

ENVIRONMENTAL QUALITY OF URBAN SLUMS: A CASE STUDY OF SLUMS OF PURI TOWN

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1. Introduction

Squatter settlements typically consist of an urban residential area inhabited by very poor people who do not have any land. Urban slums include not only squatter settlements but also severely rundown older parts of cities, which are also overcrowded and often lacking in rudimentary urban services. In slums the world over squatters' trade safety and health for a few square meters of land and some security of tenure. They are pioneers of swamps, flood plains, volcano slopes, unstable hillsides, desert fringes, railroad sidings, rubbish mountains and chemical dumps-unattractive and dangerous sites that have become poverty's rich in the ecology of the city. These are moves of sheer survival. And because the geographic location of slums is becoming more and more marginal, the destructive power of natural elements leaves today's slum residents in an ever more vulnerable state. The conditions crating the slums are human forces but they tend to affect the earth's natural forces. The state of world's cities report 2007 prepared by UN-habitat alerts about the fact that "the world's one billion slum dwellers are more likely to die earlier, experience more hunger and disease, attain less education and have fewer chances of employment than those urban residents that do not reside in slums."

Environment is interwoven in day to day life of human beings and as such man plays a great role in preserving and improving the environment for having a good quality of life. The quality of life of slum dwellers and environment of the area are closely linked. The quality of life of the people depends on the shelter environment of the dwelling units. This includes not only the amenities like drinking water, waste disposal, air purify, recreation, safety and security but also means of livelihood.

With India becoming increasingly globalized and urban the slum population is also increasing and as per TCPO estimates 2001, over 61.80 million people were living in slums. Indian cities have been grappling with

the challenges of making the cities sustainable i.e. inclusive, productive, efficient and manageable. The sustainability of urban development in India is seen in the content at shelter and slums, basic urban services financing urban development and governance and planning. The present paper studies the environmental quality of urban slums in Puri town of Odisha and evaluates the environmental development programmes and suggests certain measures for environmental up-gradation.

2. Significance of the study

The present study area, i.e. Puri urban area is a heritage city which is very ancient in nature. It is one of the four "Dharmas" of the Hindus and at the same time has beautiful golden beach attracting crowds from all around the world. Hence, plethora of employment opportunities attracted huge number of migrants. As a result there is proliferation of slum development. Basic characteristics of these slums are dilapidated housing structures with poor ventilation overcrowding, inadequate lighting, lack of portable water, absence of sanitation facilities, faulty alignment of streets, inundation during monsoon season, lack of access for fire-fighting and control measure.

3. Objective, Methodology & Data base

The objective of the present study is to find out the environmental quality of slums in terms of dwelling indicator. Neighborhood indicator, surrounding areas indicator etc. furthermore it also analyses the measures taken up by Government and their impact on environmental quality. Data is collected from both Primary and Secondary source.

4. Study Area

Puri urban area is located at 19° 47' 55" N and 85° 49' 55" E along the eastern coast of India on the shores of the Bay of Bengal. The area of Puri Municipality is about 16.32 sq. k.ms. There are 46 slum pockets in Puri

urban area, out of which we have selected 5 large slum pockets. The following gives an idea about the selected slum pockets.

As per the 2001 Census there are 337.68 slum people in the city, which constitute about 21.39% of the city's

population. However, as per the information of Puri Municipality the present slum population is about 47,707 in 46 slum pockets. As they constitute a sizeable proportion of population it is very important to study their quality of life in their existing environmental set up. Table 1 gives the slum profile of Puri.

Table 1 : The Slum Profile of Puri

Index	City	Slum
Population	1,57,837	33,768
Average Household Size	5.1	5
Sex ratio	919	902
Proportion of SC to total population	6.68	10.47
Proportion of ST to total population	0.21	0.17
Literacy Rate	74	51.89
Work participation ratio	29.99	30.53
Proportion of main workers to total workers	28.28	92.17

Source: Census of India Slum Population 2001

5. Environmental Quality of Urban Slum

The conflict between qualities and quantities has occupied centre stage in all social science response in the contemporary content. But it has to be understood that all measures of quality one proxies. If quality could be quantified it would cease to be quality. It is difficult to measure and to understand precisely the qualitative aspect of urban slums, because assessment of quality has a wide range. We have employed a number of indicators embracing all aspects of environment.

