

## **Urban Sanitation and Hygiene Promotion in Uttar Pradesh**

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### ***Introduction***

Urbanization in India is characterized by unplanned and uncontrolled growth which leads to urban sprawl. It has generated a series of negative environmental and social effects. The urban local bodies do not have adequate resources and infrastructure facilities for delivery of civic services effectively. As growth of urbanization continues, the environmental problems are escalating. While environmental problems such as air pollution, water pollution and degradation of natural resources are occasionally addressed by local governments, the insanitary conditions of large population are ignored. The environmental conditions in Indian cities are worse and urbanization caused by migration escalates the housing problems, resulting in growth of slums. The sanitation and water supply systems are causing serious concern for environmental pollution. A large section of urban population is being ignored for providing proper sanitation and water supply services. The sanitation movement had a very limited impact on the population in India due to poor attention paid on public health, sanitation and hygiene. On the one hand, a large population in urban areas still lacks proper sanitation facilities, while on the other, manual scavenging still prevails in large parts of the country due to ineffective enforcement of Employment of Manual Scavengers and Construction of Dry Toilets (Prohibition) Act, 1993. The outbreak of plague in Surat City in 1994 forced the various levels of government to intervene in the sector.

### **Trends of Urbanization**

In 2000, the world's urban population had increased to almost 2.9 billion, about 47 per cent of the total population. Today Asian countries have emerged as most populous countries. According to United Nations

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Study (1995), by the year 2015 ten of the world's fifteen largest cities will be in Asia, three of these will be in India. Of the 10 most populous countries, 6 are in Asia.

The demographic and economic growth in India is likely to be concentrated in and around fifty to sixty large cities with population of about a million or more. There is migration from villages to town and cities which results in growth of metropolitan cities since they provide multiple avenues, services and amenities viz. education, health care, employment, business and entertainment options etc. People also migrate for economic opportunities and urban life styles. Though urbanization brings about development in the social, economic and cultural spheres of life, but sometimes it disturbs the ecological system. Rapid and unplanned growth of urban agglomeration generates a series of negative environmental and social effects. Today urban India presents a very pathetic scene. Cities have become a site of rotting garbage, degrading drainage system and shocking night soil removal system. Besides, poor have practically no access to covered toilets and in many towns and cities, the majority have to defecate in the open. Moreover, the untreated sewage being dumped into the nearest water body leads to health hazards.

India is one of the least urbanized countries in the world because between 1951 and 2001, the level of urbanization increased by 13 percentage points only. However, it has the second largest urban population in the world and more than two-third of it lives in the 423 cities that have population of over one lakh. The four mega cities of viz., Mumbai, Kolkata, Delhi and Chennai with a population of more than 6 millions each in 2001 account for almost one fourth of population living in cities. As per the 2001 Census, 285 million population i.e. 27.8 per cent of 1027 million total population of India is residing in 4,368 cities and towns in the country, whereas in 1991, 25.7 per cent population lived in urban areas. The decadal growth in urban population during 1991-2001 has been 31.2 per cent, whereas at the beginning of the 20th century, only 10.8 per cent of total 218 million population of the country resided in cities and towns. The number of million plus cities has increased to 35 in 2001 from 12 in 1981 and 23 in 1991. These 35 million-plus cities account for 107.9 million urban population of the country. As per projections of Government of India, the urban population of the country in 2011 will be 405.26 million and 553.04 million in 2021. Thus, around one third population is expected to live in urban areas.

There has been phenomenon growth in the number of towns and urban agglomerations over the period of 1981 to 2001, however, annual exponential growth rate of urban population is low. There has been just 2.06 percentage points increase in proportion of urban population to total population during 1991 to 2001.

An analysis of the distribution of urban population by size categories reveals that the process of urbanization in India has been oriented towards large cities, since a high proportion proved that a high proportion of urban population is concentrated in Class I cities, which has gone up systematically over the decades in the last century. The massive increase in proportion of Class I cities from 26 per cent in 1901 to 85.20 per cent in 1991 while it decline to 68.67 per cent in 2001, has been attributed to faster growth of large cities.

