection) within a neoliberal era that responsabilize its citizens? Further work needs to be pursued on the implications of free service provision in the informal settlements and its effects on post-'blocking-out' upgrading where financial contributions are required. However, policy responses to questions of dignity implied in prevailing sanitation modes (bucket system, for example) give slum dwellers hope but on practice the issue of maps and density arguments constitute a constraint. On the other hand the City cannot improve services in settlements when statistics reflecting the true extent of the need are not available.

Since 2002, the City's GIS Branch has been collecting and capturing data on informal settlements using aerial photography (HDA¹⁵ 2012) for its GIS Informal Settlement Project. The same department also does the ortho-rectification, that is, a "process of geometrically *correcting* an aerial photograph so that distances are uniform and the photograph can be measured like a map" (ibid:12, emphasis added). To determine whether the informal settlement is serviced, the GIS Branch then uses a cadastral overlay to incorporate features such as property ownership, roads, and electricity (among others) that will then be verified by other service departments. I argue that this process will not be relevant to the greater proportion (9% out of 15%) of informal settlements comprising of 'shacks that are not in a backyard' – the other 6% represents 'shacks that are in a backyard' (ibid). Shacks in the backyard usually do not relatively have service delivery problems¹⁶ when compared to those 'not in the backyard'. This is because they are connected to the landlord's main water/sewerage/electricity supplies. The HDA Report (2012) on Informal Settlement in Western Cape Province indicates that such "shack counts are generally an undercount due to the difficulty of determining boundaries of every structure particularly when they are built right next to each other and are located under vegetation" (ibid:13). One can ask the question how this process can determine level of service provision in informal settlements initiated through land invasions through overlaying aerial photographs with information appropriate only for settlements built through PSBO? This can reflect non-responsiveness by the local government when it pursues inappropriate enumeration methodology to assess existing service provision in informal settlements. Assuming that existing services are overlaid on aerial photographs (for shacks outside backyards), the resulted maps are expected to reflect

¹⁴ But even emergence response operation have minimum standards.

¹⁵ The Housing Development Agency.

¹⁶ As they are connected to the landlord's main water/sewerage/electricity supplies.



Plates 1-4: Historical maps of Mshini Wam (Joe Slovo Park: 08/2008, 09/2009, 11/2010, 09/2011)

the gross under-provision. It is then surprising, if not ironic, for informal settlements to struggle to ‘visibilise’ their plight when officials have maps and statics about the problem.

To highlight how the maps ‘lie’ (Kitchin and Dodge 2007: 4) – by being selective in what they inscribe *during their creation* and *through their use* (Dodge and Kitchin 2000; Pickles 2004; Kitchin and Dodge 2007) – I make a comparison between the historical satellite images of Mshini Wam informal settlement and the aerial photograph they were given to initiate their ‘blocking out’ exercise (see Plate 5). Blocking out of the shacks involves re-blocking of shacks and re-building towards a more rational layout (see Plates 6a-6c), in view of creating space to allow in-situ upgrading. Community members are initially given the City’s aerial photograph whose scale is, however, increased to improve legibility. In most instances, the aerial photographs of the entire informal settlement handed to the community will be an archived one. For example, the aerial photograph that was handed to Mshini Wam community to initiate blocking out exercise in early 2012 seems to actually reflect conditions prevailing before 2009 (see Plates 1-5). Harley (1989) indicated that this selective inclusion of map content has human intent, such as ‘cleansing’ (Harley 1988) official maps from anything unpleasant or embarrassing. Harvey (2003) also gives an example in Mumbai where the places inhabited by 6million people, officially recognised as slum dwellers, are left blank on all maps of the city. This is done often by cities trying to position themselves within the hierarchy of global urban centres or nodes. Where these informal settlements are shown, aerial photography worsens the stereotypes and homogenised images by use of partial, fractal and archived representations. For instance, the mere fact that aerial photographs standardise scales; rendered stable or valid over time and only reveal roofs of shacks and masks the heterogeneity reflected by walling materials is ignored and unchallenged¹⁷.

