

RECONDITIONING DHARAVI: A TOOLKIT OF STRATEGIES FOR INCREMENTAL DEVELOPMENT

Abstract

The 2003 Global Report on Human Settlements defines a “slum” as a densely populated metropolitan area that is distinguished by a variety of low-income settlements, subpar housing, and squalor. Dharavi, on the other hand, is far more than a “slum.”

In the heart of Mumbai, Dharavi is an economically prosperous and socially active informal town. Mumbai is a thriving metropolis with many different realities and patterns, even though it appears to be a slum filled with squatters. However, the region has recently become a hub for informal settlements and urban problems associated with poor hygiene in developing countries. People’s misconceptions about Dharavi stem from a failure to recognize its social capital and economic power: The area encompasses a variety of economic networks, production types, income levels, land tenure arrangements, and religious activities and festivities. Dharavi is made up of 85 separate groups with a strong feeling of belonging and high expectations for stability and improved economic position and living standards. It is also clear that these folks are capable of building and enhancing their shelter if they have the resources to do so. To develop all these qualities, Dharavi’s social capital must be recognized and promoted as an asset to the city of Mumbai. A community such as Dharavi requires ‘urban acupuncture’; where mediation of the littlest kind will have the greatest effect. Dharavi, like any other “informal” city, requires rigorous examination to be fully comprehended. It is a unique location where a large flood of migrants has managed to build jobs and their city (Baweja, 2015).

Author

Saylee Bhogle
Illinois Institute of Technology

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My underlying attitude to this location is a conflicting desire to save and replace it. The desire to save is linked to the aesthetic of informality as well as the intense sociality, diversity, and production of the streets and lanes — a fascinating and diversified urban ensemble. The desire to eliminate stems from hopeless states of sterilization, ventilation, light, open space, and congested areas. As a result, a reliable strategy for combining the two methodologies and locating a functioning arrangement should be developed. The government has been trying to redevelop this area for the past 50 years but hasn't been successful in doing so. In contrast to the existing redevelopment plan, which promotes uniform top-down development, my concept anticipates techniques for progressive self-development, including “bottom-up” finance models and architectural approaches.

After identifying various patterns and carefully examining behavior patterns, production systems, and existing community facilities, a toolkit of methods can be built that can be used in various places and “outboxes.” The simple homogeneity of solutions for Dharavi's changing conditions has been avoided. Dharavi's current identity and “mixed-use” paradigm have been respected, with home recognized as an instrument of production. The proposed design has been tested for various environmental factors using different tools for natural lighting and ventilation. The outdoor areas are also analyzed for thermal comfort since a lot of social activities take place in these areas. Communal areas have been designed to accommodate micro infrastructure systems while also increasing productivity. As a result, a system of self-development triggers has been created that can improve present conditions while also supporting the community's

need for stability. Simultaneously, by focusing on property ownership as an economic driver, the proposed approach can provide a type of “social mobility” for Dharavi's residents.

Introduction

Dharavi lies in the heart of Mumbai in India, and a large amount of the city's economy is dependent on this area even though it's categorized as an ‘informal settlement.’ It is said that Dharavi is one of the “richest slums” in the world (Figures 1.1 & 1.2). The real estate value of this area has reached the skies and the government has been trying to redevelop it since 1972. Their agenda was to sell more than half of the land to the private developers so that they can mint money out of it by renting out the spaces and the existing dwellers would be housed in tall towers.

Current redevelopment plans appear to ignore the existing, deeply ingrained environment in Dharavi and instead treat it as a blank canvas where new buildings and thoroughfares can be built. Many locals' lives and businesses could be in danger if these measures are not opposed. Now, suddenly, outsiders are creating plans without consulting the people of Dharavi, plans that seem to minimize what the locals have accomplished and are not guided by their long-term investments or best interests. The very substantial profits that developers and the state government are looking to make are, in fact, what are driving efforts to redevelop Dharavi (Dighavkar, 2021). Similarly, all the redevelopment models, their salient features and the reasons for their failures were studied. It was evident that the top-down approach of housing the dweller into towers is unacceptable to the residents since their livelihood depended on Dharavi's



Figure 1.1: Unequal scenes by Johnny Miller. (Source: <https://unequalscenes.com/mumbai/>.) United States. It is the city's smallest quadrant and comprises different types of roads and areas. (Source: <https://opendata.dc.gov/>.)



