This paper discusses the importance of maps in urban planning and the consequences for cities planned within a 'non existent maps context', when the power of decision belongs to the dwellers. The power of the maps resides in their facticity; the analytical measure of factual objectivity and the credibility that it brings to the collective discourse. Placing informality on maps will recognize the weaker dwellers and the 'formal world' could gain benefits from the informal.

Three design concepts on public space are presented, territoriality, liminality and seasonality, extracted from Dar es Salaam's informal settlements, that could contribute as design tools for 'global South' cities. The discussion is based on literature, theoretical concepts, observations and interviews from a field study in March 2012 where experts from the Tanzanian housing ministry, NGO experts and academicians, street leaders and community dwellers from settlements in Manseze, Bugurundi, and Mlalakua were consulted.

**Keywords:** Informal settlements, Dar es Salaam, Territoriality, Liminality, Seasonality.

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1 Housing Development & Management – HDM, Lund University, Sweden. 
Email: maria.rasmussen@hdm.lth.se
Background
Urbanization has been very strong since the middle of the 20th century, and since 2007 more than 50% of the population in the world is urban. Today, almost one third of this urban population, around one billion, is living in areas classified as slum areas with substandard housing and a lack of land rights. In some cases, more than 50% of the growth of cities in developing countries has been implemented by the informal sector.

The development process of those settlements seems to follow an irrational pattern making legalization and consolidation extremely expensive, and the long process can take several decades. There is a knowledge available among urban professional planners, architects and technicians working in the production of sustainable and effective modern cities, in optimizing urban land use, and in making possible social cohesion and creating harmonious ’formal cities’. Beside there is limited knowledge and a lack of understanding of the 'informal cities', the cities built by the efforts of the citizens themselves outside the law, these cities that often are understood as chaos. When understanding the logic and virtues behind slum formation and everyday life, we will be better able to carry out more sustainable neighbourhood interventions. Professionals working in urban planning need to develop tools to bridge the gap between formal and informal cities.

Dar es Salaam, Tanzania suffers from a severe shortage of good quality in housing and good quality in infrastructure, simultaneously with strong population growth and rapid urbanization. The informal settlements host 75% of the dwellers in the city (UN-HABITAT, 2008) and the city shows some of the fastest urban growths in the world today – rank 9 in 100 studied cities– and an expected average annual growth of 4.39% from 2006 to 2020 (City Mayor Statistics, 2012). Today planning visions for Dar es Salaam for 2030, do not consider informal settlements and their futures.

Dar es Salaam – the Formal and the Informal city
Dar es Salaam the largest city in Tanzania has doubled its population to 3.3 million inhabitants in 20 years (UN-HABITAT, 2008). There are about 100 unplanned settlements in the city and 75% of all residential houses in the city are found in these settlements.

Figure 1. Dar es Salaam urban growth from 1891 to 2001. Source: Lupala, 2004.
Dar es Salaam is a palm shaped city and it is characterized by a mono-centric urban and administrative structure. Informal settlements hosting middle and low income families are placed in a pattern of low-density and low-rise urbanization, mostly in one floor residential areas, 'contributing to urban sprawl and land underutilization' (Lupala, 2002).

The formal city has developed consciously along the four main radial roads; the Bagamoyo Road, parallel to the coast and running to the north; the Morogoro Road, that connects the city with the interior of the country passing cities such as Dodoma; the Julius Nyerere Road, the heart of the industrial area of the city running also to the interior of the country and the Kilwa Road, running to the south. Apart from these concentric roads, there is only one ring connecting the city transversally, the Nelson Mandela/Sam Nujoma Road.

The informal city in Dar es Salaam representing 75% of the residents has developed without maps. Strategically the development of the informal city has taken another vision than the rational figure of a concentric star able to supply connection of the city to the nation and region. The informal city has developed in between the main roads and at the periphery. The strategic reasons for the people to settle have had the character of need and availability.

On the other hand, the formal city still follows the colonial planning regulations and building standards, with high requirements. The minimum legal plot size is 400–600 sqm., an extensive dimension that excludes the poor. Therefore 'smaller plots of land with vague tenure, customary and quasi customary are common alternatives for the urban poor' (Kironde, 2005). Customary land has had a periodicity of thirty, sixty and even ninety years and for middle and low income families in Dar es Salaam this has been the most common way of land access.