After receiving the aerial photograph from the city officials, community members are then requested to *update* it by physically inspecting all the existing developments on the ground and then (dis)confirm the aerial photograph’s representation by adding existing development that are not reflected on the map. It is obvious that there will be several of items to add on these aerial maps, although some of the updates could have been avoided were the community given latest versions of the maps that are available (e.g. on Google Earth for free). The updating of the aerial maps also highlight how the snap-shot feature of the aerial photograph masks and obscures everyday physical transformations in terms of extensions of existing shacks and erection of new ones. It is the updated version of the local map that is then used to cluster the settlement and ‘design’ an upgrading plan (see Plates 7a and 7b). The designed plan is then handed or ‘submitted’ to the City’s Informal Settlement Unit which then ‘approves’ it particularly in terms of its capacity to facilitate improved service provision and checking whether the ‘new plan’ does not imply further ‘appropriation’ or encroachment into previously unoccupied land. Consent by the Unit has broader implications on the

¹⁷ My conversation with Maryna Storie (Gauteng City-Region Observatory).



Plate 5: Aerial photograph given to the community for blocking-out



Plate 6b: Re-blocking of shacks (cluster formation)

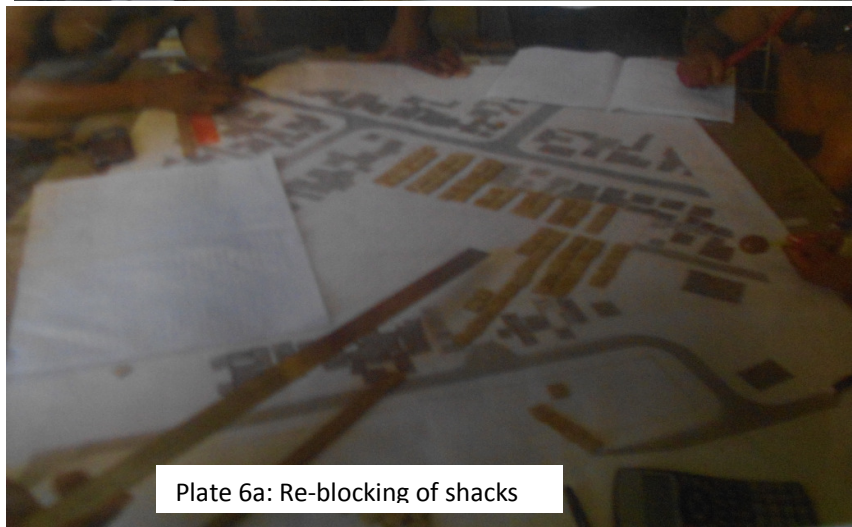


Plate 6a: Re-blocking of shacks

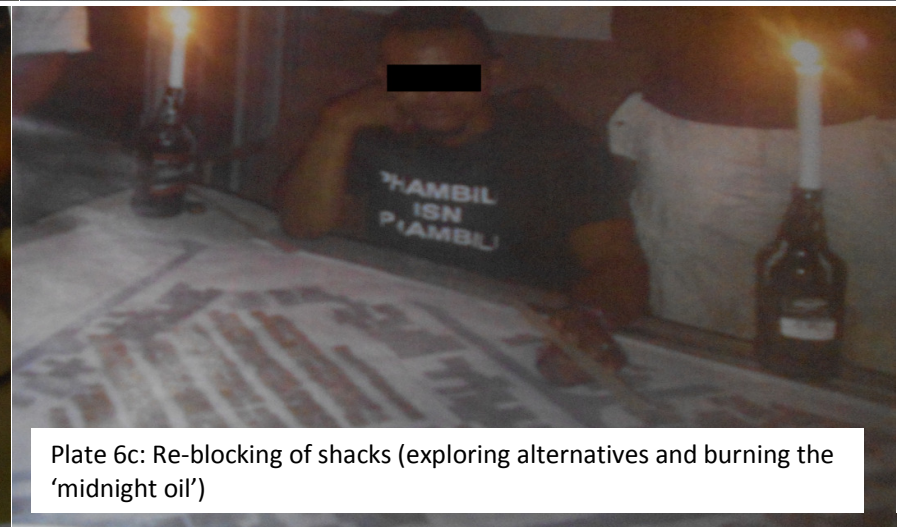


Plate 6c: Re-blocking of shacks (exploring alternatives and burning the 'midnight oil')

Pictures: Courtesy of the Mshini Wam Community, 2012

attitudes of different departments on using these community layout plans to embed their networks of, among others, water, sewer and electricity routings.

