

HIGH RISE BUILDING - A SOLUTION FOR IN- SITU SLUM REHABILITATION

Vibhu Dixit¹, Dr. Ritu Gulati², Ar. Alok Omar³

M.Arch. 2ndYear, Faculty of Architecture and Planning, Dr. A. P. J. Abdul Kalam Technical University

Associate Professor, Faculty of Architecture and Planning, Dr. A. P. J. Abdul Kalam Technical University

Assistant Professor, Faculty of Architecture and Planning, Dr. A. P. J. Abdul Kalam Technical University

Abstract -The issues of providing housing for slum dwellers is not a challenge in the Indian context but throughout the world. Moreover, recent developments on the industrial and economic fronts have augmented the rates of migration. Besides, this migration is unidirectional, wherein people move from rural to urban areas. In the last few decades, this movement has always seen an upward trend adding enormous pressure on the receiving community as well as the governing bodies in the urban areas. Often, it has been witnessed that the people, especially belonging to the weaker sections end up in slums. However, the regular addition of people in the slums makes their life miserable. Since these people are part of society so they must be required to rehabilitate. Slum plays an important role in the metropolitan cities, they provide essential services to the urban system and much needed a labour force to fuel urban dynamism and they improve their chances of survival by whatever meagre income they receive in return. Needless to say that slums and the rest of the city has a symbiotic relationship. Recognizing this fact, slums are viewed as housing in improvement.

Key Words:In- Situ Slum Rehabilitation, High Rise Development, High Density, Symbiotic Relationship, Quality of Life

1. INTRODUCTION -

In 2011, 377 million people (31% of the total population) in India lived in cities, but of these, 65 million (27% of the urban population) lived in extreme shelter poverty in areas called slums. This challenge is not unique to India, 863 million people around the world live in similar squatter settlements. India and China have the highest number of slum dwellers, with 50 million-plus inhabitants living in acute shelter poverty. The world, today is rapidly progressing through the process of globalization and integration of markets into a new reality – as a “global village”. In recent times, cities have emerged as an engine of growth. In the 21st century, cities of developing countries are witnessing housing shortage as the most pressing problem. More than one billion of the world’s city residents live in inadequate housing, mostly in the sprawling slums and squatter settlements, especially in the developing countries and India is no exception to it.

Almost all the India cities are struggling to cope up with the increasing demand for infrastructure services, the additional migrant’s further causing tension in using the existing scarce infrastructure services. In the housing front, the Indian cities are an acute shortage, and the in

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migrants further cause tension on it, which results in the formation of slums or squatter settlements or an increase in the number of pavement dwellers in the urban system.

“The growth of cities is a natural part of nation-building”. As such, the movement towards the urban system is an inherent part of development. Since the urban system depends on a migrant from the rural areas for the energy that fuels urban dynamism, there must be natural provisions for cheap and efficient housing of such migrants. As there is no mechanism to predict the number of migrants that arrive in a given city, it is impossible to estimate accurately the incoming migration in a particular city. Hence, the growth of slums and squatters areas is only a normal manifestation of urbanization over the years.

Slum plays an important role in the Delhi, they provide essential services to the urban system and much needed a labour force to fuel urban dynamism and they improve their chances of survival by whatever meagre income they receive in return. Needless



Figure 1 Dark Streets in Slums

The city of Delhi hosts people from across the country, who come to the national capital with the hopes of a better life and access to the best facilities. The migration of these people causes a lot of stress on existing resources like land and infrastructure, etc. Thus, migrants find their shelter on the streets or at the uninhabitable spaces by the banks of water bodies or railway lines. These squatters propped up in endless rows create slum or JJ clusters which are unhygienic and unsafe to inhabit as they are not equipped with the basic facilities. The present population of Delhi is about 11.03 million (as per Census 2011), of this nearly 10.63% population lives in unauthorized colonies, rural villages, slums and JJ clusters. The current number of slum dwelling units is estimated to be about 0.37 million (as per Census 2011) which will only increase over time. The redevelopment projects conducted in the past were not successful because the relocated slum dwellers would come back to their jhuggis that provided easier access to their livelihoods. Now, the In-situ redevelopment scheme is proposed in which the provisions are being made for a transit camp on the same site or within a 5km radius that will temporarily host the residents till their houses are constructed. This scheme will benefit slum dwellers by protecting their livelihoods and giving the slums a facelift with multi-storey apartments having all the basic amenities.

