

Institutional Intervention in Infrastructure Development, a Contemporary Approach for Up-Liftment of Urban Slums: A Case Study of Raghunathpur Slum, DumuDuma Mouza, Bhubaneswar

Partha Pratim Karmakar
College of Engineering, Bhubaneswar/India
Santosh Misra
ABI, Cuttack/India
Rohit Singh
University of Massachusetts Lowell/ USA

Abstract

Slum is a heavily populated urban informal settlement characterized by substandard housing and poor civic amenities. While slums differ in size and other characteristics from country to country, most lack in reliable sanitation services, supply of clean water, reliable electricity, timely law enforcement and other basic services. Slum residences vary from shanty houses to densely-built dwellings with poor-quality design, construction and maintenance. Slums form and grow in many different parts of the world for many different reasons like rapid rural-to-urban migration, economic stagnation, high unemployment, poverty, informal economy, poor planning, political disturbance, natural disasters, social conflicts, etc. Strategies tried to reduce and transform slums in different countries, with varying degrees of success, include a combination of slum removal, slum relocation, slum upgrading, urban planning with city wide infrastructure development, and public housing projects. The objective of the present paper is, to analyse the impact of institutional interventions in infrastructure development on slum settlement and their subsequent growth pattern.

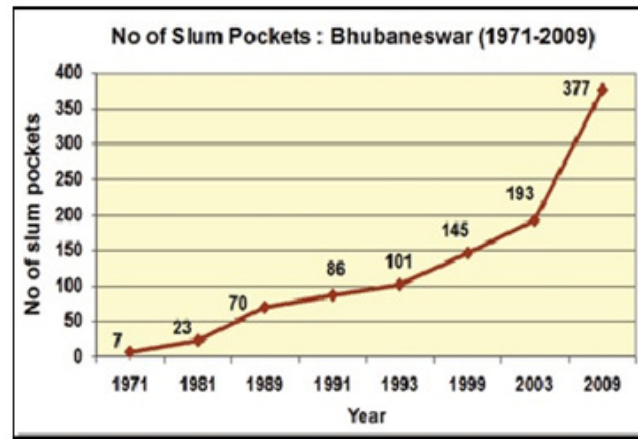
Introduction

Bhubaneswar, the planned city was designed by the German architect Otto Königsberger in 1946, with grid –iron road network pattern. One of the characteristics of growing Bhubaneswar is to have parallel growth of slums and squatter settlements along with planned growth. These slums and squatters developed on vacant government lands. In the process, small slums appeared and developed in many places of the city. The slums preferred to settle preferably beside the busy traffic corridors or rail tracks in search of livelihood and civic amenities. Social exclusion and substandard infrastructure forces the poor to adapt the conditions beyond his or her control. Poor families that cannot afford transportation, or those who simply lack any form of affordable public transportation, generally end up in squat settlements within walking distance or close to the place of their formal or informal employment.

Different Categories of Slum in the city of Bhubaneswar

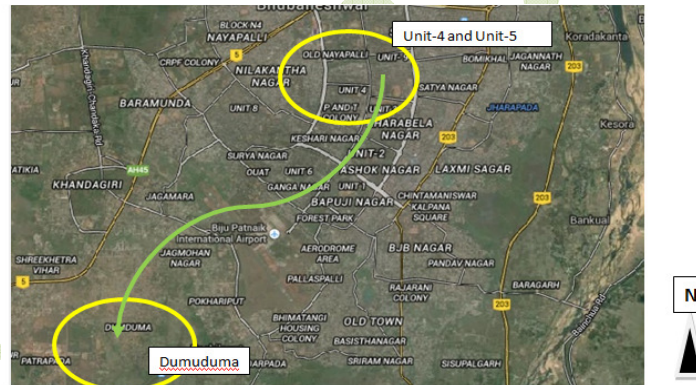
Item	Authorised slum	Unauthorised slum	Total
Number of slum pockets	59	131	190
Population	58,485	132,380	1,90,865
Households	11,607	38,173	49,780

Source: Bhubaneswar Municipal Corporation, Project office 2001 - 10



Growth of Slum Pockets: Bhubaneswar (1971-2009)

We are focusing here one of the rehabilitation schemes initiated by Government which is SastriNagar(Unit-4 and Unit-5)slums to house the government quarters at the centre of the city. These Sastrinagar slum dwellers were shifted to Dumuduma Mouza, which is 12 km away and exactly opposite side of the city.