Today, formal resident permission is managed by authorities for a period of three years, resulting in migration of the poorest people to the periphery. The slums near the city centre are starting a gentrification process as a consequence of embezzlement and land speculation. The new settlements will probably start a peripheral urban developing cycle, with worse living conditions, with housing of non-permanent character and an uncertain future of infrastructure and services delivery, due to the ephemeral relationship to the land. If strong planning measures are not taken by professionals and national authorities, this cycle will be preserved.

![Figure 2. Google Earth, maps and views from 2012](image-url)
When looking at maps, for instance in one of the most accessible map systems, Google Earth’s maps, it is easy to notice that formal areas in the formal city are well described (fig. 1a) in opposition to informal areas, where neighbourhoods appear as empty spaces (fig. 1b) even if large informal neighbourhoods have been settled for a long time and have developed a very active everyday life (fig. 1c, from satellite view).

**Some characteristics of the informal settlements**

Informal settlements in the world have different characteristics, inner city slums, authorized or unauthorized squatters, pirate urbanizations, non-planned settlements, etc. (Davids, 2006). Informal settlements in Dar es Salaam are usually described as unplanned neighbourhoods where a mix of middle and low income families live face to face. Some residents work in the formal sector, such as university teachers or municipality employees and some work in the informal sector, such as street vendors. Commercial or informal income activities are usually developed along the borders of the settlements, while life inside the settlement has a familiar everyday life feeling, with women pursuing traditional domestic activities, sounds from children playing in the streets.

Physically these settlements are characterized by single storey house types that follow the traditional Swahili house; the neighbourhood follows a compact layout within an organic urban fabric, result of plot subdivisions and probably with inspiration from Swahili patterns with narrow and labyrinthine streets that allow shadow in public spaces. The overall spatial feature is characterized by a highly dense settlement; usually densification increases in settlements close to the city centre. Except for the houses placed along the main streets, most of the dwellings are placed haphazardly; and you may see pit latrines or shower rooms facing footpaths. Narrow streets or paths are not suitable for motor vehicles, which causes terrible difficulties when pit latrines need to be emptied. From a western cultural perspective the division between public and private space is diffuse.

Services in these non-planned settlements are usually delivered by the formal municipality, but services are very poor, are not reliable and have hardly any maintenance at all. The tendency of families, who can afford it, is to develop self-sufficient houses with, for instance, water reservoir tanks and private generators for electricity. Waste collection is still understood as a community responsibility.

The neighbourhood is managed locally with a mix of formal and informal representation. A community leader called ’Mtaa-leader’ is selected by the residents for a period of 3 years with a possibility of re-election, and a civil servant, a kind of secretary, is posted by the municipality main office. They work together. Several staff will be added according to the size of the neighbourhood. The Mtaa-leader is a lawyer and a notary, a spiritual guide in the community and an inspector who monitors compliance with the rules or norms of the neighbourhood.

**The power of the maps vs. the power of the informal settlements**

“Scientists master the world, but only if the world comes to them in a form of two dimensional, superposable, combinable inscriptions” (Latour, 1999).

Maps are a representation of a reality, and this representation is very much a product of the perspective of the eye that is looking. A map is therefore 'a constructed, limited and manipulated reality; a unique system of signs including political, and a spatial form of knowledge' (Harley 1988). However, the power of the maps resides in 'their facticity; the analytical measure of factual objectivity and the credibility that it brings to collective discourse', as Corner expresses it in The Agency of Mapping (Corner, 1999).
He also points out that these characteristics should be used and co-adapted to achieve critical and realizable projects. Maps have power! Maps are not built only after Ptolemy's world, a Euclidean gridded world and 'the north is not always at the top' (Corner, 1999). New techniques have developed a digital world where more complex cartography is possible, and multi-disciplinary actions, social sciences for instance, make efforts to represent the world closer to the complex reality it demands.

However, informal settlements are usually built in the absence of maps. The informal city is more the consequence of the practice of everyday life, defined by de Certeau as a process 'to make explicit the systems of operational combination, which also compose a culture and to bring to light the models of action characteristic of users whose status as the dominated element in society' (Certeau, 1984). Informal settlements are often the result of the efforts of the citizens themselves and outside the law. The power of these actions is reflected in cities where informality is dominant (75% in the case of Dar es Salaam). In weak governments, the production of homes and neighbourhoods has become a 'habitus' and the image of that city becomes a 'taskscape', in an urban context. Strategies and tactics are part of the tools that the citizens use to achieve their city. The formal city planning office in Dar es Salaam established some development strategies road connections for instance, but informal citizens also develop strategies for land occupation related to the established city, for instance neighbourhoods in between roads. While walking in their neighbourhood it is possible to identify tactics used by the dwellers to build a community with physical and social understanding. Informal citizens are both consumers and producers of their own habitat.

