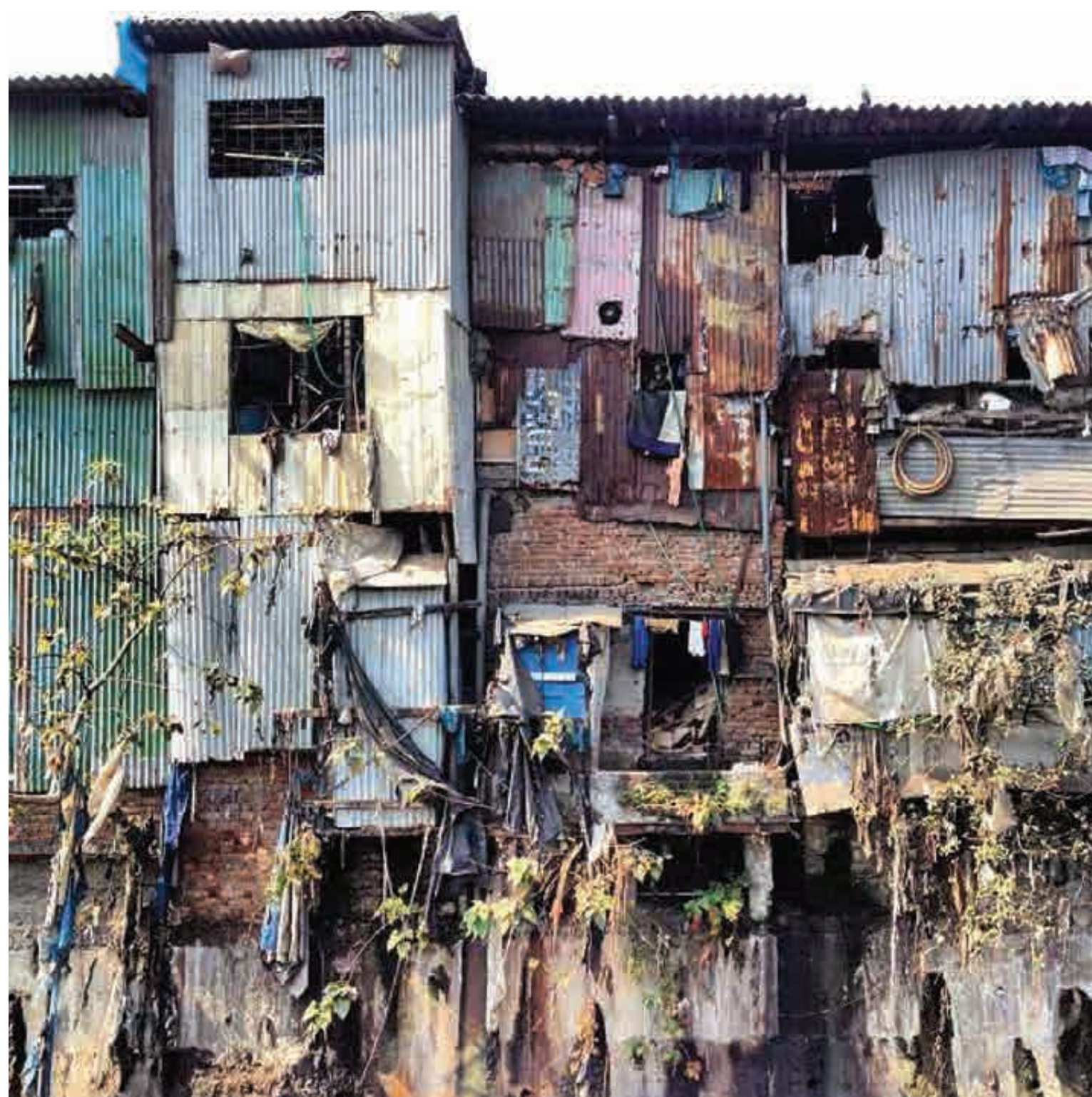


Dharavi: Ideas, Interventions

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The team proposed several specific interventions under various thematics including environment, sanitation, education, disaster management and transportation. Specific ideas included the use of plastic and glass walls, solar bottles for lighting, rooftop rainwater harvesting, incorporating baths over community toilets and covering open *nalas*. The jury felt that several ideas were impractical or not comprehensive enough to be considered. There was also a disconnect between the first set of ideas that proposes little change to the end where the proposal envisages double decker bridges over major streets.



