

A Civil Engineering Innovative solution for the Slum people in Shirpur city

Prof. Rajendra D Patil
Department of Civil Engineering
North Maharashtra University, Jalgaon
Maharashtra, India
rajpatilcivil@gmail.com

Prof. Aakash Suresh Pawar
Department of Civil Engineering
North Maharashtra University, Jalgaon
Maharashtra, India
aakashrcpit@gmail.com

Prof. Dhirajkumar S. Lal
Department of Civil Engineering
North Maharashtra University, Jalgaon
Maharashtra, India
dslal1978@gmail.com

Abstract – India is one of the fastest developing countries with many metropolitan cities. During last two decades; migration from villages and small towns to metropolitan areas has increased tremendously in India. This leads to the degradation of urban environmental quality and sustainable development especially in the metropolitan cities. The problems faced by the people living in the urban areas of India have become major concerns for the government. Slums are considered to be the major issue within many urban areas; particularly problems related to transportation, population, health and safety. Considering today's poor urban environmental quality in India, the majority of families affected by urban development projects are located in slum areas which are under consideration for resettlement and/ or rehabilitation. The aim of this paper is to study and examine slum areas and their living conditions, and finding out the most critical and problematic zone of the slums.

Keywords – slum area, rehabilitation, national slum area development code

I. INTRODUCTION

Ghetto is a generally utilized term for thickly populated urban territories with feeble a substandard lodging and messiness. The Census (2001) of India has characterized Slum as "a reduced region of no less than 300 populaces or around 60-70 families of ineffectively assembled congested dwellings, in unhygienic environment for the most part with insufficient foundation and ailing in appropriate clean and drinking water offices. The ghetto populace in India was considered 42.58 million amid 2001 statistics spread more than 640 urban communities/towns, which was 15 for each penny of the urban populace and 23.1 for every penny of the urban communities/towns' populace reporting ghetto. The life in ghettos is human fiasco, yet the ghetto populace is developing with disturbing rate everywhere throughout the world yet all the more so in creating nations.

In a report titled "The Challenge of Slums", the United Nations Human Settlements Program (UN-HABITAT 2003) reported that one billion individuals around 33% of the world's urban tenants and a 6th of all humankind live in ghettos. India alone constitutes around 33% of the worldwide ghetto populace. The report has cautioned that the number of inhabitants on the planet's ghettos will twofold to two billion individuals inside 30 years. "The Challenge of Slums" contends for mediation by national governments to check the fast impromptu urban extension which is as of now a human catastrophe. The key explanations for the development of ghettos are movement of hindered country populace to monetarily more well-to-do urban areas looking for occupations and vocation. Such vagrants, thinking that it's hard to bear the cost of settlement in normal territories of urban communities have a tendency to involve space in unattended government arrive and existing ghettos including more weight urban space. In the process fast urbanization encourages to agonies and development of ghetto populace, especially, without sufficient change of the urban

areas as far as accessibility of framework and moderate settlement.

In India, the National Slum Development Programme (NSDP) was presented in the Eight Five Year Plan amid 1996-97 with the particular target of giving fundamental comforts to ghetto tenants in the field of physical and social enhancements, group foundation and so forth. Almost 30 for each penny of India's populace lives in urban regions and this extent is developing quickly with more prominent inflow of the rustic relocation and coming about development of urban ghetto. Research concentrates, however meager, have demonstrated that wellbeing records of urban ghetto inhabitants in a few zones are more regrettable than those of country populace.

II. LITERATURE REVIEW

As indicated by the study led by Dr. A. J. Sebastian , (2009) "Ghetto Household" A gathering of people living under the same rooftop in a urban territory lacking solid lodging, adequate living region, secure residency and access to clean water and sanitation. Jothilakshmy And R. Arul Malar (2008) "The financial impacts of ghetto leeway and urban reestablishment in the United States" According to the UNCHS – Global Report on Human Settlements 2003, in 2001, 924 million individuals, or 31.6 percent of the world's urban populace lived underneath neediness line. Around then, 43 percent of the joined urban populace of every single creating district lived in ghettos, while 78.2 percent of the urban populace in slightest created nations lived in ghettos. D Kumar Phukan (2010) "Levels of some fundamental enhancements in the Slums and their effects on nature: A Case Study of Jorhat City, Assam" Gradually, the number of inhabitants in ghetto tenants alongside the quantity of the ghettos is expanding in every one of the nations. Above exchange has uncovered that the lodging, water office and sanitation framework in the ghettos of the Jorhat City are poor for which the ghetto inhabitants need to confront different

