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Civic Amenities in Slums of Mumbai

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Millennium Development Goal targets to halve the proportion of population without sustainable access to safe drinking water and basic sanitation by 2015 and aims to achieve a significant improvement in the lives of at least 100 million slum dwellers. The large size of slum population has posed several challenges to the policy makers and program planners in the developing countries. This paper presents the living conditions of slum dwellers in Mumbai. Most of the slum dwellers in Mumbai lack the basic necessities of life. In spite of many slums got notified by the government, one up is shared by more than thousand persons in some of the slum compared to an average of 52 persons per up. One third of the household have no access to electricity and most of the households share community toilets. This shows that lots of work still to be done to improve the lives in slums. In spite of several government policies there is a need to improve the life of slum dwellers through community participation.

Keywords: Slum, Millennium Development Goals, Civic Amenities, Mumbai

1. Introduction

Slums are an important feature of India's urban landscape. According to 2011 Census, 377 million population was living in urban areas. Slums are notably found in class I cities (100 thousand and more) which harbor about 70 % of total urban population. These urban centers offering diverse employment opportunities and means of livelihood are the main centers of attraction for migration, despite the fact that physical infrastructure in terms of housing, drinking water and drainage is inadequate (Registrar General India 2001a).

Unchecked land prices and unaffordable housing forced the poor to search for informal solutions

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resulting into mushrooming of slums and squatter settlements (Retnanj 2001). Slums develop on peripheral and marginal lands on the outskirts of city, hills, slopes and low lying areas and also on the land which has little use to the owner in near future. They also develop on the land left unused by public bodies i.e. Railways, Municipal Corporation, Port Trust etc. (IIPS 1993-34).

The problem of slums has been faced at some point of time by almost all the major cities throughout the developing world. Today 3 billion people, nearly half of the world's population lives in cities and about one-third of them are slum dwellers. Moreover four out of ten inhabitants in the developing world are living in informal shelters. They experience manifold deprivations not only in terms of unhealthy housing for habitation but also lack of adequate food, education, health and other basic services. Slum improvement is not only a goal for better quality of life, it also has a positive impact on the health burden and economic development of a country. Slums in the world are the face of urban poverty in the new millennium (UN-HABITAT 2003).

The phenomenon of slum is worldwide, although the definition and type varies from place to place. As the capitalist mode of production started in 18th century, poverty, unemployment, lack of employment in rural areas and over population are the factors responsible for the existence of slums everywhere. No nation has ever been able to prevent the emergence of slums (Abrams 1970). In United States, slums are associated with ethnicity. Majority of Blacks in urban America have been living in slums since their beginning. Besides them, the early slums in United States were created by poor European immigrants who came in search of work (Grodzins 1970).

Millennium Development Goal declares "Ensure Environmental Sustainability" as one of the eight goals by the year 2015. It targets to halve the proportion of the population without sustainable access to safe drinking water and basic sanitation and by 2020 to have achieved a significant improvement in the lives of at least 100 million slum dwellers (UN-HABITAT 2003). Achieving these goals set in Millennium Development Goals is not possible if the health conditions of slum dwellers are not improved (Agarwal et al. 2007).

Quality of Life in Slums:

Decent housing is a basic human need and a human right. The quality of life of the migrants in slums is most adversely affected, living in unhygienic and congested places devoid of basic necessities for a healthy life like housing, water supply, drainage and sanitation (Bhandari and Basu 2000). Women and children are the worst victims. The rapid growth of slums and squatter settlements has contributed to some extent social, economic and environmental problems in urban areas. The rehabilitation programmes are totally inadequate in relation to the mushroom growth of slums (Sundari 2003).

Studies indicate that the prevalence of diseases (pneumonia, diarrhea, malaria, measles etc.) in urban slums is due to the unhygienic living conditions rather than income levels. For example there is lack of

safe drinking water and pit latrines shared by thousands of people. Even children from the higher income group living in slums have higher rates of diarrhea than children from the poorest rural families. The reason behind this is they are exposed to contaminated water and food (UN-HABITAT 2006-07).

Socio-economic conditions of slum dwellers indicated that majority of them are unskilled migrants with low occupational status and low incomes from different places. Therefore it is very important for the policy makers and planners should recognize that just providing a house and even a better environment to live cannot solve the problem of slums. It has roots in the very demand for low valued informal occupations (Rao 1991).

