The Design Comes as We Build

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Abstract

This essay discusses urbz' 'The Design Comes As We Build Project' which recognizes local builders in homegrown settlements by providing them a space to showcase their design imagination. The project started in Dharavi, Mumbai, a settlement populated by self-taught experts with a strong, practice-based, and experience-rich learning background. By recognising the agency of local actors in the production of their own habitats, this essay focuses on the processes at work in this context. We employ an ethnographic lens informed by the language of architecture to illustrate how artisans imagine and build thousands of tiny houses on a daily basis. These anonymous "contractors", usually blamed for operating illegally and without formal education, are shown to be the heroes of an epic story in which neighbourhoods are created out of nothing through the transformation of meager local resources. Typically selected on the basis of previous work and common acquaintances, these artisans belong to the same community as their clients, often living in close proximity. Together, they design and build without formal plans or contracts, using trust and reputation as the cornerstones of their professional relationship. As a result of their collaboration in all stages of the project, unpredictable features become an inherent part of the structures that emerge organically from this process.

Introduction

The concept of Jugaad (Navi et al., 2012), – working innovatively through and around rules to achieve ends – sheds light on processes, products, and projects which otherwise would have remained unknown, hidden, or simply ignored. It opens up a mode of recognizing the efforts of millions of people who make do and innovate with very little means, even when they are provided neither the usual support nor have the means to be creative. From transport improvisations like make-shift tractors and cycle-carriers to making a video film in a small village with a basic camera – the jugaad way has been well documented and valorized, primarily in the world of entrepreneurship.

An organizational version of what 'Jugaad' implies was alive in the late sixties and seventies through the concept of 'adhocracy' - a term coined by Warren Bennis (1968) and popularized by Alvin Toffler (1970). 'Adhocratic' is the opposite of 'bureaucratic' and refers to a process or structure that is adaptive, flexible, and creative. Futurologists in the seventies, like Toffler, predicted the dominance of adhocratic procedures, which today can be seen most clearly in the internet revolution; and primarily in the way in which communication distances have collapsed, changing many of the rules governing organizational structures, work procedures, administrative methods, and business practices. In fact, adhocratic processes seem to have become so integrated into communication conventions that we no longer feel the need to refer to the word adhocracy itself.

It would be a stretch, however, to say that bureaucratic processes are absent from our lives today, or that the information and communication revolution unleashed by the internet has changed every aspect of our lives. The predominantly urbanized lives of the twenty-first century have ensured that much of our lives remains under the control of various bureaucratic structures and regulations. Health, governance, planning, education, and corporate practices are all infused by bureaucratic structures keeping civic life in check. What the internet has done in many of these spheres is to provide a means to empower the subjects of bureaucratic control; allowing for feedback loops, creating pressure groups, and connecting mass movements with consumer / civic action. This has led to increasing numbers of people who are more engaged and who demand greater accountability.

As urbanologists engaged in urban spaces of all kinds with varied practices, we routinely navigate a diverse range of contexts, from working with local builders in homegrown settlements in Mumbai and São Paulo, collaborating with neighborhood associations in Geneva and Tokyo, organizing participatory planning workshops in Kochi and Chandigarh, to conducting research into circulatory urbanism and migration in rural India.

Throughout this experience, we have qualified many terms and concepts that routinely become part of our operations. For example, we have written extensively on the need to reject the term "slum" (2011), to question the term "informal" (2014), and to qualify the process of "participation" (2019), as an actual practice which involves inhabitants from the inception of an urban program to its completion in a neighborhood.

In this essay, we focus on a very specific project and practice connected to our office in Mumbai called "The Design Comes as We Build" project (2016). It recognizes the talent and skills of local builders in homegrown settlements by providing a space for showcasing their ideas and design imagination. Their processes are rooted in practice, experience, and live interaction with users and the local context. The point of departure point for the project is recognising the agency of local actors in the production of their own habitats, focusing on the processes at work in their settlement.

