Built Up Identities as a New Theoretical and Methodological Approach for Analyzing Selected Neighborhoods in Dharavi, Mumbai

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ABSTRACT

Dharavi, a central district of Mumbai, is one of the densest informal settlements in Asia. It is home to about 100 communities with different backgrounds and from all parts of India. These neighbourhoods have grown organically with its inhabitants living together in cramped spaces and under poor hygienic conditions. This paper considers the organizational and structural solutions that have been found by its inhabitants at a modest level of order and design of their habitat as a starting point and basis of improvements of the living conditions. This is a contradiction to the slum redevelopment projects initiated by the Slum Rehabilitation Authority since 1971. The current government projects overlook the vital connection between the living and working spaces, the concept of community spaces, and the spatial references to the traditional living culture of India. Contrary to this, the inhabitants themselves and their built identities are the focus of a new approach to study neighbourhoods in Dharavi, but also more generally in other informal settlements: The investigation of the social fabric and the spaces in which the daily life happens shows how the spatial structures (hardware) are reflected in the social structures (software). To see these neighbourhoods as built up identities not only shows the connections between the built environment and the social spaces, but also allows planners and architects to develop socially tailored planning tools for the re-development of these areas.

Keywords: *Informal settlement, slum rehabilitation, social urban design, urban sociology, identities*

INTRODUCTION

World-wide, the development of informal settlements has happened rapidly: According to the UN Human Settlements Programme (2003), one billion people currently live in slums while in irregular and informal employment. In 2030, about three billion – this is 40% of the world's population – will need adequate living space and access to basic infrastructure such as water and basic infrastructure.

Between 2050 and 2060, the world's population will reach its maximum - about 10 to 10.5 billion people 95% of this rapid growth will happen in cities of the South. This means that most of the population will live in cities – predominantly in megacities, and within those mostly in slums and in housing situations without access to water and sanitary facilities.

For most people, informal settlements are associated with negative aspects: Poverty, dirt, illegality, poor education and no future for children. They also spatially, socially and economically contrast "legal cities" and are a challenge for all city dwellers. People in the

informal settlements must fight for their dignity, a space to live, the right to stay, for clean water and a functioning infrastructure. In most cases, the inhabitants don't have any rights in the city anyway.

Politicians and citizens of the "formal city" often see slum dwellers as a disturbance.

In contrast, visionaries see informal settlements as catalysors for the development of national economies: Robert Neuwirth characterises slums as shadow cities immensely contributing to the city's economy. He associates slums with a massive productivity and a surprisingly low unemployment rate (Neuwirth 2005). Slums shouldn't be seen as social final scenarios anymore, says the British Canadian journalist and author Doug Saunders in his study Arrival City (Saunders 2013); instead, they are economic "wonder worlds" where people fight to establish themselves within the middle class - thanks to their own efforts without any government's support.

Jeb Brugmann (2009) argues that slums represent sustainable lifestyles – architects and

planners can learn from the inhabitants' self-built structures and solutions useable for future redevelopment projects.

Those negative aspects of an informal settlement – in Dharavi as well as worldwide – are mostly the result of a lack of social housing policies and city planners' top-down methods.

Here is what the research takes on:

Dwellers themselves are seen as architects of their creatively built environment. People living in informal settlements build and change their houses by themselves without any government help. They build their houses according to their needs, the available funds and the spatial conditions they have. So, these built structures are mirroring the social backgrounds and needs of their 'makers', hence, can been interpreted as built identities.

This paper develops a new approach to studying informal settlements in megacities of the Global South. It mainly elaborates a counter-narrative to the negative representations of informal settlements by official planners, other policy actors and investors. The new approach starts with the concept of 'built identities' and unfolds its potentials through relying on a combination of different methods of research.

BACKGROUND

Studies and discussions about slums around the world

„Slums are like icebergs – there are so many things invisible" (Bhide 2012)

Current discussions about slums and their inhabitants are led by influential international institutions like UN-HABITAT that have increasingly picked up on the topic since the 1970s: The Vancouver Declaration on Human Settlements was passed at the first United Nations Conference on Human Settlements Conference in 1976. It stands for a humanitarian living policy and the fair provision for the world's population with living spaces. It gives particular focus to the marginalized inhabitants living in cities of the South who are pushed towards the margins of society and are supposed to profit from this. The improvement of living situations world-wide is the main goal that cannot be cut off from social and economic development (http://habitat.igc.org/vancouver/van-decl.htm).