Providing adequate shelter in cities of developing countries has been a fundamental problem for national and municipal governments for more than a quarter of a century (Roninelli 1990). World leaders, governments and international agencies are trying to take direct action to improve the living conditions of slum dwellers and offer adequate solutions for the future slums (UN-HABITAT 2006-07). Slums and squatter settlements are the clear indication of the failure of government and society to provide adequate habitat for human development. The term 'slum' is used to indicate housing which falls below a certain level (Alrich and Sandhu 1995).

Origin of Slums in Mumbai:

Some of the worst slums in the world can be found in Indian cities. Due to the lack of infrastructure and planning in the cities they are helpless to accommodate the continuous increasing flow of migrants from the rural areas (Desai and Pillai 1970).

Slums are linked with the British rule in India. A mainstream of the rural migrants displaced during the process of colonial development, moved to large cities in search of employment. Industries and city administration were not concerned to provide adequate shelters to these migrants. In some cities, particularly in the states of Maharashtra and Gujarat, industrialists tried to attract and retain them by providing small tenements or multi storied row houses in the pattern of army barracks called '*Chawls*', mostly built in 19th century. Over the time, due to lack of maintenance and dilapidation most of the *chawls* have become extremely poor in terms of quality of life (Kundu 2007).

After independence, poverty was the main reason behind the slums that got aggravated by the slow economic progress. By the mid-twentieth century Mumbai, Kolkata, Delhi and all other large cities were dotted with slums (SAAG 2006).

The main reason behind the origin of Bombay's slums can be traced to its development as an important political and economic centre of the country. It fascinated a large number of people from the rural and small town areas. After the Second World War there was subsequent rise in population due to

economic upheaval. Private enterprises constructed houses with a maximum profit motive which gave birth to buildings known as chawls.

These *chawls* consist of number of tenements, usually one small room for each family and served by water-closets and water taps for all the families. Some of them are even five to six storied. Due to lack of town planning and unsatisfactory standards laid down by law in respect to minimum accommodation and sanitation, growth of Mumbai went haphazard. Gradual dilapidation and ignored attitude for *chawls* made them unfit for human living. Afterwards these *chawls* got overcrowded and congested, lack of hygiene and sanitation converted them into slums. Slums can be divided into: *chawls*, semi-permanent residential structure and unauthorized shelters on vacant lands. Various wards of Bombay reported slums before the Second World War. Population pressure and urban growth has taken place at such a rapid pace that the housing sector has not been able to deal with this problem resulting into development of numerous slums in the city (BMC 1956-57). These migrants choose these slum area near to their workplaces for their huts, made-up of pieces of old tin, bamboo etc. These huts are characterized by lack of open space between the huts and waste water from the huts without the proper drainage facility resulting into dumpness. The biggest slum of Asia known as 'Dharavi' is situated in G ward of Mumbai city (BMC 1956-57).

In order to improve the life of slum dwellers major initiatives are required at all fronts. It includes provision of basic amenities, education and vocational training, health care and promotion of income generating activities etc. (ORG 1989). This is first time in the history of Census in India that the slum demography is being presented on the basis of actual counts. In the earlier studies due to the lack of data not much work has been done on the slum population of metropolitan cities. India's slum population has been growing faster than its urban population. In India 42.6 million people have been enumerated in slums of 640 cities/towns. Slum population constitutes 4 percent of the total population of the country. Slums have become an integral part of urbanization. Hence it requires knowledge about slums for the various socio-economic policies and planning. The slum dwellers have been contributing significantly to the economy of city by being a source of affordable labour supply for production both in formal and informal sectors of economy (Registrar General India 2001a).

Comprehensive information on the slums is essential for the formulation of an effective policy for their improvement and rehabilitation. As they have not received attention in urban planning and have remained an area of neglect. So there is the urgent need to study the characteristics of slum population. Therefore the specific objective of the present study is to assess the condition of slum households in Mumbai at ward level in terms of access to electricity, tap water, and toilet and sewer facility.

2. Data and Methodology

Ward wise data on slums of Mumbai is not yet available in public domain. Published and unpublished Census data (2001) have been used for the present study. In 2001 Census, an attempt was made to collect detailed demographic data about slums across the country, particularly in cities and towns

having population of 50,000 or above in 1991. The information on different characteristic of the slum dwellers has been collected through the same Census questionnaire of household schedule. It was canvassed for the population enumeration in the country at the 2001 Census. Slum population has been reported from 640 cities and towns of 36 States/Union Territories. More than 72,000 enumeration blocks have been identified as slum enumeration blocks in these cities/towns which constitute nearly 22 percent of the total enumeration blocks in urban areas. In the remaining 9 States/Union Territories there were no identified slums.