The project uses an ethnographic lens that integrates the language of architecture, and analyses how houses are imagined and built by artisans, who, day after day, build thousands of tiny houses to accommodate the multitudes of low-wage workers sustaining the city's service and manufacturing sectors. These anonymous "contractors",

usually blamed for operating illegally and without formal education, become the focal points for creating neighborhoods out of little, transforming meager local resources into homes. They are typically hired by a family living in the neighborhood keen on rebuilding their house. The family selects them on the basis of previous work and common acquaintances. Both the contractor and client typically live in close proximity to one another, often belonging to the same community. They discuss their plans, agree on a schedule and budget, and start work. No formal plans or contracts are signed, as trust and reputation are the cornerstones of the process. Design is thus organically co-created; inputs are given throughout the process by the users with the contractor autonomously adding flourishes that harness their skills. The unexpected and unforeseen take root in the structure, since the design is indeed something organically linked to the process itself.

The project seems to be an obvious example to illustrate, debate, and critique the concept of Jugaad in this Special Issue. It can be said that the contractors are largely self-taught and make use of a world of skill, learning, and practice that is adapted to a challenging context, much in the same way as the processes of Jugaad. However, we treat it as an opportunity to explain the project thoroughly, and through this resist its classification as 'improvisation' and 'frugal innovation'. We do so, not by questioning Jugaad – which is an important observation in its own right - but by having a dialogue with a related concept – that of the "informal" itself.

The reason why the world of self-taught local builders and their work comes very close to the resourcefulness associated with Jugaad is because this entire urban context is seen to be a Jugaad neighborhood – a makeshift place. The word "slum" in an urban context has been replaced by that of the 'informal' in the literature about cities, much like how the world of 'imitation' or 'hastily assembled solutions' have been replaced by Jugaad. Since we have reservations about the concept of the "informal" as urban practitioners, we extend that reservation to the concept of Jugaad as well, which is how this essay argues its case.

The term 'adhocracy' had a comparatively short shelf-life and was upstaged even in the seventies by the term 'informal economy' - coined by economic anthropologist Keith Hart (1973). The phrase took over the sentiments which 'adhocracy' summarized, re-channeling them into a huge discursive space which became a powerful lens through which one could understand how modern economic life expressed itself globally, and in diverse societies and histories.

It showed how divergently societies relate to value and have unexpected needs and desires. It also exposed how culture thoroughly shapes economic choices, and ultimately, how universal economic modernity actually is. However, despite this, people continue to make different rules wherever they are, and it is important to understand those self-made rules. The term opened a whole new space to understand economic life and it would not be inaccurate to say that a spotlight on Jugaad in India owes a small part to what the term 'informal economy' had introduced to the understanding of contemporary economic practices in India (Hemant & Bhaduri, 2014). Indeed, several articles on innovation in the informal sector published over the last decade treat the idea of Jugaad almost as if it is intrinsic to the informal sector of the Indian economy.

We argue that, since the conceptual framework of the 'informal economy' is itself limited (often pointed out by the scholar who coined the term himself), it is necessary to understand precisely why and how it is so, and by that logic extend its critiques to allied concepts such as Jugaad as well.

Over a decade of practice has taught us that the term 'informal settlement' was far too inadequate to describe the processes observed in neighborhoods such as Dharavi, where our Mumbai office is located. The nuances of construction processes, the language of architectural design and the emergent institutional processes in that context could not simply be termed 'informal'. Nor could the typologies that emerged be classified as such. They had their own rules, discipline, and learned practices; and the more we worked with them, the clearer they became. The professional pride, the desire to establish a practice, a style, all of these indicated that, even if there was a semblance of adhocracy, they worked within the bureaucratic universe of urban planning at large. If there were elements of what we call 'Jugaad', it was not without a desire to professionalize, practice, improve and compete with practices that they saw around them.