Today's mega slums have been developed in the 1970s and 1980s when the first international aid

programs kicked off: Before 1960, it was unknown why cities in the "third world" kept growing so slowly. Then, there were huge institutional hindrances on the way to fast urbanisation. The colonial empires additionally limited the access to their cities, while a domestic pass-system in China and other countries made sure of the control of social rights and through that the control of internal migration.

The reason for the cities' big boom was the onset of decolonisation at the end of the 1960s. In most countries in the global south, the residential construction subsidized by the state was not able to keep up with the increasing demand of urban living space. As a result, a new trend in slum politics started to appear that started with John Turner's (British architect) ideas and plans of a gentle and human-friendly improvement of the slums at the end of the 1970s (Bhide 2012). Up to this point, social structures within slums were ignored. From then on, they were to become an essential part of planning tools, whereas the slums' inhabitants themselves were to be included in city planning. Informal forms of living were no longer seen as illegally occupied land but rather as creative and necessary solutions developed by the inhabitants (Spies 2016). The first approaches to self-help were developed and supported by governmental programs. The legalisation of slums was in the center of the debate as well as giving the people living there their rightful status within society.

At the end of the 1980s and the beginning of the 1990s, there were world-wide protests again indebtedness and the international monetary fund. In the 1980s, the world bank, development economists and representatives of big NGOs stated that people were still seeking shelter, building settlements and surviving in cities despite an almost complete abandonment of the interventionalist politics of the state in planning and providing homes for poor and disadvantaged city dwellers. Planet of Slums (Davis 2007) alludes to the UN-Challenge Report stating that it was an eye-opener concerning the fact that the global housing crisis in cities is threatening our future to a similar degree as climate change:

"The cities of the future aren't going to be made from glass and steel constructions like former generations of urbanists pictured, but rather from rough bricks, straw, recycled plastic,

blocks of cement and waste wood. The majority of the urban world of the 21st century will submerge in the misery of environmental pollution, excrement and waste instead of living in high rising cities of light." (Davis 2007)

The American historian and urban researcher Mike Davis paints a drastic picture in his work Planet of Slums, in which he argues that urbanisation without urbanity has been occurring in cities for the last decades. Davis says that the radical urbanisation occurring world-wide goes along with the explosive growth of informal settlements. Furthermore, megacities are home to mostly young urban dwellers that have no formal relationship to the world's economy – and in most cases, don't have a chance to develop one. This informal global working class is pushed away into urban peripheries and usually lives without access to the cities' traditional culture (Davis 2007). Due to this, Davis' studies were an essential inspiration for this work and a part of the knowledge base.

In its year-long study, the UN Habitat report The Challenge of the Slums: Global Report on Human Settlements 2003, London 2003 examined slums world-wide in 29 cities (UN Human Settlements Program 2003). Up to this point, no reliable and accurate data about slums and informal settlements had existed. In the study, not only the structural, sanitary and infrastructure-related created realities were taken into consideration, but also the economic and socio-cultural dynamics that constitute informal settlements. These were included in the study as important parameters. According to city structure and location, the study was the first to divide slums into various categories according to condition, location, infrastructure and the structural state. It was also the first to consider mainly women and children living in slums.

The UNICEF report About the situation of children in the world 2012 (http://www.unicef.de/presse/2012/bericht-situation-der-kinder-2012/13702) states that currently more than half of the children and teenagers in this world – that's about a billion people – are growing up in cities. In the 1960s, this number made up 27% of the whole population. Many children live in slums without access to clean drinking water, sanitary facilities and health-care facilities. Children are rarely noticed by the rest of the population: UNICEF criticises that children are overseen in most studies while being an important part of the city. Street kids, children from informal settlements and slums that are especially affected by a high mortality are rarely or never considered. They are the ones that need to be listened to – they must be included substantially in future plans for a healthy and sustainable urban development.