5.1. Dwelling Indicator

Dwelling Units represent the level of comfort and availability of private space of an individual.

5.1.1. House Type

There are various types of houses found in the slum areas like katcha, semi-pucca etc. The following table depicts the wall type, roof type and floor type of houses in the slums. All houses are different from each other and their house arrangements are also different in different slums. The data is collected by pure primary survey.

Table 2

Types of House	Percentage
1. Wall	
a. Mud	41.3
b. Brick	58.7
2. Roof	
a. Thatch	44.99
b. Tiles	39.55
c. Asbesto	15.46

Source: Primary Survey

5.2. Neighborhood Indicator

5.2.1. Dumping Yard

Dumping yard is a place which is generally found in the periphery areas of a city. All the unused things and household garbage and other industrial garbage are dumped in that place by the City Sanitation Workers. For the poor people this open area is like a heaven as slum can easily grow in these areas. Many dumping ground are also found with the slum areas which is responsible for bad environmental conditions. The places ultimately affect the people those who are living nearby both from environment and health point of view.

5.2.2 Dwelling Indicator

Good sanitation is the symptoms of a good health. But bad sanitation is the cause of different health problem. So it is necessary to maintain a good sanitation. It is one of the public services from the City Sanitation group/the municipality sanitation workers. The garbage clean, sewerage and drainage clean and defecation system and some other household sanitation are comes under the sanitation condition of a place. But at the slum level it is found that the sanitation system is not properly maintained. At slums of Puri we found the same. But in the rainy season the environmental condition becomes worst due to bad sanitation.

i. Open Bath

In the slum area people's economic conditions are bad due to which they can't afford a normal life style. So generally it is found the slum people used to take their bath in the open water sources like tube well, open well, ponds, municipality water taps, etc. This open bath also affects their environmental condition, health problem and their social life style.

ii. Open Delegation

In most slum separate latrine are not available in the slum dwellers home due to which they are used to go outside for open delegation. In Puri it found that people used open spaces besides the roads, on the beach and the municipality drains for their delegation purpose. If affects the environmental condition of the city and slum-dwellers suffer from different infections. In some slums Municipality also created some Community Toilets for the delegation and bath purposes. But it is well maintained and in some places. It was found that people used those community toilets for other purposes. For example, the toilet seat with women sheet and used those community toilet for cattle shed purposes.

iii. Washing Utensil

Washing utensils is an important part of sanitation. It is found, the slum people used to wash their utensils in the same open water source where they take their both or in the small ponds nearby their habitats. Due to this procedure of washing utensils different kind of germs stayed in the utensils and causes different type of diseases.

iv. Sewerage

Sewerage System is not well managed in Puri city as this city's elevation is within 2 mts from the sea level so the sewerage water can't pass properly due to which the people of Puri face difficulty from the sewerage point of view. If ultimately affects the city sanitation. The people of low lying areas affect more in this problem. In the rainy season the sewerage dirty water flows on the rood and enter into the houses of the people which creates very unhygienic situation.

5.3. Surrounding Areas Indicators

5.3.1 Drinking Water

Good food and clean drinking water is the prime need of a human being for maintain his life. But it found that the slum dwellers used to take the direct water from the municipality tap and tube well. But this open source water is not good for health. They can't use water filter and boiled water due to poor economic condition and high cost of fuel respectively. It causes different health problems in many times.