The significant community-driven ‘improvement’ of expert produced maps constitutes their discourse that maps are ontogenetic. Firstly, they have argued by saying ‘*we don’t understand these (expert) maps*’, more so as a reason for under- and/or non-provision of services. In expressing ‘illegibility’ of these expert maps, I will borrow Mnookin’s (2012:6) concept of ‘semi-legibility’ from its legal context to interpret and explain residents’ objection. The “notion of semi-legibility usefully focuses ... attention on the ways that much visual evidence neither speaks for itself nor permits unbounded interpretations, but rather, has a range of plausible – and potentially inconsistent – readings”. These visual documents are ‘ambiguous’ and approach ‘meaninglessness to lay interpreters’ such that those using them *read meaning into* them and use them as ‘proof’ of reality. The use of scale (deviating from 1:1) privileges the experts as the ones only who can make aerial photographs ‘decipherable’. The meaning of the aerial photograph, to a certain extent, depends ‘who is viewing it’. And if residents are to rely on experts to read these aerial photographs-cum-maps, Mnookin asks if expert will be reading them for him/herself or for residents? In the residents-experts encounters the former have expressed their rights and claims for services while the latter’s ‘ideological intent’ (Kitchin and Dodge 2007: 6) read high density or overcrowding that constrains service provision, usually in a passive way as they do not relate to the everyday slum challenges. They even arbitrarily chose relatively old maps when more recent ones are readily available. Interestingly, it is in the blocking out that lay people subject and transform these maps and use it to assert their rights and claims. This also prevails in literature on insurgent citizenship where subaltern urbanism unsettles the differentiated citizenship and dominant discourses by locating their subalternity on the same sites that produce differentiation (cf. Holston 2008).

In their refusal of the technocrats’ deterministic maps which naturalise the ontology of expert cartographies, slum dwellers illustrate their reflexivity through this ‘blocking out’ exercise. In this exercise, residents also reach a consensus amongst themselves to readjust their plots with the objective of opening up space for toilets and roads, and orienting their shacks in a spatial order that increase neighbourhood surveillance (of crime) and minimizes risks associated with spread fire outbreaks (see Plate 8). Instead of undertaking this on a comprehensive and extensive spatial coverage, each informal settlement is split into strata or clusters (see Plate 7b). This clustering process aids the consensus building as the exercise is often fraught with differences and conflicts related to space, choice of material, savings and the whole exercise being at variance with the expectation of some residents. It should be noted that during the time the author spent time observing these blocking processes, some residents have adamantly refused to be enumerated, to alter or readjust anything on their shacks, arguing that the only change or improvement they expected was a formal house (see Footnote 3) – interpreting this as seeing blocking out as ‘putting a lipstick on the gorilla’ while the essential

often remain unattended to¹⁸. Though not within the scope of this paper, it suffices to note two aspects: firstly, that such conflicts tend to be deep seated in Cape Town's townships where ruling party seeks to make political inroads. For instance, in August of 2004, the leader for the Enkanini (Khayelitsha) land invasion "...was offered a formal position within the ANC party structures, either as a reward for having proved his mettle, or as a strategy to neutralise him" (Skuse and Cousins 2007:990). Secondly, community seem to have drawn its own standard after blocking-out, with a clear specification that no wooden material would be allowed as it put the entire settlement in huge risk of fire spread that often likely during winter season. Some have even banned use of candles.

In terms of space, in the readjusted 'plan', community have agreed on 'minimum standard' shack size ranging between 10-36m². Tensions tend to flare when some shack owner perceive that the process will reduce their original space, but negotiations and realities have managed this by actually increasing space for majority whose shacks were below the minimum 10m². This blocking-out follows an assisted-self-help mode of upgrading where a partnership is created between the City and informal settlements through the mediation of the SDI. Since the SDI is a transnational network/alliance of slum dwellers' groups, they domesticate their activities in South Africa, working through/with local slum dwellers' federation and support non-governmental organisation (NGO). The local federation is represented by two informal settlement groups: Federation of the Urban Poor (FEDUP) and ISN. FEDUP and ISN facilitate the community mobilisation, brokerage and liaison of the community and the City. CORC is the supporting NGO. During my observation of regular meetings (once a month) and other forms of interfacing between the City's Informal Settlement Unit, Informal Settlement representatives, ISN and CORC seem to have produced an actor network that has increased the visibility of the plight of slum dwellers' everyday challenges to the local state which aims to fulfil the national mandate of the Millennium Development Goal (MDG) 7 (Target 11), that is, to 'have achieved by 2020 a significant improvement in the lives of at least 100 million slum dwellers'¹⁹. This actor network has also leveraged an access to resources by the informal settlements in terms of improved provision of urban services particularly water, sanitation²⁰, stormwater drainage, reduced spread of fire outbreaks and plans for connection to the electricity grid. Circulation and physical access is also improved as the blocking-out also create access roads envisaged to be wide enough to facilitate vehicular access (see Plates 9 and 10), and residents echoed the need for an ambulance access. It is worth noting here also that CORC's Community Architects facilitate this 'planning from below' by training community members to do the mapping exercises.