issues, even such despicable condition hurts numerous occupants outside the ghettos. W. Collin Schenk (2008) "Ghettos Improvement and Development Schemes and Policies" Slum-inhabitants represent 33% of Kolkata's aggregate populace. This add up to 1,490,811 individuals living without satisfactory fundamental enhancements in over-swamped and unsanitary settlements considering the test of checking undocumented squatters and inhabitants of sprawling seasons; this number might be a liberal think little of by the Indian registration. Sufaira.C (2007) "Ghetto Diversity in Kolkata" The growing of ghettos in the urban ranges is the immediate result of more prominent monetary open doors accessible in the urban areas and towns. The showing impact of enhanced way of life winning in the urban zone has additionally pulled in the populace from littler settlements, as well as the country transients to all the major urban focuses bringing about the rise of ghettos even in the heart of the urban communities. V Agrawal (2009) "Ghettos in India: from past to exhibit" According to (UN HABITAT) report, April 2007, India is an underdeveloped nation that experiences neediness, ailing health, maladies, undesirable conditions, and more in Indian ghettos. Because of the sensational ascent of ghettos after India's freedom in 1947, its populace has tripled. B Das, U Khara, P Giri And A Bandyopadhyay (2008) "The Challenge of Slum improvement in India A Case Study of Melatala-Dasnagar ghetto range of Howrah metropolitan enterprise" Accelerating urbanization is mightily affecting the change of Indian culture. Somewhat more than 28 percent of the nation's populace is urbanized, however lamentably 21.68 percent (61.8 million) of the urban populace live in ghetto territory. According to Last NBO report absolute lodging lack was 19.4 million units.

III. NEED FOR A SOCIO-ECONOMIC STUDY

Any pragmatic strategy to prepare developmental plans for the slum area would require in-depth analysis of at least three broad issues:

- Issues related to the migrants namely the social problems of slum population, their background, reasons of migration, duration of migration, their transition from slum to other areas, mechanism of coping with the slum problems.
- Issues related to willingness to pay for better living conditions and expectations from the government, and other members of urban society.
- The economic contributions of the people in slums.
- The cost of alternative models of development of slum areas. While analyses of such data and information on socio-economic conditions of slum dwellers would provide sound foundation for a sustainable development plan, it would educate the general mass and the tax payers about the efficacy of the programs in more transparent way. Shirpur being the national capital Region, a model analysis based program would set an example for other areas in the country. New Shirpur decided to submit the research proposal with the following objectives, scope and approach for the study illustrated here after.

IV. OBJECTIVES

- To focus on the physical condition of the slum scenario and many problems of the slum related to this location.
- Understanding living condition of the slum dwellers and their perception of urban amenities.
- To assess the socio-economic and cultural profile of the inhabitants, and find out the interrelationship between slum-dwellers economical condition with mainstream urban economy.
- To find out the policies and measures taken by the local bodies for its development and their attitudes towards development also taken into consideration.
- Provision of Basic Services to Urban Poor including security of tenure of affordable prices, improved housing, water supply, sanitation and ensuring delivery through convergence of other existing universal services of the government for education, health and social security.
- Cost benefit analysis to evaluate alternative strategies aimed at developing the India's capital in to a World Class Model City free of slums

It would analyze the costs associated with alternative strategies for rehabilitation of slum areas with adequate provisioning of pollution-free environment with basic amenities such as safe drinking water, health care facilities.

V. SCOPE OF THE PROPOSED STUDY

The scope of the proposed study would include explanation on the origin and creation, definition, character, theories of slums, historical conditions, demographic conditions in Shirpur especially the growth of slums in Shirpur during the last half centuries, the facilities provided by the local bodies and governments in slum areas of Shirpur, policy for the development of slums, etc. There are approximately 12 katras in the walled city area with about 3000 buildings or properties. These areas are very old and notified as slums but do not resemble the state of slums found in other parts of Shirpur outside the walled city. Therefore, such clusters are excluded from the scope of this study. The study would assess the socio-economic status of slum dwellers by analyzing the available facilities including basic requirements of housing, drinking water, toilet facilities, sewerage system, drainage system, health and education facilities in slum areas. Finally, a framework to carry out comprehensive social cost benefit analysis of slum rehabilitation would be developed and presented for future study and analysis under alternative strategies with required facilities such as schools, health care centers, markets, electricity, drinking water, etc.