Figure 1.2: Slums and sprawl by Johnny Miller. (Source. <https://unequalscenes.com/mumbai/>.)

dharavi's actors

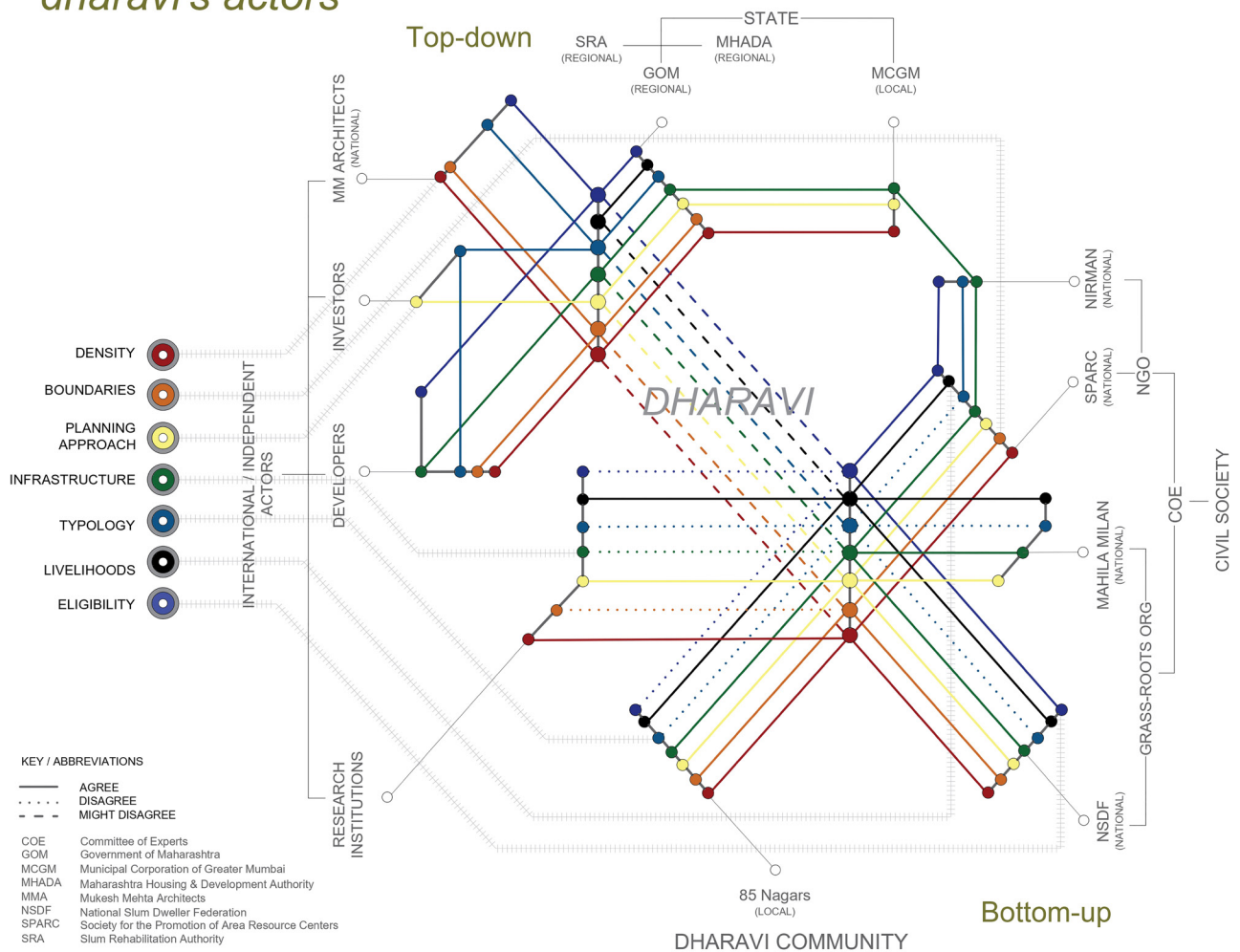


Figure 2.1: Diagram of stakeholder involved in the redevelopment process. (Adopted by research done by Urban Design Research Institute [UDRI]; made by Author.)