PREMISE

Dharavi is a dynamic network of multiple communities existing together in self-made utilitarian built forms, producing an array of goods that have made international urban planners, researchers and established entrepreneurs sit up and take notice. This proposal asserts that Dharavi is not a slum; it is in fact a haven for almost any start-up, a financial adventure for most migrants and citizens, an almost fantastic example of incremental housing, an opportunity for experimental housing and a lifeline for the city of Mumbai. It is an inscrutable mesh of chaotic informal settlements, where every nook and corner is well utilised and has a functional use.

It is one of those informal settlements that have defined/evolved a solution for all types of small-time businesses and catered to the issue of housing. Yet Dharavi's unsanitary and unhygienic conditions are due to sheer negligence by citizens and the government.

With its bizarre plans to re-develop Dharavi, the Government has failed to recognise the capacity and strength that exists here. This proposal challenges the Governments' current plan to re-develop Dharavi and its attempt to displace residents and livelihoods.

GUIDING PRINCIPLES

It is crucial that interventions at a small scale are initiated at various levels with basic frameworks in place.

These initiatives can then be moulded at a policy level to give it a permanent structure with due involvement of governing bodies to change the temporary development to a permanent one.

Development in this case would simply mean creating more resources to provide basic facilities of water, sanitation, electricity while preserving the essence, the work culture and those elements of Dharavi that are integral to its residents.

This proposal recognises, respects and reinforces the various forces, patterns, dialogues and systems that have characterised Dharavi.

GOVERNANCE

The perception of Dharavi is such that it runs on its own will and by its own rules. This provides immense scope to demonstrate practical strategies at a community level or through the interventions of a collective or at an NGO level. These strategies become a catalyst for further processes as they get integrated within the fabric of the community. If this collective involvement is able to make even the smallest possible impact, more resources can be pooled in to create a larger influence.

Talking to the residents, seeking their views and opinions, adapting the idea/model to suit Dharavi's needs are crucial before the execution phase. Institutional representatives need to work with the community consistently and methodically before handing over the responsibility of driving the initiative. People from the community need to be identified and trained by the representatives. Carrying out surveys, primary and secondary research etc. requires tremendous participation from the institution.

FINANCE

Since Dharavi already has various savings groups like the *Mahila Milan* Crisis Credit Savings Scheme that provide loans to those who wish to upgrade their homes using local materials and construction techniques, building homes with alternate materials should be further encouraged and incentivised. Once successfully piloted among a few houses in Dharavi, the ease of construction and cost effectiveness will be easily demonstrable.

This can be used to incentivise financial institutions and donor agencies to extend their support towards incremental housing. With respect to financial institutions, this can be done through:

Incremental housing loans

Piloted in Mexico, the home improvement model has been used to help customers make small or large improvements to their home besides providing technical assistance, materials, and labour (Housing Finance Models in Latin America and the Caribbean, 2014).

Micro mortgages

Designed especially for informal, low income households, micro mortgages are small enough housing loans that can be afforded by the poor and very poor households to support incremental housing.

HOUSING

A majority of houses in Dharavi are self-built, G+1 and made using brick and cement. Building a floor requires substantial investment. Transporting materials is a challenge in narrower lanes.

The proposal suggests using viable alternatives to bricks and available in Dharavi itself such as plastic and glass walls (earthship.com, Construction Materials, 2014) for the house. The existing base of brick and cement houses, will enable Dharavi residents to build at least a floor or two of non-structural interior walls. This honeycomb of glass and plastic bottles has been successfully implemented elsewhere and brings in great amount of flexibility for lighting purposes.

The proposal also looks at the livelihood structure of a few communities and recommends space utilisation amongst these cramped structures to make way for further activities.

This includes recommendations for *Kumbharwada* where it is proposed to create a permanent cover over the kilns which can act as a space for multiple activities. In the *papad* making community, it is proposed to create multiple layers over the existing open space that is used to dry the papads to provide an additional space that can be used during the monsoons and opens up the ground for other uses.

TRANSPORT

It is imperative that a transport mechanism is evolved such that it takes some pedestrian load off the 90 Feet Road and 60 Feet Road and also creates another mode of direct transport between Dharavi and Bandra which is presently divided by the Mithi River.

The proposed route is:

(START) Sion Railway Station to 90 Feet Road (along LBS Marg) and 60 Feet Road (exit gate) to Mahim Link Road (END).

Other elements that can be used to improve the transportation situation within Dharavi include a double decker bridge and a ferry boat across the creek.

a. Double Decker Bridge

A double decker bridge is proposed, which at level 1 would serve as a pedestrian way and at level 2 would serve as a driveway for two-wheelers. In addition to this, commercial zones on level 1 must be reserved exclusively for people of Dharavi as an additional space to sell their goods.

b. Ferry-go-round

The Line of Sight distance between Naik Nagar and BKC is approximately 305 meters, which is equivalent to a distance of a short walk. Ferry stations/hubs at Naik Nagar and BKC can be built to connect the two. As a prerequisite it is important to first clean up the stagnated river body to make it usable for transport. Cleaning up can be done while ferry boats ply across the water body. Specialised nets can be attached to ferries that collect the floating waste.