Even though Census has published demographic characteristics of slums, the information about basic amenities was available in unpublished form until recently. We have been provided the ward wise data by the Census office on number of slums, households, length of paved roads in slums, number of tap water connections, toilets (private and community), type of sewerage system (sewerage, open surface drains) and method of disposal of night soil. This study utilises this data and presents ward wise distribution of population in slums, distribution of tap water facility, electricity connections, toilet facility, and sewerage system in both notified and non-notified slums in Mumbai.

For several wards (A, B, D, E, F/S etc.) information like number of taps, electricity connection, type of toilet facility are unavailable in Census. Census (2001) does not provide information about the open defecation. It provides information about public/community toilets which are simply shared toilets. It provides information about the type of sewer (open surface drain etc.). It does not collect information on households with toilets connected to the sewers or not.

Definitions and Concept of Slums

According to Census of India 2001, the definition of slums is as follows:

- (i) All specified areas in a town or city notified as 'slum' by State, UT Administration or Local Government under any Act including a 'Slum Act'.
- (ii) All areas recognized as 'slum' by State, UT Administration or Local Government, Housing and Slum Boards, which may have not been formally notified as slum under any act.
- (iii) A compact area of at least 300 populations or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitation and drinking water facility.

Table 1
Population Size and Growth Rates, Greater Mumbai, Census of India, 1981-2011

Year	Greater Mumbai (M. Corp.)	Greater Mumbai (U.A.)	Greater Mumbai (M. Corp.)	Greater Mumbai (U.A.)
	Population		Annual Growth Rate (%)	
1981	8,343,405	9,421,962	-	-
1991	9,925,891	12,596,243	1.86	2.90
2001	11,914,398	16,434,386	1.83	2.65
2011	12,478,447	18,414,288	0.40	1.12

Note: U.A. - Urban Agglomeration
M. Corp. - Municipal Corporation
Source: Registrar General and Census Commissioner, 2001, *Census of India: Maharashtra Population Data with Slum Population in Urban Units, Mumbai; Census of India 2011* (www.censusindia.gov.in).

Table 1 presents the population size and growth rate of Greater Mumbai (Municipal Corporation and Urban Agglomeration) for the year 1981 to 2011. The table shows that the population of Greater Mumbai increased more in Mumbai Urban Agglomeration area compared to the city area within the Mumbai Municipal Corporation. On the other hand, the growth rate in Mumbai Municipal Corporation remained almost stable of 1.86 to 1.83 percent per annum, whereas the growth rate in Mumbai Urban Agglomeration has declined from 2.90 percent per annum during 1981-1991 to 2.65 percent during 1991-2001.

3. Results and Discussion

Table 2 presents percentage of slum population in different wards of Greater Mumbai. Ward C (Marine Lines) did not report slums within its boundary limits. Table reveals marked variation in the distribution of slum population at the ward level. Some of the wards have reported more than 80 percent slum population, these are: Ward L (85 percent) and Ward S (86 percent). On the other hand in some of the wards slum population was merely below 10 percent.

Table 2 reveals that out of 24 wards, 11 wards comprise more than 50 percent slum population. One the other hand, few wards have reported less than 15 percent slum population i.e. Ward D (10 percent), Ward E (12 percent) and Ward B (13 percent).

Table 2
Ward Wise Distribution of Slum Population in Mumbai City, Census of India, 2001

No. of Wards	Name of Wards	Slum Population (in numbers)	Slum Population (in percent)
1 A	Colaba	60,893	28.88
2 B	Sandhurst Road	18,746	13.33
3 C	Marine Lines	There is no Slum within the Ward Limits	
4 D	Grant Road	38,077	9.95
5 E	Byculla	52,230	11.86
6 F/S	Parel	141,653	35.76
7 F/N	Matunga	304,500	58.07
8 G/N	Dadar/Plaza	324,886	55.82
9 G/S	Elphinstone	151,506	33.08
10 H/W	Bandra	138,541	41.06
11 H/E	Khar/Santacruz	457,622	78.79
12 K/E	Andheri (East)	472,226	58.30
13 K/W	Andheri (West)	316,065	45.11
14 P/S	Goregaon	210,591	48.10
15 P/N	Malad	508,435	63.65
16 R/S	Kandivali	326,235	55.30
17 R/C	Borivali	173,160	33.75
18 R/N	Dahisar	169,662	46.63
19 L	Kurla	658,972	84.68
20 M/W	Chembur (W)	283,557	68.48
21 M/E	Chembur (E)	523,324	77.55
22 N	Ghatkopar	435,009	70.21
23 S	Bhandup	593,300	85.83
24 T	Mulund	116,250	35.21
Total	24 Wards	6,475,440	54.06

Source: Director of Census Operation, Maharashtra, Census of India 2001.