sprawling layout and low-density model is much suited to the community. Various precedents around the globe as well as in the Indian sub-context were studied to derive the different tools of strategies to be implemented in the design (Phillip, 2022).

Design Framework

It was inferred from the precedents that participatory community planning, government participation, incremental development, bottom-up top-down integration, and the use of low-cost materials are all essential concepts needed in such communities. In the context of Dharavi, since the residents have a very strong economic foothold over the region, it is vital to include them in this incremental planning strategy so that there is no resistance to redevelopment. Having said that, it is essential to include multiple stakeholders at different phases of the project for redevelopment to take place.

Concept

Actors are initially “diagrammed” to analyze them based on a variety of criteria, including their level of operation (local, national, regional, or international), their mandate (interests, concerns, agendas, or visions), their areas of expertise, and the connections between them that are related to these characteristics.

The first step in comprehending the internal and external forces acting on a development process is discovering and unraveling the relationships between all important “stakeholders” involved in a situation (Figure 2.1). It is predicted that a few crucial components or phenomena will show up, get attention, and be discussed. The sense of a tangible visual character that aims to be plainly instructive and stands alone in a map, regardless of how it is interpreted or how it turns out, is a hint to future action. To underline the importance of the players involved in a situation having a clear platform and conscience from the start and to comprehend the mechanics of mapping transitory actor connections. To comprehend how working on and mapping space has dialectics: 1) space as a tangible thing to be encountered, understood, and appropriated; and 2) space as a concept of the city, as representation through symbol and conflict — the interaction between the “physical” and the “non-physical.” It is critical to note that all the actors must be involved at different levels for the redevelopment to take place.

Similarly, multiple strategies were identified for the area such as ownership-based finance strategy, site scale phasing strategy, and identification of the urban acupuncture strategies on three different scales for all the communities within Dharavi, such as Micro-Scale (Realistic: Units/Individuals); Mesa-Scale (Possible: Group) and Macro-Scale (Idealistic: Community/Government).

Strategies

The site of Kumbharwada (Potter’s village) was chosen so that it can act as a prototype for the entire region. It has problems associated with space, sanitation, and smoke arising out of the kilns for making pottery (Figures 2.2, 2.3 & 2.4).

For the well-being of the community, the idea was to tackle smoke and sanitation in parallel. The existing kilns can be smoke free if they are electric. To power these kilns, electricity can be generated by treating the wastewater produced by the community by anaerobic digestion.

The new proposal is such that each housing unit now comes with a toilet and a wet wall so that it would help in segregation of black water and grey water. This would also solve the problem of sanitation since the existing setup has one toilet for 1,440 people. There is an introduction of a transient unit in the resultant cluster which would help with the incremental approach and future growth as shown in Figure 2.5. This transient unit can be occupied with the permanent unit as required. This will give the residents variations in family and unit size. A single parcel is a combination of six stacks of 24 units.



Figure 2.2: Issue of space. (Image by Meena Kadri is licensed under CC by NC-ND 2.0. Source: <https://www.flickr.com/photos/meanestindian/4220469421>. License: <https://creativecommons.org/licenses/by-nc-nd/2.0/>.)



Figure 2.3: Issue of sanitation. (Image by Iecercle licensed under CC by NC-SA 2.0. Source: <https://www.flickr.com/photos/lecercle/2612759786>. License: <https://creativecommons.org/licenses/by-nc-sa/2.0/>.)



Figure 2.4: Issue of smoke. (Image by Cameron: <https://urbz.net/articles/kumbharwada-pottery-village>.)



Figure 2.6: The potential masterplan. (Source: Author.)