Plastic and glass walls

ECONOMY

Leverage upon the power of digital media to tap into a wide range of resources through crowdsourcing. Since, Dharavi is not governed by municipal laws, it allows for new approaches and solutions to be tried out on common problems like health, sanitation, housing, etc.

Idea: www.dharaweconnect.com An online platform that comprises three stakeholders is recommended:

1. The people of Dharavi will be the primary stakeholders of the online platform who will be empowered to post their requirements in the following two ways :

- a. Individual Household Level Requirements
– Building a toilet/kitchen on a household level, fitting rooftop rainwater harvesting system, etc., the individual would be willing to pay if they are able to afford the cost of implementing the solution offered for their problem.
- b. Community Level Requirements –
Small scale interventions like building community sanitation solutions, creating

recreational parks, providing education and training initiatives, etc., through crowd-funding campaigns.

2. People with ideas and solutions who choose to participate. In addition to people of Dharavi finding solutions, the platform can be especially useful to connect architecture students and colleges to Dharavi. The portal could be leveraged by students to understand precisely the needs of the community.

3. Monetary and non-monetary support for solutions In addition it is important to bring together investors, NGOs and people who may wish to volunteer to implement the solution. Through crowdfunding, a diverse range of investors can come together to fund initiatives in a transparent fashion.

The portal will help bring to light the issues faced by the residents of Dharavi on a daily basis and demonstrate the willingness of diverse groups (like solution experts, funding agencies, etc.) to come together to share knowledge and networks in search of sustainable solutions.



Idea: [www.Dharav\(i\)Connect.com](http://www.Dharav(i)Connect.com)

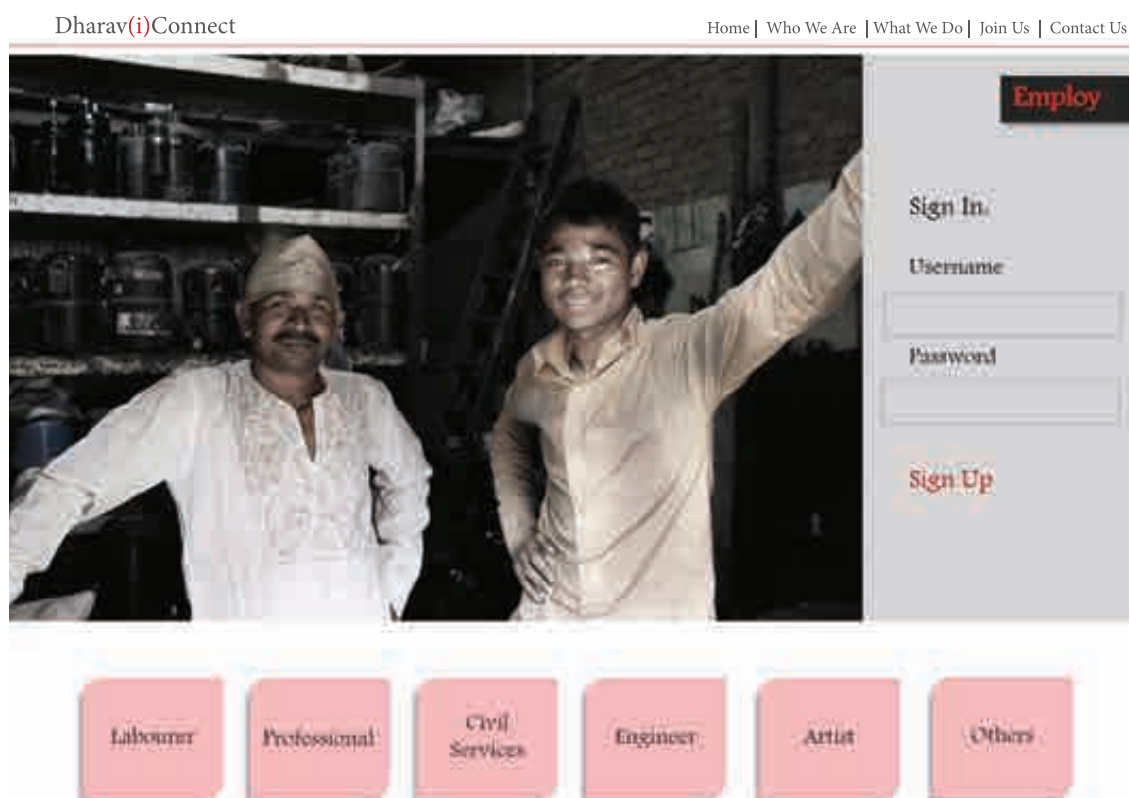
Most of Mumbai city's drivers, cooks, carpenters, cleaners, masons, etc. are from Dharavi. Given the nature of the work and the skill they possess, most of the jobs given to the labourers are temporary in nature. Moreover, most of them try and take up as many jobs as possible to earn as much as possible. Also, the semi-skilled job market works majorly through word of mouth and people contacts. There is no formal arrangement or a single place where people who want to hire skilled labour and the labourer can connect. In addition to the labour force, there is also scope for professionals like teachers, engineers or even for niche jobs such as beauticians and masseurs.