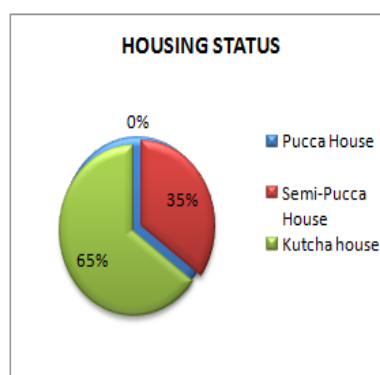
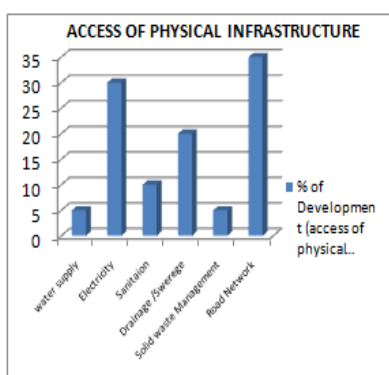


Data of previous settlement

Location : unit -4 and unit-5
 No. of Household : 462
 Population : 2623
 Nearby Infrastructures: Kalinga stadium, Sri Ram temple.B.D.A City Centre, 120 Battalion
 Housing status : 0%pucca houses, 35% are semi pucca houses and 65% are kutcha houses.(during 1965-1993)



Encroached Land at Unit-4 and unit-5

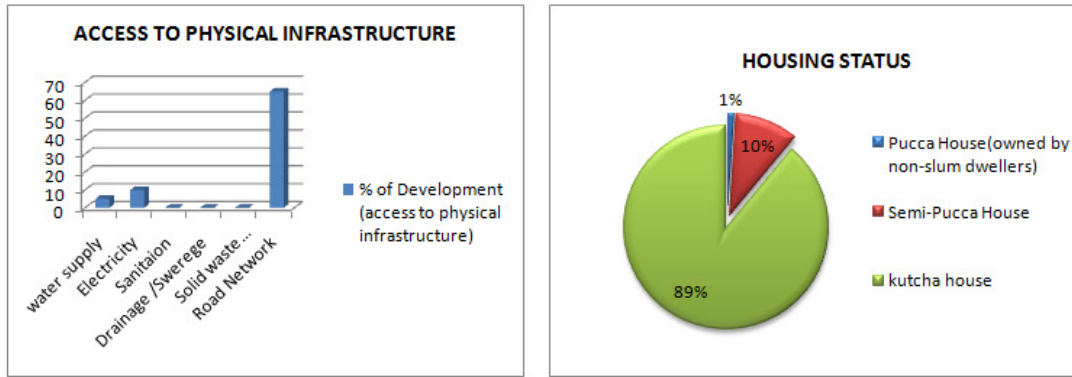


Data of new settlement

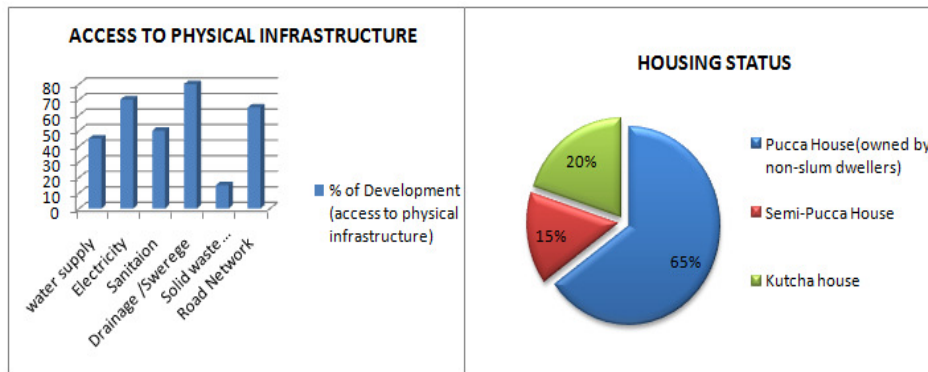
Location : Dumuduma
 No. of Household : 631
 Population : 3784
 Nearby Infrastructures : Kanungo institute of diabetes specialties, AIIMS, Cashew factory, Biju Patnaik State Police Academy, Raghunathpur U.P. School, EWS and LIG housing colonies.
 Housing status : 65% pucca houses, 15% are semi pucca houses and 20% are kutcha houses.(during 2010-2014)



Land provided by the Government to the slum dwellers at Dumuduma



After migration to Dumuduma (During-1993)



After 24 yrs of migration to Dumuduma (During-2010-2014)

Hypothesis:

The proposed study will test the followings:

- Institutional intervention to develop the settlement at the newly allocated site.
- Availability of civic facilities and access to physical infrastructure.
- Development of living conditions of the slum dwellers after rehabilitation.
- Periodic infrastructure development and overall growth pattern of the colonies.