VI. SLUMS IN SHIRPUR CITY

The Shirpur City – It is the very fast up growing taluka in Dhule district as day by day also increase in population hence here is big problem arises like Slum. Before 2011 the slum area is very limited in shirpur but from year 2011 to year 2014 there is lot of changes in population as well as Slum formation. It is a fact that most of the slums are situated nearby the Heart of city (commercial area) without a minimum standard of amenities, many problems may be caused. Therefore, this study was designed to find out their housing conditions, level of sanitation system and water facilities. Besides, it was also

tried to find out that if the standard of these three aspects are poor, what the impacts laid on the ecology the Shirpur City.

- Total Present Population of Shirpur city :- 96783
- Forecasted Population of Shirpur City (2031) :- 330000
- Area of Shirpur city:- 6.5 Km²
- Density of shirpur city population:- 14889.69 per Km²
- Slum Population in Shirpur:- 36500 (Approximately 5000 to 5500 Family Residence in slum area)
- Slum Forecasted Population of Shirpur City (2031) :- 70000-9000 (12000 to 14500 Family Residence in slum area)
- Present Slum Area in Shirpur City :- 12 Areas Slum Placed
- Future Slum Area in Shirpur City :- 23 Areas According to Development of City

VII. METHODOLOGY

The first objective to understand the socioeconomic condition of slum dwellers in Shirpur and the second is to present the alternative forms of rehabilitation such that the leaving condition of people residing in slums could be improved. The entire study expands over information collection from slums of Shirpur, preparation of instruments for household survey, collection of primary data, translating the unit level qualitative response into quantitative data, data creation for analyses, interpreting the data, information into analytical structure and finally preparing reports presenting the findings from the survey to the clients.

A. Primary Survey

The primary data and information is collected from the selected respondents and it comprised of containing socio-economic data on household identification, age group of family members, literacy standards of members of selected household, occupation, income and income sources, household expenditure, health problems, possession of assets, including crucial data and information related to problems, constraints and inadequacies faced by slum dwellers.

B. Slums of Shirpur

Qualitative information and conclusive opinions related to alternative rehabilitation strategies and related problems are accumulated through literature survey, collection of case studies and discussions with officials directly responsible for the development of slums. In addition to selected households, primary survey also focuses on views of community leaders and voluntary organizations, providers of existing services in the areas like dispensaries, consumer stores/shops and agencies for disposal of wastes and sanitations, etc.

C. Sampling and Sample Selection

Given the limited resources, this study is based on 10% of total number of slum clusters covering about 0.5% of total households (2.34 lakh) living in slums spread over different location in Shirpur. Results of sample surveys are less accurate than the results obtained from the studies of entire population due to inevitable errors in sampling process, the size of the sample and multidimensional heterogeneity, which are difficult

to control. The size of the sample is constrained by the resources as well as willingness of the respondents to share information. Random selection of samples produces minimum error. Therefore, attempts are made to randomize the sample selection process to reduce systematic biases. At the same time in a geographically dispersed area, it may be pragmatic to select samples from all the areas to give a minimum representation. However, attempt has been made to reach almost entire slum cluster of Shirpur for creating a broad based region wise profile of slums. The following activities are involved in sampling process.

- Profile related data pertaining to 12 slum clusters spread across Shirpur City area has been Collected and computerized. These clusters capture approximately 2.34 lakh households residing in slums.
- Out of 800 slums clusters 125 clusters have been selected for surveying 2031 household. Sample selection of slums is based on geographical location, population in slums and the years of existence.
- Order to make random selection of households, about 247 households has been listed.
- Detailed survey of households has been done and Calculating probable cost of project
- According to minimum requirement and as per norms planning and design of comfortable, safety and utility flat system.
- Compare with rehabilitations in another location of same slum area peoples.



Fig. 1 Existing Google Map Shows Slum area & 3D view of lack of infrastructure



Fig. 2 Existing Google Map of selected slum area & Proposed developed plan

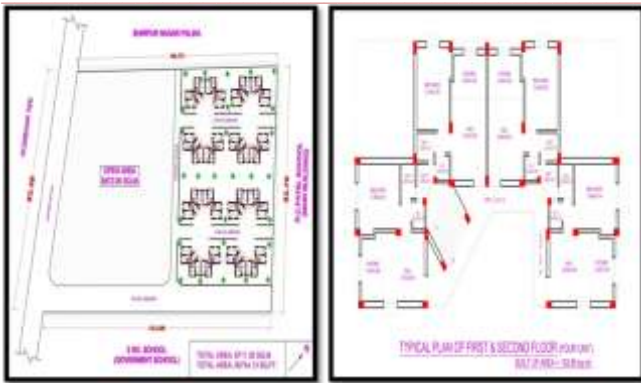


Fig. 3 Systematic Proposed Layout for Existing Slum Area near Shirpur Corporation