During the implementation of blocking out, community has to negotiate for a temporary relocation site adequate to accommodate a cluster. These negotiations are enhanced by (1) the City's input and assurance of the temporary status (up to about two weeks) of the relocation

¹⁸ <http://www.dasbf.com/news/article/The-essential-is-often-invisible-to-the-eye../> Accessed on July 10, 2012.

¹⁹ (<http://www.unmillenniumproject.org/goals/gti.htm> Accessed on 28/02/2012)

²⁰ With the city even promising each shack with its own water point and toilet.

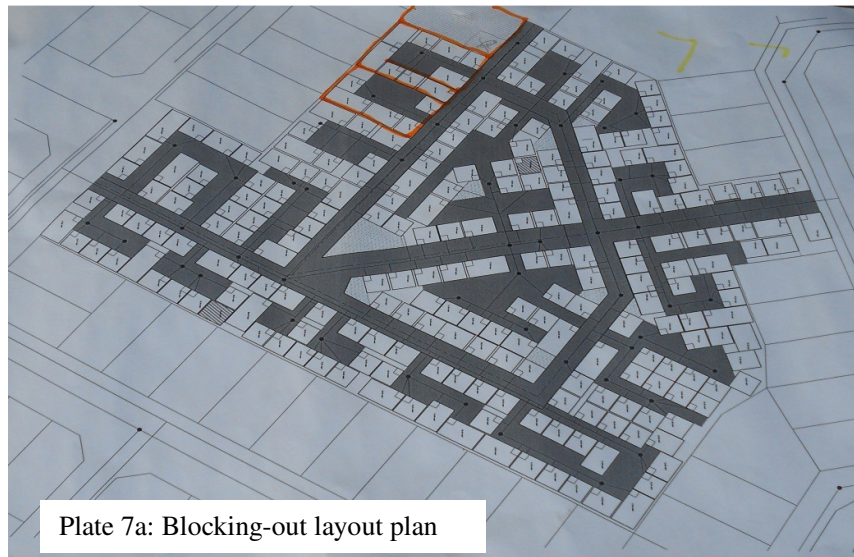


Plate 7a: Blocking-out layout plan

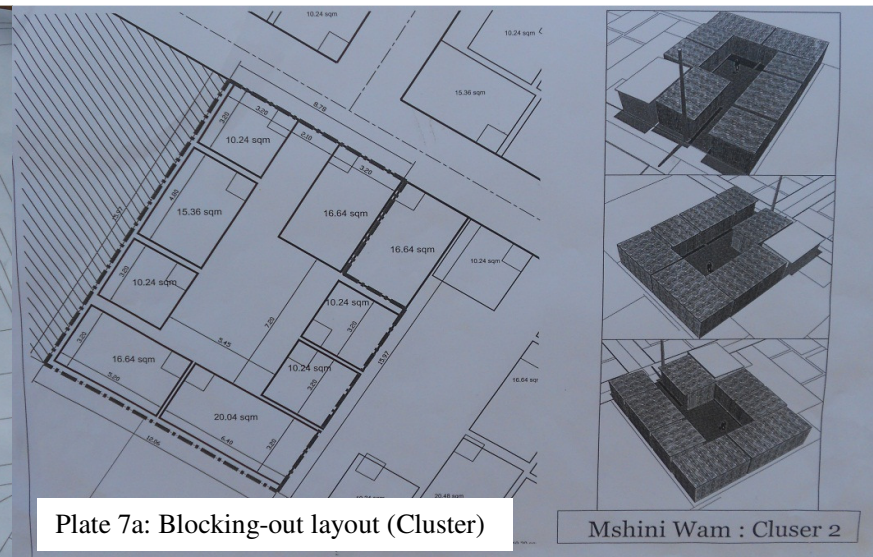


Plate 7a: Blocking-out layout (Cluster)

Mshini Wam : Cluser 2



Plate 8: Re-aligned shacks



Plate 9: Opening up of access roads



Plate 10: Vehicular access made possible

to owners of the identified temporary relocation site²¹, (2) the cluster method which reduces the size of the temporary site being requested. This arrangement also facilitates an incremental/phased implementation of the blocking-out/readjustment process, which also builds confidence as successive clusters to learn from the preceding ones.