Table 3 presents distribution of accessibility to tap water facility which is shown by persons per tap, percentage of households without electricity connection and type of toilet facility in various slums of Mumbai.

Table 3
Ward Wise Distribution of Basic Amenities in Slums of Mumbai, Census of India, 2001A

No. of Wards	Name of Wards	Tap Water (persons per tap)	Without Electricity (percent of households)	Toilets (percent of households)
				Community Private
1 A	Colaba	-	-	100 0
2 B	Sandhurst Road	-	-	100 0
3 C	Marine Lines	There is no Slum within the Ward Limits		
4 D	Grant Road	43	-	- -
5 E	Byculla	-	-	- -
6 F/S	Parel	-	2.93	100 0
7 F/N	Matunga	64	3.44	100 0
8 G/N	Dadar/Plaza	107	5.21	100 0
9 G/S	Elphinstone	59	11.63	- -
10 H/W	Bandra	129	98.73	76.64 23.36 (32)
11 H/E	Khar/Santacruz	-	-	100 0
12 K/E	Andheri (East)	6	-	100 0
13 K/W	Andheri (West)	103	16.29	100 0
14 P/S	Goregaon	101	0.00	100 0
15 P/N	Malad	119	4.91	100 0
16 R/S	Kandivali	4367	28.47	0 100 (62)
17 R/C	Borivali	153	20.60	94.63 5.37 (134)
18 R/N	Dahisar	39	44.98	100 0
19 L	Kurla	20	98.00	100 0
20 M/W	Chembur (W)	165	99.95	90.74 9.26 (190)
21 M/E	Chembur (E)	113	8.19	100 0
22 N	Ghatkopar	63	6.57	100 0
23 S	Bhandup	61	22.56	98.57 1.43 (150)
24 T	Mulund	74	20.75	100 0
Total	24 Wards	52	33.24	98.95 1.05

Source: Census of India 2001, unpublished data received from Directorate of Census, Maharashtra.

Census data provides ward wise information about slums regarding the numbers of tap points/public hydrants installed for supply of protected water, electricity connection for domestic use, road lighting (points) and others, toilet facility separately by private (water borne, service and others) and community toilets.

Tap water:

Tap is the source of safe drinking water and lacking of it shows the substandard condition of slums.

Table 3 reveals that in Khandivali area more than thousand persons are sharing a tap (4,367 persons per tap). Conversely, some of the wards have reported better scenario as compared to Khandivali slums. These areas have reported sharing of a tap with less than two hundred persons only. These are: Chembur (W) with 165 persons per tap, Borivali with 153 persons per tap, Bandra with 129 persons per tap, Malad with 119 persons per tap, Chembur (E) with 113 persons per tap, Mahim/Dharavi with 107 persons per tap, Andheri (W) with 103 persons per tap and Goregaon with 101 persons per tap. On the other hand, Andheri (E), Kurla and Borivali have been reported better drinking water facility.

On an average one tap is shared by 52 slum dwellers in the slums of Mumbai. This is not a good condition as it shows that slum dwellers are lacking the access to safe drinking water facility. It might be possible that they wait for several hours to fetch water because of high population pressure and limited tap connections in these areas.

Electricity connection:

Some of the wards have reported very small proportion of households not having electricity facility i.e. Parel (3 percent), Matunga (3 percent), Malad (5 percent), Dadar (5 percent), Ghatkopar (7 percent) and Chembur (E) (8 percent) respectively. These slum households are in a better condition. It means that more than 90 percent of these slum households are having electricity connections. Goregaon area is totally electrified. On the other hand some of the slums have reported less than 20 percent households without electricity facility i.e. Elphinstone Rd. (12 percent) and Andheri (W) (16 percent). Many slum pockets situated in Deonar, Kurla, Khar and Santacruz are totally un-electrified. On an average one-third of households don't have electricity facility in slums of Mumbai.