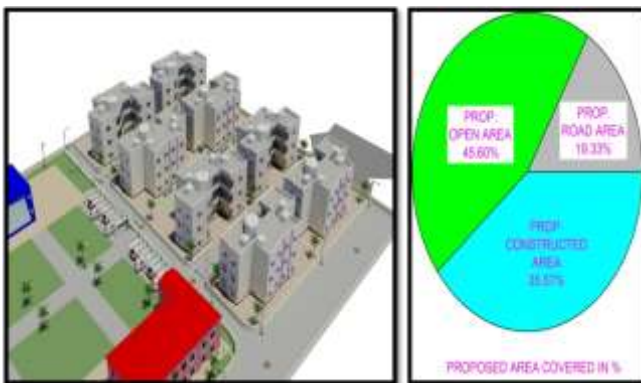


Fig. 4 Proposed 3D View of vertical development slum & area covered in %

VIII. CONCLUSION

- The Slum dwellers are residence in that place from last 35 – 40 years and they are not agreeing to shift (Away from Shirpur City). Now days this place or area is very important for corporation (8711.35 Sq. M.) because this place or area is a heart of city and same area is useful for many of Government Projects such as Government Offices, Commercial Complexes, Government School, Hospitals, Gardens, Parking yards, etc
- There are 90 slum dwellers their economical condition is very poor, in existing slum area there are lacking of all necessity infrastructure facility like Water Supply, Sanitation, Electricity, Congested area, Un-environmental, unhealthy atmosphere, etc. So that first we detailed surveying such as land and their economical condition, number of family members and their requirements. Finally we prepare a systematic layout of that existing slum area, prepare such as
- Planning and Design of Same location of existing slum area so the slum dwellers are easily agree without any disputes and delay of Development & rehabilitation Project.
- Instead of horizontal spread slum reduces with the vertical development and remaining area handover to government for future development.
- If same slum is rehabilite in other places (Away from Shirpur City) not only construction of houses there are required some parallel infrastructure facility so the cost of same land, construction of houses, infrastructural facility

is too much so there are lacking of fund and project delay and delay.

- Planning and Design of Vertical development flat system (G+2) Building in Eight Separate blocks containing 96 1BHK houses with separate bath and WC.
- Total existing area under slum = 8711.35 Sq. M.
- Proposed area for slum dwellers = 3054.97 Sq. M.
- Handover area to government = 5656.377 Sq. M.
- Total slum house holder = 80
- Area of single house holder = 590 Sq. feet.
- Overall Estimated Cost of project = Rs 18050130/- (Rs. One Cr ore Eighty lack Fifty Thousand One hundred Thirty.

REFERENCES

- [1] Ghuncha Firdaus “Urbanization, emerging slums and increasing health problems: a challenge before the nation: an empirical study with reference to state of uttar pradesh in India” E3 Journal of Environmental Research and Management Vol. 3(9). pp. 0146-0152, December, 2012
- [2] R.R.Sorate, Alka Dhiman, Ashwini Murnal, Manali Nimbalkar, Nutan Dere, Vandana Tiwari “Slum Rehabilitation with Fast Track Techniques” IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE) Volume 11, Issue 3 Ver. VIII (May- Jun. 2014), PP 27-32
- [3] “Maharashtra Slum Areas” (Improvement, Clearance and Redevelopment) Act, 1971 (Maharashtra Act No. XXVIII Of 1971)
- [4] “A Report on Particulars of Slum Based On Data Collected In State Sample of 65th Round of National Sample Survey” (July, 2008 – June, 2009)
- [5] Malvika Singh Parmar “A case study of slum redevelopment in Jaipur, India: Is neglecting women an option”
- [6] Elliott D Sclar, Pietro Garau, Gabriella Carolini “The 21st century health challenge of slums and cities” Millennium Project Vol 365 March 5, 2005
- [7] Dr. A.J. Sebastian sdb “Voicing Slum-subaltern in Slumdog Millionaire” Journal of Alternative Perspectives in the Social Sciences (2009) Vol 1, No 3, 897-920 897
- [8] National Building code.
- [9] Building Bye laws and Regulation.
- [10] MHADA Norms, Planning,
- [11] CIDCO Norms, Planning,
- [12] Shirpur Nagar perished Land Record.
- [13] MCGM (2005), Mumbai city development plan 2005-2025. Technical report