The startling fact is that the proportion of population living in smaller towns has shown declining trend over the period, while there has been a marked growth in population of larger towns. Importantly, growth of population in smaller towns has been reported negative while the growth of population in large cities and towns has been found massive. During 2001, a high percentage of urban population had been reported in Delhi, Pondicherry, Goa, Chandigarh, Maharashtra, Mizoram, Lakshadweep, Tamil Nadu, Karnataka, Gujarat etc.

Uttar Pradesh occupies the central position in the northern India. It is the most populous state in the country. The state witnessed a tremendous growth in its urban population during the last three decades. Between 1971-81 the decadal growth was about 60.62 per cent, the highest in the country. In 1981-91 this growth was about 38.97 per cent, second after Orissa. As per the 2001 Census, every fifth person in the state is residing in urban centres. The total urban population of the State has increased to 347 million showing an increase of about 33 per cent during the decade 1991-2001. However, the pace of urbanization and level of urbanization has been reported lower than most of the other States. In 2001, 20.78 per cent population of Uttar Pradesh was found to be living in urban areas. It may be mentioned that during 1991-2001, urban population grew by 2.84 per cent per annum.

As per census, there are 670 towns and cities in the state. Most of the towns and cities are categorized as class IV and Class III having population in between 10,000 to 50,000. However, urban population is concentrated in large towns and cities. As per information available from SUDA, Uttar Pradesh, 4.3 million population is living in more than seven thousand slum pockets in the State. About 28 per cent slum dwellers do not have proper drainage facility and adequate sanitation coverage.

The task of improving urban services is constantly more challenging due to the large increase in population. This has put a strain on the present management and delivery systems. In many cases delivery mechanisms would need to be redesigned to meet the large demand. If urban population growth is to be accelerated, it will need even greater acceleration in urban infrastructure investment. With the rapid urbanization that is now expected in ensuing decades in India, it would be better to decentralize the instruments of infrastructure provision so that the agencies providing such infrastructure services are able to finance themselves and can respond flexibly to the changing demand of growing city. It would be better if private agencies are given more opportunities to perform the functions of financing, planning and management of urban infrastructural services and amenities. There is a strong demand for wider coverage of urban infrastructure services, which is a daunting task given the expected huge growth in urban population and secondly, for improvement in the quality of urban infrastructure services especially in large cities.

The Tenth Plan had, in the context of urban development, laid stress on improving the functional and financial autonomy of urban local bodies, strengthening of their finances through smooth implementation of State Finance Commissions' awards, rationalization of property taxation system and levy of user charges. The Plan advocated broad-based measures for urban sector reforms and emphasized that public-private-partnership should be brought on the urban agenda in order to improve the efficiency and delivery of services.

The responsibility for urban water supply and sanitation lies with local governments. However, other stake-holding agencies extend support to urban local bodies in the delivery of sanitation and water supply services in urban areas. The Government of India and several State Governments have also launched programmes for improving coverage, strengthening infrastructure and delivery mechanism. However, gaps still persist between

access to water supply and sanitation infrastructure and access to services as far as the following four main criteria are concerned, reliability, financial sustainability, environmental sustainability and affordability.

### ***Status of Urban Sanitation***

In most developing countries, the three most important environmental health problems that affect a large majority of population are contaminated water supply, inadequate sanitation and untreated solid wastes. The Global Water Supply and Sanitation Assessment Report by WHO and UNICEF, 2000 states that at the beginning of that year, one-sixth of the world's population was without access to improved water supply and two-fifths lacked access to improved sanitation. In absence of proper sanitation, people suffered from high levels of infections diseases leading to high incidences of morbidity and mortality. About 2.4 billion people lacked access to adequate sanitation facilities and four out of five of these un-served people lived in Asia alone. Inadequate sanitation like unsafe disposal of human excreta, open defecation, lack of infrastructure (sewerage, drainage, (sullage), and absence of hygiene management constitute a major threat to the health of the people. However, improving urban environmental health can prevent upto 44 per cent of the burden of the disease in cities of the developing world.