Toilet facility:

Toilets are the symbol of hygiene and sanitation in human life. The level of hygiene and sanitation in slums of Mumbai can be assessed by the number of toilets and their type (private or public). Census (2001) does not provide information about the open defecation. Therefore Table 3 provides information about the number of toilets by their type.

Numbers of private toilets are very scanty in slums of Mumbai. Only few of them have reported private toilets, i.e. Bandra (32 toilets), Khandivali (62 toilets), Borivali (134 toilets), Chembur (W) (190 toilets) and Bhandup (150 toilets). Rest of the slums have not reported any private toilets, most of them have community toilets shared by many households. As community toilets are shared by many households so in terms of hygiene it is not as good as the private are. Colaba, Sandhurst Rd., Matunga, Dadar, Khar Santacruz, Parel, Elphinstone Rd., Andheri (E), Andheri (W), Goregaon, Malad, Borivali, Kurla, Chembur (E), Ghatkopar and Mulund slums have complete dominance of community toilets as they have reported hundred percent community toilets (see Table 3).

Table 4
Ward Wise Distribution of Sewerage System in Slums of Mumbai,
Census of India, 2001

No. of Wards	Name of Wards	Sewerage System (in numbers)		
		S	OSD	S/OSD
1	A Colaba	S	-	-
2	B Sandhurst Road	S	-	-
3	C Marine Lines	There is no Slums within the Ward Limits		
4	D Grant Road	S	-	-
5	E Byculla	S	-	-
6	F/S Parel	-	OSD	-
7	F/N Matunga	-	OSD	-
8	G/N Dadar/Plaza	S	-	-
9	G/S Elphinstone	S	-	-
10	H/W Bandra	S	-	-
11	H/E Khar/Santacruz	S	-	-
12	K/E Andheri (East)	-	OSD	-
13	K/W Andheri (West)	S	-	-
14	P/S Goregaon	-	-	S/OSD
15	P/N Malad	S	-	-
16	R/S Khandivali	-	-	S/OSD
17	R/C Borivali	-	OSD	-
18	R/N Dahisar	-	OSD	-
19	L Kurla	-	OSD	-
20	M/W Chembur (W)	-	OSD	-
21	M/E Chembur (E)	-	OSD	-
22	N Ghatkopar	-	-	S/OSD
23	S Bhandup	-	OSD	-
24	T Mulund	-	OSD	-
Total 24 Wards		10	10	3

Note: S = Covered Sewer

OSD = Open Surface Drains

S/OSD = Covered Sewer/Open Surface Drains

Source: Census of India 2001, unpublished data received from Directorate of Census, Maharashtra.

The above table presents ward wise distribution of sewerage system in slums of Mumbai. Households have some facility of water outlet connected to some form of drainage system to carry away the waste-water generated by them.

Table 4 shows that 10 wards out of 24 have reported presence of sewerage system in these slums. These wards include: Colaba, Sandhurst Road, Grant Road Byculla, Dadar, Elphinstone Road, Bandra, Khar Santacruz, Andheri (W) and Malad. Generally underground or covered drains are good for the healthy

environment. Open drains leads to diseases and unsanitary conditions. It is clear from Table 4 that the slum areas in Parel, Matunga, Andheri (E), Dahisar, Borivali, Kurla, Chembur (W), Chembur (E), Bhandup and Mulund have reported Open Sewerage Drains (OSD). It is not only unhygienic, however also provides a breeding ground for mosquitoes and insects and spreads diseases during the monsoon season.

Three wards namely Goregaon, Khandivali and Chembur (E) have reported both types of sewerage system (Covered sewer and open surface drains). Some of the slums have reported open surface drains whereas some of them have reported covered sewerage system. It means that the sanitation level of these slums is moderately improved as compared with slums with open surface drains.

Table 5
Distribution of Notified Slums in Mumbai City,
Census of India, 2001

No. of Wards	Name of Wards	Notified Slums	
		(in numbers)	(in percent)
1	A Colaba	0	0
2	B Sandhurst Road	0	0
3	C Marine Lines	There is no Slums within the Ward Limits	
4	D Grant Road	18	100
5	E Byculla	11	100
6	F/S Parel	48	100
7	F/N Matunga	0	0
8	G/N Dadar/Plaza	74	100
9	G/S Elphinstone	71	100
10	H/W Bandra	3	9.38
11	H/E Khar/Santacruz	18	90.0
12	K/E Andheri (East)	1	100
13	K/W Andheri (West)	2	40.0
14	P/S Goregaon	3	100
15	P/N Malad	6	100
16	R/S Khandivali	2	8.00
17	R/C Borivali	82	100
18	R/N Dahisar	30	100
19	L Kurla	232	100
20	M/W Chembur (W)	33	100
21	M/E Chembur (E)	39	100
22	N Ghatkopar	22	37.29
23	S Bhandup	188	100
24	T Mulund	65	81.25
Total 24 Wards		948	85.87

Source: Census of India 2001, unpublished data received from Directorate of Census, Maharashtra.