The Master Plan of Delhi 2021 (MPD 2021), Pradhan Mantri Awas Yojana (PMAY), Delhi Urban Shelter Improvement Board (DUSIB), the Public Works Department (PWD), the North Delhi Municipal Corporation of Delhi (NDMC) and the Delhi Development Authority (DDA) are all working in tandem to complete the rehabilitation project by ensuring that infrastructure, roads, water, sanitation and all peripheral requirements are completed within the stipulated time to ensure the journey of slum dwellers towards a better and more dignified lifestyle. The Private Public Partnership (PPP) mode of redevelopment is adopted to successfully uplift the lives of poor in the city and change Delhi's landscape while consciously preserving the interests of each citizen by

2022. In this mode, under MPD-2021, land is used as a resource and minimum 60 per cent of the land is earmarked for rehabilitation of squatters (EWS housing) and maximum 40 per cent area is given to the developer for remunerative use (free sale component).



Figure 2 Delhi Map Showing Notified Slums (Source - DDA)

2. CASE STUDY 3 (CASE OF AIRPORT SLUMS REHABILITATION, KURLA, MUMBAI)



Figure 3 Proposed view of airport slums rehabilitation, kurla, Mumbai (DAS, P K)

The area in the quick neighbourhood of the Mumbai air terminal runways have enormous tracts of land involved by thick slum settlements – right around 650 tenements per hectare. In the event that the air terminal is to be redeveloped, modernized and its security improved, the 82000 slum families should be compassionately rehabilitated. The sheer size of the rehabilitation, practically like an urban renewal scheme, hurled numerous difficulties:

- Getting sensibly evaluated land in close region to maintain a strategic distance from loss of vocation on movement.
- Special planning and arrangement for social amenities and infrastructure.
- Endorsement of changes in guidelines like FSI, TDR, a transformation of industrial land to residential/commercial.
- The design challenge of not letting the limited land availability reduce the rehabilitation project into another concrete shanty.

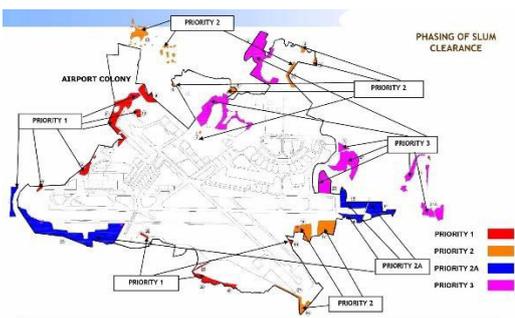


Figure 4 Proposed layout of existing slum in surrounding of airport, kurla, Mumbai (DAS, P K).

- The 53 acre Kurla site was proposed to accommodate 20000 tenements in ground + 9 storey structures.
- The development is planned around a central 54000sq.ft maidan with the high school and community centres abutting it.
- Connecting access roads break up the development into several zones and blocks.
- Each block has been designed around central open spaces that link diagonally to the open spaces of the adjacent blocks thus promoting air circulation and the feel of openness.
- They weave into a lively and ventilated fabric of built form and open spaces.
- Each residential unit is planned as a compact 269 sq.ft. Carpet area block with a living room, kitchen, bath and toilet, as stipulated by the government of Maharashtra.

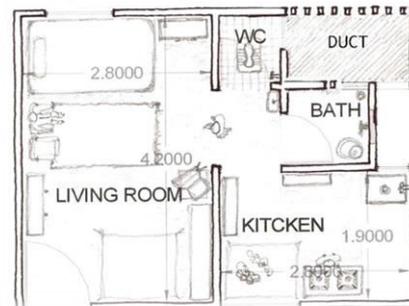


Figure 5 Plan of typical dwelling unit (DAS, P K)



Figure 6 How green spaces and road layout is planned to reduce the circulation (DAS, P K)



Figure 7How green spaces are directly link with residential blocks with separate pedestrian movement (DAS, P K)

