ARCHITECTURES OF INFORMALITY

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Architectures of Informality
Content

Jasper Cepl 10  Foreword

Ivan Kucina 12  Preface

Ivan Kucina 16  Course Brief

I  WHEN CITIES ARE OUT OF CONTROL

Sa Yin Lilian Law 22  What is the Relationship
HONG KONG  between Informal Architecture and
  Global Urbanization?

Ola Damilola 32  Why Does Formality Tend to Fail?
Dominic  NIGERIA

Jacob George 40  Are Informal Settlements
INDIA  Boon or Bane?
II SELF-ORGANIZED BUILDING AFFAIRS

Charlotte Choo 50 Why Do We Need to Learn about Informality?
MALAYSIA

Aleksandra Duczmal 58 Does Informality Mean Chaos?
POLAND

Hanieh Razavi
IRAN

Ivan Kucina 66 What Is the Concept of Architectures of Informality?
SERBIA

III BONDS BETWEEN FORMAL AND INFORMAL

Tim Shapkin 74 How Can We Frame Informality?
RUSSIA

Jackson Philip 80 Why Is the Coexistence of Formal and Informal Important?
INDIA

Jaideep Achar 86 Can Informal Architecture Be Vibrant?
INDIA
IV QUEST FOR THE FAIR CITY AGENDA

Sohail Dalili 98 How Do We Formalize Informality?
AFGHANISTAN

Michelle Chung 104 What Are the Challenges of Community Participation in Informal Settlements?
MALAYSIA

Ola Damilola 112 How Do We Make Informal Settlements Sustainable?
Dominic NIGERIA

V WHAT ARCHITECTS CAN DO

Mija Petreska 122 How Do We Make Architects More Relevant in the Informal Settlements?
MACEDONIA

Aidan Ferriss 130 Can Architecture of Informal Settlements Be Implemented in Formal Developments in Order to Achieve the Desirable Attributes of Informality?
CANADA

Borhan Uddin 140 Is Informality an Opportunity for Architects?
BANGLADESH
This book asks you to take another, a new look at informality. I’d be preaching to the already converted if I continued by filling you in on the topic or by telling you about its importance. I assume that you, the reader, knows informality matters. Therefore, I will rather tell you why you should still explore this book, and what you may learn from doing so.

To do that, we have to talk authorship: first and foremost, this is a book written by students—or rather: former students, as all of them have by now successfully finished their studies at DIA, the Dessau International Architecture Graduate School.

It was in the courses held by Ivan Kucina that they discussed informality, and learned to add to the discussion themselves. Seen through their eyes, informality presents itself in an unforeseen way.

To put this in other, more celebratory words: informally represented by a group of students from all over the world, the global youth in architecture is here given a voice to tell us about their inquiries into the topic.

We owe this to Ivan Kucina, a patient researcher of informality and a longtime teacher at DIA. It was his trust that made students speak in the first place. And as a truly dedicated teacher—whose generosity deserves greatest praise—Ivan sat down and edited the writings of his students, and he
put a lot of time and thought into this selection. It is not at all common that a teacher dedicates himself to this laborious task. And without Ivan’s dedication, this book would not exist.

I’d also like to stress that Ivan quite well knows what he is talking about. He has studied the phenomenon for many years and long ago realised that informality is of crucial importance for a realistic understanding of the city—the city as we may no longer know it.

Urban development is rampant in many parts of the world. If we are to hope for solutions, we will have to consider informality—as part of the solution, not as a problem. We will have to reckon with the the forces apparent in informal settlements, and acknowledge that we cannot do any better if we don’t take informality seriously. We will have to study informality and evaluate both its positive and negative aspects.

This is what this books proves. Informality, as presented here, is experienced, digested, marveled at, criticized, praised or seen in other ways by many different students from all around the world. And it is in the hope of further stirring discussion at DIA, as well as in other places where architecture matters, that we put this little book out into the world.

Having said that, I would, last but not least, also like to add that there is plenty of informality in this book. We made no attempt to polish the texts Ivan collected. They retain the roughness they came with.

Mostly written by young people not brought up in the English language, some of these texts may occasionally lack eloquence, though what they lack in this respect, they quite well outweigh in engagement and personal experience. They weren’t meant to conform to academic standards in the first place. They were to capture a moment. They’re collected here to give students a voice and to take their concerns seriously. This was Ivan’s concern. And for this, I am tremendously grateful.
This book is an edited compilation of essays written by DIA students who attended the elective course Architecture of Informality under my coordination in the period between October 2013 and July 2017. More than a hundred students from four DIA generations who participated in the course had to submit written essays for the final exam and among them fourteen essays were selected, not necessarily as the best but as the most appropriate, to structure this book. All of them, including the unedited versions of the ones that are published here, could be found at www.architectureofinformality.blogspot.com— the blog that served as an open-end archive for the references that were found and the knowledge that was shared during the classes.

These essays are the outcome of the specific teaching methodology applied in the educational process. Instead of listening to prepared lectures, students engaged in discussions around the questions that each of them had defined at the beginning of the course. These questions, which indicate the personal curiosity of each student, are the titles of their essays in this book. The collective brainstorming technique that was conducted around each question filled a common research pool with references that were popping up unexpectedly during the sessions. These references were
recorded and used by the student who asked the question for the construction of a personal archive of referential quotes.

The next step was to make a storyline that connected individual quotes into comprehensive statements which reflected the initial question. Gradually, the essay following the storyline started to emerge.

Although the students did their best to achieve the formal level of an academic paper, the quality of the essays varied depending on personal writing skills and technique. What is more important than their evaluation is the fact that not only did all the students learn something they did not know before but that they simultaneously participated as enthusiastic researchers in the process of building knowledge about the architecture of informality, which has, unfortunately, yet to be deservedly articulated within architectural education.

The multicultural DIA environment that has gathered people from diverse educational backgrounds has enabled an opportunity for collaborative work with students who are coming from cities where informality is the dominating urban feature. Although their everyday routines and surroundings have always been influenced by informal activities and informal buildings, architecture of informality has never been discussed in the schools of their hometowns. Nevertheless, their life experiences have enriched our discussions with convincing testimonies and viable constituents.

Individual essays were further transformed during the book editing process and adapted to the others in order to present a coherent study. They have been shortened, reassembled and remastered, and then subsequently organized into five consequential sections. My essay about the concept of architectures of informality was attached to the second section as the epistemological key, not only to access the structure of this book but the structure of the study of informality at large.
It is situated among the students’ essays, not at the beginning, as one of the voices among equals in our discussions. These five sections, with three essays each, are gradually unfolding studied phenomena—from its origins to renderings, from its opacities to resolutions.

In the first section, *When Cities Are Out of Control*, informal urban development is perceived as a consequence of uneven urban growth which is influenced by speculative financial markets and docile governments. The crisis of the cities disables the conventional planning industry and requests the formulation of alternatives that will integrate architecture of informality into the whole urban structure.

In the second section, *Self-Organized Building Affairs*, the innovative solutions and skills of informal builders are highlighted for their potential as permanent upgrades to informal settlements. Moreover, the paradigm of self-organization is represented as a hope for overall social and spatial regeneration.

In the third section, *Bonds Between Informal and Formal*, unrecognizable but tight connections between formal and informal systems are exposed. In reality, while formal urban processes tend to destabilize, the informal solidifies. The integration of formal and informal at any scale becomes a code for managing sustainable urban development.

The fourth section, *Quest for the Fair City Agenda*, appeals for the change of actual urban policies and claims for spatial models that promote social justice as well as individual emancipation. It is critical of the attempts of governments to regulate informality and explores the merits and faults of community participation that has been reviewed as a chance for improving existing conditions.

In the fifth section, *What Architects Can Do*, opportunities for architecture activities that aim to improve the present
status of informality are highlighted. They are calling for the reconsideration of the professional role of architects—instead of providing completed building solutions, they are asked to work together with the people.

The photos presented here are not to illustrate the essays, but rather to contribute to the general atmosphere of the book. Hopefully they will help readers sense the vibe of informality and grasp the modalities of informal environments while engaging their thoughts into the expelled written fabric. All images are from my own journeys through the informal worlds of Delhi, Shanghai, Muscat, Nairobi, Johannesburg, Quito, Chisinau, Tirana, Durres, Pristina, Belgrade, Berlin and Leipzig.

The knowledge that is crystallized in this book was created from multiple viewpoints to serve multiple purposes. It shows students’ achievements; it opens a new field of study to architects who have never studied architectures of informality; it contributes to ongoing academic debates about development strategies for upgrading of informal settlements; it serves as a source of arguments for critical thinking about the forces of domination and inequality that are reproducing informality; and it supports the practitioners who are aware of the potentials and defects of informal building to conceptualize their interventions attempting to help humanity to revive itself with dignity.
Subject

Architecture of Informality is a non-institutionalized but systematic building practice and a sign of the destabilization of institutions and inefficiency of the mainstream building policy in developing countries all over the world. It is the consequence of a series of derailed political rights and deviant market initiatives that are culminating in the maximization of land use and the privatization of city structures. Such inadequate building policies reflect through infrastructure malfunction, environmental damage, economic segregation, and social exclusion.

An ineffective official building policy, compounded by a lack of theoretical research and a scarcity of practical experience, is unable to explain and recognize the concept of architecture of informality. Instead, it is pushing it away and declaring it illegal. Although stigmatized as deviant and distorted (in terms of legal and technical rules, environmental and architectural quality) and ignored for decades, architecture of informality has remained a dominant way of building (bearing in mind the great number of actors involved in this process), and has to be included in debates about future architecture and urban development.

This course aims at building up an agenda. Its purpose is
to track the informal building processes and to understand its consequences on architecture and urban development. It can also serve as a starting point for proposing systematic changes to the established, object oriented, architectural practice, which would then become an instrument for achieving a sustainable and convivial living environment.

The potential of architecture of informality provides a ground for cultivating an alternative architectural discourse that confronts official architecture systems which remain rigidly attached to the proposition of the autonomous identity of the designed object. It takes architecture design beyond the impulse to reaffirm individual identity and speaks to the very being of others, discovering the world from the perspective of many different people involved in shaping and managing the space where they are living. In doing so, architecture of informality is simultaneously re-establishing architectural relevance.

Activities

In order to provide coherence and continuity to the class, three specific methodological phases will be followed through this semester in the format of discussion lectures:

_Diverging_— each student will propose one question and the others will brainstorm their reflections. The Student who asks will make notes that will help him/her to find relevant references.

_Archiving_— students will align their references in order to create a provisional archive of existing knowledge on the subjects asked.

_Converging_— in order to conceptualize new knowledge, students will write a text that connects their references. It should be no longer than 3000 words.
Outcomes

At the end of semester new knowledge on the architecture of informality will be organized around questions that have been posted at the beginning of the semester. Thus, the production of knowledge and learning has become a simultaneous activity.

September 2013
I  When Cities Are Out of Control
What Is the Relationship between Informal Architecture and Global Urbanization?

In this essay, the relationship between informal architecture and global urbanization is closely linked with each other. From investigating the effect of neoliberalism and dysfunctional political systems on the sprout of informal settlements, the underlying reasons can be found. Apart from figuring out the reasons of their formation, the ways informal dwellers strive to subsistence in poor conditions are further analyzed to show how scarcity of resources and an adverse living environment can trigger the creativity of informal dwellers to shape a resilient community for living and working. The detailed discussion on each of the key concepts mentioned above is as follows:

Although capitalism necessarily creates inequalities, it was a particularly stringent version of capitalism (known as neoliberalism or market fundamentalism) in combination with increasing global integration that exacerbated unequal and exclusionary development, giving rise to slums. — Teresa Almeida

According to the statistics estimated by the United Nations in 2007, over half of the world’s population was living in cities rather than in rural areas. Formation of informal settlements is inevitable in the development of a city. People usually
correlate their formation with urban growth and housing development, emphasizing the interplay between poverty and inadequate housing provision among urban populations. Informal settlements have been the only housing solution for low-income earners, accounting for almost a third of the urban population who strive to live in urban cities by the means of informality. There is no doubt that globalization plays a vital role in promoting the growth of informal settlements but there is inadequate discussion regarding the correlation between the exact role of globalization and economic development in the sprawl of informal settlements in urban cities. The principle of free-flowing capital admired by globalized neoliberal capitalism can be applied to further explain the creation of informal settlements triggered by urbanization.

Globalized neoliberal capitalism has exacerbated the extent of population migration from rural areas to the city in search of better living conditions. Privatization, deregulation, free markets, free trade and minimal state interference and regulation are all the main ideologies of neoliberalism to the establishment of free world trade market. Profound benefits such as free trade between nations and integrity of markets are directly associated with the introduction of neoliberalism as the strategic policy to promote economic development. However, it widens the income gap between the rich and poor in the modern society. The rich have become richer while the poor remain under great economic hardship during their lives as they do not benefit from economic growth. Under neoliberal capitalism, the city population faces difficulties in accessing formal employment because of overurbanization. This gives birth to contract workers, part-time workers and unregistered workers in which wages are underpaid and the working environment is bad. Since the poor cannot afford mainstream housing nor have access to privatized land for subsistence.
living, they can only choose to reside in informal settlements despite the poor living environment. Their willingness to reside in urban cities is closely linked with the economic growth driven by rapid urbanization of those seeking better working and investment opportunities than just subsistence farming in rural areas. In addition, privatization in neoliberal capitalism exacerbates poverty and social inequality because public services, such as education, sanitation and water, are regarded as commercial commodities for profit-making which, in turn, the poorer classes with meagre income have difficulty to access. Thus, the poor have no choice but to settle in informal settlements in order to continue living in the urban area.