Notified Slums:

Notified slums are those that have been notified as slums by municipalities, corporations, or any other local authority and tend to receive a higher level of official services. It means that they deserve the basic minimum requirements of shelter. Non-notified slums have more of an uncertain legal standing, and are often composed of temporary, crowded tenements in an unhygienic environment.

Table 5 presents ward wise distribution of notified slums in Mumbai. The majority of slums are hundred percent notified. These slums are situated in Grant Road, Parel, Byculla, Elphinstone Road, Dadar, Goregaon, Malad, Borivali, Dahisar, Chembur (E), Chembur (W) and Bhandup. On the other hand few areas such as Colaba, Sandhurst and Matunga have not reported notified slums.

Table 6
Availability of Household Amenities in Mumbai City,
Census of India, 2011

Household Amenities	Mumbai Percent of households
Source of drinking water - Tap water-within the premises	78.7
Source of drinking water - Tap water-away the premises	2.1
Bath room available-within the premises	94.9
Type of drainage connectivity for waste water outlet - Closed drainage	81.7
Type of drainage connectivity for waste water outlet - Opened drainage	15.9
Type of drainage connectivity for waste water outlet - No drainage	2.4
Availability of type of Latrine facility - within premises	57.6
Availability of type of Latrine facility - not within premises	42.4
Availability of type of Latrine facility - not within premises-Public	40.2
Availability of type of Latrine facility - not within premises-Open Spaces	2.2
Source of lighting - electricity	97.2
Source of lighting - kerosene	2.5

Note : Mumbai City (Municipal Corporation of Greater Mumbai) consists of two districts namely Mumbai and Mumbai Suburban. (www.Censusindia.gov.in).

District wise data on household amenities for 2011 Census are available in the Census website (www.Censusindia.gov.in). Table 6 presents percent of households by various household amenities in Mumbai city according to 2011 Census. It shows that about 79 percent households are using tap water as a source of drinking water, within their housing premises. On the other hand 2 percent household are fetching tap water far away from their premises. Ninety-five percent households have bathroom facility within their housing premises. And in case of drainage connectivity for the outlet of waste water, about 82 percent, 16 percent and 2 percent are having closed, opened and no drainage system respectively. About 58 percent households have latrine facility available within their premises.

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Households not having latrine facility within their premises, about 40 percent are using public toilets and 2 percent are using open spaces for defecation. Majority of the households have electricity facility.

Slum Rehabilitation Policy:

Since independence there have been limited efforts on rehabilitation of slum dwellers and improving their living conditions. In 1985 Government of Maharashtra tried to rectify the problem by launching the 'Slum Upgradation Project'. It offered secure long-term legal plot to slum households on the basis that they would invest in their housing. By generating an interest in the housing and by guaranteeing home ownership to the slum households, it was expected to obliterate slums. Unfortunately this program targeted only 10-12 percent of the slum households i.e., those who were capable of upgrading their homes. It disregarded those who did not have homes at all.

Slum Rehabilitation Act, 1995 was passed by Government of Maharashtra to protect the rights of slum dwellers and promote the development of slum areas. The Act protected from eviction anyone who could produce a document providing they lived in the city before January 1995. In spite of the fact they lived on the pavement or other kinds of municipal land. The free housing scheme for slum-dwellers was severely criticized as it relies only on the participation of builders. However, the scheme was good because it envisages that instead of resettlement of slum dwellers to another place it is better to upgrade these slums by providing better housing, drinking water facility, electricity, toilet facility and proper drainage systems at their own locations.

There are three types of slum rehabilitation schemes. These are as per the provisions of different sections of Development Control Regulations (DCR) under which they are approved.