One of the sharpest critiques of the concept of Jugaad comes from Thomas Birtchnell (2011), who refers to Jugaad as systemic risk and disruptive innovation in India, declaring it a product of widespread poverty and dilapidated infrastructure.

As urban practitioners, we are familiar with such critiques. Voices like Birtchnell's echo similarly against our own kind of practice, especially when they claim that, by working within spaces of poverty and dilapidated infrastructure, we valorize both. Not unsurprisingly, we disagree with such views as neighborhoods such as Dharavi can hardly be called poor (Echanove & Srivastava 2014), nor can we blame them for their dilapidated infrastructure which is mostly due to neglect by civic authorities. To reject neighborhoods like Dharavi (or the concept of Jugaad for that matter) wholly on these counts is unjustified.

Having said that, we do agree with Birtchnell when he points out that localized innovation has value precisely because it is both embedded in a local context and that context itself is part of its success. To make it a portable practice decontextualized from its space - as the concept of Jugaad tries to do - is problematic. To simply take the creatively assembled jugaad, whether as a product or as a process, and view it as a symbol of innovation is only half the story. Understanding the context in which it emerges, seeing the limits and strengths of the actors involved, recognising its infrastructural challenges from the point of view of the locality, even understanding the socio-economic dimensions of caste and class, are all vital ingredients of an analysis which needs to be made. Finding ways of recognising processes that exist with their own forms and structures is as important as celebrating the output that emerges unexpectedly, as in the Jugaad narrative.

In the essay, we present the details of the project before discussing the key concept that muddies the conceptual waters around it: the notion of the "informal". We then move from the abstractness of the informal to the embeddedness of the 'homegrown neighborhood'. We present the local context in which 'The Design Comes as We Build' project operates, noting the challenges related to it. Finally, we argue that the project sits uneasily with the concept of Jugaad because attempts to promote Jugaad as a unique process with universal application ignore the fact that it cannot exist apart of the locally embedded dynamic in which it is rooted. Our discussion of 'The Design Comes as We Build' project is a clear illustration of this point.

The Design Comes as We Build

The project recognizes the talent and skills of local builders in homegrown settlements by providing a space for showcasing their ideas and design imagination. From Cairo to Mumbai, from São Paulo to Tokyo, cities work with multiple strategies to fulfill the building-related demands of urban life. Construction activities often spill over institutionalized professional boundaries. Most architecture and civic administrations, urban infrastructure projects, and real-estate developments work on a financial model of large-scale capital mobilization, often founded on speculation.

However, a majority of inhabitants raise small amounts of capital from their familial and community networks to finance a local economy of incrementally growing construction projects outside this space. Large numbers of self-taught experts and professionals operate in such spaces. They emerge from a strong practice-based experience-rich context of learning. Rather than seeing them in opposition to professional and certified practices, or through polarized narratives that get trapped in the euphemisms of the 'formal' and the 'informal', The Design Comes As We Build Project treats them all as an integral part of a common-space of dialogue and collaboration.

The project's point of departure is the recognition of the agency of local actors in the production of their own habitats. It focuses on the processes at work in an iconic unplanned settlement at the heart of Mumbai, which is usually, though inaccurately, described as Asia's largest slum, Dharavi. Putting preconceptions aside and using an ethnographic lens that works with the language of architecture, the project looks at how houses are imagined and constructed by artisans, who build thousands of tiny houses on a daily basis to accommodate the multitude of low-wage workers who sustain the city's service and manufacturing sectors.

The way the contractors and artisans work is not unique to Dharavi, Mumbai or India. It is the way artisans have been working with their clients since the dawn of time. Amidst ongoing discussions about the "redevelopment" of Dharavi, which plans to turn this vibrant low-rise, high-density and mixed-use neighborhood, where hundreds of thousands of people live and work, into high-rise mass-housing comprising tiny 200 to 300 square feet units, we thought it important to highlight the skills and knowledge of local artisans and builders.