Studies about Slums in India/Mumbai

In the late 1980s, the Vastu Shilpa Foundation – founded by B.V. Doshi in Ahmedabad, Gujarat – published a three-part long series of studies How the Other Half Builds (Volume l: Spaces; Volume ll: Plots; Volume lll: The Self Selection Process) in collaboration with the Centre for Low Cost Housing of Mc Gill University. The documentary examined selected slums in Gujarat on varying scales: The smallest cell of the house (cell scale), connected groups of houses, places and the hierarchy of streets (nagar scale) in slums. Exact measurements and analysis showed not only the problems and deficits but also the qualities and potentials of slums. The conclusion of the study was that slum rehabilitation can only be successful if people are actively incorporated in slum rehabilitation projects (Vastu Shilpa Foundation 1986 & 1990).

Charles Correa's report for the National Commission on Urbanization is an important bottom-up study about slums in Mumbai. It was published in 1988 – during a time of arising problems in slums due to the increasing density and modernization of Indian cities. Correa suggests basic parameters for a useful rehabilitation: Firstly, the infrastructure of slums needs investments in order to satisfy all inhabitants' basic needs. Clean water, electricity and a functioning sewage system contribute significantly to the health and the dignity of the residents. Correa realized that people living in slums should stay close to their working places: Rehabilitation projects in urban peripheries don´t make sense and are unsustainable.

Studies and reports on a local basis by activists and urban planners like P.K. Das, Akhtar Chauhan, Rahul Mehrotra and Neera Adarkar are of a great significance: They all belong to a generation that have experienced the budding issue of slums in the 1960s and have realized that informal settlements have got an economic and political dimension in addition to the spatial one.

For over 40 years they have been fighting for the rights of slum dwellers in the megacity of Mumbai. Chauhan, director at RIZVI College of Architecture in Mumbai and author of the mini-study Learning from Slums, lived under a tree in a slum in Gujarat for a year in order to study the living conditions of its residents.

CRIT published the study Typologies and Beyond: Slum Settlement Studies in Mumbai in cooperation with the world bank and the JJ College of Architecture in Mumbai. The study is a documentation of selected informal settlements within the megacity and is based on an extensive field work with students who measured and recorded the various typologies of Mumbai's slums. In the study's second part, practical solutions are suggested, explained and summarized in a manual for each slum's resident (CRIT 2010)

Amita Bhide´s "Colonising the Slum" talks about "significant continuities and critical shifts in the forms, intensity and sources and instruments of violence have taken place since the 1990´s when a number of changes were brought about in land markets of Mumbai." Bhide is analyzing the everyday violence and insecurity especially among women and young girls within the slum area Vashi Naka in Mumbai. Also, slums in Mumbai have been spatially and socially changed: Most of the slums consist of third-generation dwellers; they have assimilated with the city. Therefore slums are highly diverse and complex living systems with a need to contextualise these changes to broader politics of appropriation and exclusion particular to cities and the patterns of control by the state and access to city space" (Bhide 2017).

Studies about Dharavi

The first detailed study about Dharavi's socio-economy was conducted by the TATA Institute of Social Sciences in 1944: Dharavi was spatially and sociologically noticed for the first time; the district was presented as a village located on Bombay's outskirts (Bombay Municipality 1944).

One of the first current studies about Dharavi can be found in Kalpana Sharma's book "Rediscovering Dharavi" from 2000 (Sharma 2000). The journalist from Mumbai describes the residents' living situations and the numerous small and bigger economic wonders in Asia's Largest Slum. Sharma outlines the varying realities within Dharavi from different perspectives: From the slum's residents' point of view, she narrates their own personal stories and daily problems and worries. Sharma also illustrates the political dimension of Dharavi by reporting about the consequences of the rumours between Hindus and Muslims in 1993/94.

Liza Weinstein's dissertation Redeveloping Dharavi: Toward a political economy of slums and slum redevelopment in globalizing Mumbai (Weinstein 2009) traces Dharavi's formation from the late 19th century until the early 1980s. Furthermore, the work covers the Dharavi Redevelopment Project (DRP) including the political, societal and economic backgrounds as a case study. The dissertation aims to illuminate these complex connections in Dharavi.

