Editorial

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The revival of the 62-year-old *Ekistics* journal, with its valuable history of tracking habitat evolution and its complexities, is of global significance, particularly given the prevalent uncertainty in the world today. *Ekistics* has always provided an interdisciplinary forum and scientific approach to discuss human settlements holistically, including their problems and solutions. In its new online format, the journal sports an updated title, *Ekistics and the New Habitat*. It continues the Ekistics project, beginning with a series of special issues from around the world.

I was invited by Prof. Kurt Seemann in June 2019 to guest edit this Special Issue: 'India & Jugaad - the impact of innovation by the resilient Indian mind on habitat'. Little did I realise that this topic would become so relevant in the Indian context and more broadly, when globally we have seen systemic solutions fail and people challenged with increasing scarcity. But armed with ingenuity, the resources within their grasp, and the capacity to make a change within their networks, we have witnessed much agency, innovation, and resilence. In India, our lives are intertwined with our history, geography, culture and architecture. India is almost as large as Europe, not including Russia. It has a multiplicity of civilizations within it, being many countries in one. So the solutions and answers will be complex and multiple. We will need new and relevant long-term strategies based on what we can learn from the situation today, and we will then be able to plan the way forward. In this process, the importance of the built environment should never be underestimated, thus the significance and power of good design is ever more crucial in the Global South. Until one lives in India and experiences the country fully immersed in its wonder, culture, poverty and generosity, it is difficult to understand the complexity of the Indian mind and how it enables over a billion people live to together in this democratic nation.

'Jugaad' was awarded the status of "an English word" with its entry in the Oxford English Dictionary in 2017; as a Hindi word which is "a highly specific vocabulary with no direct equivalents in English." Its dictionary meaning is "A flexible approach to problem-solving that uses limited resources in an innovative way". The etymology of 'Jugaad' is from the proper Hindi word 'Jugat', which, in turn, is an improper word for its parent Sanskrit word 'Yukt', which means "a carefully planned, schemed, arrangement to achieve an objective." In the Indian context, it represents "the most common scheme that would be adopted would be the team-work, the co-operation of everyone's body and mind to resolve the crisis situation" (Origin of the word "Jugaad", 2012). Its contemporary slang equivalent would be the verb and noun 'hack'.

'Jugaad' has been celebrated for uplifting the Indian condition using what is available and then severely criticised for overshadowing innovation that should result in 'affordable excellence'. The possibility of merging both high technology solutions and simple innovation needs to be explored and defined. Moreover, with the burgeoning growth of population, there is a need to balance both of these ideologies to serve the future, mitigating the urban impact on habitats in India.

I would like to believe that the Indian Mind has always been resilient. Devdutt Pattanaik, author and Indian mythology interpreter writes, "At a deep cultural core, most Indians believe there is nothing rigid about life. Everything is manageable, solvable, everything has a workaround" (Pattanaik, 2008). We are a people who accommodate and evolve with the changing of the times. Our 5000-year history has withstood turbulent times and is the birthplace of Eastern philosophy, mathematics and science. Having seen several golden eras with flourishing art, culture, and architecture, as well as having survived colonisation, India has embraced outsiders and amalgamated their beliefs down the ages, a fact which is reflected in its diverse and endemic socio-economic fabric. The ability to face adversity with hope, to rise to challenges with bravery, and to innovate with resilience in the face of scarcity are just some of the characteristics of the nation.

Historically, dramatic urban changes have been led by crises. 2020 marks the year of a pandemic, which has threatened our entire world. Questioning globalisation, our environmental and urban systems have been put to test with the fracturing of local supply chains. Planetary interdependence has been shaken at its roots and the fragility of globalisation has caused a return to self-centred nations and self-supported cities. The urban crisis has compelled us to redefine governmental policies, economic practices, social norms and personal habits. The familiar city with which we were familiar; where trade was conducted, bonds were established, social interactions occurred, and where our identity was created, has had to transform. It is now a different place with new qualities, developed within the existing frameworks of its tangible and intangible heritage, along with its historic buildings and mixed-use open spaces.