*Informal urbanization is not a pragmatic solution for the lack of formal housing in developing countries, but the sign of non-inclusive and dysfunctional political systems.* — Roberto Rocco and Jan van Ballegooijen

Living in informal settlements becomes the only solution for the poor striving to stay in urban areas because of the lack of affordable formal housing. It is also an expression of the social exclusion associated with dysfunctional political systems by the poor to draw the awareness of the public to the issue of citizenship. City governments often ignore the informal dwellers politically by excluding them in city development plans, their voting rights as well as failing to protect them under the country laws. In city development planning, city governments fail to have strategic plans to cope with rapid rural-to-urban migration such as providing affordable housing for the newcomers. The government fails to manage the transition because of insufficient funding for the large demand of housing development in a short period of time as well as inadequate experience with handling
problems triggered by urbanization. Furthermore, the city government does not take the urban poor into account for city development projects as they either think this would worsen the situation by further attracting more poor migrants into the city or believe that it would disappear with economic growth. Thus, the proliferation of informal settlements in cities is mainly the result of poor housing planning by the city government due to insufficient financial funds and the lack of coordination among different governmental departments ranging from urban planning, land allocation as well as economic development. At the same time, the housing market favours the supply of middle-class dwellings rather than low-class dwellings to gain profit which in turn exacerbates the demand for informal creations.

Without the rights and voice that other citizens have in cities, people living in informal settlements constantly face not only political inequality but also social exclusion. The daily activities of informal dwellers are mostly hindered by the poor living environment and its infrastructure. Their activities are limited to what is within walking distance. This segregates them from formal cities and results in social exclusion. However, in order to draw the awareness of city governments as well as those of other citizens on the issues of citizenship rights in the society, inhabiting informal settlements by the urban poor is regarded as an active engagement of informal dwellers to express their dissatisfaction towards the dysfunctional political system of city governments.

*A slum is not a chaotic collection of structures but a dynamic collection of individuals who have figured out how to survive in the most adverse of circumstances.* — Kalpana Sharma

The formation of informal settlements is inevitable when the city government fails to foresee and manage the rapid
urban development with proper strategic planning and the provision of adequate infrastructure to meet economic, social and housing needs. Thus, informal settlements have become the solution to the inadequate provision of housing for low-income urban populations.

Informal settlements are highly associated with urban poverty and inequality from the point of view of the general public. Since the majority of inhabitants living there are poor, they struggle to survive with dignity, prosperity and peace. On the basis of United Nations, informal settlements are defined as a group of individuals living in an urban area who lack one of the following five elements: improved water access, improved sanitation access, tenure security, housing durability and insufficient living areas. Despite the lack of proper spatial planning and organization, regulatory control and inadequate resources, inhabitants strive to demonstrate how they have created an organic mega-structure to achieve their basic needs of living in a modern city with their enthusiasm towards the goal of survival. The informal settlements created by inhabitants are organic in nature as they are responsive towards the changing needs of inhabitants. They are recognized as self-regulating, self-sufficient and self-determining modern cities. These can be fully illustrated by the preceding case studies on the Kowloon Walled City in Hong Kong. Kowloon Walled City had previously housed 33,000 inhabitants within 6.5 acres of solid building. It was created in response to the ignorance of the government and society towards affordable housing provision and social inequality for the poor and urban newcomers. Informality offers the opportunity for them to use labour to maintain one’s living. As it is a reflection of a modern city, inhabitants not only make the space for living but also seek opportunities to diversify the use of this space for business. Within a limited
living space, inhabitants learn to be creative by designing their use of space.

Informal settlements are organic as they can respond to the needs of the inhabitants. In Kowloon Walled City the development of self-organization is inspiring. Inhabitants solved the problems of water supply, electricity accessibility, safe housing and building construction themselves without the help of any government authorities. To solve the water supply problem, residents in Kowloon Walled City paid private suppliers to pump water from wells or drilled wells on ground surface for water supply. Those with enough money would build up water tank system on rooftops to solve the demanding use of water or, in worst case, steal water from the main water supplies. For the accessibility of legal electricity, electric cables could only be carried to lower floors in Kowloon Walled City because of the maze of pipes and wires all over the places. The owners on the lower floors would extend the cables to upper floors so that other inhabitants could have access to electricity. During the later stages, inhabitants even set up electrical stations inside the slum to accommodate two high density cables for the overuse of electricity by 33,000 inhabitants. Thus, the housing units in Kowloon Walled City were built on top of others with the efforts of the inhabitants to meet the basic daily living needs of a modern city.

_Urban development is a process that requires constant innovation and inventiveness as city is a place in constant influx._ — Christian Schmid

The rise of informal settlement from rapid urbanization has turned the city into an experimental field for accommodating diversity in our society. Urban living is typically associated with open-ended development with unpredictable outcomes. Since the majority of inhabitants from informal settlements
are living under the poverty line, ignored by city government and society, they are confronted by a scarcity of resources compared to those living in formal housing in urban areas. However, at the same time, the lack of resources in informal settlements offers a unique impetus for informal dwellers to be creative and innovative, living a more environmentally friendly lifestyle by finding value in what others would waste. Informal settlements are believed to be more sustainable by producing less trash than a formal city by using fewer resources. For instance, many informal settlements were turned into a recycling hub in which the dwellers pick and sort the unwanted waste such as plastics, glass and metals across the city and sell them to scrap dealers to be processed and later reused. Moreover, the dwellers are taught to be more independent and skilful by transforming from rag-pickers and sorters to product makers in order to gain more money rather than working for a minimum wage in recycle workshops for owners who are not dwellers. This is not only limited to recycling waste such as plastic and metals but also creatively converting the discarded old/waste/scrap clothes into new pieces which are sold around the world. This shows that they are willing to raise their living standard by finding all the possible ways to sustain themselves by earning a living with dignity including creating job opportunities for themselves without help from any organization.

There is no doubt that informal dwellers are the most inventive people in the world as they constantly manipulate their surrounding environment to address the problems they encountered due to the fact that their access to resources is very limited. That is, in order to make the place habitable, a great commitment, hard work and creative energy are required. With a little imagination and intelligence, structures can be used to develop specific forms of self-orga-
nization based on their social structures and rules in order to cope with their everyday life.

References


Formality can be defined as the rigid observance of rules or conventions, stiffness of behaviour or style, something that is done simply to comply with requirements, regulations, and customs, or, in other words, something that is done as a matter of course and without question; an inevitability.

Along with acceptance, people have always opposed formality for many different reasons. The quest to map out human activities and create a form of organization and control has done nothing more but divide us. Although formality could have been created with the best intentions to streamline efforts and increase efficiency, these divisions created limits to our actions.

Formality was devised as a means to develop control over resources and then redistribute them equally. This didn’t end up working out according to plan. Most of the formal methods being used presently were written down years ago ignoring that people, society and cultures do differ over time. The same framework can’t be applied every time to get the same results.

Formality today is failing in managing major civilization processes that have started up under its directive:
Industrialization

The greatest accomplishment of formality seems to be industrialization. The struggle for efficiency streamlined production, division of labour and so on. But this has brought on untold hardship on the part of the citizens. Industrialization changed material production, wealth, labour patterns and population distribution. Industrialization transferred portions of a workforce from agriculture which spread cultivators across the land, to manufacturing, which was established in cities. This process drastically reduced the balance and relationship between Rural and Urban and left the rural populace hanging on while the lives of people in cities changed radically. Cities became centres of industrial growth, but the growth of cities led to horrible living conditions. The wealthy fared far better than the industrial workers because they could afford to live in the suburbs on the outskirts of the city. However, for most of the factory workers, cities were dirty, crowded places where epidemics frequently broke out.

Urbanization

Most cities, from the start, have planned for a specific number of inhabitants and with an expected population growth which would be constant and kept under check. But the rate at which the world has urbanized over the past years has been unprecedented. City populations have more than doubled, or, in some cases, tripled and grown way past projections. By 2030, our 7.3 billion will have increased to 8.4 billion and 9.7 billion by 2050 and 11.2 billion by 2100. Virtually all ensuing population growth would take place in cities. But the problem is our failure to plan for this expected influx. Already in some cities, the urbanization has almost made it impossible for formality to function. Unplanned urban sprawl, environmental pollution,
deterioration, deficiencies in modern basic facilities, and general urban decay has almost grounded formality to a halt. Basic services and amenities have to be sourced informally. Formality has made it such that our cities are stiff and rigid and can’t be modified to accept changes. The formal systems have made our cities a bottleneck of bureaucracies. One advantage of the informal in this regard is its flexibility and resilience. It could be said that informal systems have no identity but must operate against odds which definitely are not in its favour. Against all these odds, informality stays afloat and accommodates change as it comes and is always able to make enough space for the next influx. We need to be able to learn from this process and apply it to our formal cities to enable us to cope with the upcoming new wave of urbanization.

**Housing**

The impact of rapid population growth on housing development in almost all economies is usually the consequence of the push of the rural areas and the pull of the town. This move, despite being anticipated, still tends to be highly unplanned for. There’s absolutely no reason why people would want to stay in an area without jobs or other economic opportunities. Instead, they move into cities where they are almost unable to get befitting accommodation for the price value they can afford. Some are left at the mercy of housing policies which is often an attempt to keep them silent but is never enough. The upsurge of people in cities results in housing growth arising from acute unemployment. This growth and physical expansion of cities has been accompanied by unplanned urban sprawl, environmental pollution, deterioration, deficiencies in modern basic facilities, and
general urban decay. As the increase in poverty and urbanization exerts more pressure on urban facilities, most cities have lost their original dignity, social cohesion and administrative efficiency. The provision of affordable housing for incoming citizens has always been a major problem so that the only way out for them is to seek solace within the informal. The informal system is flexible, expandable and able to readjust with little or no costs and is almost always less trouble.

Administration

Administration plays a huge role in determining the success or failure of formality. Its presence in the formal goes a long way but more than the presence, its effectiveness is the main deciding factor. The struggle for administrative control is resource oriented. The struggle is in using resources until at the end almost all the resources are used up. The struggle for resources often ends with a shift of administrative control toward new resources that are still unexploited. With this shift, the used locations are left behind without administrative control. The shifting movements of the formal system mean it cannot sustain itself, which results in the breakdown of infrastructures and services. The use of administrative control happens to be one example among many of the corrupted policy.

Regulations

Because cities are still being governed by regulations which do not necessarily match the prevailing urban reality. In some cases, the regulations and laws do exist but the failure to enforce them leads to a breakdown. Also, with the multiplicity of regulations, the costs associated with compliance and
enforcement are always high. The myriad of paperwork and legal processes of the formal process which need to be followed meticulously and authorized by various offices while still potentially being rejected at the end of the day is already a turn off for most. The obsoleteness of regulations compels people to pursue informal routes to conduct transactions, to do business and to get access to basic services. Informality asks for almost nothing but allows for almost anything.

Management

The main struggle in formality has been control -- from industrialization, to migration, to resources and regulations. The main goal has been a way to control human resources. But we all know the last thing any human wants is to be controlled. With formality in place, boundaries are put up. Freedom is given but not fully. With the informal, people are free to live out their fantasies and dreams and boundaries are so blurred that they almost don’t exist. People can switch domains and back as they please. With the formal, as can be seen in urban spaces, the control on people being zoned into exclusive areas allows almost no social mix. In various new age developments, success rates have been deemed low for this reason alone. People complain they become alienated to one another. There’s almost no contact or mix as their behaviour is indirectly controlled. What is needed is an inclusive development that lets go of the reins of control to help with social mixes and exchanges.

Progress

Formality, which is defined as the rigid observance of
rules or conventions in order to secure overall progress of a society toward bright futures, leaves room for a lot of loopholes. People react and only follow rules when it favours their sustenance. When a system offers no economic or personal benefit, ways around it would be found giving rise to informality. Formality is concerned with following protocols to achieve a result, but it allows for just one protocol to be strictly followed and replicated by all, without taking into context the various conditions and changes. Informality, as a system, is very flexible as the end result is what matters and not the protocol. For example, formality requires set down principles, guidelines, materials to build a house and a lot more before the building can begin, whereas with informality the opportunities to build are always considered first before any work is applied. The flexibility of the informal gives rise to creativity and allows for a progression of new means. Informality has given rise to so-called “incremental building” whereby houses can be built over a period of time in stages and improved upon in contrast to the formal protocol where everything is fully planned and constructed before being inhabited.

The Next Step

Recently the world has been trying to learn from informality and apply the experiences obtained from the informal settlements. This learning opportunity wouldn’t exist if formality was as perfect as it is proclaimed to be. This is not intended to romanticize informality because informality also isn’t perfect but together informal and formal could work for the betterment of all.

It is important to realize that formality and informality should be seen as a continuum and part of a socio-economic fabric where actors with various degrees of formality, interact,
compete and exchange and not as a dichotomy of one over the other. One should also not be regarded as necessarily good or the other as bad but both should be seen as parts of a whole. The main aim at the end is to make both benefit those who happen to live within them. The choices we make now would have a huge effect on how sustainable our world will be.
Are Informal Settlements Boon or Bane?

Slums are the problem of failed policies, governance, and corruption in appropriated regulations, dysfunctional land markets, unresponsive financial system and fundamental lack of political will. — Arif Hasan (An urban architect, activist social researcher and writer)

For the first time in our history, half of the world’s population is living in cities. It is high time the Urban Age turned its attention to its cities. An increasing number of India’s population are rushing to urban centres across the subcontinent, with over 300 million city dwellers making up one-tenth of the world’s urban population. In contrast, it is also estimated that a third of the world’s population will be living in informal settlements in the next two decades. This comparison is quite alarming, as it implies that the growth of the informal settlements is directly proportional to the growth of the city.

In the next twenty years, one in every six people will be living in an informal settlement, bringing the number of informal dwellers to a drastic three billion people. Rapid urbanization places remarkable strain on housing and serviced land. By 2030, these three billion people will need proper housing and access to basic infrastructure and services such as water and sanitation systems. This translates
into the need to complete 96,150 housing units per day on serviced and documented land from now till 2030.

We have a special problem as planners in Bombay, says Rahul Mehrotra. *If we make the city nice, with good roads, trains, and accommodation — if we make the city a nicer place to live — it attracts more people from the outside.* Then the city’s screwed up again, from too many people. It’s like building roads; the more roads you build, the greater the number of new cars that will rush in to use those roads until they’re jammed again. Unless entry to Mumbai is restricted, it’s an exercise in futility to make this a more livable city. The number of people in the slums will continue to swell, all the more so if they think they can get off the train and be housed by the government.