The 25-page long case study entitled Dharavi: Developing Asia's largest Slum published by Harvard Business School deals with Dharavi's history and examines the actions of both the government and for-profit developers. The study is part of an attempt to transform Dharavi into a modern district.

The dissertation Role of Social Movements in Organising the Unorganised Sector Workers: A Case Study of LEARN, Dharavi in Globalisation and Labour (Tinu K. 2010) shows the difficulties of employees of the informal sector as well as the changes of their living conditions due to the influence of trade unions, non-governmental organisations and other social movements in Dharavi. In the work, the NGO Labour Education and Research Network (LEARN) is analysed as a successful case study

The Urban Typhoon Workshop Koliwada conducted a workshop with artists, architects and activists together with Dharavi's potters´ colony to generate ideas and visions for the improvement of their working conditions. The workshop was based on the idea of community´s participation: Every citizen should have the right to play an active role in the district's developmental process. All decisions were taken together – through informal conversations, group discussions and interviews (http://www.urbantyphoon.com).

URBZ is an Urban Think Tank and offers regular workshops as well as important information and essays about Dharavi on their website (www.urbz.net). URBZ's office is located in Dharavi's Transit Camp and sees itself as point of contact for residents, architects,

sociologists and anthropologists from all around the world.

Amita Bhide is the chairman of Humane Habitat at the Tata Institute for Social Sciences in Mumbai (TISS) and has examined the livelihood of the inhabitants and the connections between working and living in Dharavi based on four selected communities in cooperation with the University of Applied Arts during the study Ground Up – A Dwellers' Focused Design Tool for Upgrading Living Space. Furthermore, Bhide's studies about slums in other parts of Mumbai are ground-breaking as they move the respective social and cultural background of the inhabitants into the foreground of research: According to Bhide, professional activities are reflected in the housing forms of slums. As a result, it is necessary to include the livelihoods and origins of the people in all slum rehabilitation projects.

One of the most current and detailed studies, Dharavi: From Mega Slum to Urban Paradigm, was published in 2013 by Marie-Caroline Saglio-Yatzimirsky: During her 20 year-long field work, she uncovered the social, economic, urban and political dimensions of Dharavi. For the first time, Dharavi is accurately portrayed: Saglio-Yatzimirsky traces the district's development that seems to slowly move away from the shadow of the megacity of Mumbai. It shows how Dharavi has changed under the influence of cultural globalism and the media's efficacy.

A NEW RESEARCH APPROACH FOR UNDERSTANDING INFORMAL SETTLEMENTS: BUILT UP IDENTITIES

Dharavi is a specifically dense informal neighbourhood in the middle of Mumbai and a unique and complex urban village with dwellers from all parts of India. Dharavi is unique – but it is also an example for informal settlements in a global context of socio-economic interrelationships of marginalised communities and societies within megacities. It has rapidly grown from a small fishing community to a third-generation informal settlement within the city of Mumbai. The settlement is a place of diverse cultural, social and spatial parameters and consists of "built up identities": People living here come from all parts of India and have physically and socially shaped Dharavi over several generations with diverse religions and social backgrounds. Their social identities

are directly related to their immediate spatial surrounding (Spies 2016).

Built-up identities are living spaces made and upgraded by the slum dwellers themselves without any support from the formal city: The first generation´s dwellers came with their imaginations of their native places to Dharavi and physically implemented and manifested building ideas they had brought from their various home villages. Later on, the second and third generations´ inhabitants have upgraded and densified their neighbourhoods, adjusting their homes according to their personal and economical requirements.

Dharavi´s citizens are tightly economically connected with the formal city of Mumbai and gradually introduced modern building materials deriving from the formal city of Mumbai: Metal grills, concrete structures and building elements like doors and windows are inspired by formal housing typologies and implemented - on a different scale - within Dharavi.

Dharavi is the best example of an urban village consisting of various kinds built-up identities: communities from all over India like the potters from Gujarat, broom makers from Ilkal, dhobis (hindi: washers) from Andhra Pradesh or idli (South Indian snack) makers from South India have adjusted their homes according to their livelihood and family size.