Research Methodology:

- The present study attempted to strike a balance between an objective and subjective approach in analyzing the living condition of the slum dwellers.
- Apart from the occupational section, the questionnaire had separate sections for each of the pucca house owners, semi-pucca house owners and kutcha house owners.
- Questionnaire was made for the slum dwellers those who are still residing in previous or close to previous encroached slum area where from they were brought.
- Institutional facilities extended time to time for developing occupants' convenience;

MAJOR FINDINGS:

- The settlement pattern at the newly made colonies is very geometric with grid iron pattern road network with regular residential plot arrangement of 20' x 30'
- The slum dwellers did not have sufficient money to construct their houses nor did they get sufficient help from government either in terms of money or in terms of material.
- There was no public toilet-block in the slum colonies, the slum dwellers used to go the government land besides the mosque.
- NGOs at later period felt the necessity to construct the toilet of (4' x5') on individual plot as basic facility.

- At the entrance to the colony a health care center had been constructed for the services of the slum dwellers. But the unhygienic condition and poor facility at the health care center did not attract the slum dwellers to take service.
- The absence of proper road and drainage facility made it difficult to approach at different zones of the huge slum area resulted negative growth of the colonies.
- As 50 % of the slum dwellers were hopeful of complete dependence on the shops at home through which they were earning their livelihood but couldn't run the business as approach road was not vehicle friendly.
- 30% of the resident sold their property and again resettled closer to their previous slum settlement site at highly developed infrastructure facility.
- After 16-17 years the plot owners got 1.70 lakhs each from government through Rajiv Awas Yojna & constructed their houses when government has also developed concrete road which made all the slum settlement motorable.
- When Rajiv Awas Yojna came into picture, there were well planned government initiated EWS & LIG Colonies & all facilities like market complex, hatta (mandi), community centre, health care centre etc. facilities opened for people to use. These infrastructure facilities boosted the overall development of the settlement colonies. Government has not yet developed proper drainage and sanitary infrastructure in 23 years old settlement colony.
- The poor maintenance of the health care centre and absence of trained nurses and qualified doctors compels the slum dwellers to go other health centres but not to use the locally available one.
- Poor drainage facility of the colony at times makes the whole settlement area flooded with unhygienic waste which results in negative growth of the colony.
- The community area is only earmarked but yet after 23 years of settlement, the slum dwellers couldn't get a covered community hall for their use.
- In different occasions the slum dwellers prefer to choose the alternative areas in Brownfield zone to perform their rituals.
- There is no government initiated co-operative trade / business hub to intervene the overall occupational development of the slum dwellers.
- There is no institutional intervention to develop bank, post office, public facility, etc. to put the slums in to the right track and overall development.



CONCLUSION:

- The slum settlement would have been successful, had there been Brownfield projects. The slum dwellers cannot do or construct any infrastructure on their own or in co-operative as their income level is too low.
- 35% of the slum dwellers depend on their micro business i.e. opening a shop at their residence and expect their livelihood from the shop. Hence the good approachable/motorable road could definitely boost their

economy and the slum dwellers wouldn't have preferred to go back to stay in the previous slum area. For any medical purpose the slum dwellers cannot go far-off as they do not have any vehicle of their own nor they can hire any vehicle to go to the municipal/capital hospital. Absence of pucca road made the petty businessmen to search for better job opportunities elsewhere. Intervention in such infrastructure development has a big role for successful settlement pattern.