Cities in Asia, especially India, are currently growing and will continue to move on their current high-speed trajectory, turning into megacities, urban agglomerations and metropolises far beyond 10 million inhabitants. Growing urban opportunities have attracted hundreds of millions of people to cities resulting in haphazard growth, a struggle for resources, and equity challenges within an inceasingly unequal social situation.

India's hyper-connectedness is a hotbed for affordable and sustainable indigenous hacks for converting adversity into opportunity for its 1.35 billion people. Its largest city, Mumbai - MMR, has a population of 22 million (Mumbai Population, 2020), closely followed by Delhi - NCR, with 22 million people (Delhi Population 2020, 2020). Overall, there are more than 50 urban areas in India with a population of more than one million people. This has manifested as an acute shortage of housing in most Indian urban centres, resulting in the rise and development of informal housing systems without basic infrastructure creating unhygienic and unhealthy conditions. This housing inequality needs to be addressed. For years, I have talked about the importance of ownership of land in cities where there is informal housing. Greed has to disappear and there has to be political and bureaucratic will to do so. The complex make up of residents, varying from corporate billionaires to the migrant workers, makes this issue an area of much needed research, important for the creation of new and 'out-of-the-box' solutions.

Resilience has its limits, though, as we are seeing in cities like Mumbai, today. Three of our essays highlight this specific housing problem and the possible solutions which arise in high-density pockets of urban centres in Mumbai and Delhi. Matias Echanove & Rahul Srivastava highlight the humane angle of this housing crisis by drawing attention to the contribution of the "ordinary people"; the slum dwellers, the actual agents of the design and construction process. While new norms are being setup, it is imperative that the existing fabric of society is considered, as Sanjay Prakash and Swati Sharma's essay also elaborates. Sustainable urban renewal is possible only if carried out in a participatory manner. This examination of the development of informal settlements leads us to explore urban contemporary economic practices in India, where a majority of the construction activity is beyond the scope of the architect, being builder and contractor driven. These settlements are in derelict condition, not due to poverty, but civic neglect. This unique situation, which disqualifies the design innovations occurring in these neighbourhoods by naming them as "Jugaad" is unjustified, even if they happen outside the statutes of the developmental code. In other words, regulations of an urban centre need to encompass all kinds of habitats. This bottom up approach of building would explain the definition and success of Jugaad as finding solutions to maximise resources.

This brings to mind the traditional Indian housing systems in which self-contained communities are both independent and interdependent, like 'Wadas' and 'Chawls '. With the changing demographic of the aged, and the rise of the young migrant, urban solutions need to be appropriate, inclusive and scalable. This has been expounded upon by Sameep Padora's essay, whose premise is the study of traditional housing forms used to develop a new housing system in a bottom-up manner, one that could be scalable and used to form the basis of new housing policies.

The rapid spread of disease is a dire consequence of a lack of natural air and light. In Dharavi, Mumbai, the world's densest informal housing system, this problem impacts the health of its one million inhabitants. During the pandemic, the city quickly became a hotbed for the COVID-19 virus. This crisis however was averted in an exemplary manner, as acknowledged by the World Health Organisation. Armed with the strategy of "chasing the virus", authorities pre-emptively set up amenable quarantine centres where residents could access medical resources, and be screened efficiently. Private doctors were also enlisted to work in tandem identifying, isolating and treating patients.

Circumstances have shaped civilizations, culture and ushered in progress. Five of the eight essays featured draw from historical evidence, some from as far back as the Indus Valley civilization (3000 BCE), to devise innovative solutions to current housing and urban issues, systematic water distribution problems and to emphasise the necessity of community participation. Indeed, as I put together the list of contributors for this issue, Shikha Jain and Poonam Verma Mascerenhas, architects and conservationists, came to mind immediately. I had interacted closely with them during our conference Women in Design 2020+. Their essays, from the northern state of Rajasthan, talk about a time when regulations, as per the modern context, did not exist and their design principles were a response to local conditions and the cultural context of the community, when traditional technology was employed for construction. The examples cited in these essays elucidate how history, culture and the vernacular lexicon remain significant in the modern context.