Informal settlements are a clear manifestation of a poorly planned and managed urban sector and, in particular, a malfunctioning housing sector. The Greater Mumbai region has an annual deficit of 45,000 houses a year. The amount of new construction every year is less than half the number needed. Thus these 45,000 households every year need to be accommodated elsewhere. In the words of the planners, their shelter needs are satisfied in the informal market.

Yet, of the 12 million residents of Greater Mumbai, almost 6.5 million live in slums. There are two kinds of Mumbai slums: the authorized, for which the municipal authority has a responsibility to provide basic services, and the unauthorized, which are subject to demolition, and for which the city has no duty to provide power or water. There are impossible densities, 80,000 people per km² in Dharavi, the largest of the slums. Authorized slums are outnumbered by the 60 per cent that are illegal. Some of the illegals rely on unauthorized standpipes and a few have no water at all.

Informal settlements should not be confused with slums, although slums are definitely the most extreme condition of
informality. The notion of basic needs has been upended in Mumbai. Every informal settlement has a television; antennas sprout in silver branches above the shanties. In middle-class informal settlements, many have motorcycles, even cars. People in Mumbai eat relatively well, too, even the informal dwellers. The real luxuries are running water, clean bathrooms, and transport and housing fit for human beings. It doesn’t matter how much money you have.

Much of the slum is a garbage dump. The sewers, which are open, run right between the houses, and children play and occasionally fall into them. They are full of a blue-black iridescent sludge. When the government sweepers come to clean the drains, they scoop it out and leave piles of it outside the latrines. I couldn’t use the public toilets. I tried, once. There were two rows of toilets. Each one of them had masses of shit, overflowing out of the toilets and spread liberally all around the cubicle. For the next few hours that image and that stench stayed with me, when I ate, when I drank. It’s not merely an aesthetic discomfort; typhoid runs rampant through the slum and spreads through oral–fecal contact. Pools of stagnant water, which are everywhere, breed malaria. Many children also have jaundice. Animal carcasses are spread out on the counters of the butcher shops, sprinkled with flies like a moving spice. The whole slum is pervaded by a stench that I stopped noticing after a while. — Suketu Mehta, Maximum City

As per the Oxford Dictionary, informal settlements are a place where people decide to live and build temporary shelters, often followed by more permanent houses. Sometimes informal settlements are supplied with water and electricity and people can become owners of individual pieces of land. This would mean that slums are just an extreme condition within the definition of an informal settlement.
Informal settlements vary from slums to thriving towns that have just developed informally. While slums house the poorest of any society, informal towns are host to people from various financial backgrounds. Slums are a result of bad governance, lack of empathy and corruption. Therefore slums are created out of necessity, just as an informal town, but the difference is that since slums house the poorest of the poor, the land is usually wasteland that neither the government nor other people are really bothered about. This is obviously because the inhabitants do not have the money to buy land for themselves. There are no sanitation, drainage or waste disposal facilities as these people can barely get by, with their first objective being to provide their families with one meal a day.

Maintaining public areas is of the biggest challenges in informal settlements. There is a general lack of civic sense. The boundary of the space you keep clean is marked at the end of the space you call your own. The apartments are spotlessly clean inside; they are swept and mopped every day, sometimes even twice. The public spaces—hallways, stairs, lobby, the building compound—are stained with betel spit; the ground is littered with congealed wet garbage, plastic bags, and dirt of human and animal origin.

Restaurants are another concern in informal settlements. On a busy street, you can find makeshift restaurants at night that mysteriously vanish during the day. The clientele of these restaurants come from immigrant labourers in the city, who live eight in a room and need cheap basic meals. These restaurants are usually almost full as they provide for the common man and hence are usually dirty, attracting insects and dogs. They happen to work as a meeting point for various people may gossip about a day’s work or talk serious politics. These are among the most dynamic places in a city, full of life and energy.
Dharavi is one of the world’s biggest slums and one of the most notorious. Look beyond the stereotype, however, and you’ll find a successful settlement with a vibrant community and economy that has an annual turnover of 600 Million USD. Developers want to raze it all and start again, but Dharavi is a model that should be replicated, not redeveloped.

Located in the heart of Mumbai, Dharavi has a population of more than 600,000 people residing in 100,000 makeshift homes, and one of the world’s highest population densities with more than 12,000 persons per acre. It is just across from the Bandra- Kurla Complex, a fast developing commercial centre that has overtaken Nariman Point, the current downtown of Mumbai, and is also located close to Mumbai’s domestic and international airports. Despite its plastic and tin structures and lack of infrastructure, Dharavi is a unique, vibrant, and thriving ‘cottage’ industry complex, the only one of its kind in the world.

This is, in fact, the kind of self-sufficient, self-sustaining ‘village’ community that Mahatma Gandhi, the Father of the Nation, dreamt of and wrote about in his books on India’s path to development. Dharavi pulsates with intense economic activity. Its population has achieved a unique informal “self-help” urban development over the years without any external aid. It is a humming economic engine. The residents, though bereft of housing amenities, have been able to lift themselves out of poverty by establishing thousands of successful businesses. A study by the Center for Environmental Planning & Technology indicates that Dharavi currently has close to 5,000 industrial units, producing textiles, pottery and leather, and performing services like recycling, printing, and steel fabrication.

A unique characteristic of Dharavi is its very close relationship between the workplace and home. Productive
activity takes place in nearly every home. As a result, Dharavi’s economic activity is decentralized, human scale, home-based, low-tech and labour-intensive. This has created an organic and incrementally developing urban form that is pedestrianized, community-centric and network-based, with mixed-use, high density, low-rise streetscapes. This is a model many planners have been trying to recreate in cities across the world.

The ‘unplanned’ and spontaneous development of Dharavi has led to the emergence of an economic model characterized by a decentralized production process relying mainly on temporary work and self-employment. The multiplicity of independent producers makes the production process extremely flexible and adaptable. Its viability is proven by the national and international market its products command.

Unfortunately, Dharavi is depicted as a ‘slum’ that lacks residential infrastructure (roads, housing with individual toilets, public conveniences, etc.). Whatever economic output Dharavi produces gets annulled by the deplorable living conditions and human development. There is one toilet in Dharavi for every 1440 inhabitants, which is lower than many parts of sub-Saharan Africa. Dharavi can be a great example of a self-sustained development in an architectural sense, but in terms of humane living conditions, it is the sad reality of the common man in a developing country.

In fact, Dharavi is not a residential slum, but a unique self-contained township (in the sense of a close workplace relationship eulogized since the days of Patrick Geddes, but which has never been achieved in any of the new towns). Because of all these community-based successes, Dharavi needs to be replicated albeit with adequate physical infrastructure. Instead, the state government wants to force the relocation of Dharavi’s population into tiny cubby hole apartments in high rise towers so that the vacated land can be commercially
exploited by developers through the Dharavi Redevelopment Plan. At a conservative estimate, a development of this magnitude could fetch $460 million for a developer, a profit of at least 900%.

We tend to think of a slum as an excrescence, a community of people living in perpetual misery. What we forget is that out of inhospitable surroundings, the people have formed a community and they are as attached to its spatial geography as the social networks they have built for themselves and the village they have re-created in the midst of the city. Any urban redevelopment plan has to take into account the curious desire of slum dwellers to live closely together. For them, a greater horror than open gutters and filthy toilets is the empty room in the big city.

More often than not, these informal settlements are lively and dynamic spaces. Informal spaces bring out the true character and emotions of a society. They often reflect the culture and tradition of a particular town or city. Formal settlements are usually in new cities and towns, where modernity has caught on and is the future of a particular society that has nothing to show about its history. Of course, this does not mean that it is not good to look into the future but that is the very point of this comparison, to clarify that the informal is as important as the formal in helping a society remain in touch with its true nature.

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II  Self-organized Building Affairs
Why Do We Need to Learn about Informality?

Everyone has a different gradient of what ‘informality’ means based on a personal experience. There is no universal meaning of informality, as informality differs according to perception. My personal experience with informality has much to do with the country I grew up in. In Malaysia, people thrive by living their lives within the periphery of the authority - this ranges from making an alteration or extension to a home, to even bribing a policeman to get out of a speeding ticket. Informality is not a product but a process and this process is the result of the formal system. Informality is a strategy used by individuals to achieve mobility, rights or recognition.

Formal society often perceives informality as an inferior and desperate attempt to conform by lesser means. However, in recent architectural and urban discourse, it has now become fashionable to talk about informality in a positive-negative duality. People in the informal system, where the threshold of formality and informality is blurred, can say that they have acquired a sense of resilience and resourcefulness into their skill set. Advocates for the formal system are now looking at third world or less developed cities where conventional and formal urbanism is being challenged or replaced by informality. Suddenly we find
ourselves bombarded by articles, reports, books, photographs and movies about the informal. Society has now accepted that informal settings are a ‘beautiful chaos’ and a useful resource for understanding urban culture.

Informality is an expression of urban culture. When we travel to new places, we notice the informal characteristics through its people and their practices. These observations inform us of how people live and go about their daily lives. We learn more about the city from a chat with the local taxi driver than from a travel guidebook. Informality is a complex and fascinating organizational system, constantly evolving to suit individual or collective needs.

In this essay, I would like to explore the mechanisms of social informality in parallel with urban informality. I shall attempt to explain why informality occurs, why it is beneficial and why it tends to triumph over its formal setting. In line with the theme of the ‘informality’, I will be using personal observations along with popular references for better understanding and explanation.

The Chew Jetty is an informal waterfront settlement located in my hometown, Penang. It is an example of how the Chinese migrant fishermen created informal living environments in 1918. The houses were built on an ad hoc basis along the waterfront, as close as possible to their place of work. These houses are separated by a small alley to allow the sea breeze to pass through for ventilation. With survival and comfort in mind, the builders of this settlement have unknowingly come up with a cheap and sustainable solution to survive and even enhance their living conditions. Without water and electrical infrastructure, the inhabitants improvised by tapping electricity from adjacent streets. Water and electrical infrastructure were eventually provided in 1954 when the local authorities started to acknowledge their presence. This marks the convergence of
this informal settlement into a more formal position.

The erection of a Buddhist shrine in the middle of the road in Penang reveals that culture and religion surpass traffic rules and regulations, so much so that the local authorities have no say in it. In this society’s perception, the informal rules of the religious transcend the formal rules of traffic. This phenomenon is so widespread across the island that local authorities have worked their way around the existence of these shrines, as it is difficult to control or regulate religious presence. This phenomenon has even evolved to the extent that these shrines have become local attractions.

Another interesting observation is the import of the ‘formal’ language of western architecture into the local Malaysian architectural context. In the 1800s, when the British came to Penang Island, they brought along their architectural forms and ideas, and injected them into the local context, as a memory or translation of their home in this new land. This import of ‘formal’ styles of architecture, such as Palladianism or the Neoclassical style, was seen as a luxury and was mostly built by the British or local merchants who could afford the architectural services of a British architect. Locals today still view this imported style as a luxury and try to inject it into their homes. With the low cost of materials and ability to copy and paste any architectural forms and ideas, this ‘formal’ imported form has now been informally incorporated into the local context, regardless of wealth or financial means.

In certain parts of my hometown Penang, we are constantly surrounded by ad hoc architecture. The city centre of Penang, previously a British colony, was created from a grid system consisting of colonial buildings and shop-houses. After British independence, the locals have built on top of the existing urban fabric, creating layers of informal
architecture. Some would read this as a cultural and physical reaction to years of colonization that has resulted in a kitschy and chaotic urban landscape.

Informality is not confined to third world or developing countries. As informality is a perception that exists within varying levels of gradients, we can also witness informality even in a rigid setting. An example located not far from us is the Torten estate in Dessau, consisting of 314 terraced houses built in the 1920’s by Walter Gropius. This example proves how informality can creep into any setting, even in Germany. Gropius’s intention was to build affordable housing for the masses whilst remaining loyal to the Bauhaus style of which he was an advocate. If you visit the estate today, you will quickly realize that most of the homes now barely resemble the Bauhaus style that Gropius was so keen on imparting. The homeowners have instead imparted elements of their individual expression on their homes. During my interview with some of the inhabitants in the estate, they justified that they needed to add or alter the facade because they found the original designs too sterile, too repetitive and impractical.

The problem with formal systems is that it tends to favour the wealthy and powerful policy-makers, creating a marginalization of the lower classes or migrants. In most cases, informality starts as a reaction to the formal system that has failed to meet the needs of the community. The lesser evil of failure would be that public policy favours a ‘one size fits all’ approach. Formality cannot deal with things which are not absolute as formality tries to define and give boundaries. Inevitably, this sparks a slow but steady social rebellion of the masses, eventually leading to the creation of the informal. If something is not working, we troubleshoot the problem by repairing or ‘hacking’. People become extremely creative when faced with a problem and have to work within risky boundaries.
to achieve something. When it comes to survival, people do not see informality as something ‘wrong’ but rather as a means to get by.

If you witness the workings of the informal or ‘underground’ market in Penang, you will realize how complex and sophisticated the system is. This night-time street market lies along a one kilometer stretch, with glimmering lights and sounds, enticing visitors to purchase all sorts of items. What fascinates me is the juxtaposition on varying levels - the makeshift kiosks against the backdrop of a 5-star hotel and the pirated ‘luxury’ products neatly arranged within these kiosks. This night market is far from ‘underground’ visually and economically speaking. The 5-star hotels acknowledge that these ‘illegal’ night markets are what draws in the tourists and therefore turn a blind eye into their presence. Police raids are conducted on a regular basis, but informal agreements, perhaps in the form of bribery, have been pre-arranged, so the vendors are given notice before the arrival of the police. In the bigger picture, these night markets collectively form a key role in the tourism industry of the island which has led to progressive development.

Could it be that what is regarded as informal today could be considered as formal tomorrow? Society evolves and progresses constantly through a method of trial and error. This is what makes informality so important, as it works like an experiment. Informality is more flexible and self-regulating. The beauty of human nature is our ability to self-organize. This positive attribute can be explained by a phenomenon called ‘emergence’. Emergence is defined as many independent, unaware and unthinking particles interacting to create higher-order systems and patterns. According to laws of human evolution, we are not exempted from this behaviour.
To best explain this, let us observe road traffic. Let us imagine cars as individual particles. When one car is slowing down or comes to an immediate halt, it causes a trail of cars behind, braking slowly or braking immediately to avoid crashing into each other. We are the independent ‘cars’, making individual decisions of slowing or braking, thus creating a higher order of systems and patterns within the framework of traffic, in this case, society. This is essentially the theme of the economic text ‘The Wealth of Nations’ by Adam Smith who refers to this as the ‘invisible hand’ guiding the market. No one designed this system – it just emerged from a natural human desire to increase personal wealth and standing.