It should be emphasised that in all these blocking out exercises the City is in a dilemma which might lead to creation of grey spaces mentioned earlier. The dilemma is like this: how does the City invest in urban services meaningfully at locations they intend to eradicate? Slum eradication (a different vision/version for slum upgrading) is salient in the ISUP despite BNG and Chapter 13/Part 3 of the Housing Code being lauded as progressive²². The state's response to Abahlali baseMjondolo (Durban), characterised by labelling them as a 'Third Force'²³; arbitrary imprisonment and killings, is problematic. This relates to Pithouse's (2009) conclusion that BNG is a progressive policy without progressive politics, a view corroborated by Groenewald (2011) and Huchzmeyer (2010). While the BNG acknowledges the plurality of housing alternatives, in practice "a house on a fully serviced property with freehold title" is seen as the only option (del Mistro and Hensher 2009:333). This is alluded to by Huchzmeyer (2010), who argues that the slum upgrading programme has been translated by technocracy to mean 'eradication of informal settlements', which fits neatly with Cities Alliance's 'cities without slums' motto. According to Warren Smith (2009: 73):

A total of 226 443 subsidised houses were delivered in the Western Cape during the 14-year period from April 1993 to March 2008, equivalent to only about 55% of the current estimated housing backlog. The housing subsidy funding allocated to the province for 2008/09 is R1,4 billion, enough to deliver about 19 000 units, and a similar number of units are planned for 2009/10. Assuming these levels of delivery are maintained (and assuming all low-income houses delivered are suitably located, affordable, well-built and not overcrowded, and in good quality urban environments), the 2007 housing backlog, excluding any new demand after 2007, will only be addressed in about 21.5 years' time (i.e. by 2029).

Given the important tensions between new arrivals from the Eastern Cape (among other places of origin for the new immigrants) in their formal and informal entry to the City and its resources (including land and housing), the Smith's projected time-lag that is likely to lapse between now and the eventual access to a house in 'suitably located, affordable, well-built and not overcrowded, and in good quality urban environments' can augment, instead of abating, further informality. That is, if the mood and inclination of those lacking access to adequate housing, is to secure their own home by invading available land (Huchzmeyer 2003; Khan and Thring 2003; Graham 2006) to build a shack – with an argument: 'better a shack now than wait 20 years for a formal house' (Bolnick and Bradlow 2010) from government. I

²¹ Who fear that this temporary relocation might turn into permanent occupation.

²² It has been argued elsewhere that policy does not order practice (Rao and Walton 2004; Lewis and Mosse 2006).

²³ That is, a 'surreptitious force... attempting to undermine the ANC government' (Zikode 2006:185)

am not here presenting an ‘apocalyptic and dystopian narratives of the slum’ (Roy 2011), earlier illustrated by Mike Davis’s (2004) *Planet of Slums*, where he argued that:

“...cities of the future, rather than being made out of glass and steel as envisioned by earlier generations of urbanists, are instead largely constructed out of crude brick, straw, recycled plastic, cement blocks, and scrap wood. Instead of cities of light soaring toward heaven, much of the twenty-first century urban world squats in squalor, surrounded by pollution, excrement, and decay” (Davis 2004:19).