- Under provisions of DCR 33(10) also called in-situ scheme: In this scheme slums are rehabilitated on the same site.
- Under provisions of section 3.11 also called PAP scheme: In this scheme an owner of vacant unencumbered land can use it for construction of PAP tenements for which he is compensated by TDR (Transferable Development Right) for land and for construction.
- Under provisions of DCR 33(14) also called transit scheme: In this scheme, the landowner is allowed to consume the existing FSI potential of the land, owned by him. The additional potential of 1.5 for suburbs, 1.66 for difficult area and 1.00 for island city (only for government or public sector plots) is granted under this scheme. The developer constructs transit tenements out of a prescribed part of this additional potential. The balance of the additional potential is allowed as free sale component (GoM SRA 2012).

One of the models for slum redevelopment is Public Private Partnership (PPP) model. Under this PPP model of slum upgrading program, city developers are handed over slum land and in return given them additional Floor Space Index (FSI) for the rehabilitation of slum dwellers and construct market rate housing on the same plot. The objective behind this is that the market rate housing will be subsidized by the government. And further it will be given free to the slum dwellers. Recently new Development Control (DC) rules have been announced in the cabinet meeting by the Maharashtra Government. And it makes compulsory for the builders and developers to keep 20% of the flats constructed on large schemes of a smaller size for all the new construction in all municipal corporation area of the state. It would be helpful for the economically weaker sections to buy flats in construction projects.

Previously it was compulsory for a slum dweller having a domicile in slum built before 1st January, 1995, but now after this new rule it has been changed. According to new rule not only the slum built before 1st January, 1995 but the residents who came relatively recently will also be benefitted (TET 2012).

4. Summary and Conclusion

Government has announced various schemes and programs for the upliftment and rehabilitation of slum dwellers and urban poor. The Central Government launched a massive scheme named as "Jawaharlal Nehru National Urban Renewal Mission" (JNNURM) in 2005 which covers five metropolitan cities of Maharashtra including Mumbai. Mega infrastructure projects, construction of houses, basic services are the important components of this scheme (GoM SRA 2012). Another scheme with support from the Central Government is the Rajiv Awas Yojana (RAY) which aims to provide housing to the urban poor (MoHUPA 2012).

A large number of slum dwellers are migrants, and most of them belong to the lower socio economic group and come from different parts of country. The majority of the slum population is concentrated in core areas of the city because they want to live nearer to their working places and contribute significantly to the economic activity of the city.

Results shows that slum dwellers of Mumbai city are lacking the basic necessities of life i.e. safe drinking water, hygiene and sanitation in terms of toilet facility and sewerage facility. For example it is pathetic to know that in Khandivali area more than thousand persons are sharing a tap (4,367 persons per tap). And in many other slum areas like Chembur (W), Chembur (E), Borivali, Bandra, Malad, Mahim/Dharavi, Andheri (W) and Goregaon have reported more than hundred persons per tap. On an average 52 persons are sharing one tap in slums of Mumbai city. One third households have reported un-electrified condition.

These slums are not only congested places but also characterized with open sewerage and lack of private toilets. The level of hygiene and sanitation can be easily assessed by the numbers and type of

toilets. Numbers of private toilet are very sparse in most of the slums. Only few wards of the city have reported private toilets. Private toilets are more hygienic as compare to the public or community ones. Results reveal that most of the slums have reported public or community toilets, shared by many persons. Wherever community toilets are available they are not properly maintained and as a result people resort to open defecation. Thirteen out of 24 wards have reported open surface drains. It can be easily understood of the healthy and hygienic condition of slums from the finding that most of them have reported open surface drains in spite of covered drains. Underground or covered drains are good for the healthy environment. As open drains are the breeding ground for mosquitoes and insects, which may leads to various diseases. In rainy season they are more vulnerable to the diseases because most of the slums are in the low lying areas of the coastal city of Mumbai. Despite of the fact that majority of these slums are notified by the government and municipal council they are lacking these basic necessities of life. This is a big problem in Mumbai which warrants immediate attention.

References:

Abrams, Charles (1970), 'Slums', in: Desai, A. R. and S. Devadas Pillai, (editors), *Slums and Urbanization*, Popular Prakashan, Bombay, pages 9-14.

Agarwal, S., Satyavada, A., Kaushik, S., and Kumar, R., (2007), 'Urbanization, Urban Poverty and Health of the Urban Poor: Status, Challenges and the Way Forward', *Demography India*, 36(1):121-134.

Aldrich, Brian C., and Sandhu, Ravinder S., (1995), (eds.) *Housing the Urban Poor: Policy and Practice in Developing Countries*, New Delhi: Vistaar Publications.