In Robert Neuvirth’s studies of the informal economy, he adds the total net worth of all informal economies and calls it System D (D for débrouillard, a French term for self-reliance). It’s not a black market, but an open economic plane where anything and everything is available. If System D was a country, you could call it the USSR: The United Street Seller’s Republic or ‘Bazaaristan’, and it would be the second-largest economy in the world and is growing rapidly. It could become the largest in our lifetime.

Now that we have come to terms with the existence of the informal in our daily lives, within our social systems or the urban fabric, I think we should acknowledge that not only do we have much to learn from it, but we should probably pace ourselves for the future of the informal economy - how can we, as architects, address our role in the future as designers in the informal world?
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In developing countries, large numbers of people are crumbling together in saturated urban spaces and competing for low wage jobs to augment the supply of labour. The salaries are too low in comparison to the normal housing prices, thus the cheap labour requires informal settlements. According to data provided by UN Habitat, 31.6% of the urban world population already lives in informal settlements, with 27% of informal dwellers in Latin America, 43% in South Asian countries, and 37% in China (UNFPA 2007). Taking into consideration these numbers and the exponential population growth, the UN predicts the number of informal dwellers will to rise to two billion within the next 30 years (Davis 2006).

Those opposed to informal settlements usually operate on the principle of the so-called NIMBY (not in my backyard). They are noticeably against the chaos of disordered planning and ramshackle constructions. But like other informal sectors, these informal settlements benefit from the failures of the formal sector, and use their own capital in order to create a habitable environment: flexibility, pragmatism, negotiation and the constant struggle for survival and self-organization t. In other words, one could say that informal settlements need their cities to survive, just as much these cities benefit from their informal parts.
Understanding a given discourse as a socially constructed system of relations in which ideas get their meanings, one could say that the ideas that revolve around informal settlements are the images of chaos, poverty, violence and disease. Those are only a construct built from outside of informality, and — most importantly — created for people that belong outside. The main theme of the current debate around informal settlements is that they are dangerous and toxic wastelands that need to be contained, tamed and remediated and that they would never recover without outside intervention. We expect poor communities to suffer from a culture of poverty that undermines initiative and rewards predatory behavior; the idea is that the poor lack skills rather than resources. The expectation is that the poor can only mimic the affluent and become upwardly mobile by being submissive and repetitive, while creating a culture of helplessness and chaos.

Such statements cause misunderstandings and underestimation of the complex and layered structures carried by the informal settlements within their varied internal organization. In fact, informal dwellers develop their own practical solutions in dealing with environmental, social and economic problems. These implications have to be taken into account when talking about sustainable development. Political mismanagement that limits adaptive or creative capacities could aggravate social and cultural problems. In short, one could conclude that while the negative aspects and dynamics of informality cannot be denied, the positive effects in terms of providing infrastructure, housing, communal integration and control should not be ignored either. On the one hand, it is essential to understand that informal settlements are centres of poverty, criminality and ecological problems. On the other hand, they are centres where practical solutions are developed; they are the sources of innovative practices and do-it-yourself know-how on a scale
without historical precedent. This is a vital and essential
demand set to dominant narratives of the megacity.

The rules of informality act as a concurrent force to the
governing body in shaping the urban condition. Can these
contrasting ways of producing and appropriating cities
co-exist? To answer this question, one has to look at inner
relationships within informal settlements, seemingly chaotic
and accidental.

As Ananya Roy states, informality must be understood
as an idiom of urbanization, logic through which different
spatial values are produced and managed. The city is
certainly a fine example of a complex system, where the
parts can only be understood through the whole, and the
whole is more than the simple sum of its parts. Informal
settlements are clear examples of complex subsystems
within a complex urban system. Their morphological
characteristics combined with their development process
are traditionally understood as chaotic and unorganized, as
are Third World cities, traditionally known for their inherent
chaotic and discontinuous spatial patterns and rapid and
unorganized development process. (Barros & Sobreira 2008)

Self-organization under the scope of informality could be
understood as the process where some forms of global order
or coordination arise out of the local interactions between
the components of an initially disordered system. The
process is spontaneous: it is not directed or controlled by any
agent or subsystem inside or outside of the system; however,
the rules followed by the process and its initial condition
may have been chosen or caused by an agent. The resulting
organization is wholly decentralized or distributed over all
the components of the system. As such, it is typically very
robust and able to survive and self-repair substantial damage
or perturbations.
Self-organization is the process by which person-based social relationships in loose networks are stabilized through the definition of mutual interests, positions and relations. Thereby trust, based on direct communication, in face-to-face contacts is transformed into trust in the organization. This process is usually connected to the concept of charisma—the naturally chosen leaders of communities. A typical example for the explicit identification of governance with social coordination is given by Bob Jessop, who argues that social coordination refers to the ways in which disparate but interdependent social agencies are coordinated and/or seek to coordinate themselves through different forms of self-organization to achieve specific common objectives in situations of complex reciprocal interdependence. Among the many techniques and mechanisms deployed here are exchange, command, networking, and solidarity. (Jessop & Ngai-Ling 2006)

Due to the fact that self-organized communities do not fall within a defined institutional framework or existing system, they are capable of articulating their needs and interests collectively. The underlying concept of agora governance in accordance with Korff & Rothfuss (2009) offers the possibility to stimulate urban management processes in a sustainable way. Self-organization here evidences the existence of an open and complex system, characterized by situations of non-linearity, non-causality, unsteadiness, confusion and chaos (Casakin & Portugali). Multiple social relations and interdependencies between informal dwellers developed through aspects of work, trade, neighbourhood, kinship or friendship, are established through organizations. Thus localized problems requiring collective action, in this context, self-organization, will be circumscribed to territorial definitions and demarcations of a collective.

The improvement of social cohesion increases social control so that external control can be reduced. The self-organized
community is, therefore, a resource in itself (or a social capital) for its members who provide mutual support and economic and social security. If social creativity is the ability to create new patterns of social relations and organizations, in self-organized groups, the social capital is maintained as collective agency through a process by which a socially cohesive collective maintains itself (Korff & Rothfuss 2009).

Informal settlements are the collective outcome of a synergetic and self-organizing process in which thousands of participants act locally in a relatively independent manner. Even though the whole process seems chaotic and unorganized, the resulting elements are ordered and concise. The whole process depends as much on the organization of the individual, entity and agent as on the community as a whole.

In the formal understanding of design and construction, the process has very clear structure. Through identification of the problems, designing and redesigning reaches a point of design optimization — the end-product ready to be applied. In informal settlements, however, design is part of the self-organized system. Each agent operating in the city is a planner/designer at a certain scale (Portugali 1999). This kind of bottom-up action triggers complex dynamics whose effects we cannot fully predict or control, however, it is not an implication of chaos. Such upcoming evolutionary behaviours create the economic vitality, urban liveliness, health and livability for the residents of informal settlements. As we can see in other complex systems, the people of informal settlements function as semi-autonomous agents, following generative rules — laws, codes, regulations, incentives and disincentives (Mehaffy 2014).
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What Is the Concept of Architectures of Informality?

When Cities Are Out of Control

During the last decades, hundreds of millions of informal buildings have been built around the world. Although they are made by people with low architectural skills and building capacities, the number of these units produced per year exceeds the number of units built through formal building procedures. Contrary to the institutionalized planning policy characterized by highly regulated and organized building production, informal buildings have been built in deregulated conditions by individuals who had no vision or plan of a final whole. Instead, they are building by adding sequentially, one part to another. Outcomes have always been determined by basic construction techniques and available materials. Nevertheless, informal buildings have rapidly filled up all the voids in downtown areas as well as in the outskirts - flat rooftops of the existing houses, green zones along the boulevards, empty spaces between the buildings and crop fields at the edges of the cities. They are clustering nearby major city resources and infrastructure, creating a new urban layer that is reflecting the instability of today’s society.

Globalization, as defined by neoliberal tendencies toward international market growth, has resulted in unequal urban development. A series of derailed political rights and deviant
market initiatives have culminated in infrastructure malfunction, environmental damage, economic and social segregation. Formal building procedures are determined by the restrictive conditions of the market economy that has shifted the objectives of housing policy from a basic human right for housing into production of commodity. Following this trend, architecture has been transformed from a discipline in service of the larger part of the population, to a disparate niche of the real estate business that has more to do with the marketing industry than with public tasks. Made for a society of consumers, building schemes have been reduced to standardized best-selling and most profitable ones. Since opportunities for conceptual innovations are limited, architecture efforts have been redirected toward façade rendering in providing a fancy and luxurious face for the market competition.

Self-organized Building Affairs

During this process, informality, although dominating the construction sector, has never been accepted by officials. Instead, it has been declared as deviant, distorted, and illegal. Consequently, almost half of the urban population who inhabits informal buildings has been pushed outside of the institutional horizon—people's needs, demands, activities and social relations have not been recognized by public institutions. The surge of informal building is the outcome of self-compensation for deregulated state and dysfunctional institutions. The informal economy that has been substituting the state economy in crisis has evolved from a strategy of survival to a primal instrument of growth. Following the evolution of this new economy, many city functions and services, previously provided by authorities, have been reinvented by informal businesses. This fast and dynamic process has created an
emergent system in which self-organized individuals play a major role. Their potential for small-scale innovations and unpredictable distribution all over the city territory appears to be essential to the massive informal urban transformation. In a surprising way, while authorities decline to the minimum of stability, informal practices evolve in stages from the disequilibrium of initial systems, claimed territories growth and legislation, towards new building typologies and solidification as parasitizing form.

Bonds between Formal and Informal

During this process, informal building experiences an abrupt evolution, becoming a dynamic ground on which the rules for production are constantly reinvented. Following the effect of indistinctive blends of deregulated and regulated operations, informal builders are producing innovations through conflict and negotiation with authorities. Their buildings are occupying the city as a series of mutants plugged into the inherited infrastructure. While their architectural patterns are basic, the complexity that arises from adaptation to immediate conditions maintains the elusive character of a hybrid. In nearly all individual developments, the vibrant and flexible architecture that has been achieved is often more sophisticated than the official one. Its architectural expression is the result of many unforeseen initiatives that are creating dynamic and complex space.

Informal building lays claim on architecture as part of an ongoing process in which production of the space is overtaken by people. Such architecture does not presume permanency of completed form but temporality of open-ended structure. The continual intersection among many different interests involved, improvisations and changes
are keeping the architectural formation always in question. Incomplete and raw buildings that appear as consequence are only a present representation of their potentials to transform in the future.

The architecture of informal buildings supersedes architecture of static geometrical objects with the introduction of dynamic processes and systems. It differentiates between code over mass, relationships over compositions, adaptation over stasis. It takes architectural thinking beyond object autonomy, into the space of relationships which are defined by the interactions between people, material things, and immaterial stimuli.

**Quest for the Fair City Agenda**

Architecture that employs interactivity as a force that is permanently reproducing the spatial conditions signals the end of an objective space which has been determined as a homogenous emptiness filled with objects. It is exalting the relational mode of thinking and doing, which identifies the living environment as a system of relations between people and their artefacts. In this respect, architecture of informality does not presume to determine the conventional spatial order and typology but rather a set of customized concepts which are addressing existing relationships within a specified framework.

Architecture of informality represents a space that is no longer constructed from the standpoint of one exclusive identity but from the commitment of many. At its best, it is radically democratic, enshrining principles of open access and freedom. It offers remarkable possibilities for redefining professional participation in making architecture more politically responsive to present conditions.
What Architects Can Do

Informality is strengthening from day to day, becoming a non-institutional resilient system. Its evolution questions whether formal building procedures could be shifted from a top-down, immutable delivery mechanism into a transparent, inclusive, bottom-up, and open-ended process that can respond to the unforeseen initiatives of people engaged in building. The apparent direction for architects is to influence, steer, and shift the process themselves.

A new methodology and a practice to identify, visualize, and, to a certain degree, navigate architecture of informality must be developed. The capacity to coordinate and synchronize diversity to incorporate many unpredictable rhythms to make choices in the multiplicity, to groove and to shift in real space, are the propositions for such methodology. It should not be based on a personal fantasy of order and omnipotence but on the staging of discussions and collaborations between architects and people who strive to build for themselves. It should no longer aim for stable configurations but for the creation of spaces that accommodate processes that are simultaneously transforming them.
III Bonds Between Formal and Informal
How Can We Frame Informality?

In my short essay, I would like to discuss possible ways of treatment with informality itself. I’d like to define the essence of the relationship between formal and informal. All my suppositions are based on a simple contradistinction that informality is the absence of formality and vice versa. There is no third option, informal or formal, irregular or regular, natural or artificial, free or bound, chaos and order, yin and yang. These two notions completely fulfil our material world, our behaviour, and effectively, everything that surrounds us.

At first glance, it seems that informal is derived from the formal. The prefix in hints at a secondary character of the notion that formal allegedly was firstborn, but this is true only in terms of the morphology of the language. In fact, in space and in every field of activity, informality prevails in the beginning and only then informal space starts to be divided, separated and regulated by humans. The act of regulating original informal space is the process of creating something formal. In my opinion, the only beings that can produce formality are humans. Without humans, there would be no discussion of the matter. So, what is the definition of formality then? Continuing the theme, one could say that formality is the systematization of informality by humans. It is an attempt at regulation. We divide physical space by walls, slabs and other volumes to create a form. We create restric-
tions known as laws and rules to regulate human behaviour. So, let’s say this human-made frontier is the essence of formality.