- The slum dwellers were habituated to stay closer to main road with all civic facilities available and always they compare the infrastructure given to them in resettlement area with respect to the civil facilities they used to enjoy so long. Hence development of infrastructure facility becomes first criteria to allocate the slum settlement in a resettlement site.
- Insufficient sanitary system is a chronic problem to the slum dwellers as they stay in an unhygienic ambiance with a big family. Here also as there is no drainage or proper sanitary system available, the slum dwellers preferred to sell the property and again settled in central zone of the city.
- Government has given the funding of Rs. 1, 70,000/- to each individuals for construction of pucca house after 15-16 years of allocation the plots with the development of sanitary system in the area by the NGO, the slum dwellers preferred to stay back at the given site and the valuation of the property has gone up. Had there been the institutional intervention for good sanitary system, right from the allotment of plots/houses, the slum development strategy would have been successful.
- The absence of proper demarcation of slum dwellers site had given rise to few more unplanned sporadic development/slums in adjacent vacant government land. Eventually more slum settlements have cropped up.

REFERENCES:

1. Abraham (1999), The Making of Indian Atomic Bomb, Science, Secrecy and the postcolonial state, New Delhi: Orient long Man
2. Acharya, P. K. (2004), A case study of Patharabandha Slum in Bhubaneswar, Nabakrushna Choudhary Centre for Development Studies, Bhubaneswar
3. Agnihotri, Puspa (1994), Poverty amidst Prosperity: Survey of Slums, New Delhi: M.D Publications Pvt ltd
4. Annez, Bertaud, A Patel B and Phatak, V.K (2010), "Working with Market: A new approach to reducing urban slums in India", World Bank Policy Research working Paper Series.
5. Braclhan, P K (1973), "On the Incidence of poverty in rural India in the sixties" Economic and Political Weekly, Vol(8), 4-6
6. Brijlani, H.V and Roy(1991), Slum Habitat: Hyderabad slum improvement projects, New Delhi: Haranand Publications
7. Kaldate Sudha Kar & Joshi B. L. (1989), Slums and Housing Problem, Printwell Publishers: Jaipur.
8. Farber (1999), Mobility and stability: The Dynamics of job change in Labor Markets, in: O. Ashenteller and D. card (Eds) Handbook of Labor Economics, Vol. 3B, 2439- 2483
9. Government of India, Ministry of Housing and urban poverty Alleviation (2010), Rajiv Awas Yojna Guidelines for slum-free city planning
10. Gupta and Mitra (2002); "Rural Migrants and labor Segmentation; Micro level Evidence from Delhi Slums", Economic and Political weekly, vol (37), no-2.
11. Kono, H. (2006), "Employment with connection Negative network effects", journals of Development Economics, vol (81), 244-258
12. Mitra, A (1992) "Urban Poverty: a rural spill-over?" Indian Economics Review, vol (27), 403-419.
13. Mitra Arup (1994), Urbanization, slums, Informal sector employment and poverty, B.R. Publishing Corporation: New Delhi.
14. Mitra, A and Tsujita, Y (2006), "Migration and Well being at the lower echelons of the economy: A Study of Delhi Slums", Institute of developing Economics-JETRO, Japan

Bibliographies:



Prof. Partha Pratim Karmakar has completed his undergraduate (B.Arch) course with first class in the year 1987 and stood first in Post Graduate, M.Arch. in 1989 from Jabalpur University, Kolkata, West Bengal. He has been professing in the Department of Architecture, College of Engg. & Tech, B.P.U.T, Odisha since last twenty five years. Currently he is Head, Department of Architecture, and C.E.T. He is an active member of council of Architecture (COA) and also Indian Institute of Architects (IIA). He was honoured for his research works on housing and Urban Design discipline and also won many national level design competitions and executed the projects successful in India & abroad. He is one of the pioneer architects to spread green building concept in India & also a qualified green building evaluator of the country.



Prof. Santosh Misra is the principal of ABIT and professor (Design Chair) of PMCA Cuttack, Odisha. He has completed his B.Arch from the J.J.College of Architecture, Bombay University and then his M.Arch from IIT kharagpur and Dip. Urban Design from U.K. His PhD is from the Roorkee University. Dr.Misra has worked as a professor in several universities in different parts of the world. He has a total of twenty seven years of teaching experience and twelve years of professional experience as an architect.



Rohit Singh is pursuing his MS in Civil Engineering at University of Massachusetts Lowell. He has completed his B.Tech in Civil Engineering from ITM University, India. His area of research interest includes: Geo-environment Engineering, Geotechnical Earthquake Engineering, Foundation Engineering, Site Characterization Techniques, Finite element analysis. He is also a member of SPACE.

IJIERT