We also wanted to positively reframe a typology that has been dismissed as "informal" for decades. The term 'informal' evokes something that lacks form or logic, something messy and problematic which should necessarily be replaced by something rational. Yet, what we have witnessed in our years of collaboration with local builders in Mumbai is that their work is expressive of a logic embedded in its context, such that ignoring it will be a recipe for urban failure. In fact, we are convinced that the key to improving the living conditions of the majority of Mumbaikars (who live in slums according to official sources) is to work with residents and local actors, to understand the context in which they are working, and to learn from how they themselves are respond to the challenges they are confronting. The key actors in this process are the local builders or contractors.

In order to reveal the hidden logic in the way houses are built in Dharavi, we asked some builders from the neighborhood to think of the best possible design for a typical Dharavi house of 12 x 15 feet for a family, which should also accommodate some form of economic activity. Once the designs were ready, the local builders got in touch with local artisans to build a 1:20 scale model of their design. As the contractors saw their designs come to life, they realized existing design flaws and corrected them on the spot, asking the artisan to make changes accordingly. Sometimes, the artisans offered their own suggestions. This exchange reflected the on-site, adaptive, and evolving manner in which contractors worked.

Fig. 2: The 'toolhouse'

Contractors typically give instructions to the laborers on site, projecting the ideas they discussed with their clients directly onto reality. For some, the models were the first time they saw their work as "design" rather than as construction. The urbz team sat with the builders as they described how the house should be built, translating their

Fig. 1: House design by Joseph Koli, Dharavi Koliwada, Dharavi.

vision into 3D drawings. We did not intervene in their designs, but encouraged them to be ambitious with their ideas. Once the drawings were done, artisans built a model of these houses using the materials they specialized in: steel, clay, wood, glass, and recycled plastic. The first model constructed for the project was by Joseph Koli (Fig.1), a contractor from Dharavi Koliwada, Dharavi.

The 'toolhouse' he designed was a four-storied structure (Fig.2) with a grocery shop on the ground floor, two residential units, on the second and third floor, and a roofed terrace as a multi-purpose space. The second-floor residential unit was to be used by the shop owner's family, the first-floor unit would be given out on rent, each unit has a separate kitchen and toilet. Joseph wanted the house to engage with the street and designed balconies for every floor. These balconies could be used for a variety of purposes ranging from socializing, relaxing, and drying laundry. Clay artisan, Ashwin Narshi Bhai Wadher, (Fig.3), made this model. Ashwin was born in Mumbai, but his family hails from Lodhva village, Gujarat. He is part of the Kumbhar community that has settled in Kumbharwada, Dharavi. For the construction of the model, each part was designed to be easily dismantled in the future, as Joseph strongly believes in recycling building components once the structure has served its purpose.

The second model house was designed by S. Murugan (Fig.4), a contractor from Tamil Nadu and resident of Kamla Nehru Nagar, Dharavi. The structure he designed was a four-storied tool-house (Fig.5), with the ground floor to be used as a shop by the house owner who would live on the first floor. The first floor has a living space, a kitchen, a toilet, as well as a balcony. This balcony became the access point for the steps leading to the second floor, which was an open terrace-like space that he called his 'Sunday room', with open space for family dinners and recreation. Adjoining this space on the same floor was a separate kitchen and washing area. He made the third floor an enclosed residential unit that he planned to rent out, with another kitchen, toilet, and living space. The roof was sloping to allow for more headspace to accommodate a mezzanine level that served as a sleeping area. The staircases and balconies on all floors functioned as an interconnected system, through which the tenants could access the third floor without entering the private family spaces. This model was made by Manoj Viswakarma (Fig.6), a carpenter who was born in Uttar Pradesh, and has lived and worked in Dharavi since 1996.