Another aspect is that these two notions cannot be substitutes for each other. Formality done by humans isn’t the alternative to informality. It only partitions space and establishes frames where the informal process is still employed within, but with less freedom. It makes things more understandable and controllable for people. Of course, informality has its own rules with a complex structure and thousands of parameters. Historically, people haven’t had the intellectual and computational resources to cover it. Therefore, the partition of one high grade, complex informal process is appropriately divided into several simple actions which everybody can deal with. It’s important to find the balance between the amount of ruling boundaries and enough flexibility within the domain. Either one may intensify the density of formality and the control every little aspect or do less in order to preserve the freedom of spontaneity and the evolutionary potential to some extent. Formality is clearer, but less adaptable whereas informality is flexible but also corrupt.

The formal world is imperfect because of imperfect nature of humans. Rules and restrictions sometimes are strong enough and sometimes weak and can’t cover the entire flow of informality. Quite frequently, one can find loopholes in the boundaries of formality that allow informality to avoid it. Formality is like a dam surrounding water that is pushing against it constantly. A lot of scenarios can occur that crash the system: the dam could break under the pressure or the reservoir may overflow or dry out completely. There is a continuous disequilibrium between the formal and informal.

I would like to illustrate the relationship between the formal and the informal using some examples from architecture and cities.
The first one is from Michel Foucault, a well known French philosopher who addresses the subject of framing informality in his writing. Foucault sees architecture as a diagram of a mechanism of power reduced to its ideal form. In other words, Foucault reads architecture through a two-dimensional form of representation, which expresses the various informal forces created by its lines. Gilles Deleuze was particularly attached to this excerpt of *Discipline and Punish* since, according to him, it is the first and only time that Foucault uses the notion of diagram that is fundamental to understanding the mechanisms of power he meticulously describes. In his book dedicated to the work of Foucault, he attributes to him the function of a cartographer. Cartography is precisely the activity that considers a given situation within reality and elaborates a diagrammatic representation of it:

*The diagram is no longer an auditory or visual archive but a map, a cartography that is coextensive with the whole social field. It is an abstract machine. It is defined by its informal functions and matter and in terms of form makes no distinction between content and expression, a discursive formation and a non-discursive formation. It is a machine that is almost blind and mute, even though it makes others see and speak.* — Gilles Deleuze

Foucault is interested in building as a combination of lines of visibility that form relations of power between the individuals affected by those lines which act as the boundaries I described before. Another example by Foucault, also described in *Discipline and Punish*, illustrates the appearance of formality in the cities. He talks about the measures taken against the plague in the seventeenth century in which the processes of quarantine and purification operate: partitioning of space and closing off houses, constant inspection
and registration. The plague is met by order. Lepers were also separated from society, but the aim behind this was to create a pure community. The plague stands as an image against which the idea of discipline was created. The existence of a whole set of techniques and institutions for measuring and supervising abnormal beings brings into play the disciplinary mechanisms created by the fear of the plague. All modern mechanisms for controlling abnormal individuals as well as modern urban planning approaches derive from these.

Let’s move gradually to the present. There are a lot of vivid and good examples that represent the idea of cooperation between formal and informal. As the most eloquent example, I would like to take works of Chilean architect Alejandro Aravena. Considering his win of the Pritzker prize, I must mention him in this topic.

Aravena applied an approach that nobody used before intentionally. Let’s take into consideration his social housing projects such as Quinta Monroy in Chile, Elemental Monterrey and Villa Verde Housing in Mexico. Aravena found a good balance between conventional planning and informal settlements. The experiment seems quite successful, the idea works well. It turned out this two totally opposite worlds can coexist and merge together. In his words:

*When you create an open system, it customizes itself, it corrects itself, and it is more adapted to the reality — not just to the family but also for cultural diversity. So it is not only a response to scarcity of means. Even if we had a lot of money it would have been an appropriate solution.*

*Of course this is not chaos, just do whatever. There are very specific design things — the size of the void for example, or that we built with walls and not just with frames. It’s a very delicate balance between*
being restricted but enabling self-operation without going into a chaotic environment. It’s a very precise design operation what you build, and also what you don’t build. — Alejandro Aravena

Aravena has no fear of having no control over the final aesthetics. He is more interested in the position of the void than what is built by him, observing the work of many future co-authors. I see something fresh in it. We have enough knowledge on how to profit from informal processes. Current architecture should go beyond the static formal solutions. Architects should and must use the power of informality to make all the aspects of our life more convenient and efficient.

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Architects “are never taught the right thing” Interview with Alejandro Aravena; published at www.dezeen.com 13. January 2016.
Why Is the Coexistence of Formal and Informal Important?

On the one extreme case where there is total formality the system may tend to be rigid and counterproductive. On the other extreme case where there is total informality the system may tend to be chaotic and counterproductive as well. The two extreme cases are illustrative of inherent shortfalls within each system. This suggests a blend of the two practices, considering historical, geographical, economic, societal, cultural, and technological factors. — Mushumubusi

There is a growing focus in present architectural research on informal architecture and urbanism. Following the dissatisfaction with the modern approach to the housing solutions, many studies have been directed toward understanding the production and functioning of informal settlements. The bottom-up formation of the built environment in informal building has become something that architects are looking up to and trying to grasp in order to engage qualities of informality into formal design practices.

The current failure of urban development, especially considering contemporary housing approaches within European Union, US and other developed countries, has to do with the formal and rigid character of the functional cities of the 20th century. In contrast, studying and understanding the possibilities of how cities can benefit from informality
has nurtured new enthusiasm. Research and analysis of the informal settlements and developments are proposing instruments that can be used and applied to rehabilitate contemporary cities and suburbs. Therefore it is important to understand the coexistence between the informal (informal economy and informal settlement) and formal sectors and what this could mean regarding spatial production, use and management.

The argument that formal systems can benefit from informality has existed for a long time. The approach towards informal settlements has changed from the typical view on them as colonies of misery toward considering them as a model for making affordable housing. Instead of viewing informal settlements as illegal, the focus is given to the character of its development. Developments of informal settlements have become the starting point for changing our approach to design methods from an imposed series of esthetic and functional choices made by few into a process engaging many.

Informal settlements are generally thought to lack land tenure security, basic infrastructure and services, and sub-standard dwellings at locations that are not in compliance with land use regulations and are often not suitable for development. Features of informal settlements are houses made of local building material with high variations in quality of construction, built incrementally and on a do-it-yourself basis and with informal finance arrangements. Informal settlements are composed of heterogeneous urban populations managed by small-scale and large-scale landlords. The majority of dwellers are low-income tenants living in a single room, predominantly engaged in informal economic activities. Rental accommodation is the most common form of tenancy. Still, these settlements offer an affordable shelter alternative for many.
Despite the problems that threaten informality, informal settlements are still more supportive for people than the formally organized ones. This makes us question the spatial and social qualities in informal settlements that support the livelihood.

Spatial qualities which are lacking in planned housing areas are the main characteristics of the unplanned housing settlements. They could be found in the negotiation, appropriation and utilization of spaces, and in innovative approaches in making utilities for everyday life. Since they are built by the dwellers, they are more accurately facilitating their needs. On a broader perspective, other qualities of informality are heterogeneity, flexibility and flow of spaces for specialized and temporal uses, diversity of housing in terms of size, architecture and materials of construction. Informal settlements provide a flexible environment that allows continuous transformation as they are temporary in nature. The transformability of informal settlements gives them resilience to changing conditions such as the economic crisis.

The built environment does more than provide shelter that is defined by the walls, the ceiling and the floor. It provides privacy, identity, security, additional sources of income and much more. The social qualities of informal settlements include the social and economic mix of residents, a rich network of social interactions among residents and a high social capital. Above all, bottom-up resourcing is the rule by which informality forms, operates and evolves across multiple scales. This kind of urban ecology reframes the very discourse on sustainability.

Based on many academic studies, it is quite clear that simply increasing or decreasing formalization does not necessarily improve or worsen the well-being of the society.
This is a very fundamental finding and a big blow to current urban development policies and practices as they are largely based on the assumption that formalization improves living conditions. Following the successful model for sustainable and equitable development of informal settlements, formal procedures have to be upgraded to support the evolution of informal settlements by allowing the active participation of a broader group of actors in the building process. In recent times, the concept of urban commons is gaining popularity as it has strong potential to counteract the monopoly of commodification taking place at large. The collective ownership and management of resources through commoning turns out to be the most vital urban strategy that can generate genuine urban development.

What’s equally interesting is the understanding of the relationship between formality and informality as a continuum which could reframe discussions and ways of planning urban environments. Although structures of informality and formality overlap in urban life, urban development policies are still dividing cities into islands of wealth and ghettos of poverty. The manner in which informality and formality are treated and often presented as either-or needs to be overcome in order to develop ideas that integrate the different qualities of informal and formal systems. The concept of the formal-informal continuum could inspire innovations of urban and housing development models for cities of developing countries. It is a new framework that can reflect the actual co-existence of formal and informal systems in spatial and social terms, also capable of explaining the diversities with respect to functional, social and economic parameters that span between them.
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In the past three decades, mass migration has led to the most rapid urbanization ever witnessed in the history of humans. The result is an exorbitant and unimaginable increase in the number of informal settlements cropping up. The phenomenon is on an exponential rise in the cities of Asia, Latin America, South Africa and Eastern Europe. Government authorities have often demolished them as a knee-jerk reaction rather than a thoughtful implementation without long-term objectives. Urban designers and planners, who once saw them as eyesores and unapproachable parts of the city, have understood their importance, changed their stance and now accept and worked with the locals to include these areas in mainstream governance. People all over the world have recognized their rational and intelligent innovations in fulfilling their needs and have been trying to incorporate this into the planning of formal settlements. Informal settlements are evaluated in relation to their surrounding landscape of poor sanitation, insecure housing, hazardous grounds, lack of roads and infrastructure. We tend to focus mainly on improving and providing these things and ignore the significant intangible knowledge that these settlements provide about resilience, resource efficiency and community values.
The essay tries to investigate if these qualities exist within these informal settlements and whether formal infrastructure can be flexible enough for informal use by looking at different examples of cities from around the world.

When Janice Perlman, in *The Myth of Marginality*, questions if we see a chaotic, poorly-built, overcrowded, disorderly slum or a neighborhood in progress, emphasized by careful planning in the use of limited housing space and innovative construction techniques on hillsides considered too steep for building by urban developers, she not only sees *favelas* as a physical expression of people struggling to move upwards against obstacles but also as an inspiration symbolizing the true grit of human necessity.

**Formal vs Informal**

We have a tendency to picture formal architecture as planned cities with roads, pedestrians, boulevards, public buildings in downtown, high-end markets with plazas, residential and office complexes, all of them nicely laid out in grids. For instance, a Chandigarh or a New Delhi definitely has all the reasons to impress an inhabitant. Both grid plans have eased traffic movement, services and efficient zoning. Planners and architects had been so thoughtful that these ordered layouts and planning have squeezed out all the excitement and intimacy that a city must share with its inhabitants. Rationally laid out roads with a green strip and nicely separated bicycle and pedestrian lanes might have made it safer for automobile users but have reduced *unintentional interaction* amongst inhabitants.

Comparing these formally laid out cities to Varanasi, the oldest city in India built along Ganges, one discovers that it offers more visual treats and intimacy within its squalor alleys than any planned city in India. In many pre-modern villages
built before the intervention of planning, the public path evolves out of the setback of building blocks rather than the predetermined layout of the physical space. Some say that it’s the alleys of Varanasi, too narrow for traffic, that hold the charm of the old city. Don’t worry about getting lost because sooner or later you will end up in front of the river or on the main street. Virtually every aspect of life is carried out in public, right in front of your eyes—prayers, sleeping, cooking, eating, bathing, even roadside dentistry. Streets that are not wide enough for even two bicycles have occasional surprise elements like temples and heritage buildings waiting to greet the visitor when it is least expected as if these important structures have been engulfed by the city itself. Nothing is hidden and all the truth is out on the streets. These unplanned meandering narrow pathways always have a story to tell with every turn and intrigue us, more often than not. They surprise us, confuse us and on few occasions shock us but never leave us with a dull moment.

**Informal within Formal**

Informal urbanism is usually the visual perception of the uncontrollable high-density living in the rapidly urbanized world which adjusts quickly to collective need and wants without paying regard to dominant law and order. On one hand, the appearance of informal urbanism is crudely condemned as a defiant invasion of public spaces; yet, on the other hand, it is celebrated as an amazing collage of complex urbanism which expresses the true nature of the city and denounces the rational self-righteousness of planning. It challenges architectural dictatorship, authorship, and control by expressing idiosyncratic individualities in a collective mode. It is also attractive in the sense of organic
and piecemeal evolution instead of implementations of imposed plans. The visualization of informal urbanism is not to be achieved by a singular author; therefore, it is collaborative, symbiotic, unpredictable, and impacts the social fabric of the city. The following case study of the South Airport Apartment embodies Taipei’s version of informal urbanism and demonstrates the role of individual household living patterns in shaping the informal city.

The process of transformation of the apartment building is incremental and subtle. A one room apartment owned by a single guy demands some changes when he gets married and starts a family. A big hall is partitioned to provide a bedroom for privacy. The balcony is encroached and covered from three sides to provide an extra bedroom with the arrival of the first child. As the second child is added into the family, the public space of staircase well is added with the consent of the neighbours who do not object as it gives them prospects for later additions too. So a one room flat is transformed into a three bedroom flat over a period of time. Later, some inhabitants buy the flat next to it too, breaking the in-between wall and make the whole house bigger. That’s how a 26sq.m flat for one person is changed into 105sq.m flat accommodating five people comfortably.

However, the most commendable thing is that all these transformations are practical and economic. Interior rooms are partitioned with light panel walls and relinquish the use of wall closet for more interchangeability. Hooks and poles are deployed to hang items on the walls and under the ceiling, which explains why many of these flats still look transitional after decades of living. The extended room on the street side is suspended by steel cables on a metal sheet surface. Small contractors and material suppliers are dexterous, versatile, resourceful and community-based and are indispensable
chains to Taiwan’s small-scale industry boom. Their network responds quickly to domestic needs yet distinguishes itself from the market dominated by corporate builders and developers.