“Many everyday practices as well as ways of operating are tactical in character and victories of the weak over the strong” (Certeau, 1984).

Concerns related to landscape are expressed by Olwig and Corner; landscape is 'actively shaped by humans in their imagination, in their representation, in their politics, in their surroundings. It’s not monolithic' (Olwig, 2004) and 'the landscape project is no longer one of pastoral scenery, but now a more heterogeneous and active ground' (Corner, 1999). The city, being the built landscape or built environment for architects, is also a result of an active process in space and time of two independent monologues, one of formal and one of informal actors. While the formal actors like politicians, architects or town planners, talk about location, historical events and local stories, economical conditions, political interests, regulatory mechanisms and pragmatic structures; the informal actors talk about shelter and family, housing as asset, access and affordability and everyday life.

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2 Habitus is defined by Pierre Bourdieu as: 'the set of socially learned dispositions, skills and ways of acting that are often taken for granted, and which are acquired through the activities and experiences of everyday life.' (Certeau, 1984)

3 Taskscape is defined by Tim Ingold as ‘a socially constructed space of human activity, understood as having spatial boundaries and delimitations for the purposes of analysis; taskscape is immanent in dwelling activities.’

4 Strategy is the calculus of force-relationships when a subject of will and power can be isolated from an environment, and assuming a place that can be circumscribed as proper and serve as the basis for generating relations with an exterior distinct. In The Practice of Everyday Life, Certeau describes strategies with institutions and structures of power who are the 'producers', while individuals are 'consumers' acting in environments defined by strategies and by using 'tactics' (Certeau, 1984)

5 Tactic is a calculus which cannot count on a proper, nor thus on a borderline distinguishing the other as a visible totality, rather insinuating itself into 'the other's place'. A tactic depends on time and must constantly manipulate events in order to turn them into opportunities. (Certeau, 1984)
Cities in developing countries are very much the result of hidden forces and they reflect the superposition of these powerful monologues. Informal settlements have power!

Dar es Salaam's informal settlements are placed in different places for different reasons. In some cases they are in-between the four fingers roads, being an active 'bubble of service suppliers' for the city centre and a vivid informal market for the entire city as is the case of Manseze neighbourhood. In other cases they are in strategic areas are where 'nobody wants to live' as for instance marginal land close to the airport.

This land has become an interest area for low income families, land they can afford and can occupy; land that allows urban agriculture matters when a decision to settle is made, but also land with hardly any transport connections to the rest of the city. Land close to special activities such as education is also a strong parameter when informal settlement decisions are taken. In the surroundings of the campus of The University of Dar es Salam and ARDHI – School of Urban and Regional planning, the informal settlement Mlalakua has specialized in accessible accommodation for students and affordable houses for teachers working in the institutes. The master plan of the campus did not consider dwellings for the larger majority of users.

The vibrant life in these neighbourhoods and the hidden forces on the creation of the informal settlement relate to the concept of 'taskscape' (Ingold, 2000), these creation forces seem to be stronger in the everyday life of the informal city than in the formal city.

The school of the New Urbanism declares the power of the urban process and the dynamism of the communitarian component for the built environment, having been less utopian than Urban Modernism. David Harvey argues that the dynamic of multiplicity of urban processes cannot be contained within a singular, fixed spatial frame; he states that 'the problem is to enlist in the struggle to advance a more socially just and emancipated mix of socio-temporal production process' (Harley, 1988). In cities such as Dar es Salaam, where formal and informal neighbourhoods coexist, projecting new urban and regional futures must derive as Harvey expresses it 'less from a utopia of form and more from a utopia of process'.

Some possible design concepts – Territoriality, Liminality and Seasonality

Maps do not reflect reality and maps are not tools used in the construction of informal societies or settlements; therefore new concepts used to create space need to be studied and understood by professional urban planners when intervening in informal settlements for sustainable, inclusive and harmonious cities. 'Representation of the reality when it is connected with efficiency in planning should include spatial and social solution making easier to visualize and actualize given potentialities' (Corner, 1999).