Pandemics and the environment have a close relationship. Throughout history, epidemics have caused large scale deaths, reducing human influence on the environment. The environmental improvements that we are witnessing currently due to Covid-19 will also be short term if we do not make fundamental changes in the economy and our lifestyle. Fortunately, we have an opportunity to make these structural changes. Covid has slowed down the world but accelerated change. 19th-century pandemics helped usher in developments in water and sewage systems, as Cholera led to the introduction of the modern street grid and roads became wider and straighter in London. In Mumbai, the plague of 1896 was the reason that the Bombay City Improvement Trust was established and the first planning laws for its healthier development were laid down.

Ganesh Nayak, who specialises in sustainability, focusses on the importance of inclusivity for the differently abled in the built environment to make cities sustainable and equitable to people with differences of class, colour, race, caste, gender, disability. This piece highlights how "first responder solutions" and the lack of resources compromise safety and sometimes, "they hazardously translate into permanence". This moots the point that 'Jugaad' needs a framework and norms for success.

Durganand Balsaver, an architect and theoretician of architecture, presents a case for rebuilding communities post-natural disaster by employing indigenous methods and local design sensibilities. When redevelopment is carried out in a participatory manner in which communities create their own processes, they succeed in establishing systems that go beyond description as just being "Jugaad".

To balance all this, Neema Kudva, a Professor and colleague at Cornell University, contributes an essay which distinguishes sharply between the contemporary notion of 'frugal innovation' and 'Jugaad'. She puts it succinctly, "the lack of ability to standardise and scale up jugaad remains a serious problem." While some other essays in this issue throw light on how jugaad succeeds when it is scalable and applicable in a set of scenarios, Neema analysis suggests that these sets of scenarios are precisley where jugaad fails. Nevertheless, all the essays strive to discern between innovation and Jugaad.

Finally, to conclude the issue, respected architect, researcher, writer and professor from Ahmedabad, Madhavi Desai, provides a book review of my monograph: *Brinda Somaya, Works & Continuities*, covering my 40-year practice and locating it in the broader social, cultural and academic context of the India.

Disease has shaped many cities including Mumbai, New York, London etc. New urban history is being written today, which may be more about continuity through crises than about transformation. This is our chance to take up the challenge and create a new urban language which is contextual, sustainable and an efficient utilization of the resources available. Improvements in health infrastructure will have to be supported by governments and the private sector. The present crisis has made it clear that the present urban development model is inadequate. What India needs now is the resolve of the government and bureaucracy to bring about lasting change - not as a reactive flurry of action plans, but rather in the form of long-term, persistent programs. This time of the pandemic and its effects have given us time to observe, reflect and modify our thoughts, actions and goals. So, we need agency – the capacity of individuals to act independently and make free choices. We can prioritise nature and sustainability when we build new or preserve. Urban Planning needs to include many new factors and paradigm shifts for the future. When resilience is built into a system, sustainability follows. The change will occur over time, and there will no doubt be difficulties too, but recovery will follow.

It is imperative to locate cultural conversations in a space liberated from the shackles of unidimensional, homogenised western thought in order to allow for context, innovation and inclusivity. Adhocracy has surfaced in several essays, which manifests that Jugaad is a response to an acute need, making it inherent to its origin. Jugaad allows for finding the common ground between regulations, context and the user needs. Like the racially and culturally heterogenous India, this anthology of essays is geographically diverse, ranging from the north, Delhi, West from historic cities of Rajasthan, as far south as Tamil Nadu, and the cultural melting pot of Mumbai. This volume is a collection of pieces, each with their own interpretation of the word, which could begin a conversation to re-assess Jugaad from many perspectives.

This posits the question: Should we expand the definition of Jugaad and redefine its currently limited connotation, thereby legitimising it as a design solution?

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