Public space is usually operated under strict guidelines and regulations, yet the threshold of the public domain is not well respected in the informal city. Appropriation of these transitional spaces for private use by inhabitants is the most expressive desire of the informal city. Porch-corridors facing the central court at various levels are the most significant spatial feature. According to fire code, they ought to be clean and open. Yet these porch-corridors are perfect settings for laundry and drying clothes in the compact living condition of the apartment and by scattering benches and chairs on them, they fulfil the neighbourhood’s collective desire for an extended living room. The unwelcoming atmosphere of the original modernist landscape would suddenly be tinged with an aura of ‘human flavour’ and colours of individualities whenever the informal activities emerge.

**Informal within Informal**

Within the informal city, there are multiple social, economic, and urban relationships that can hardly be understood with the macroscopic tools used by planning authorities. Satellite images and top-down development plans do not register the rich spatial and programmatic connections that are revealed simply by taking a walk down the narrow alleys. The combination of mixed-use and slow, minimal car traffic encourages residents to turn every residual space into a playground or a ‘public square’. One of the most ignored areas in slum rehabilitation schemes are spaces for children and community gatherings. So the inhabitants have to devise
their own indigenous solutions to deal with these issues. Big events, like festivals or marriages, take place within the streets and courtyards by simply demarcating space with a bamboo structure covered in sheets. The concept of public space goes beyond the restricted park and garden models bounded by iron gates. Instead, walkable, compact and dense mixed-use neighbourhoods offer richer moments for public interaction. Playgrounds liberate young minds and help children develop their abilities, teaching them personal responsibility, and how to thrive as a member of a team or community. Open spaces attract mothers and families living in vulnerable areas to experience social services and other exchanges. So it is quite fundamental that the design of playgrounds and public spaces within informal settlements propagate social inclusion. Even in areas of low material resources, the rich cultural and social life of the community contributes to the well-being of the children. Some of the most positive physical qualities depend upon freedom from physical dangers and freedom of movement supported by the diversity of activity settings and peer gathering areas. As mentioned before, the typology of informal settlements contributes to the creation of such environments better than planned developments flawed by sterile rigidity. Planners and architects should seek to learn from the walkability and playability of informal settlements to devise new design solutions that weave interventions and infrastructures strategically into the socially rich fabric.

**Formal within Informal**

The limited land and high crime rates in a dense informal settlement make it unsafe for children to play and participate in sports. In seeking to give informal settlement communities safe places of recreation, local architects at Urban Think-Tank
in Caracas created the *Gimnasio Vertical* (Vertical Gymnasium) prototype, a prefabricated construction system that transformed a rundown soccer field into a four-story Vertical Gym in the La Cruz barrio. The vertical structure of the gym provides a facility for recreational and cultural events without encroaching into surrounding properties. It has numerous sport activities in the same space in order to meet the necessities of both serious athletes and the general public. The building system has been developed as a prototype part kit which allows flexible design and construction and can be reassembled and programmed for different locations as per local needs.

Working with the San Rafael-Barrio Unido community in La Vega, a team of architects, engineers, a road designer and a geologist studied the settlement’s conditions to assess that vertical typography was the determining condition limiting accessibility, services and public spaces. Based on community-established priorities, the team devised an Integral Urban Project to help solve the problem. The existing pedestrian walkways were a series of resident-built stairs, narrow in width, with variable step sizes, no handrails, high slopes and no stairs higher up the hill. To connect neighbourhoods and improve the daily commute, the team designed a network of stairs which incorporated basic services such as electricity, drainage, sewer, gas, and water. Every spare space was integrated into walkways and public landings inserted at intervals acted as new spaces for social interaction. Most importantly, families were able to remain in their homes, which was critical to maintaining social cohesion.
Conclusion

The dwellers of the informal city duel every day -- negotiating with the system as outsiders, improvising around the shortcomings of public-private institutions and somehow managing to improve their lives. In the process, they create a socially active and vibrant environment around them that cannot be ignored. If designers, architects and planners hope to be relevant in this context, then they must first improve the immediate well-being of the residents through small interventions and proposals. Such proposals have to be tactical and executed by involving the local people to create solutions that maintain the core philosophy of informal settlement. The end-goal is to change policy by demonstrating real change, which depends on self-reliance and ingenuity, and not necessarily on political will. From an individual household to a porch-corridor to an apartment shrine to a street market, these growing spaces of different scales somehow strive to reach equilibrium with the formal city. Beyond the informal façade, either as a spectacle or chaos, traces of everyday life continue to weave a rich fabric of urban narratives.

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How Do We Formalize Informality?

Informal settlements have become a reality that many governments have to deal with, because it involves a big portion of the urban population worldwide, especially in developing countries. The most important policy response to informal settlements has been to legalize informal land development, particularly the practice of squatting. This response is the clearest example of the government’s need to formalize what really happens or what should be under their territory.

Formalization is the process by which acts, situations, persons and entities that are not recognized by law or formal channels, obtain such recognition. This may happen through individuals taking the necessary steps to achieve formal recognition (for titling, upgrading, urban redevelopment, etc.) or by the government moving to confer such recognition by its own initiative. In the last decades, residents of many consolidated informal areas have been compensated for the insufficiency of basic services and the lack of public infrastructure.

A wide range of humanitarian, ethical, religious, socio-political, economic and environmental arguments can justify formalization. Most of the arguments are based on the socio-political and legal domains. Although experiences of
formalization have already become a fundamental element of the constitutional social right to adequate housing in some countries, few government policies fully understand the nature and dynamics of informal development processes.

It is common for the government to use forms of repression as a response policy to informal practices. Along with repression through demolitions (redevelopment or displacement), the government tries to recover informal areas or intends to discourage and limit unauthorized building. In the case of redevelopment through gradual demolition and construction of alternative housing, the government policies respond by trying to guarantee the security of consolidated informal areas in staying in the same location of the city in order to access to better living conditions. These interventions mostly target deteriorated informal areas where housing conditions are unsafe and closed to vulnerable urban areas.

In economic terms, formalization improves land-market efficiency and labour market participation but generally fails to impact access to financial resources. However, this does not mean that there are few economic benefits; inhabitants indicate that it has a great use but in a different way than the theory assumes. It has helped to quickly consolidate their homes and therefore increases the value of the properties in a significant way.

Although there is a growing acceptance of informality, their economic and social challenges have been largely underestimated. Informal settlements mobilize significant public and private investments, which remain outside of the formal economy. These settlements often take over public or private land, shifting the cost for compensation and services to local governments. The land, often developed in a sporadic way with single-family housing, is underused due to its sprawling pattern. Informal settlements also impact the local govern-
ment’s ability to manage land use, as the owners illegally occupy parks, unsafe brownfield sites or land that may have had other, more productive uses. At the same time, informal housing might be the dwellers’ single largest asset, which is under permanent threat of being lost, particularly due to environmental hazards or demolition.

The search for policy solutions ranges from legalization and inclusion in formal urban plans to regularization and the provision of essential social services (schools, medical clinics) and technical infrastructure (safe roads, public transit, water, sewer), as well as displacement programs. While these solutions illustrate different aspects of the urban planning continuum, they also require significant political will and financial commitment from local governments. Informal settlements pose a high political risk and economic cost for governments. Often, the inability to absorb these risks and costs perpetuates tolerance of the informal *status quo*.

Efforts to formalize informal areas are still on the agenda of policymakers and at the core of innovative urban planning strategies in many large cities of the world. But, can we expect more than recognition and tolerance? Perhaps the initial question of this short essay should be rephrased: *How can we formalize informality when the same economic and political system that enables its perpetual reproduction has to support its transformation towards sustainable and equitable development?*

In order to elaborate such an important question it is necessary to address the causes of informality that are directly connected with globalization and liberalization of economy, as well as with deregulated and corrupted modes of governance.

Perhaps globalized and liberal economy makes individuals freer, but, according to empirical experiences, does not necessarily improve the conditions of low-income families.
Economic instability caused by liberalization produces high levels of unemployment, which contributes to the increase in the number of informal practices in the developing countries. The deregulation and corruption of governments affects the permissiveness of authorities to allow informal practices that avoid laws. The lack of rigidity produces rapid growth of informal areas. This especially emerges during periods of political elections or economic changes because of the level of uncertainty in the society. Also, governmental weakness relates to political clientelism; the longstanding political manipulation in informal communities that have encouraged more informal development.

In addition, inefficiency in public administration reduces the expectations of confidence due to formal channels. The lack of ability of public administration to provide accessible infrastructure and services to housing units coincides with a shortage of affordable housing on the market. The inability to regulate the housing sector directly causes the growth of informal settlements.

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Informal settlements are not born in a short period of time, although it has always been convenient for people to think otherwise. I believe that informality is a way of communication between informal dwellers and the city, a language which somehow has become an expression of the big cities today. Alike any architecture, architecture of informal settlements has a derivation that can be analyzed and explained to its sources, thus informal dwellers should be taken into account from the beginning to ensure the successful development of informal settlements. If we continue to perceive them as marginalized, they will continue to be marginalized. In fact, from an organizational and managerial point of view, this should be recognized as the major challenge for a sustainable and equitable urban development process.

Public participation should be an indispensable element in human settlements, especially in planning strategies and in their formulation, implementation and management; it should influence all levels of government in the decision-making process to further the political, social and economic growth of human settlements. (UN WUF1, 1976)

Participation has been encouraged in all sorts of tasks.
in urban management for the last 30 years, yet in most of the cases, it is not able to permeate all stages of the decision-making progress. In some cases, however, communities themselves are starting to promote participatory engagement due to the various failures in governance for providing necessities to their households. In fact, integral community participation may be deemed more noteworthy if it is advocated from the bottom-up than if it is appointed from top-down.

There are numerous ways to understand the term participation. For example, there is the distinction between *Participation as a Tool*, to achieve a satisfactory outcome, and *Participation as a Process*, which complements the capacity of individuals to improve on their lives and facilitates social changes in accordance to the advantages or disadvantages of marginalized groups (Cleaver, 1999). The shortfall in the approach of *Participation as Tool* is that participation is made subjective throughout the whole program. It is used to gain acknowledgement for an already assembled package rather than to achieve common outcomes. (Botes and Rensburg, 2000). On the other hand, *Participation as a Process* is ensuring the quality and sustainability of achievements through beneficiaries’ ownership and contributions. Beneficiaries are able to have an overview of the outcome of their efforts, as well as encouraged to entrust their mindset and energy in the long-term process of development. This suggests an alliance inclined more to selecting a *Process* than a *Tool* (Cleaver, 1999).

The debate about appropriate methods in participatory development imposes *technique-based participatory orthodoxy* which fails to address inter-linkages in social reality, such as individual and institutional—both horizontal and vertical as well as the distribution of power, information and other resources in a community. If participation is translated into an *exercise based on toolboxes of procedures and techniques*, a risk
of simplified solutions that ignore the inclusion of different social groups becomes real (Cleaver, 1999).

A deeper understanding of the complexity of the lives of informal dwellers is crucial to avoid failures in participatory development. Failures may often be foreseen during the promotion of a participation program. For example, the term community is commonly wrongly identified as a homogenous entity bound by natural, social and administrative barriers. It is equally important not to define it as a heterogeneous social structure through simplified categorization of a role such as women, leaders, poor etc. (Cleaver, 1999). An oversimplified perception of the informal community may cause many conflicts among dwellers while participating in the development process.

Community participation faces a range of external and internal challenges. External challenges are demonstrated as technical approaches in upgrades to the informal settlements that are likely dictated from top-down, whereas internal challenges are the main topics of assessment from the informal dwellers’ participation. The divide here is not between formality and informality but rather a differentiation within informality. According to many studies, the three major challenges of community participation in informal settlements are as follows:

An informal settlement consists of diverse interest groups and individuals of various social, cultural or religious status, political interest, livelihood activities and needs to be fulfilled. Their perceptions of community action and the common good differ in hand with their role in the community. In informal settlements, new inhabitants may live with old timers, owners with tenants, those employed with the unemployed, legal workers with the informally self-employed, dwellers of different generations, ages, sexes,
education levels, characteristics etc. It is reported that the informal communities are often less likely to participate due to their divisions of language, tenure, income, gender, age or politics, than in less diverse communities (Botes and Rensburg, 2000).

Local elites, informal leaders or agents intend to attract outsiders’ interest and to speak out for the community needs. There is always the danger that decision-making at the community-level may fall into the hands of a small and self-perpetuating clique, which may act in its own interests with disregard for the wider community. The poorest, disabled, in-debt or similarly disregarded informal dwellers benefit the least, if ever. The most vulnerable groups are internally excluded from making their choice and from amplifying their voice to the public. The so-called community leaders are often consciously blocking the intervening agency to prevent a loss in social status or in an effort to gain more support from the bottom. Because of them, informal dwellers are becoming hesitant to participate in the development programs, while the political interest of city administration is slowly fading which is driving informal communities to further out to the margins.

Political representatives that may influence officials to implement development programs in a particular informal settlement just before an election, make it clear that the settlement community should be grateful to them, and that they expect them to vote for their parties. These promises are rarely fulfilled and often leave informal dwellers without any choice but to do as what they say. Rarely satisfied expectations decrease their readiness to participate (Botes and Rensburg, 2000). Informal dwellers’ memories count and, as mentioned before, their willingness for participation is always conditioned. Process without product leaves the community convinced that the promised changes are never really going to happen, which wastes the social energy of the communities.
Since informal settlements are going to constitute the primary habitat of humans in a couple of decades, it should be regarded as imperative to resolve these issues for future generations. Certainly, many informal dwellers live in substandard conditions, but they have experiences, aspirations and great entrepreneurial energy which cannot be disregarded. It is my belief that by overcoming prejudices and depreciatory attitudes, their potential could be activated. Developing on their existing social and cultural patterns through community participation holds many promises, both for themselves and for the greater urbanities in which they reside.

The continuous effort to upgrade through community participation and enabling strategies should be carried out unceasingly. Perhaps most importantly, development chances for informal settlements lie in their integration into the formal planning and organizational processes. The question of informality then becomes a secondary one. It should be regarded as the responsibility of governments and authorities to provide and support the basic needs and sustainable livelihoods for their inhabitants, whether they are formal or informal urban residents. If our cities are to remain engines of development and progress, they must be addressed in a manner which makes such development sustainable and equitable for everyone.

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How Do We Make Informal Settlements Sustainable?