In terms of the overall site, the idea was to have green fringes penetrating over the site since the existing space lacked green areas. A hub of communal areas has been formed. The junction of all working veins has been created with condensed green arteries. The final form came by having steps like staggering streets which would help in decreasing the internal street distance with the main roads. There are two main roads running adjacent to the site. The one on the north is called the 90-foot road and the one on the west is called the 60-foot road. It also responds to the site in a more extroverted manner along with keeping the introverted character of the community as the streets are not completely open to the main road (Figure 2.6).

The residents now have better housing/living conditions. There is an introduction of a recreation edge and a work edge, thus creating segregation for domestic and commercial activities. Each unit comes with a toilet, hence there is wastewater management. There are smoke-free electric kilns which are taking them towards a healthier community. There are dedicated spaces for commercial activities with a scope of incremental development of housing units on top. There is now a separate loading and unloading zone for raw materials along the main roads for easy access. There are

open spaces along the shop/housing fronts for expansion of activities on ground level (Figure 2.7).

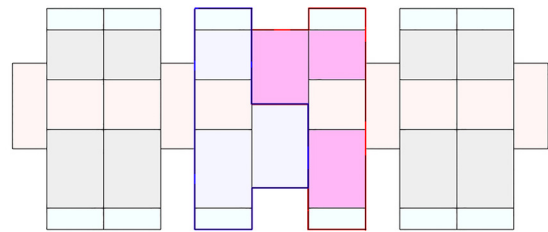


Figure 2.5: The resultant cluster-occupation of transient unit with permanent unit. (Source: Author.)



Figure 2.7: Incremental cluster development. (Source: Author.)

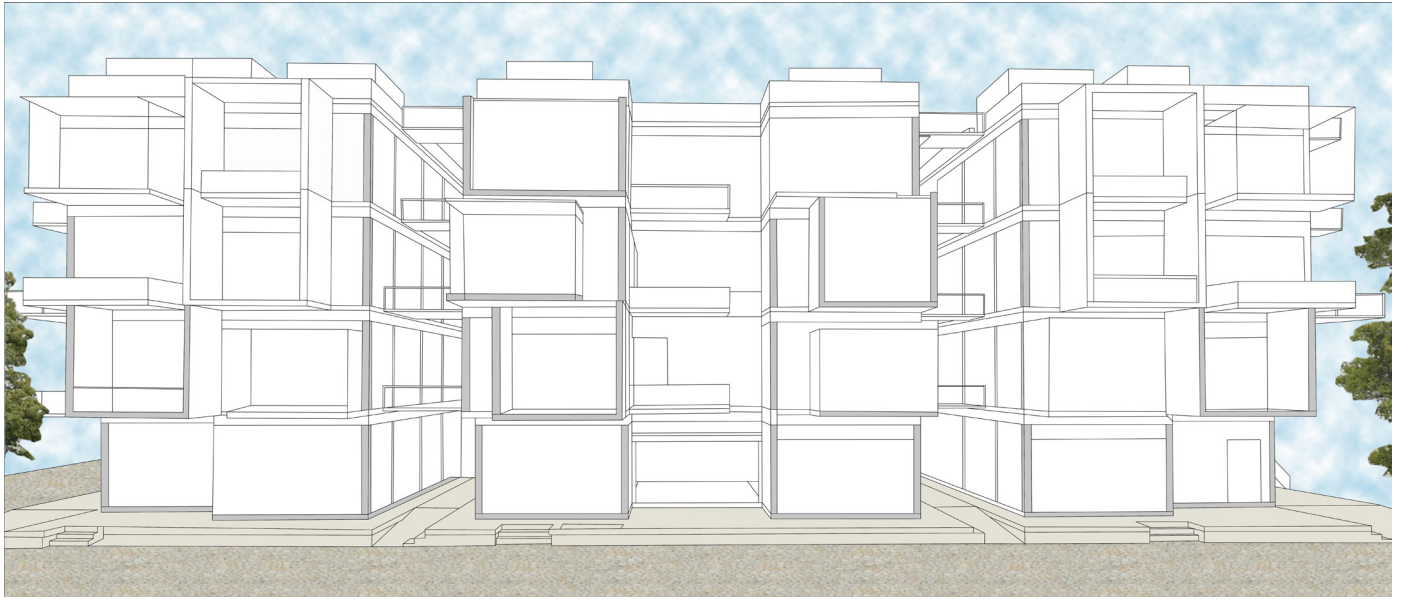


Figure 2.8: Government framework (top-down). (Source: Author.)