In recent years, there has been increasing recognition of the importance of sanitation not only due to its direct impact upon health, but also for its contribution to improved living environment, dignity, improved education outcomes and poverty reduction. In response, in 2002 at the World Summit on Sustainable Development in Johannesburg, international delegates acknowledged that it was not possible to reduce poverty without improved access to basic sanitation. This led to sanitation being included into the Millennium Development Goals (MDG's) and world leaders pledged their commitment to halve the proportion of people without access to basic sanitation by 2015.

It may be mentioned that poor sanitation and unsafe water have a high health risk but improvement in sanitation has greater impact on vector - related diseases. Due to lack of proper sanitation, water is contaminated, environment is polluted, vectors are increased, resulting in major health hazards. According to WHO Report of 2001, every year more than 5 million

people die from illness linked to excreta disposal and improper hygiene practices. The World Bank, 1999 reported that by providing access to adequate sanitation and safe water to all who currently lack these facilities would result in a million fewer deaths each year from diarrhoea among children of less than 5 years of age and 200 million fewer episodes of diarrhoea annually.

Sanitation (sewage, seepage, night soil, grey water and other forms of waste water and their sludges) can contain faecal matter responsible for a broad range of diseases that include diarrhoea, dysentery, gastroenteritis, cholera and intestinal worms like hook worm and ascariasis, tapeworm, threadworm and whipworm, hepatitis, typhoid, polio and range of fevers due to blood parasites. In addition, filarial and schist-soriasis are spread to humans indirectly by mosquitoes and snails respectively which depend on excreta for their life cycles. Many diseases like diarrhoea and some worm infections can be transmitted in several ways. Invariably, faecal infective material enters the human body in or through some medium, like drinking water, the hands, soil, food, utensils and toys. Many possibilities for transmission can be attributed - faecal material may drain into a water source, hands may not have been washed after defecation or before handling food, flies or other insects may transmit infective organisms from faeces to food, etc.

Table 1 provides a comparative situation of availability of toilets for households in 1991 and 2001 for major States. At the national level, 76 per cent of the households were not having toilet facilities in 1991. This figure came down marginally to 64 per cent in 2001. During 1991, availability of toilets for households in urban areas was recorded high in Assam, followed by West Bengal, Punjab Madhya Pradesh and least in Orissa. During 2001, availability of toilets in urban households was reported high in Assam, Madhya Pradesh, Punjab, Uttaranchal, West Bengal, Haryana and Gujarat.

**Table - 1**  
**Availability of Toilets for Households in Urban India**  
(percentage)

State	1991		2001		No Toilet	
	Total	Urban	Total	Urban	1991	2001
Andhra Pradesh	18.4	54.60	32.9	78.07	81.6	67.01
	0		9		0	
Assam	37.4	86.06	64.6	94.60	62.5	35.36

	3		4		7	
Bihar	11.75	56.54	19.19	69.69	88.25	80.81
Chhatisgarh	-	-	14.2	52.59	NE	85.80
Delhi	63.38	66.64	77.96	79.03	36.62	22.02
Gujarat	30.60	65.71	44.60	80.55	69.31	55.40
Haryana	22.45	64.25	44.50	80.66	37.55	55.50
Jharkhand	-	-	19.67	66.68	NE	80.33
Karnataka	24.13	62.52	37.50	75.23	75.87	62.50
Kerala	51.28	72.66	84.01	92.02	48.72	15.99
Madhya Pradesh	15.07	53.00	23.99	67.74	84.93	76.01
Maharashtra	29.56	64.45	35.09	58.08	70.44	64.91
Orissa	9.81	49.27	14.89	59.69	90.19	85.11
Punjab	33.18	73.23	56.84	86.52	66.82	43.16
Rajasthan	19.57	62.24	29.00	76.11	80.43	71.00
Tamil Nadu	23.13	57.47	35.76	64.33	76.87	64.84
Uttar Pradesh	18.02	66.54	31.43	80.01	81.98	68.57
Uttaranchal	-	-	45.20	86.88	NE	54.80
West Bengal	31.51	78.75	43.71	84.85	68.49	56.29
India	23.70	63.85	21.92	73.72	76.30	63.59