Unfortunately, existing slum rehabilitation projects don´t focus on important sociological parameters like livelihoods and social backgrounds of slum dwellers. The example of Dharavi shows the failure of city planners' Top-Down methods following rigid spatial concepts of urban redevelopment without people´s participation in informal settlements. The built-up living spaces, surrounding neighbourhoods and different livelihoods are crucial social and cultural features which must be part of a new design approach for slum rehabilitation projects. That´s why Dharavi can't be only understood by physical measurements on site and existing demographic data (hard facts).

Thus, the goal is to deeply look at the phenomenon of Dharavi from the inside, to capture it and to make it understandable by using a new theoretical and methodological approach:

- Theoretically the concept of 'built identities' combines the individual social backgrounds, histories and biographies of people living there with their built structures

- Methodologically the Zoom In method is used in the examination of carefully chosen spatial detailed cut-outs and by interviewing the people living there.

Through case studies the social, economic and structural changes occurred during the last decades are made visible and interpretable (*soft facts*).

In order to analyse and understand informal settlements as *built-up identities* the research has to focus on the following research questions:

Research question 1: Which connections exist between social patterns and ways of living, e.g. which people bring into the city migrating from other parts of India and the building typologies in the examined neighbourhoods?

Research question2: In which ways have the processes of modernization and densification been observed?

Possible changes of building typologies should be examined within the selected neighbourhoods due to the social and economic situation of the individual families (e.g. expansion/extension of the house, upgrading). Furthermore, architectural and socio-economic structures regarding urban development have drastically changed (e.g. economic and social changes, new building materials). As mentioned above, the observation of the spatial and social framework within the selected neighbourhoods and their relation to building structures are relevant in this regards.

These research questions add up to another important research question:

Which parameters and criteria are necessary for a socially responsible architectural discussion and socially responsible rehabilitation within Dharavi?

APPLIED WORKING METHOD: CONNECTING MULTIPLE METHODS OF RESEARCH

Zoom in as a New Methodological Approach

First, the selected neighbourhoods are analysed within their system (*cluster scale*) and within their immediate surrounding; afterwards the smallest cell (*cell scale*) is "zoomed" into. Furthermore, the family house in the home village (*village cell scale*) is recorded by physical measurements, drawings and a photographic documentation. This must not a random selection, but rather a targeted sampling that's exemplary on purpose: Not all examined families can be visited in their home villages and it's not possible to record them in detail. That's the reason why the selection criteria aim to create an informative base for new and viable results.

The research aim is to gain insights into this certain phenomena. In each neighbourhood, the house of a selected family is examined as a case study that characterises / has characterised the place contributing to the neighbourhood's development. The house in Dharavi has been compared to the house in the home village.

Cell Scale: Examining the Space With in a Cell

In each neighbourhood, the interior of one home is examined in detail: The aim is to show how the smallest unit – the house itself – is used by its residents via a 24-hour analysis of daily use and activities. The individual spaces (living/working/sleeping) as well as their relation to the immediate neighbouring semi-public spaces like adjacent streets or squares have been illustrated.

Cluster Scale: Examining Spaces within Each Cluster

The individual cells are exemplified by the illustration in floor plans, sections and elevation drawings. The building materials used, the water and electric connections and possible differences of the different levels between public and private space are shown as well (material analysis). Furthermore, a 24-hour diagram within the cluster shows which way the adjacent public space is used at different times (analysis of use and activity patterns).

Village Cell Scale: Examining the Spaces of the Home Village

A family of each cluster will be examined and visited in their home village as a case study to document possible direct and indirect spatial and social connections between their home village and Dharavi. This scale level is important to find out whether the inhabitants have brought spatial and / or social living patterns to Dharavi. It also shows in which ways the dwellers´ identities have implemented

themselves within the context of the mega-city Mumbai.

People have come to Dharavi not only to establish their livelihoods but also to support their families in their home villages. Hence, it is important to examine possible connections to the villages to understand the complexity of Dharavi's spatial and social structures.

Putting the Collected Data into a "Framed Picture"

The combination of all the collected architectural, morphological and sociological data produces a diverse picture of the investigated places with essential information.