The third model house (Fig.7) was designed by Mallappa Kotam who hails from Telangana. He has been working as a local builder in Dharavi for over a decade. The design is an attempt of the contractor to collectively realise the aspirations of the local residents of Dharavi. The entire structure is three storeys instead of four (Fig.8). This allows for the floors to have higher ceilings for better light and ventilation, and extra floor space in the form of mezzanines, to be used for sleeping or storage. The ground floor accommodates a workshop, including a workspace, cabin for the workshop manager, and a loft for storage. The first floor is designed for a family of 8, with the sleeping area on the mezzanine, an independent kitchen and toilet, and a balcony. The terrace is roofed and can be used by all the residents. It also has space for a water tank. The remarkable feature of this house is the spiral staircase which optimizes space and provides independent access to each floor. The artisan involved with this model was steel fabricator, Rehman Abdulah Khan (Fig.9), who has a workshop in Kamathipura, fabricating steel components for roofs and metal staircases.

These models represent not only the kind of housing typology that exists in Dharavi but also the capacity of local actors to imagine a better version of their present. The models were exhibited at various locations across the globe (Fig.10).

The project continues to grow and the next phase in an existing street in Dharavi in currently being planned. Design proposals and models for 16 houses and shops, 8 on each side of the road, have been called for. The program for each house and the street will be based on existing and projected uses (done in a participatory way, with the people who currently live there). Accordingly, the designs will be based on existing local typologies and practices and there will be proposals made by local contractors, models by local artisans, combined with designs from international architects who will respond to the designs of local contractors. An entire streetscape of homes, workspaces and tool-houses modeled on a real street in Dharavi Mumbai will be open to a diverse set of practitioners working within one framework. This is the most unusual and sensitive part of the project and will require architectural firms to understand the challenges and working styles of the local contractors.

Through this project, we plan to make a powerful statement about the state of construction today and the direction it should take. Moreover, by showcasing their ideas on one platform and in one project, learning from and exchanging knowledge, some of which may even be eventually implemented on the ground, and by rejecting

false dichotomies, our local builders and artisans, together with established architects can develop new ways of practicing effective and quality construction and architecture in a collaborative and creative way.

In launching this project, the most problematic dichotomy we have confronted is that of the formal and the informal. So many achievements of the design process could have been easily dismissed by slotting both the maker and the product itself into the 'informal' world – a place synonymous with makeshift skills, incomplete education, and faulty structures. Artisans are usually expected to work in conditions that force them to accept this 'informal' self-description. However, the following section will demonstrate why such a term is unacceptable and inappropriate.

From the 'Informal'…

The term 'informal economy' was first used by Keith Hart to describe an economy previously invisible to development economists at a conference on 'Urban employment in Africa' in 1971. He later reflected (Hart, 2000) on the appeal of the concept and the positive connotation of the word 'informal':

> The label 'informal' may be popular because it is both positive and negative. To act informally is to be free and flexible; but the term also says what people are not doing – not wearing conventional dress, not being regulated by the state.

Hart justifies the creation of the term by the fact that development economists applying economic science categories to Third World countries were only able to account for jobs in state and corporate sectors, rendering invisible all other forms of employment. This produced unemployment figures of around 50% in developing cities, an unrealistic number unobservable to any visitor. In Hart's words: (2006)

> Anyone who visited, not to mention living in, these sprawling cities would get a rather different picture. Their streets were teeming with life, a constantly shifting crowd of hawkers, porters, taxi-drivers, beggars, pimps, pickpockets, hustlers – all of them getting by without the benefit of a 'real job'

Building on observations made by anthropologist Clifford Geertz as well as his own, Hart coined a term that would effectively account for that invisible economy. What characterized the informal economy, according to Hart, was the absence of bureaucracy. What happened next is history. The term 'informal economy' became hugely popular, and economists have been using it ever since to devise strategies, and to assess the potential impacts and risks associated with different kinds of loan and development schemes in poor countries.

Soon the term 'informal' came to be used not only to describe certain kinds of economic transactions, but also entire geographical areas or "sectors". Hart (2000) was well aware of the shortcomings of the term, especially when extended to entire "sectors":

> The informal sector allowed academics and bureaucrats to incorporate the teeming street life of exotic cities into their abstract models without having to confront the specificity of what people were really up to. To some extent, I sacrificed my own ethnographic encounter with real persons to the generalizing jargon of development economics.