Source: Census of India, 1991 and 2001

The percentage of households without toilet facility has been reported to be 53.6 per cent in 2001. It was recorded much higher in rural areas i.e. 65.8 per cent as compared to urban areas (22.1 per cent). In urban areas, the proportion of households without toilet facility was reported to be higher in Kerala, Assam, Jharkhand, Mizoram, Chhatisgarh and Arunachal Pradesh as can be seen in the following Table.

**Table - 2**  
**Percentage of Households Having No Toilet in India**

<b>State</b>	<b>Total</b>	<b>Rural</b>	<b>Urban</b>
India	53.6	65.8	22.1
Jammu & Kashmir	59.4	73.2	18.2
Himachal pradesh	62.8	69.2	13.9
Punjab	17.8	21.9	10.2
Uttaranchal	51.9	65.0	11.8
Haryana	23.2	28.3	11.6
Delhi	10.1	25.5	9.0
Rajasthan	63.5	76.8	19.8
Uttar Pradesh	29.5	35.0	7.6
Bihar	62.0	65.1	31.4
Sikkim	60.6	68.4	5.8
Arunachal Pradesh	65.5	73.9	36.7
Nagaland	54.7	61.4	27.8
Manipur	61.0	67.2	42.9
Mizoram	55.8	75.2	37.0
Tripura	70.9	76.3	46.9
Meghalaya	62.8	73.7	23.3
Assam	79.6	85.0	47.4
West Bengal	69.2	84.1	32.9
Jharkhand	70.	82.3	27.6
Orissa	79.3	85.1	42.5
Chhatisgarh	78.9	88.7	37.0
Madhya Pradesh	65.8	80.2	24.1
Gujarat	61.2	86.3	21.7
Maharastra	39.2	58.9	12.4



Andhra Pradesh	48.4	58.6	17.7
Karnataka	48.8	64.6	19.0
Kerala	80.3	84.0	69.1
Tamil Nadu	54.9	72.6	30.0

Source: Census 2001, Government of India

The Census of 2001 also provides information regarding the type of toilets used in both rural and urban areas. Basically, there are three categories: pit toilets, water-closet toilet and other type of toilets mainly including service toilets. Service toilets are dry types of toilets from where human excreta are removed by scavengers. Out of 36 per cent of the households having toilet facilities at the national level, half of them had water closet toilets, wherein the faecal matter is removed without the need for scavenging and about 12 per cent of the households had pit toilets. In urban India, 40 per cent of the households used water closet toilet and around 15 per cent pit toilets. The trend is, however, reverse in rural areas where 10 per cent have pit toilet and only 7 per cent use water closet toilets (Table - 3). In Uttar Pradesh, more people continue to use service toilets than pit and water closet toilets. In States such as Delhi, Haryana, Punjab and Uttaranchal, the usage of service toilets is quite high, even at present.

**Table - 3**  
**Types of Toilet at Household Level (2001)**  
(percentage)

State	Pit Toilet	Water Closet	Other Toilet	Urban			
				Pit Toilet	Water Closet	Other Toilet	Total
Andhra Pradesh	8.55	98.20	6.32	15.10	46.97	16.0	78.07
Assam	43.94	15.90	4.81	26.39	58.88	9.33	94.60
Bihar	6.48	7.87	2.92	5.15	38.82	8.62	52.59
Chhatisgarh	2.42	8.87	2.92	5.15	38.82	8.62	52.59
Delhi	16.36	45.47	16.13	15.18	47.36	16.49	79.03
Gujarat	8.73	31.09	4.78	9.75	62.11	8.69	80.55
Haryana	22.29	10.91	11.30	26.48	30.99	23.19	80.66
Jharkhand	3.27	10.73	5.67	27.41	41.24	18.03	66.68