When researching and reflecting on informal settlement space and performance, and when reflecting on possible tools for mapping, understanding and discussing the informal city, three concept related to public space became very clear; territoriality, liminality and seasonality. During a field study in March 2012, experts at the housing ministry, NGO experts and academicians, street leaders and community dwellers from settlements in Manseze, Bugurundi and Mlalakua were consulted.

Territoriality. The case of the street that divides the informal neighbourhood of Manseze

The Morogoro Road crosses one of the most vibrant informal markets in the city in the neighbourhood Manseze. The road, however, is physically dividing the neighbourhood. Informal dwellers understand that the road has powerful informal market possibilities.
Informal vendors and informal buyers occupy the road to spread their business, while the role of transportation is to communicate between two points, the peripheries and the city centre. These two activities create a 'territoriality' 6 framed in two layers.

 Territory has been defined by several researchers. Territory can be considered as 'a meaningful aspect of social life, whereby individuals define their scope of their obligations and the identity of themselves and others' (Shils, 1975, cited in Kärrholm, 2005). Territoriality has also been defined as 'the attempt by an individual or group to affect, influence, or control people, phenomena, and relationships, by delimiting and asserting control over a geographic area'. This area will be called territory (Sack, 1986, cited in Kärrholm, 2005). Manzese streets are very much managed as an informal market, with the rules and conflicts that it implies. It is controlled by specific people, where a defined behaviour is expected between dwellers, sellers or buyers and where visitors feel that the rules and the expected behaviour must to be followed.

Territorial behaviour has been expressed as 'a self–other boundary regulation mechanism that involves personalization of or marking of a place or object and communication that it is “owned” by a person or a group, behaviour that after placement appropriation, can create social tensions' (Altman, 1975, cited in Kärrholm, 2005). Tension from the superposition of those two ways of understanding territoriality becomes obvious when traffic accidents occur, where it is usually the informal dwellers from Manzese who get badly hurt. Territory is then as Foucault defines it 'first of all a juridical-political one: The area controlled by a certain power' (Foucault, 1980). This conflict is naively handled by politicians and town planners with a simple solution of a fence in the middle of the road, to divide a territory.

Kärrholm sees territorial complexity within the essence of making public space enabling discussions beyond dichotomies such as homogenization or heterogenization and inclusion or exclusion. Kärrholm identifies three aspects of complexities within territoriality production: first the dominant territoriality with a large number of territorial productions categorized according to strategies, tactics, relationships power etc. A second aspect of complexity refers to a multilayered territory, characterized by a large number of layers at each place and a dynamic space shifting between absence and presence territoriality.

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6 Territoriality: space production as a collective effort of human and nonhuman acts. (Kärrholm, 2007)
The third territoriality complexity refers to heteronymic relationships among different territorial productions. 'A heteronymic territorial relationship represents a plenitude of different territorial productions, existing in the same place and without the preconception that one is dominant or in any profound way outranks the others'.

The first and the second complexities apply to Morogoro road in Manzese, where the formal road dominates over the informal market, co-existing within a conflict environment. Searching for better urban solutions, the third complexity, heteronymic territorial relationships could be seen as a management tool to create more harmonious cities, recognizing diverse uses and fighting against the abuse of dominance. Could we hypothetically imagine a space with characteristics of a 'commercial-square-bridge' in part of the Morogoro road of Manzese that allows the interaction of transport and market functions?

Liminality. The case of streets or paths in informal settlements in Dar es Salaam

Figure 4. Illustration, Msasani, typical urban fabric for informal neighbourhood in Dar es Salaam.
Lupala, 2002.

The concept of liminality is a notion taken from Arnold Van Gennep and alludes to the state of openness and ambiguity that characterizes the intermediate phase of a tripartite space-time, or prior pre-liminal stage, intermediate or liminal phase and another phase or later post-liminal. The anthropologist Victor Turner deepens the definition of liminality as a pilgrimage that involves a pattern of movement in which pilgrims cross an invisible 'limen' in space that separates the city – a hierarchical structure of the daily life, from the holy place – with sense of community and place identity; creating the sense that Turner has defined as 'communitas'. (Turner, cited in Olwig, 2005)

Informal settlements in Dar es Salaam are almost unnoticed by the formal citizens or visitors. Entering the informal settlements, the visitor is forced to pass through different phases. The boundaries are overcrowded with people, the environment is 'polluted' by market noise, publicity and by a gastronomic mix of aromas, the public and private transport becomes threatened, and race and religion becomes a conscious issue. Streets penetrating the neighbourhood change the hierarchic structure transforming itself by widening and overcrowding into a narrow and calm public space. Some streets wind up in open spaces where the sense of community and place identity become clear and somehow harmonious.