Bhandari, L., and Basu, K., (2000), *In Action Plan for Slum Auction and Relocation for the State of Delhi*, New Delhi: National Council of Applied Economic Research.

Bombay Municipal Corporation (BMC), (1956-57), 'Slums in Bombay', Reprinted from Brief Report on the Survey of Old Buildings in City (1956-57), in: A. R. Desai and S. Devadas Pillai (editors), *Slums and Urbanization*, Bombay: Popular Prakashan, Bombay, pages 153-160.

Desai, A. R., and Pillai, S. D., (1970), in: Desai, A. R., and Pillai, S. D., (editors) *Slums and Urbanization*, Bombay: Popular Prakashan, Bombay pages, 149-152.

Government of Maharashtra, Slum Rehabilitation Authority (GoM SRA) (2012), 'Slum Rehabilitation Schemes', (accessed on April 25, 2012) available at <http://www.sra.gov.in/htmlpages/RehabSchemes.htm>

Grodzins, Morton (1970), 'The New Shame of The Cities', in: Desai, A. R. and S. Devadas Pillai (editors), *Slums and Urbanization*, Bombay: Popular Prakashan, Bombay, pages 77-81.

International Institute for Population Sciences (IIPS), (1993-94), *Morphology of Slums in Thane*, Report Series, Number 6, By Nangia, Parveen and Kamla Gupta, Mumbai, India.

Kunda, A., (2007), 'Stigmatization of Urban Processes in India: An Analysis of Terminology with Special Reference to Slum Situations' Working Paper No 4, December 1999, (accessed on August 24, 2007) available at www.unesco.org/shs/most.html

Ministry of Housing and Urban Poverty Alleviation (MoHUPA) (2012), 'Rajiv Awas Yojana (RAY)', (accessed on April 28, 2012) available at https://jnnurmi.nic.in/jnnurm_hupa/jnnurm/NOTES%20ON%20RAJIV%20AWAS%20YOJANA.pdf

Operational Research Group (ORG), (1989), 'Accessibility to Basic Services in Slums of Five Urban Centres', Baroda.

Rao, P. Manohar, (1991), 'Environment and Upliftment of Slums in India', First Edition, Allahabad: Vohra Publishers and Distributors.

Registrar General and Census Commissioner (RGI), (2001a), 'Census of India: Slum Population', Series I, New Delhi.

Registrar General of India (RGI), (2001b), 'Analytical Report on Housing Amenities, Series I', Census of India, Delhi.

Retnaraj, D., (2001), 'Fast Growing Cities, Spurt in Land Prices and Urban Slums: The Kerala Experience', *IASSI Quarterly*, 20(2):123-133.

Ronitelli, D. A., (1990), 'Housing the Urban Poor in Developing Countries: The Magnitude of Housing Deficiencies and the Failure of Conventional Strategies are World Wide Problems', *American Journal of Economics and Sociology*, 49(2):153-166.

South Asian Analysis Group (SAAG), (2006), 'Poverty and Slums in India: Impact of Changing Economic Landscape', Paper No. 1769, by Sud, Hari, (accessed on August 25, 2007), available at <http://www.southasiananalysis.org/%5Cpaper18%5Cpaper1769.html>.

Sundari, S., (2003), 'Quality Of Life Of Migrant Households In Urban Slums', in: Martin J. Bunch, V. Madha Suresh and T. Vasantha Kumaran (editors), *Proceedings of the Third International Conference on Environment and Health, Chennai, India, 15-17 December, (2003)*, Chennai: Department of Geography, University of Madras and Faculty of Environmental Studies, York University, pages 537 - 552.

The Economic Times (TET), (2012), 'Maharashtra alters DC rule for construction of smaller flats' (accessed on April 26, 2012) available at http://articles.economictimes.indiatimes.com/2012-01-03/news/30584820_1_flats-dc-rule-11g

United Nations Human settlements Programme (UN-HABITAT), (2003) 'Slums of the World: The face of urban poverty in the new millennium?' Working Paper, (accessed on May 18, 2009), available at <http://www.unhabitat.org/pnss/getPage.asp?page=bookView&book=2057>.

United Nations Human Settlements Programme (UN-HABITAT), (2006-07), 'State of World Cities 2006/07', (accessed on May 18, 2009), available at http://www.unhabitat.org/downloads/docs/5636_27492_SOWCR%202007.pdf