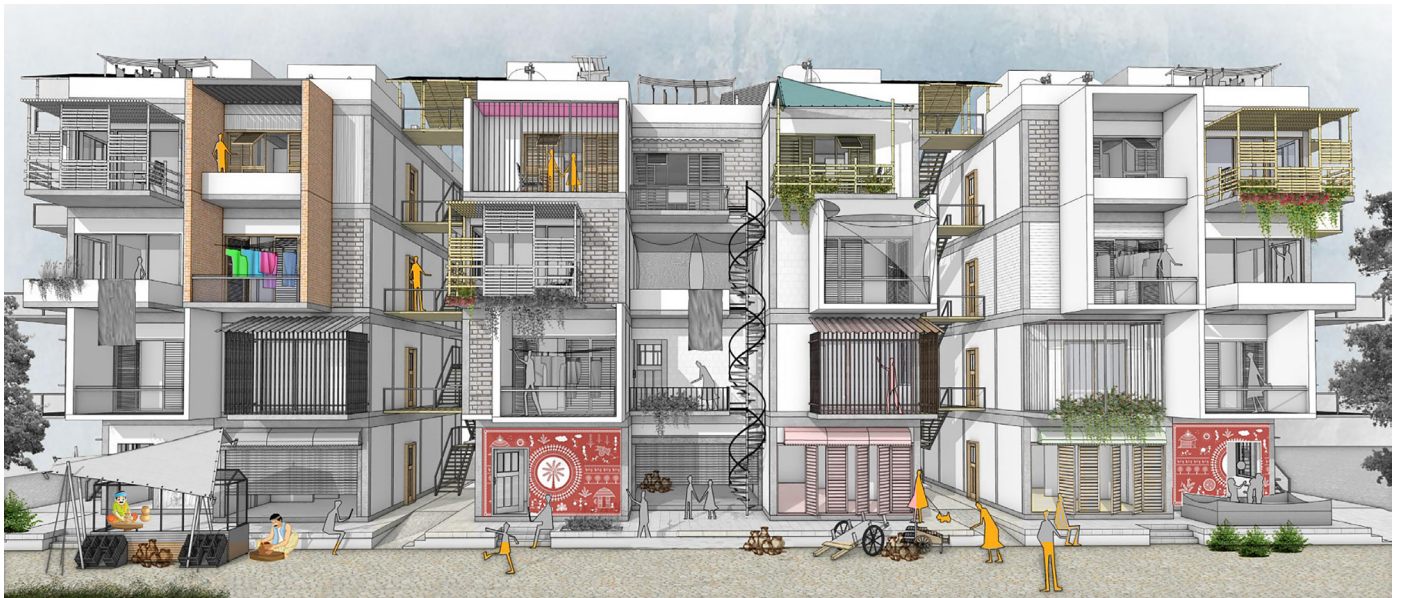


Figure 2.9: New Dharavi culture (bottom-up). (Source: Author.)

Conclusion

A toolkit of strategies was prepared for the progressive self-development of the community. The basic framework such as a services and circulation core can be provided by the government. The user then decides how much to build (incremental), how to build (expandable), and makes a combination of their elements (adaptable) (Figures 2.8 & 2.9).

The idea is to formalize the informal, by allowing the structure, a form of informality to some extent, but at the same time improving the conditions of the area. The interventions should be process-driven rather than merely product-driven, and they should take the community's involvement and impact into account. They'll probably combine elements of architectural, urban, political, and social conceptions,

but they should at the very least aim to express themselves more specifically in a spatial way. This will guarantee more noticeable changes.

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