First, the spatial and socio-cultural changes are shown since the houses' / clusters' origin are documented and illustrated (*densification / change*). Furthermore, the aim is to show in which way the residents "dive" spatially and socially into Dharavi and how the built environment reflects their specific traditions and origin (*dislocation / adaption*).

Those parameters that seem important for future slum rehabilitation projects were determined based on the specific structural and sociological circumstances of the selected neighbourhoods (*linking of space / variability*).

The investigation's results show how the material-spatial structures of the structured living and life space (*hardware*) display the immaterial-social structures (*software*) on differently determined scale levels.

CONCLUSION: BUILT-UP IDENTITIES AS STARTING POINT FOR THE DEVELOPMENT OF AN INNOVATIVE PLANNING TOOL

From the beginning, the degree of Dharavi's densification and modernization has been closely linked to the megacity Mumbai as a "rising megacity" and its economic and social processes. The changing spatial and social matrix of the megacity has determined the architecture of the living spaces of all examined places.

All neighbourhoods in Dharavi have been built "on the same soil" – although by a huge variety of different communities from all over India.

The first inhabitants used natural building materials found in Dharavi. They replicated the built structures of their home villages they had had left behind. Old dwellers talk about the existence of pure nature in Dharavi dominated

by mangroves and swamp land around 50 years ago. That´s why the first settlers' building materials were palm leaves, stones, jute sacks and clay. They created the first built-up identities and gave leeway for the upcoming generations who transformed the replicated rural village Dharavi to the urban village Dharavi.

The slow, but steady loss of natural space has gone hand in hand with the spatial densification and the improvement of people's economic situation. The significant steps of development have become noticeable in all the investigated places due to the constant upgrading of living space with modern building materials provided by the city itself. Also water connections have been introduced inside the house – a small spatial change but a big social implication of the living concept of the megacity.

The spatial and sociological examination and measuring of Dharavi's individual neighbourhoods on different scale levels are important for the background of concrete structural suggestions in the form of a catalogue of measures for the *Slum Rehabilitation Authority*.

Slum rehabilitation projects had not considered people's living conditions so far, but had focused on rigid floor plans. These "concrete boxes" are made for "abstracted dwellers" which have nothing to do with the cultural background of "real dwellers". They are inflexible and don't reflect people's different needs and demands.

The inhabitants have created their own economic resources within the city, expanded and integrated them into their immediate living spaces. The SRA's rehabilitation projects and private investors destroy whatever the dwellers have physically and mentally created themselves.

Therefore, as a next step, innovative planning tools need to be created that consider the complex sociological and anthropological parameters. In this paper a theoretical and methodological approach has been described which is suited best to define these parameters, and, hence, to develop a socially tailored and sustainable planning tool for re-developing such neighbourhoods. Spatial flexibility in planning tools is a key issue since there are fast changes within the neighbourhoods: Within the next decades, Dharavi – and all informal settlements of India – will continue to spatially restructure

and socially change their living environment. Thus, it is even more important to create a sustainable and socially responsible planning catalogue for Dharavi – and for informal settlements in different districts in Mumbai and other Indian cities.

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AUTHOR'S BIOGRAPHY

Martina Maria Spies holds a PhD in architecture, is a designer, builder, urban researcher using sociological methods and activist. Her phd was an architectural-sociological analysis of five selected places in the informal settlement Dharavi. In 2013 she founded the organization Anukruti, which builds playgrounds on vacant urban sites within slums in the megacity Mumbai. She has gained experience in international offices such as Shigeru Ban in Japan, COSTFORD, B.V. Doshi and Hasmukh Patel in India. Between 2013 and 2016, she worked as a research manager for the project Ground Up – A Dwellers' Focused Design Tool for Upgrading Living Space' in Dharavi, Mumbai in one of the highest density and largest informal settlements in the world. At Studio X Mumbai Martina Spies, in cooperation with Columbia University, was the successful curator of two international exhibitions called „Dharavi: Places and Identities", which brought four neighbourhoods in one of the most complex informal settlements alive and"Let's play! Children as Creators of Informal Playspaces", which showcased the culture of play in India for the first time.