2.1. Social infrastructure



Figure 8 How social infrastructure is planned to easily accessible from building towers (DAS, P K)

2.3. Cluster layout

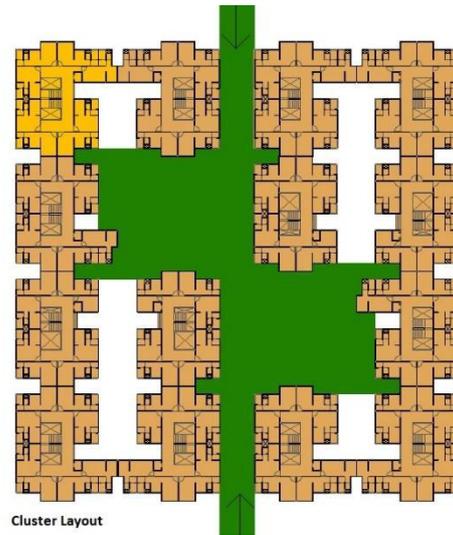


Figure 10 Cluster layout plan (DAS, P K)

2.2. Layout of slums rehabilitation, kurla, Mumbai



Figure 9 Site plan (DAS, P K)

How commercial Spaces are arranged with the residential tower to provide job opportunity for slum dwellers to uplift quality of life



Figure 11 Arrangement of Commercial spaces (DAS, P K)



Figure 12 How commercial spaces are linked with residential tower entrance (DAS, P K)

3. RECOMMENDATIONS

- Planning framework and standards must result in sustainable slum rehabilitation housing

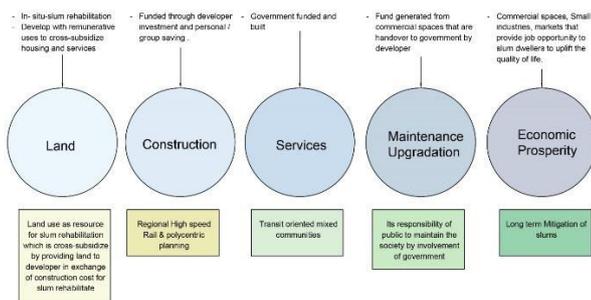


Figure 13 Planning framework for slum rehabilitation housing

- The relocated slum rehabilitation households move back into slum accommodation due to the outskirts urban areas. So In situ-slum rehabilitation is happily accepted by slum dwellers.
- The government should take steps to command developers to invest in the commercial development in which some amount of space is handed over to the government which generate revenue that is used as maintenance cost of Slum Rehabilitation building.
- Avoid creating large concentration of low income social 'slums' ; Integrate weaker section group within larger mixed-income mixed-use communities. It also avoid perpetuation of mono functional activities and crimes.

- The layout of the site should be done which can integrate the weaker section group and larger mixed-income communities that increase the chances of job opportunity for slum dwellers.
- Shared public spaces, social amenities and physical infrastructure allows social interaction of different income groups in common public spaces and helps reduce mutual apathy, generates social ties and reduces crime, thus increasing social security.
- On the concept of eyes on the street, the layout of the window openings should be done which faces the street to make a secure environment.

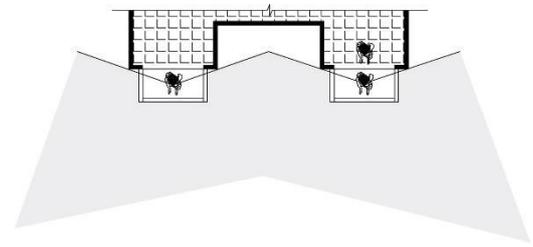


Figure 14 Showing Vision on street which make street safer

- Clear hierarchy of streets with well-defined and legible zones for pedestrians, bicycle, buses and cars – would reduce accidents and create safety.
- The partition of areas should be done by transparent walls which make the street safe and secure for communities.
- Green Spaces should be surrounded by pedestrian pathways that are direct links with building structures so vehicular and pedestrian movement is never intersected which should be safer for children and older persons.
- Markets and daily use product shops should be directly attached to building so easily accessible for children and slum dwellers.
- Not a single provision should be done for the incrementally of space in the dwelling units.
- The cluster of units should be designed to minimize the circulation corridor and provide a space for social interactions between slum dwellers (like 'Bethak' outside the slum unit).