One of the major problems with the 'informal' label is, then, that it conceals as much as it reveals. Hart (2000) acknowledges that within what he describes as informal, forms exist:

> Any observer of an informally dressed crowd will notice that the clothing styles are not random. We might ask what these informal forms are and how to account for them.

This point challenges the validity of the concept of informality itself. Does not accounting for informal forms amount to recognizing that they were never 'informal' to start with? Is not the idea of informal forms an oxymoron?

Significantly, Hart used the term 'informal' to mean non-bureaucratic such that employment in the informal economy referred to non-government, non-corporate jobs. If we take the same parameters in the urban field, informal settlements mean settlements that have been planned neither by the state, nor by developers, but rather, by local masons and the people themselves. If 'informal' settlements are those that were built outside bureaucratic systems, most settlements around the world are informal to some degree. Lax enforcement of planning regulations suffices to qualify a neighborhood as 'informal'. By this reasoning, any vernacular architecture following norms other than that of the bureaucracy would be considered as 'informal'. In Italy, France, Spain, or Portugal masons build and repair country homes with little or no oversight by the authorities. Only countries with long traditions of heavy regulation of the real estate sector that have left no possibility for smaller contractors to build houses on their own, such as the US, could be considered purely formal. But even there, repairs, extensions, and other maintenance work are done by local contractors, who may or may not be employed by registered companies. According to architect Mario Gandelsonas (November 2012), entire parts of Los Angeles, New Jersey, and many other large urban agglomerations are built and used in non-conformist ways. More often than not, authorities choose to simply look the other way.

Most people in neighborhoods identified as 'slums' - and the process of identification is the same from Rio to Manila - do not have legal tenure of their homes. However, having occupied their homes for at least two or more generations, they develop a sense of entitlement. This is reinforced by political legitimation which partially protects their occupancy rights. Over time, residents invest in their homes and businesses, improving their structures, building higher and better. 'Slum dwellers' often leverage their homes to generate income, building an extra floor and renting it out to relatives or newcomers. Most neighborhoods are therefore mixed-use, with a large number of residents using their homes as workspaces.

Houses are constructed through a network of local owners, contractors, laborers, carpenters, electricians, plumbers, and suppliers. Although their structures are built locally in a 'vernacular' style, they are made with industrial products (bricks, corrugated sheets, cement, steel pipes, and I-beams) which are bought at market prices from local

hardware stores. Like any middle-class homeowner, most homeowners and contractors in these 'slum' neighborhoods choose high-quality materials over low-cost ones. The investment in quality is justified by the enhanced use-value, especially in terms of higher living standards or improving the income-generating capacity of the structure.

In these self-reliant settlements identified as 'outside the urban norm', the home plays an important double-role. It is equally domestic and productive space; with an active economic life beyond consumption, the home is used almost all the time and across diverse contexts. Such an approach is not new, rather, the etymology of "economics" itself is linked to this type of home-based enterprise. Moreover, just as the local is the foundation of spatial logic across scale – even the most global of all activities and abstractions are rooted in some locality – the productive home is the foundation of neighborhoods, particularly "those" so-called "informal" ones.

…to the Homegrown

Homegrown neighborhoods have been developed by masons, carpenters, plumbers, and electricians who live and work within the locality. For the most part, they are built by hand with industrial materials such as bricks, steel, cement, and plaster of Paris. This gives an interesting twist to the notion of "vernacular architecture" since the techniques and labor are local, but the material is part of a global market. The small footprint of houses means that they can fairly easily be rebuilt with improved materials and designs. Thus these neighborhoods characteristically improve over time, both incrementally and in phases. Finally, as they improve, the scheduled castes and tribes and poor Muslims who inhabit them tend to improve their social position. Residents are upwardly mobile.