Table 3
Sources of Drinking Water

Total Number of Population (2001)	33.768
No. of Municipality Tap	35
Number of Hand-Pumps/Tube-wells	79
Average People Depend on one Source of Drinking Water	297

Source: Municipal Office, Puri

5.3.2 Road

Roads are meant for better communication. Roads may or not be available in every slum. Slums develop unauthorizedly. Within the slum there are some unplanned narrow paths available which are katcha in nature. Due to these narrow paths people face different communication problems like the ambulance, fire brigade and Municipal Garbage cleaning Vehicles can't enter into the slum at the need of people. It directly affects the living condition of people.

5.3.3 Electrification

Due to poor economic condition the slum dwellers can't take an electric connection to their house. A few people take electric connection to their house and many people use the electric connection unauthorizedly. In many slums Puri Municipality gave the electric stand posts. But some unsocial people break those electric posts for some bad intentions due to which the slum people face a problem in the evening and night time within the slum area.

5.3.4 Education Center

Education Centers are major social infrastructure from the awareness point of view. Now-a-days Govt. provides anganwadis and old age education centers in many slums or nearby areas of the slums. Its success depends on the no. of children and illiterate people avail these facilities and are aware about their rights and duties.

5.3.5 SHG

Self-Help Group may be registered or unregistered. It typically comprises a group of micro entrepreneurs having homogenous social and economic backgrounds, all voluntarily coming together to save regular small sums of money, mutually agreeing to contribute to a common fund and to meet their emergency needs on the basis of mutual help. It is a group which consists of the slum dwellers of that concern slum which is working for helping slum people and gave them a better condition of life. These groups are very active in the slums of Puri town. They are aware of people regarding developmental

projects, different extra small sources of income like preparation of candles, papad, appliqué works and some other hand works etc. This is a good means of earning some extra income by the women for the family. In some SHGs they also keep a Mini Bank where the members keep some money and can take a loan from that fund at their difficulty and somehow solve their economic crisis.

5.3.6 Health Care

Health is wealth. So all people need a good health to maintain a smooth life. But in slum areas due to bad environment condition and due to their food habit and fluctuated lifestyle they face different health problems frequently. People are dependent on District headquarters Hospital and some Homeopathy Doctors. But in more serious health problems they can't avail good health services and in some cases the patient loses their lives. But in some slums some health services are available like medicines and some injections for the children. This is mainly maintained by the anganwadi workers. But in most cases it is found that the anganwadi workers don't maintain properly.

Table 4

Disease Profile of Slum people of Puri Urban Area in last six months

Disease	Percentage
Fever	15.60
Cold	27.80
Diarrhea / Dysentery	02.01
Malaria	03.24
Jaundice	02.45
Headache	04.33
Weakness	11.68
Eye Problem	01.79
Heart Problem	03.25
Tuberculosis	04.76
Appendicitis	0.72
Gynecological Problem	05.69
Physical Injury	0.45
Psychic problem	0.55
No Health Problem	0.72

5.4. Social Environment Indicator

5.4.1. Breeding grounds for Criminals

Slum is like a heaven for the anti-social people and criminals. The hidden cause behind these people is the political leaders and criminals. Their major works are theft, creating a fear within the people and leadership in the slum areas, collecting ransom from the nearby market area, murder etc.

5.4.2. Insecurity of Women

Women are the weaker section of the society. So in the slum areas women are more vulnerable from the security point of view. In the slum areas women are not secure in their home also. Naturally it is found that there are no sufficient rooms in the house of a slum dweller. It is also give a cause that a couple may or mayn't get a separate room for them. So they can't maintain their privacy. It also affects the security of the women. So a no. of mischief activities like rape, misbehave, cheating and other some crimes found in the slum areas frequently which are not found in the police records.

5.4.3. Child Labour

In the slum area poor people are living who have a great misconception that the more no. of children in their home bring more income for their home. So they prefer more no. of children or the male child. In the age of studying at primary or upper primary level, they have been engaged in different petty works like a service boy in a small hotel, petty hawkers, as a beggar, at garage news paper distributer and sometimes in various antisocial works etc. This is very bad for their future as these children can't enjoy their childhood properly like a normal family child. This leads to a dark future for them.