Karnataka	13.38	18.64	5.48	20.70	44.86	9.67	75.23
Kerala	12.36	65.19	6.46	11.11	74.76	6.16	92.02
Madhya Pradesh	5.93	12.47	5.58	11.89	41.10	14.74	67.74
Maharashtra	8.89	21.85	4.34	7.08	44.37	6.63	58.08
Orissa	3.97	8/79	2.14	9.48	43.05	7.15	59.08
Punjab	24.33	20.40	12.11	20.53	46.52	19.48	86.52
Rajasthan	10.47	11.93	6.60	18.21	40.58	17.33	76.11
Tamil Nadu	7.30	23.22	4.63	11.16	45.47	7.71	64.33
Uttar Pradesh	10.29	7.98	13.16	11.07	31.98	29.96	80.01
Uuaranchal	18.71	15.45	11.04	26.72	40.82	19.35	86.08
West Bengal	17.53	20.95	5.23	22.89	55.20	6.76	84.95
India	11.50	18.02	6.88	14.60	46.12	13.00	73.72

Source: Census, 2001

The National Sample Survey also provides information regarding the usage of toilets by households. Among those who had access to toilets, 74 per cent of the rural and 62 per cent of the urban households used them exclusively. About 29 per cent of the surveyed households had to share the toilets with other households. The proportion of households having sole access to the toilet used by them is steadily increasing over the years both in rural as well as urban areas. Most of the urban households had toilet within their home premises (89.2 per cent), while about 8.8 per cent households had toilet facility outside their home premises (Table - 4).

**Table - 4**  
**Usage of Toilet by Urban Households in India (1998)**  
(percentage)

State	Type of Usage			Availability of Toilet		
	For Exclusive use of HH	Shared by Restricted set of HH	For Community use	Within Premises	Less than 0.5 km. distance	Beyond 0.5 km. distance
Andhra Pradesh	62.6	34.5	1.6	90.5	4.1	1.6
Assam	68.6	23.5	2.4	91.4	7.4	-
Bihar	66.74	28.9	1.8	96.7	1.6	-
Gujarat	73.7	20.2	5.7	89.6	10.4	-

Haryana	76.8	22.4	0.8	98.6	1.2	-
Karnataka	64.1	32.4	3.4	92.6	7.3	-
Kerala	85.81	14.0	0.1	98.5	1.0	0.5
Madhya Pradesh	69.4	16.9	1.8	86.8	3.7	0.1
Maharastra	46.4	28.5	24.3	75.3	23.6	0.3
Orissa	71.4	25.5	-	81.1	0.1	12.8
Punjab	61.5	37.1	0.3	98.1	1.5	0.2
Rajasthan	65.4	32.2	0.8	98.5	2.1	1.4
Tamil Nadu	59.7	37.3	2.4	91.1	7.0	0.1
U. P.	65.6	25.3	8.0	97.4	2.1	-
West Bengal	54.2	41.9	2.9	86.1	7.5	0.1
India	61.9	29.2	7.4	89.2	8.3	0.5

Source: NSSO 54th Round, Department of Statistics, NSSO, Government of India, 1999

The State-wise status of sanitation in urban India is shown in Table 5. During 1997-98, 0.83 million scavengers engaged in manual scavenging were identified. The largest number of scavengers was recorded in Uttar Pradesh, Maharastra, Gujarat, Bihar, Madhya Pradesh, Rajasthan and West Bengal. During 2001, 0.11 million scavengers were liberated while 3.5 million dry toilets were converted into pour-flush toilets. In 2002-03, the Union Ministry for Social Justice and Empowerment admitted the existence of 6.76 lakh people who lift human excreta for a living and the presence of 92 lakh dry toilets spread across 21 States and Union Territories. However, the National Convener of Safai Karmachari Andolan (SKA) remarked that the problem is not about identifying, educating or providing alternatives, but is one of attitude. The estimated number of manual scavengers is more than 1.3 million. This figure is far in excess than the number of scavengers identified and liberated during 1997-98 to 2001 in India.