Having worked closely with local masons and "contractors", visiting many homes with architects, engineers and material suppliers while studying the construction process, we can attest to the fact that by and large, houses built in the past 5 to 10 years in these areas are of good quality. If anything, they are often over-engineered, as clients and contractors are obsessed with making the house "pakka" (meaning "baked" or solid, a term opposed to "kacha" or raw, which is used to describe shacks made of fragile and temporary material).

The relationship between the contractor who coordinates the construction, and the client who provides inputs and finance is intimately connected to the social life of the neighborhood. Contractors are local residents themselves and typically well-known in the neighborhood. They share the same social network as their clients and are either their direct acquaintances or friends of friends. Since contractors build mostly within their own community, their work is highly visible to potential clients who can easily judge the quality of their work by looking at past constructions and by talking to neighbors. There is thus fairly limited scope for the contractor to cheat clients or leave work unfinished. Obviously, things can sometimes go wrong for different reasons, but it is the exception rather than the rule.

Homegrown neighborhoods have a well-functioning "domestic" construction industry. The word industry may sound like a strong one, since the practice of construction is mostly based on craftsmanship and artisanship-type of know-how and skills. But it is industrial in the scale of its production, and in the kind of material and level of technicality involved.

In 2014, to illustrate the scale of the homegrown construction industry in Mumbai, we conducted some research in an area of 135 hectares referred to as Shivaji Nagar in Govandi, Mumbai (which also encompasses other neighborhoods such as Baiganwadi, Gajanand Colony, and Lotus Nagar). At that time there were about 50,000 structures (houses, shops, and others). It was discovered that in this area alone, 3000 houses are built or rebuilt by local construction workers each year. The houses typically have a 10x15 feet (3x4.6 meters) footprint and cost anything between INR 3 lakhs and 8 lakhs (USD $ 5,500 to 14,500) for a ground plus one-floor house. A back of the envelope calculation tells us that if we use a low INR 4 lakh (USD $ 7,300) figure per house figure and multiply it by 3000 houses, the construction market represents over INR 100 crores or USD $20 million dollars annually in Shivaji Nagar alone, which is only one of many homegrown neighborhoods of Mumbai.

Clearly, the municipal authorities know about the market since there is a standard 10% informal tax on any new construction to be paid in the form of a bribe to municipal officers. From this total amount about USD $2 million is lost in bribes. If this informal payment to municipal authorities was recognized as a well-functioning tax system –which it is–, this money could be used to both increase the salary of municipal officers and to reinvest in the neighborhood's infrastructure.[1]

While it is difficult to evaluate what the construction industry represents as a share of Shivaji Nagar's economy, which may be home to well over 200,000 people, we can be sure that it is a highly significant source of income and employment. In India, the real estate sector is the largest employer after the agricultural sector. Valued at USD $12 billion it has been growing at a rate of 30% in recent years in India (Globaljurix 2020). It would surely help homegrown neighborhoods to capture a share of this market through their local construction industry. It is unfortunate therefore that the authorities do not recognize the positive aspects of this development process. Moreover, while houses are locally built, the materials used for their construction are not locally produced. Bricks, cement, steel are all industrial materials produced by major corporations and distributed via well-established regional and national networks. One hardly ever sees mud houses or bamboo roofs in Mumbai – at least not in homegrown neighborhoods. Not only are these materials often unavailable locally, but they may be more costly to

[1] Urbz Primary Research (2014) Shivaji Nagar, Govandi, Mumbai.

process and distribute. Most importantly they are not aspirational. Industrial materials are seen as solid and modern by homeowners and builders alike. Industrial construction material suppliers, including multinational corporations, have certainly taken notice of the market represented by homegrown neighborhoods throughout the city and are very keen on tapping into the proverbially deep 'base of the pyramid'.