5.4.4. Early Marriage

In a slum, parents are not feeling secure with their feen age girl child or young girl child due to various antisocial people in the slum areas. Different type antisocial crimes, rape, prostitution, etc. are the major

causes for which parents want to many their girl child in their early age. That's why early marriage is commonly found in the slums of Puri town. Due to this early marriage, the female section faces different health problem and so also different social problems.

6. Measures adopted for up-gradation of slums

There are number of Govt. projects and NGOs are working within the slum for the development of the slum people. NSDP, JNNURM, VAMBRY, BSUP, SJSRY, DWCUA & RAY are the Central Govt. Projects that are run successfully in the slums of Puri for the Up-gradation of slums.

i) Jawaharlal Nehru Natiional Urban Rural Mission (JNNURM):

Puri Municipality merges the Basic Services for Urban Poor (BSUP) Scheme and National Slum Development Programme (NSDP) Scheme with the Jawaharlal Nehru National Urban Rural Mission (JNNURM) Projects. The basic aim of BSUP is provide housing for the Slum people which can only successfully working in a few slums i.e. Tikapada, Kumbharapada, Mangal Sahi, Narendrakono, Matitola, Gokha Sahi, Chamara Sahi. But in other slums this scheme can't running successfully due to non-co-operation of the slum people. Under the NSDP Scheme roads, drains, street lighting, community toilet for the slum people can be constructed. But it is not successfully running in all slums. Under JNNURM Scheme various Urban Development can be possible in Puri town like Roads, Sewerages, Water Supply, Town Bus System, etc. So it is successfully running.

ii) VAMBEY, SJSRY, DWCUA:

Valmiki Ambedkar Awas Yojana (VAMBEY), Swarna Jayanti Sehri Rojgar Yojana (SJSRY), Development of Women & Children in urban Areas (DWCUA) are the schemes which are economically helped the slum people. Under VAMBEY Scheme 222

beneficiaries are identified and benefited by GOI where as a fund of Rs.4213244/- is already released in 4 years i.e. from 2002-2006 from GOI, DWCUA Scheme is distinguished by the special incentive extended to urban poor women who decide to set up employment ventures as opposed to individual effort. 11 numbers of SHG groups already assisted with this scheme in Puri Slum areas. They are mainly engaged in income generation activities i.e. households articles, food items, etc.

7. Conclusion

Slums are an obvious concomitant of urbanization. We cannot say that slums can be up-rooted completely from the urban landscape. Slum dwellers provide some of the basic services to the urban area and hence existence of the slums is a hard reality. We cannot also overlook the fact that about 30% of urban population resides in slums. Therefore steps must be taken for a comfortable living of slum dwellers which can only be achieved by improving the environmental quality of the squatter settlements. Although a no. of Govt. initiatives are in place but they are too little. Furthermore the beneficiaries must also know the programmes. So we can conclude that up-gradation of environmental quality

of urban settlements can only be achieved with proper involvement and awareness of the slum dwellers.

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NYAYA Vs NEETHI

Dr. Sen advocated an approach to problems based on 'Nyaya rather than Neethi', distinguishing the two terms for Justice by describing the latter as a mere set of rules and the former as the fair outcome and realization of the benefits of law. But both the terms were usually translated as 'justice'. But 'Nyaya' represented justice through realization based on actual outcomes 'neethi' was based on the application of existing rules of behavior. This dichotomy was echoed in the system-driven justice notions of Hobbes and Kant on the one hand, and outcome-driven notions of Condorcet and Rawls on the other. Many projects in India were not able to attain their objectives due to focus on the 'neethi' type of argument, with the phrase "I did my best (within the rules) sufficing to explain away failure, what was required to eliminate the inequities in the Indian system was to focus on working towards achieving specific goals within the pragmatic 'nyaya' frame work, and this was within the capabilities of the IIT System Dr. Sen said,

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