One component of the blocking-out process is the exchange sessions where informal settlements learn from each other²⁴, as this exercise of ‘upgrading’ is piloted on 22 settlements with much activity being on the prioritised five. Beyond the horizontal liaison and exchanges amongst themselves, vertical engagements have been made with City officials who are invited to see this ‘planning from below’ or ‘insurgent planning’. In these interfaces, the officials are taken through all the stages of mapping, updating the base maps and planning or readjustments. The officials even acknowledge the space created by the slum dwellers so as to pave way for the improved basic services. It can be said that at this creative design from the margins or abject spaces that expert planners undertake capacity building from lay or community planners. This overlaps with Huchzermeyer’s (2006) call for critical re-skilling and capacity building of those officials working with informal settlements. These will generally include planners but the Informal Settlement Unit’s Principal Field Officers who act as frontline liaison personnel in dealing directly with these settlements can use their upclose contact to effect greater visibility. I emphasise the significance of these perception changes among experts because slum dwellers’ insurgent citizenship face the ‘inside and outside space dilemma’ (Hardt and Negri 2009): that is, the desire to flee the ills of free market neoliberalism and at the same time recognizing the fallacy of a pure outside to retreat to, hence the inevitability of working with and against the state. This is pertinent in the unique South African phenomena of activism that has not produced the horizontal relations within grassroots groups in places like India but has been associated with vertical ones of brokers, interlocutors and at the extreme: patronage as part of the problem-solving network (see Robins, Cornwall and von Lieres 2006; Robins 2008).

From these bottom-up mapping processes, a map is ‘*emergent in the process*’ (Kitchin and Dodge 2007: 16, emphasis in the original) and space is ‘an empty surface’ (Rose-Redwood 2006: 480) that is negotiated and constructed. In the conventional use of maps and in their embedded nature in the PSBO sequence, the map is taken as given though it can be updated by technical experts. The difference brought out in the informal settlements’ cartography is the resistance to the experts’ reading and use of the map. Experts had on their own read the map and concluded that there was no space for improved service provision and still hold the

²⁴ These exchanges have also been transnational, e.g. visits local slum dwellers have made to Namibian and Kenyan counterparts, while they have also hosted architecture students from University of Botswana.

same perception on settlements that have not begun this process of blocking out. Technocracy not only naturalise maps but also use technological softwares (e.g. GIS, Remote Sensing) that provide 'new and complex form of automated spatiality' (Thrift and French 2002:309) and 'geo-coded world' (Rose-Redwood 2006). This technical perception of high density is even stronger on informal settlements that are relatively bigger, whose image on the aerial photograph looks relatively more overcrowded. Slum dwellers' resistance and rebuttals of experts' interpretations and knowledges can turn these cartographic knowledges into critique of the powerful or cartographies of resistance.

Legibility-effects: pro-poor or for biopower?

Building on Foucault's (1991) 'arts of governmentality' Goldstein (2002:489) argues that a "project of state formation is premised on the transformation of the 'chaotic' social reality into orderly governmentality, ...[and] the legibility effect attempts to subordinate subject populations to state control through a host of normalizing techniques intended to count, assess and otherwise render citizens 'knowable' to the state". Central to the modern state projects of legibility, several instruments of state power (inventory-making and record-keeping) have been deployed. The Foucauldian modern form of power (bio-power) illustrates the state's panoptic imperative over space, landscapes, people and resources in liberal governance where the diverse and complex social phenomena is simplified, either for benevolence (overseeing the welfare of the population) or suspiciously surveillant purposes of controlling and manipulating its subjects. According to Escobar (1995) the creation of legibility has been associated with the creation of subjects for development, while Scott (1998) argues that "an illegible society is a hindrance to any effective intervention by the state, whether the purpose ...is plunder or public welfare..." (p78). Relating to this positive aspect, at least Scott observed the pro-poor dimension or potential of legibility where the invisible can be 'visibilised' in a way that 'responsibilises' the state. While Clarke's (2005) application of responsabilisation in citizenship debate was targeted on 'citizens', I argue that slum dwellers struggle responsabilises the state to fulfil its welfare mandates, more so after the post-development impasse, quietism or abstractness whose reliance on "...the self-organising capacity of the poor ... actually lets the development responsibility of states and international institutions off the hook" (Nederveen Pieterse 2000:187). To some extent, informal settlements have been obscure to the state, thus suffered neglect. Goldstein's (2002) study in Bolivian *barrio* (Villa Pagador) give an ethnographic highlight of the marginalized's struggle (through representation) to gain visibility and cultural control over their own images produced by the media and anthropologists. Residents fought against misrepresentation and neglect by the government. But others have argued that while mapping has been used as an instrument of generating legibility, it has been used as tool of resistance (Taylor, 2005) by those occupying abject spaces or peripheries. Paradoxically, this has '...of course paradoxically facilitated their increased surveillance' Lyon (2001:294). It might be too early to judge how the state will use recent community-driven statistics, but acknowledgement should be made on how these enumeration been well incorporated into the HDA's 2012 Report alongside HDA's own Land and Property Spatial Information System (LaPsis);