It can be observed, in terms of construction which fall short of regulatory frameworks, that consideration of informality is slowly but steadily expanding from the common focus on slums to residential areas in the cities. In recent years, it has become obvious that informal housing is not just the domain of the poor, but also important for the middle class and even the elite in second and third world cities. Such trends point to a complex continuum of legality and illegality where self-help housing exists alongside upscale informal subdivisions formed through legal ownership but in violation of land use regulations.

How to formalize the informal settlements has long been the question but it has never yielded any long-term positive results. This could be the consequence of the general consideration of informality as a deadly problem and not as a viable solution that just needs to be improved upon. Only recently, the focus has been shifted towards learning from the informal settlements’ resilience and growth and applying this knowledge in making the informal settlement sustainable.

Informal settlements are often the result of several overlapping forces. They are the manifestation of urban growth,
unrealistic regulatory framework, ill-conceived policies, inadequate urban planning, rigid financial access, but, on the other hand, they are also a manifestation of the resilience and ingenuity of disadvantaged people.

Just as their originating factors, the search for making informal settlements sustainable is clearly multifaceted and multidimensional. The adverse effects of the informal settlements that are left uncontrolled and intersected with the whole city encompass the social, physical and economic spheres. Informal practices for many people remain the only affordable option to access housing and land. If interventions in informal settlement want to be efficient and sustainable, the capacity of the informal sector to deliver assets must be appreciated. The resilience of informal settlements against all odds and their achievement of self-sufficiency is something that can be improved upon to make a better urban living standard for all.

The processes which produce different types of informal settlements should be well analyzed in order to organize corresponding interventions that could make them sustainable. Their implementation requires the common effort of individuals, architects, government and private developers. Following are some recently implemented strategies:

**Formalization and Legalization**

Recent trends in understanding the security of tenure issues, which is promoted by international organizations, are shaping tenure regularization policies within a new conceptual framework: moving away from security of tenure based on land ownership programs towards a more comprehensive approach focusing on informal settlements’ social and economic integration. This new approach recognizes the security of
tenure based on legal pluralism and a mixed land market. For instance, in one of the states in Nigeria (Ogun), the state government did an exercise in providing land documents as a means of ensuring tenure security for all settlements without legal rights that have encroached on the state’s planning and building code. All they had to do was provide plans and evidence of the purchase of land. Further down the line, the government will use the plans acquired to re-plan the whole state and reintegrate all informal settlements with infrastructure and services. Though the program had land charges, it was a good avenue for the government to generate revenue.

**Standardization and Upgrading**

Standardization and upgrading informal settlements require a more comprehensive intervention. In order to be effective, upgrading programs must be integrated into the wider socio-economic context (e.g. a national strategy for poverty reduction). The problem of urban informality is evinced in the broader context of the general failure of both welfare-oriented and market-based low-income housing policies and strategies in many countries. Informal settlements should also be complemented by clear and consistent policies for urban planning and management, as well as for low-income housing development. Most informal settlements only need to be upgraded by simply connecting them to infrastructure and services as they are developed while taking into account the provision of the right of way, road access and provision of public space.

Urban planners often use a four-step process for upgrading and standardizing informal settlements:

- **Step 1:** Goal-setting. All stakeholders create realistic goals
for the future, which includes a vision of the informal settlement as a whole.

**Step 2: Action.** The action plan includes: (a) provision of communal and social infrastructure; and (b) provisions for interdepartmental coordination and management. It is important that progress is noticeable. If informal residents see action, they will realize that their opinions are valuable and that positive and sustainable change is possible.

**Step 3: Community participation and capacity-building.** It is extremely important to have a forum where all stakeholders can come together to express concerns and optimism about the future of informal housing settlements. Community-based actions and consensus on the most important measures to be implemented makes residents feel involved and responsible for change. At the settlement level, residents need to take initiative, ownership and responsibility as well as contribute financially.

**Step 4: Accountability processes.** These are necessary to report results and make residents and local government accountable for change. Part of the accountability process is to ensure that information is shared with all stakeholders and that no one hoards information; this can be mitigated through active support from major stakeholders. Accountability also involves continued policy revisions to adapt to the changing needs of communities based on response and feedback and integration into urban planning strategies. Building and maintaining infrastructure and public amenities are major steps in formalizing and upgrading informal settlements.

**Alternative Housing Systems**

A greater focus has been placed on the creation of an enabling environment, increasing the involvement of communities in
decision-making processes and mobilizing their resources for low-cost, self-help housing construction. Governments have promoted alternative housing finance systems that allow easier access to credit. These small credits, often micro-loans, encourage the improvement of informal housing and assist with legalization costs. This is a mutually beneficial situation for residents and local governments. Lending providers and local governments can justify the expenses of the initial investment by its long-term impact. Upgrading in this way seems to be the least expensive approach for government to deal with urban informal settlements.

**Decentralized Planning and Land Management**

The absence of recent regulatory plans and approved local regulations for land use has to be worked on. For any kind of construction to take place, development permits must be obtained from the central authority which still uses the outdated or rather incomplete master plan which was developed with the city authorities. This outdated plan doesn’t take into account the countless transformations the city has gone through. In many countries the costs—in time, money and number of offices to be visited in order to build legally or to register a building—are quite substantial. This lengthy and confusing process coupled with a lack of strong enforcement by the responsible agencies encourages the growth of the informal sector. The spread of informality can be reduced if every local authority has an updated urban plan and if it is responsible for building permits. Specifications like setbacks, floor area ratio and width of roads could be negotiated project by project.
Access to Financial Credits

In an economy where financial systems are geared towards the wealthy and people with a steady source of income, it’s almost impossible for the urban poor to secure loans. To change this, governments, banks and private lending firms should be obligated by policies to support dwellers who want to develop their settlements by providing soft loans. So far, the most effective solution that dwellers have at their disposal are each other. The strength of their exceptionally robust informal networks keeps the crisis from morphing into chaos. Through a system of social ties, forged through family and friends, the people themselves are managing to mitigate the housing shortage.

The Role of Architects

Architects should not be granted the right to deny the existence of informal settlements. The role of the architect as a mediator is pivotal in transforming what was for decades a conflicting relationship between the communities and the states into a partnership and cooperative relationship, which can lead to avenues for genuine participation in housing policies.

Architects have to become aware of the problems existing in our built environment and offer innovative proposals. We need to accept that not every architect will earn a commission or be responsible for building what will become the next icon for the city. The earlier we begin to start preparing ourselves for this role, the better it will be for humanity as it encourages the development of new methods and ideas which will transcend both the informal and formal settlements.

Also, students have to begin to be taught about the informal settlements which exist within the formal ones. Informality has to be brought inside the formal walls of the university. We need to broaden the roles of our future architects, expanding
the field of users for whom they will design and the environments that they must take responsibility for.

Excerpt from the book *Learning from Cairo: Global Perspectives and Future Visions*, by Beth Stryker, Omar Nagati and Magda Mostafa, goes as follows:

*How can architectural academia respond to this shifting climate? A climate where the majority of the built environment is conceived and implemented outside of the construct of conventional practice? Where the majority of the architectural products in our city exist without architects? How can we further propagate a singular top-down mode of practice in our teaching when it’s malfunctioning at best and corrupt or absent at its worst? When this conventional mode is only viable in neatly packaged projects with clear financing, educated clients and formal frameworks? How can we continue to teach our students, the architects of the future generation, to only be equipped to operate within a small portion of the built environment—ignoring the massive built environment and user groups often represented on maps as solid black “informal settlement”? How much more than the majority of our urban areas does the informal have to become before we train our students to understand, address, and ultimately work with it—rather than ignoring or eradicating it.*
V What Architects Can Do
How Do We Make Architects More Relevant in the Informal Settlements?

We live in a world where most of us live in cities. Moreover, it is estimated that the global footprint of worldwide urban settlements will grow three times more in the next three decades (UN Habitat, World Cities Report, 2016). Most of this ongoing urbanization is massively and rapidly happening in cities of the developing world, especially those in the Global South. One-third of the urban footprint of those cities has already been occupied by informal settlements that are nesting in the vast lands on the peripheries, as well as inside the voids of the central urban area. These informal settlements are characterized by overcrowding, a serious lack of basic services such as sanitation and water, a high concentration of poverty, insecurity of tenure, unemployment, disease, crime and so forth. As such, they challenge the future of urban development and social progress and demand closer attention from authorities, but also architects, planners and urban designers.

Against all odds, informal communities are sources of unforeseen innovation, diversity and inclusion. They have developed innovative architectural, social, cultural and economic patterns that cannot be perceived elsewhere, thus accordingly, they deserve to be studied and understood. The
fact that informal settlements and their dwellers have some-
ting to offer, instead of merely being passive beneficiaries of
aids, stimulates further endeavours for the wider acceptance
of informality.

The first important explosion of informal urbanization in
the 20th century happened with the economic boom of the
60’s which contributed to notable demographic growth and
high rural to urban migration. Misguided urban and housing
policies created conditions in which land appropriation and
housing provision could not take place through traditional
means and contributed to the formation of squats, illegal land
subdivisions and other land invasions. Such informal devel-
operation faced exclusion from the institutionally organized
production of space as something accidental, malfunctioning,
and transitional (Wade, 2009) It was addressed by profes-
sionals such as Oscar Lewis as cancer, which explains the way it
was trying to be solved - by demolition and clearance. The first
shift in the conceptualization of this form of urbanization was
made by John Turner and later by many others which focused
on legal status as the main factor in defining informality.
Although informal settlements were noted in policy, they were
not yet treated practically.

Upgraded definitions of informality today describe it as a
state of exception and ambiguity, a dynamic release of ener-
gies, a mode of production of space defined by the territorial
logic of deregulation, or a survival strategy and, as such, a way
of evading or manipulating power (Wade, 2009). Prevailing
strategies for addressing informal settlements have shifted
away from large-scale clearance and displacement, which have
been demonstrated to cause massive social disruptions and
failed in repairing the city, to on-site upgrading and improve-
ment, with the goal of integrating low-income communities
into their larger urban contexts.
This shift in treating informality also contributed to the major shift in architecture and urbanism. During the last decades, the global but uneven influx of consumerism and gentrification has broadly caught the attention of architects on architectural socio-political relevance. However, the scale at which informality occurred in the largest cities increased professional attention to cities in the Third World where various conditions of scarcity demanded a shift in architectural priorities and introduced new ways of spatial thinking and doing. Emerging practices that started working within environments built by informal dwellers managed to alter and expand the mainstream definition of architecture as a production of new buildings. Their portfolio generally consists of small-scale interventions and on-site improvements which turn out to be more efficient and sustainable in the long run than the radical changes that had been suggested before such as complete demolition and new construction. This shift oriented towards reinventing the modes of appropriation, modifying the existing houses for safety, providing the neighbourhoods with public spaces and services for social interaction, education and crime reduction, improving the transportation for better formal connections and so forth.

Besides physical interventions, these new architectural practices are providing research outputs for case studies that may serve other architectural practices as alternative guidelines when dealing with informality. For example, Estudio Teddy Cruz explores informality along the United States - Mexico border through the conflicts and tensions that are common there. Their work documents the reuse of San Diego’s defunct housing stock and building materials in Tijuana by shipping and reusing waste construction materials from the United States to improve the unregulated
and unplanned informality in Mexico. The part of architecture in this practice is relatively small but highly useful, as they invented only a transformable frame that cooperates with recycled materials and other human resources, leaving space for free interpretation as the inhabitants upgrade their own dwellings. In this case, according to Teddy Cruz, informality is seen as the result of a conflicted series of events, manifestation of tension and the resultant urban form. The relevance of his view of informality is twofold: the first being that, as a manifestation of tension, it draws attention toward the processes that created the tension, claiming that the fragmentation of the city mirrors the fragmentation of institutions and budgets; the second being that it suggests relief of the tension in part through the incorporation of informality and calls on architects to reorient their focus more into the production of knowledge.

Another interesting case to look at is Urban Think Tank, an interdisciplinary design studio located in Caracas, Venezuela, whose approach to informality integrates Caracas and the informal urbanism into a wider global discourse. UTT produces knowledge in architecture and urbanism from the Global South, using their city as a basis for the analysis of informality by working together with the residents to develop new concepts and solutions. The hybrid knowledge that emerges from the communication between the local residents and the professionals of UTT leads to relevant projects that facilitate the incorporation of the informal settlements into the formal context, such as providing compost toilets, public spaces and new routes inserted into the existing fabric. Their experiences and realized physical interventions are being shared through publications and lectures that stimulate raising awareness and rethinking the role of architects today.

In order to be accepted by the informal community,
architects should inform people about the ways in which they can help them and learn how to listen to them. In other words, exchanging information and building trust between each other is a highly important part of the process. The architects, as strategists, should step in, develop a mutually understandable language for clear communication and approach the people who otherwise would not approach them. One such example is the Micro Utopias event held in Latin America, where architecture students from Universidad Simon Bolivar transformed the streets of Caracas into spaces for dialogue and publicly presented their interest and offered possibilities. As the students invaded urban squares during the event and started publicly reflecting on their roles in society, many citizens passing by who were not familiar with architectural academics, managed to get a glimpse into what’s being learned in schools, proving that these kinds of activities are a positive way to educate society on the logic of their environments.

Another example is set by Alejandro Aravena and his studio Elemental, who also consider communication as the most relevant factor. According to him, communication means speaking at the same level as the families and users of the housing projects, without false expectations and at the same time, transmitting trust and informing them that they have professional knowledge which could help them with their problems. Perhaps here lies the key towards accepting and involving architecture more into the informal field. Listening to people’s experiences, desires and needs, creative resolutions and finding ways of introducing people with strategies for improvement could lead to more adequate solutions and benefits for all.

Participation and participatory design are additional ways to make progress and build trust. The inclusion of the
residents in the early phase of planning and decision-making or later on in the actual building process contributes to empowerment and a greater appreciation and responsibility over the built space. In this two-sided activity, architects and inhabitants exchange experiences, practical knowledge and know-how. On the other hand, grasping the concept of architecture through participation also transforms the city into a collaborative laboratory where low-cost tests can be conducted as community projects that allow us to measure the impact of solutions directly from the user’s experience, due to the fact that the success of one intervention is not necessarily replicable. All those architectural approaches and interventions in informal settlements are relatively new and experimental, as well as unique, considering the particularity and variability in each urban settlement’s case. In other words, each time informality is approached it requires studying the situation and seeking a solution anew.