Neighborhoods developing outside bureaucratic control or under a lax planning regime tend to generate a variety of forms because they do not necessarily follow urban development codes, such as height limits or functional segregation in different zones of activity. What emerges are urban forms that tend to closely match the means and needs of their users. From this perspective, neighborhoods usually dismissed as 'informal' settlements become a living-laboratory for the emergence and design of diverse forms of social and urban organization. Forms emerging under lax (or non-existent) planning regulations are not devoid of logic; and as such, are not 'informal'. On the contrary they embody processes that must be understood by planners interested in developing locally sensitive approaches. Further, they reflect a multifaceted context as well as the best efforts of local actors to respond to it. Far from curtailing the creative freedom of designers, they provide the most potent sources of inspiration. In other words, these homegrown settlements have their own structure and form, developed within the adhocratic logic in which they exist.

Beyond Jugaad

Our practice, which we call 'urbanology', combines complementary impulses: our shared skills of participatory urban planning and those of anthropology. Both planning and anthropology share an interest in the past, present and future of a locality and in the lives existing within them. Engaging with any context brings together a universe of skills and learnings – the professional, the institutionally trained, the expert, the self-taught, the local expert, not to mention a multitude of collective skills rooted in diverse community lives which co-exist in that space. We are therefore honored to participate in a discussion on how local processes shape settlements – a discussion curated by this particular journal. *Ekistics* has discussed and presented the world of human settlements in a holistic way since the 1950s. By creating a space for philosophers and practitioners to respond to the science, technique, and tradition of human settlements – its discourse allows us to present our ideas that draw as much from planning as from anthropology. The vast archive that Ekistics has created, highlighting issues ranging from low-cost housing in underdeveloped countries to understanding the nuances that local identity generates in the context of a globalized narrative around urbanization – expands the horizon considerably. It allows us to situate our analysis at intersection of the social world of building, construction and locality as rooted in a powerful and dynamic locality (Keller, 2006).

The moment we spotlight that context, a specific locality, we see how it nourishes and shapes all the worlds that emerge there – built, natural and cultural. And what almost every formally trained professional acknowledges at some tacit level is that they must eventually depend on the knowledge that is embedded in that locality to fulfill the project – be it architectural, social, civic or environmental. Not only is the expertise of the local an objective asset, her involvement or lack of it can make or break the project.

What 'The Design Comes as We Build' project suggests is that a locality is a point of convergence and that the agency of local actors should be recognized. Indeed, in this case, it is the homebuilders and their intimate knowledge of the context that is of the utmost importance. Significantly, they are also professional in their aspirations, and this is something that needs to be recognized. Throughout the project, our own dialogues and conversations became part of a joint process in which the learning was enriched by the dialogue that took place – between the trained architect and the self-taught builder. Both were aware that recognition of each other's learning and processes meant an exchange of skills and knowledge across professional boundaries conducted with an openness of attitudes and styles. By the same token, it was important for urbz to recognise their role as experienced builders, to value the typologies that emerged in the context, and to understand that the neighborhood had its own form and structure – besides the lives and livelihoods that emerged in them - and that the presence of great ideas, interesting innovations, and agile inventions were an intrinsic part of the process because of the process being integral to the lived world.

It would make little sense for us to highlight one or two architectural innovations and present them as stories in themselves without the surrounding context that made it possible. It was not important to highlight just the idea or the model, but the whole networked context - with the artisan, the builder, and the urbz office itself as part of the project. Such a narration of the project is vital for understanding its value and ensuring that it does not get stuck in a moment of surprise and wonder at one innovation or one surprising dimension. If they are there, then they are part of the lived local context and that context itself is part of the story, to be told in all its detail.

With regard to Jugaad, the project suggests that celebrating the moment, the innovation, the product or the idea is only the starting point. There is a whole world beyond it which needs to be brought to the fore. That world needs to be reclaimed from a gaze that slots it into rigid categories – rural / informal / poor. Such a narration also needs to bring back the context as a point of convergence: where many minds and skills interact. Indeed, as our project has illustrated, we must recognize the Jugaad that takes place in a laboratory or a studio, just as frequently as it does in places we expect it to.

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