7 Limes: Latin, can be translated as threshold.
8 Diversity in public transport includes today motorized tricycles or bajajis, open buses or dalar-dalar.
9 Communitas is a term used by Victor Turner. (1969, 1974)
Behaviour and rules in the public space change gradually when passing through the street thresholds. Sense of place is codified by the dwellers, excluding the visitors, the foreigners. This sense of place, of belonging, of community, forces the stranger to somehow surrender to the rules of the environment.

Mlalakua, a typical example of informal or non-planned settlements in the city, includes low and middle class dwellers; however university dwellers are as common as low income families. Public spaces in Mlalakua, as in some other neighbourhoods in Dar es Salaam, include complex concepts of semi-public and semi-private space, framed sometimes as private space in a labyrinthine and narrow structure.

Including the concept of liminality, within secure neighbourhood’s production, and with respect for citizens may help urban planners in designing integrated cities far from gated communities that divide the city.

**Seasonality. The case of rituals and traditions expressed in the streets**

*Figure 5. Photo, Street in Zanzibar, 2012. Stone Town in Zanzibar is a UNESCO world heritage city, a touristic city, where photography is possible. Citizens in informal settlements in Dar es Salaam are more reserved when allowing tourists and researchers to look into their urban life.*

Seasonal landscape is defined as a phenomenon occurring in space and time, as 'when the spring begins at the vernal equinox, but seasons can also provide a measure for defining time, as when the sprouting of trees indicates the coming of spring' (Olwig 2005). Time and seasonality have long been fundamental for the landscape discipline. In the discipline of urbanism, this concept should be explored further.

The residents of informal settlements in Dar es Salaam, as in the rest of the country, represent diverse tribes, traditions, cultures and religions. A kind of 'Urban Seasonality'\(^{10}\) appears obvious in the city when the streets on certain days are occupied by attitudes and outfits\(^{11}\), either by Muslims in their pilgrimage to the mosques on Fridays, or by Christians occupying the streets in peregrination to the churches on Sundays.

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\(^{10}\) Urban seasonality is a term suggested by the author.

\(^{11}\) For example hijab or headscarf, hiqab and veils for Muslim women. Taqiyah, or cap used by Muslim men.
Seasonal activities such as carnivals, festivals, and public concerts are considered by few town planners; however an Urban Seasonality should be explored further seeking for more diverse design solutions of the public space with the immanence of change, temporality, and adaptability - not only for the physical space but also for seasonal time.

Urban seasonality could help professionals to understand and to focus on urban and cultural harmony, where space, time and diversity are present.

Conclusions
Cities in the global south are shaped to a large extent by informality; new neighbourhoods are productive forms of socialization and spatial solutions born without guidelines, instructions or the involvement of professional planners or designers.

Representation of realities, such as maps, need to be improved to give an opportunity and a capacity to reformulate what already exists, and to allow more efficiency in planning, in spatial and in social solutions. Today’s techniques have developed a digital world where more complex cartography is possible, where multi-disciplinary actions and social sciences, for instance, make efforts to ‘represent the world’ in ways closer to the complex reality it demands.

Representation of realities, such as maps, needs to be improved to give an opportunity and a capacity to reformulate what already exists, and to allow more efficiency in planning, in spatial and in social solutions. Placing informality in maps will be a way to recognize the weaker dwellers of developing cities, but this process needs to be fair and legitimate because there are several qualities in these settlements that are not possible to represent by traditional techniques; qualities of which the ‘formal world’ could gain benefits.

This paper has presented three concepts: territoriality, liminality and seasonality, extracted from the Dar es Salaam informal case, concepts that could contribute to discussions on the role of urban planning and design tools for the urbanization process of the global South.

Understanding and using 'territoriality' or a sense of space produced collectively, could be seen as a tool to fight segregation, which considers social diversity and inclusion. 'Liminality', can contribute to the design of more secure neighbourhoods when community and sense of community are understood and recognized. 'Seasonality' focusing on temporal diversity could help professionals to understand and focus on cultural diversity and urban harmony.
References


Ministry of Lands and Human Settlements Development, (2001), *Environmental Planning and Management in Dar es Salaam Tanzania*


Web pages

City Mayor Statistics. Fastest growing cities and urban areas, 1 to 100. [website], www.citymayors.com. Acceded 10 September 2012