While connecting closely with the community and collaborating together on small-scale solutions, architects also challenge the failure of large-scale models and top-down institutions. Architecture is the transformative process of re-scripting power relations through the built environment (Hamdi, 2004). When operating in a complexly built environment, architects have to slow down the process by first reading the situation and thinking about how those relations can be altered to satisfy all sides. This creates a process of political engagement, one by which architectural ideas, strategies, practices and values are developed and disseminated in collaboration and consultation with the greater society (Gamez, and Rogers, 2008). In other words, spatial agencies, as Tatjana Schroder refers to the alternative architectural practices, are not all about solving problems but about posing problems so that all actors involved in the process develop their own
capacity to critically perceive their built environment. In this process, architecture becomes a mediator between the people living in informal settlements and the institutions that are making the conditions for informality in the first place, and by doing so seeking a balance between all the forces that influence urban development - social, political, economic, environmental and cultural.

In conclusion, I believe that architects’ basic competences such as observation, analysis and invention are best translated between formal and informal frameworks. Now, when architects are needed to perceive the broader picture, a more flexible understanding of architecture is required. Where uncontrolled constructions are already taking place, architects should abandon the idea of the heroic author who builds astonishing buildings and get out of their comfort zone to persist in making architecture more relevant to the society. They should not only reveal ignored socio-political territories, but also generate new forms of sociability by giving people the support, tools and resources to drive their own ideas and to take control over urban development. In these processes based on local dynamics, collective forms of creation, appropriation of space and improvements, based on trust, mutual support and community work, lays the destiny of our future cities.

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As the world continues to urbanize, architects and designers must develop innovative and creative proposals to address the challenges of densifying urban regions. Informal settlements, which are quickly becoming one of the dominant urban typologies in the world, are also a source of architecture concepts that can be implemented in the formal sector. Robert Booth stressed the importance of learning from these informal places, stating that, although being poor, they are often sources of richer ways of living (Booth, 2009).

These architecture concepts include participatory design, adaptable buildings, sustainable design, space optimization, improved social life and human scale. It should be noted that this list is not exhaustive and many other valuable attributes exist in informal settlements and many researchers and designers are working to unearth these attributes. It has been stated that informal communities greatly exemplify what the rest of the world must grapple with as resources decline, such as sustainability, sanitation and safety (Ross, 2014).
Self-organization/ Participatory Design

The self-organization of informal settlements reflects the tremendous problem-solving capacity and innovative skills of a collection of individuals who have been forced to rely on themselves. Roads and pathways are identified; housing and shelters are built and designed by the user without any input from professional builders. This emphasizes the need to encourage participation of end users in the design process. Michael McQuarrie in his article *What Mumbai’s Slums do Right and Why we Should Emulate Them* not only identifies the many virtues of informal settlements but also showcases how the self-organized fashion in which they develop often creates a sound urban hierarchy that reflects the need and demands of the community that designs them. It may not be realistic to expect self-made architecture to occur in the formal sector, however, given the successful self-organization of many informal communities it is apparent that an increase in community participation can result in a better end product as the community can be a great resource of options and ideas.

Many architects, designers and developers have implemented participatory design principles in their projects. Lucien Kroll, a Belgian architect, is well known for involving the participation of the end users in the design of his buildings. Kroll’s most famous building, the *Maison Medical* student accommodation built in the early 1970s, incorporated students in the design process (Ellin, 2000). Ottokar Uhl is another well-known architect who utilized participative design in the formal sector. Not only can participatory design help develop a product that best suits its users, it can also help remediate some of the negative issues that accompany development in established urban neighbourhoods. Infill development can often disrupt, anger and negatively impact nearby citizens. By encouraging them to become involved in the design process,
developers can build something that will be less invasive to the existing neighbours which will result in a rightful building process.

Adaptable Buildings

In addition to the success of self-made architecture in informal settlements, the builders of these communities have also developed innovative ways to address financial restrictions, expanding families, the structural limits of materials and changing urban needs by the use of adaptable buildings. For example, many structures in informal settlements are often built in a way to allow for additions and alterations to occur when a family expands.

Alejandro Arvena has utilized this design approach while building community housing Quinta Monroy in Chile. He designed residential units that were intentionally incomplete and arranged around common spaces. Not only did this result in a lower initial cost of development, it also encouraged residents to add and build upon their new homes as they saw necessary (Arvena, 2004). This allowed for the personalization of each unit and also resulted in a sense of ownership and pride by the resident. Involvement by the resident allowed for each home to look unique without compromising the overall coherent organization of the building with fixed setbacks and allotted space (Arvena, 2004).

Arvena is not the only architect who has developed adaptable buildings. Ottokar Uhl, an Austrian architect who, in addition to utilizing participatory design principles as mentioned above, also designed highly flexible dwellings. His goal was to design housing that would adapt and change over the life span of the structure (Schneider & Till, 2009).
This approach to design is increasingly important as the needs and desires of users are rapidly changing. By allowing for a building to change and grow over the lifespan of the structure, Uhl was also ensuring the buildings are more sustainable by having a longer lifespan rather than tearing down the building to build new when desires change.

**Space Optimization**

Similarly to adaptable buildings, space optimization can result in a better, more usable urban form. In informal settlements, each space can have a multitude of uses, for example, streets can be used for transportation but also social gatherings, commerce and even livestock. Research by Akhtar Chauhan has stated how mono-functional units are not used in informal settlements; instead, living spaces have overlapping functions of living and family interactions (Chauhan, 1996).

This approach has often been implemented in the formal sector, especially as micro units are becoming more and more prominent in large Western cities. For example, many small bachelor apartments allow for a space to serve multiple purposes; the living room, dining room and bedroom may occupy the same space, but with a simple rearrangement of the furniture their use and appearance will change greatly. Gary Chang’s Domestic Transformer, a tiny 344 square foot apartment, integrated moving furniture allows for over 24 different layouts.

**Sustainable Design**

Sustainability is an important component of architecture and design today; informal settlements can provide numerous solutions to try to create more sustainable designs in the
formal sector. Low-energy design techniques, increases in recycling and a reduction in travel time are all present in informal settlements.

As stated above, local materials help reduce the environmental footprint of a building. This approach has become very popular with the advent of the LEED designation system which gives credits for designers using local resources from within 250 km of the site. This is a simple, age old approach to sustainability. Many informal communities also utilize passive design to ensure their homes are better equipped to withstand the environments of their respective geographies. This design method has also recently seen resurgence in the formal sector. The energy use per building can be cut far more in terraces and apartments than in free-standing housing (Satterthwaite, 2011).

It has been well documented that residents of informal communities recycle at an extremely high rate. In 2014, Phillip Ross stated that residents of Dharavi recycle an estimated 80 percent of their plastic waste without formal collections. Formal communities are trying to improve their rate of recycling and there is no doubt that informal communities hold great insight into how it can be done.

Sustainability and density are linked in numerous ways. Often denser communities have a lower time and cost of travel to work and to services which result in a reduction of greenhouse gas emissions. Many cities in the western world are already striving to increase their density which will, in turn, result in shorter travel time and therefore reduce the collective emissions of the city. It should be noted that informal settlements achieve density without formal incentives or rewards while many western cities are forced to provide incentives to developers for building denser.
Human Scale

The *human scale* is a term identifying a set of qualities and quantities of information reflective of the human body. In urban design and architecture it embodies a physical scale relating to buildings, steps, doorways, walking distance and other features that fit well with the human senses. Informal communities are often designed in a way that encourages walking and contain a built form that does not overshadow the individuals that live in them. It has been argued that informal settlements embody many of the elements that result in a good human scale of urbanism.

The *human scale* is not an exact science and designing with it can be a challenge, however, it is clear that informal settlements contain some urban design qualities that would greatly suit the formal sector and contribute to a better urban form.

Sense of Community and Social Life

One of the very positive attributes of informal communities is the increased sense of community and social life. Rebecca Rahus-Dubrow explained in *Learning from Slums*: Longstanding slum communities tend to be much more tightknit than many prosperous parts of the developed world, where neighbors hardly know one another. Indeed, slums embody many of the principles frequently invoked by urban planners: They are walkable, high-density, and mixed-use, meaning that housing and commerce mingle (Rahus-Dubrow, 2009).

This quote highlights the fact that the formal sector has much to learn from informal communities in regards to designing places that will better harbour a strong community. Additionally, it has been highlighted that community members in informal communities work together towards achieving common goals. Community pride and a willingness to help your neighbour is a quality that architects and urban designers
in the formal sector would very much like to capture and emulate. However, there is no single way to ensure this is accomplished; a strong sense of community goes beyond just architecture and urban design.

There are some concepts that can be borrowed from informal communities that may help contribute to an improved social life in formal developments. For example, by providing shared communal space in formal developments designers can provide a space for community connections to be made. The same can be said about the inclusion of accessible recreational space, seating areas and neighbourhood hubs where members can gather and interact. Many of these aforementioned elements are already utilized in the formal sector, but it is clear that there is always room for modifications and improvements.

Conclusion

As stated at the beginning of this paper, informal communities are quickly becoming one of the dominant urban typologies in the world; this may not just be a result of social, financial and political forces, but a result of many informal communities creating safe, sustainable and strong communities. Given the prevalence of this urban form, it is safe to say that these communities are doing many things right, and they are not merely the dirty, unsafe and illegal slums much of the Western world envisions. In fact, these communities are quickly becoming models of urbanism that the formal sector could learn a great deal from.

Given the challenging environment that many informal settlements inhabit, they have been required to find new, affordable and innovative ways to address these challenges. As a result, these communities have provided a wealth of
strong design attributes that could be implemented in formal developments. As the world continues to urbanize resulting in scarcity of land, resources and manpower, the Western world and the formal sector should look to informal settlements for inspiration, as they have been facing these issues in even more dire situations for many generations. Informal communities are an excellent resource to learn from and it is the responsibility of architects and designers to capitalize on the designs and approaches found within them.

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139


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Is Informality an Opportunity for Architects?

What is needed is architecture of change— an architecture that moves the field beyond the design of buildings and toward the design of new processes of engagement with the political forces that shape theories, practices, academies, policies, and communities. — Gamez and Rogers

In its current incarnation, improvement practices in informal settlements have focused around participatory upgrading; a process that mobilizes resources around key issues facing informal dwellers: infrastructure and basic resource improvement, land tenure security, and housing reinvestment. Participatory policy is currently considered best practice among development agencies like Architecture for Humanity and UN Habitat. Essentially, participatory approach seeks to affect broader-scale change in cities of the developing world, rather than preoccupy itself with pre-identified sites-and-services projects that are limited in scope. Pugh describes the approach as wholesale-scale development, as opposed to the previous retail-scale development. Upgrading informal settlements does involve a comprehensive effort to incrementally provide improved basic services (piped water, electricity, paved roads and sidewalks, sewage, etc.) to neighbourhoods, but the issue of land tenure security is also of central importance to this policy.
In cities like Dhaka, where the government has a limited amount of resources to provide the necessary locations to build up a new, improved settlement or housing for the poor, the participatory approach is an easier solution. Rather than demolishing the existing settlements and causing displacement of the people, the existing location can be reshaped, reblocked and improved with the participation of its residents. Charles Stokes, an observer of informal patterns in the developing world, saw the development of these places as fundamentally social, and not merely physical. Instead of pursuing expensive and harmful clearance efforts, as contemporary urban planning tends to accomplish, he insisted that we should build a *theory of slums* in order to understand and gradually improve conditions in these places.

In most cases, environmental danger in informal settlement is created because of the lack of awareness and education, along with the lack of proper management. For this reason, the first priority in their development has to be creating awareness among their inhabitants. If the local people would be more aware of the environmental impact of their lifestyle and the necessary things that they can do by themselves, they would be able to improve their living conditions through simple adjustments and repairs, in the incremental way they have already made their households. Any kind of open discussion or workshop organized by architects to address the local people can bring new ideas to solve problems. Architects could contribute by providing professional knowledge or by making simple and low-cost prototypes.

Participatory policy should be fluid and flexible, adjusting to different settlements and people’s desire. In some places, people may require a lot of upgrades, whereas in some places people may require a small adjustment to improve their living condition. There are such projects, where people who
are living in an informal settlement, are only looking for a community place. In response to this demand, architects can propose a community space for many diverse activities which include gatherings, but also the scope to have handicraft production. As a result, the new place can improve both social and economic conditions. The whole project may be eventually constructed by the local people, who would be simultaneously trained on building construction. Then, they could also get some design prototypes by which they could make changes to their existing house.

Recently, a small initiative in this direction has been taken by architect and university professor Khodokar Hasibul Kabir who decided to move into Korail, one of the biggest slum in Dhaka. He started living there with the local people and tried to inspire them to bring change to their settlements. In order to provide a space where he could meet them and discuss their problems, he created an open platform, which he named *Platform of Hope*, just next to the slum. This small construction was made by the local people and became a place for public gatherings and also a playground for the children. Soon this small initiative started to change the behaviour of the people; they became more aware of the pollution and sanitation and they started to look for the solutions. They even started a garden within the settlement. This small hub played a major role in transforming the whole area.

Though the *Platform of Hope* stands in stark contrast to the constant threat of eviction with which the Korail residents live since the land they occupy is becoming more valuable, they have shown the willingness and the skills to change their unhealthy surroundings. With knowledge shared on the platform, nearby dwellings started to slowly transform - they got better lighting and ventilation. The platform has
generated hope for a cleaner and healthier place. It is the architecture for change, hope and inspiration. Its example clearly represents the opportunity for architects to develop the process of improvement of informal settlements.

When confronting informality, the role of an architect is to contribute within the overall city scale, realizing the complexity of social, political and economic issues, but also to act on the small scale, helping people to improve their everyday living conditions. The rapid growth of informal settlements offers so many opportunities for architecture to reset its fundamental relevance. In order to take this opportunity, architects have to change their mindset first.

Would you do it?

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