- Keeping in mind about the slum dweller professions market should be designed for their informal employments
- A slum dwelling unit is used most of the time by women and children show that the layout of the unit should be focused on the living area of the residence. The living room should have large openings which encourages face to face social interaction at the time of doing household activities.
- A balcony should be designed for face to face interaction to encourage the social interaction between slum dwellers. It also reduces storage view which give a bad impact in the communities seen in case studies.

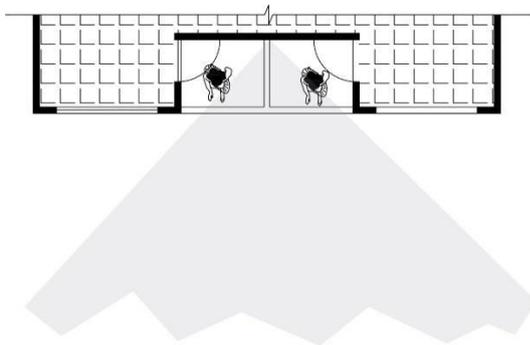


Figure 15 Combine balcony encourages social interaction between slum dwellers

- A provision of garbage chute system and garbage dumping Dhalao.

4. CONCLUSIONS

The Study gives a rundown of miles followed at the time of designing slum rehabilitation building which puts a hindrance to the conversion of slum rehabilitation building into vertical slums and uplifts the quality of life for slum dwellers. So the inferences of dissertation are as follows-

1. Slums and the rest of the city has a symbiotic relationship due to relocated slum rehabilitation this relation have a breakdown which creates pressure on slums meagre income. This is the main reason for the failure of relocated slum redevelopment so in-situ slum rehabilitation is substantially more fruitful.
2. When we are doing a slum rehabilitation according to density policy 900 DUs / Ha which is that framed by URDPFI is not possible to achieve in G+3/ G+5 Building Structure. In the metropolitan cities land, scarcity and green spaces like (Neighbourhood Park) are major issues which end

3. up too high rise tower development which can fulfil the required density and also provide large green spaces to contribute the society.
3. Before designing Slum rehabilitation there is a need to study slum dwellers' daily meagre earning and source of Income. We have found failure case studies of the slum rehabilitation people in which slum dwellers started transforming living spaces into commercial shops for their income source.
4. Slum Dwellers is don't have a lot of money to purchase food stocks because their daily routine is based on such meagre income which they earn daily. So they have to visit a daily routine shop twice a day. So it is not possible to come twice in a day from high rise buildings to the ground floor for shopping. So there is a need for a provision of commercial shops on the upper floors for their convenience.
5. Slum-dwellers having a habit of living in ground floor development. So they are always dependent on their neighbours who can help them always. So when we shift them in high rise towers they having problems with easy access to their neighbours. We have to propose the connectivity of towers at different floor levels which give them a feel of ground floor development.
6. There is a need to detach dwelling units from ground floor levels to control the transformation of the residential unit to a commercial unit.
7. For reducing the cost of construction the designer arranges a large number of dwelling units on a long corridor with a common service core which results in too much waiting time for the lifts. Because lifts are the lifeline of high rise development so that lift traffic analysis is mandatory for high rise development which has not observed in case studies.
8. In slums, when we study the behaviour of the slum dwellers we found that they have done their daily activity by interacting with neighbours. So we have to design the balcony are together which encourages the interaction.

Both the studies observe there is not a provision of parking for slum dwellers which results as a road acquisition by slum dwellers for parking of Vehicle, mobile car shop. So that common parking is to be provided for slum rehabilitation at 0.5 ECS per 100 sq.mt of total floor area which can be relaxed wherever required.

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Vibhu Dixit had done his B.Arch. degree from RRIMT, Lucknow in 2018 and currently pursuing M.Arch. Degree from Faculty of Architecture and Planning, Dr. A. P. J. Abdul Kalam Technical University, Lucknow, India. From Last one year author is busy completing his research on the topic Slum Rehabilitation in India

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