The proposed online portal will enable people in need of a specific skill-set to hire the right person for the job and for job-seekers from

Dharavi to register themselves. This benefits both parties, because the labourer does not have to hunt for jobs and the person in need can be provided with the right skill set.

The portal will cater to three sets of people :

1. Job-seekers: People of Dharavi interested in finding employment (part time/full time).
2. Employers : To identify and hire specialised skilled labour is especially difficult and this platform can be especially useful in simplifying that process.
3. Experts and NGOs : These individuals/groups can identify the requirements of the community of workers and provide specialised trainings and workshops and further connect them to projects outside Dharavi.



SERVICE INFRASTRUCTURE

Bio-latrines

Bio-latrines using dry toilet technology should be promoted to reduce the demand for water. In addition, municipal water supply can be complemented with rainwater harvesting techniques. As the waste in a bio-latrine degrades, the methane gas it generates can be used for cooking purposes. Toilets should be lit up using solar lights or biogas lit maps.

Ventilated Improved Latrines (VIL)

VILs could be spread out across different areas within Dharavi at the community or household level. They are equipped with ventilation pipes to let out the smell and a concrete platform that can be cleaned easily. (Practical Action, 2014).

Multi-storied Toilets and Baths

It is proposed to build baths over multi-storied toilets and use grey water generated from the baths to flush the toilets.

Information Dissemination

Graffiti and posters can promote hygiene and cleanliness both inside and outside the toilets to make it a less intimidating space.

Garbage Collection

Garbage collection camps could be set up in decentralised locations spread across different *nagars*. People who deposit garbage can be incentivised by providing free toilet use for one day. The garbage is then sent to 13th Compound for further processing.

ENVIRONMENT

Disaster Management

Dharavi is extremely vulnerable to the hazards of fire and floods. An immediate preventive step is to not only spread awareness but also train an identified group of individuals representing different communities on steps to be taken in case of an outbreak. It is proposed to create sand mounds near outbreak locations, rubber insulation in walls and floors and community bells at various locations to be used as alarm systems.

Flooding

In Dharavi, water logging brings disease and leads to epidemics. Nalas function as dumping grounds for the residents. In addition to working with the local communities to bring about a shift in people's mind set about dumping waste into the nalas, the proposal recommends covering the open nalas to create open space which can be then used for recreational activities.

SOCIAL AMENITIES

Education

The interventions proposed are based on the observation that English medium schools are expensive and those in vernacular schools find the transition to English medium colleges difficult. Child labour continues to be a problem as many who pass out of 7th standard are immediately forced into family occupation.

I. Extension of BMC schools up to the 10th standard.

II. Entrepreneurial Education

Identified families in specialised occupations and those who have done work to upgrade the community or have set an example at the community-level can be encouraged to share their experience.

III. *Mummy Papa aur Main*

A programme could be developed where schools or NGOs running education programs allow children to learn from the family occupations

IV. Teach One, Teach All

We propose waste management programmes to be extended such that the children and teachers from these schools carry out simplistic education programmes with the rag pickers.

V. Exchange Programme

We propose to create a platform where students from universities abroad have an exchange programme with the children from Dharavi who go to vernacular or English medium schools.

Health

While the onus is on the Government to create an infallible system not only for the delivery of care, but also to facilitate and support research and capacity building, it is important to strengthen community capacity to demand for improved health services.

Core committees must be created across *nagars* that are responsible for monitoring the proper functioning of health posts and primary health care centres within Dharavi. The composition of the committee should include representatives from :

- Community (local community leader, women, youth)
- Government authorised chemists
- Health post (administrative in-charge)
- Alternate medicine practitioners
- Government medical community (Doctor and/or nurse from one of the health post)