To check whether informal settlements' broader 'blocking-out' and counter-mapping is alchemic, the transformative effect of resistance and effectiveness of their mappings needs to go beyond claims and rights talk and citizenship debate in an 'empirical void' (Lister 2005). Building on their historical victories of resisting eviction, residents have challenged the city on existing service provision. While the city officials have presented statistics of water taps and toilets provided, residents have refused to accept these official records by arguing that the city's infrastructure data should reflect only functional facilities (see Table 1 and its footnotes). I argue that effective agency of slum dwellers' mapping should reflect an influence on the city authorities to invest in upgrading their settlement. It is worth noting that some of the current prioritized informal settlements have reconfigured their shacks (Sheffield Road and Mshini Wam); and improved services are expected in the short term. However, these gains or tokens of leveraging urban citizenship risk being reversed or eroded by the discourse of conventional practice. This is because if these settlements are upgrading, the current rhetoric and interpretations of the ISUP by technocracy has eradication as the outcome through enlisting prospective developments along the PSBO process. Then, the in-situ slum upgrading intervention on the ground will evolve differently and in non-empowering form, thus deviating its pro-poor conceptualization and in policy. The formulation of four phases²⁵ of the upgrading process and a stipulation that implementation of subsequent phases is contingent upon completion of preceding phase. These phases bring out the conventional rationale in organizing land development, linear development and control; thus resulting in 'facipulation' (Hilhorst 2003:106) – a mixture of facilitation and manipulation. While one would expect slum dwellers to consolidate empowering processes that gained momentum at occupation and blocking out stages, the engagement with technocracy presents both inevitability and an irony. It is inevitable since there is a need for the tenure regularisation (mostly²⁶); and improvements in water, sanitation and electricity relies upon local authorities who are likely to view them as 'beneficiaries' not customers or claimants as they will be locked/entangled within the grid of bureaucracy (authorization and standards). It is an irony in that these pending and empowering components are made to be provided by the technocracy, hence unlikely to be delivered because "...it is really not possible for one person to 'empower' another: people can only empower themselves" (Korten 1990 in Gardner and Lewis 1996:118). How then do slum dwellers' effective agency alchemic? The context of slum dwellers depicted by Chatterjee (2004), where their 'popular politics' is voiced by a "population whose very livelihood or habitation involves *violation of the law*" (2004: 40, emphasis supplied), plays well into the state's manipulation and creation of Agamben's (1998) 'camp or bare life'.

²⁵ See Chapter 13/Part 3 of the Housing Code.

²⁶ For some settlements, the city authorities obtained court orders to evict invaders, but due to the delays in court decisions, the fast pace in occupation before the court decisions and strategic timing of land invasion (just before elections) eviction is politically inexpedient. However, residents know of the existence of such court decisions/documents.

Conclusion

The paper concludes that the current grassroots mobilisation and partnership with civil society groups can translate slum dwellers' enhanced visibility to improvements in their settlements. Though the SDI definition has the hope that the self-enumeration data can be 'shared with Government and hopefully used by the latter as the main source of information', it is still yet to be seen as the self-enumerations are recent developments. However on the issue of viewing maps as emergent is true in this case of informal settlements but this view is limited especially when it implies adopting Kitchin and Dodge's (2007) argument that maps are ontogenetic. Despite the entanglement of slum dwellers' gains or victories within the subsequent formalisation (yet disempowering) processes, they have specifically illustrated how maps lie in their selective representation and semi-legality. They have even gone beyond by resisting decision making on improved service delivery to be based on hegemonic maps, centralised enumeration and archived infrastructure data. The enumeration well captures the dynamics of occupation (and reflects current shacks). The PSBO comparison is also illustrative of how it hides the disempowering effects of maps and mapping processes. This can reflect Wood, Fels and Krygier 's (2010) redux on the power of maps where they assert that 'maps figure the state', that 'as maps affirm the state', the 'state affirms the map'. In the formal settlements, the ontological security of these maps is unquestionable, and it is in effect used by homeowners to enhance property values. Unfortunately this enhancement of neighbourhood value has tendency of voicing against municipalities' decision to formalise informal settlements in their vicinity. Informal settlements have idiosyncratic features that turn them into real activated 'citizens' who responsabilise the state by their 'protest maps' (ibid) while the disciplined residents in formal settlements are being responsabilised.

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