**Table - 5**  
**State-wise Status of Sanitation in Urban India**

State	Percentage of	No. of	No. of	No. of
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	Population Covered by Sewerage (1989)	Scavengers (1997-98)	Scavengers Liberated (2001)	Conversion and Construction of Toilets (2001)
Andhra Pradesh	11	7453	3136	604448
Assam	16	16873	1881	90340
Bihar	23	40249	-	9465
Gujarat	38	62842	-	-
Goa	13	-	-	45500
Haryana	28	25279	7982	200224
Himachal Pradesh	14	4760	-	-
Jammu & Kashmir	8	4150	1900	61845
Karnataka	38	14555	3227	177689
Kerala	28	1339	726	1450
Madhya Pradesh	8	80072	3361	113216
Maharashtra	40	126691	2990	199466
Meghalaya	NA	607	30	5290
Nagaland	NA	1800	-	-
Orissa	10	19103	856	51597
Punjab	49	31290	15353	223777
Rajasthan	10	57736	11506	423947
Tamil Nadu	48	35561	4393	155561
Tripura	13	-	-	18788
Uttar Pradesh	14	246916	43404	775113
Uttaranchal	-	-	2415	4092
West Bengal	20	30000	8996	299820
Chhatisgarh	-	-	210	6194
Delhi	-	17420	-	-
Jharkhand	-	-	-	1771
Sikkim	-	400	-	-
India	28	825572	112460	3492955

Source: India Infrastructure Report, 2001

According to the 2001 Census, 54 per cent of the households in India had no drainage facilities (66 per cent in rural and 22 per cent in urban areas). The proportion of households with no drainage facility was relatively lower in Delhi, Punjab and Haryana. There are two categories of connectivity of waste water outlet, namely, closed drainage and open drainage. Accordingly, 4 per cent of the households in rural and 35 per cent in urban areas had connectivity to closed drainage to carry away the waste water generated by the people living in it. The coverage of open drainage facility was 30 per cent and 43 per cent in rural and urban areas respectively. The proportion of urban households having the facilities of closed drainage was reported high in Gujarat followed by Delhi, Karnataka, Maharashtra, Punjab and Andhra Pradesh while it was reported to be least in Assam (9.84 per cent). The proportion of urban households without drainage facilities was reported high in Kerala, Assam, Orissa, Chhatisgarh, West Bengal and Bihar (Table - 6).

**Table - 6**  
**Drainage Facility in Urban India (2001)**

(percentage)

State	Total			Urban		
	Closed Drainage	Open Drainage	No. Drainage	Closed Drainage	Open Drainage	No. Drainage
Andhra Pradesh	13.65	37.90	48.44	36.02	46.27	17.71
Assam	2.18	18.27	79.55	9.84	42.78	47.38
Bihar	4.46	33.59	61.95	22.15	46.46	31.39
Chhatisgarh	4.41	16.73	78.86	17.12	45.85	37.04
Delhi	49.16	40.78	10.06	51.68	39.35	8.96
Gujarat	27.24	11.60	61.16	59.26	19.03	21.71
Haryana	12.86	63.94	23.2	35.01	53.39	11.59

Jharkhand	6.36	23.26	70.37	23.79	48.57	27.64
Karnataka	17.26	23.97	48.77	41.64	39.33	19.03
Kerala	8.04	11.68	80.28	14.85	16.04	69.11
Madhya Pradesh	7.71	26.48	65.81	24.50	51.92	24.07
Maharashtra	22.02	38.75	39.20	95.07	42.51	12.92
Orissa	4.91	15.84	79.26	19.61	37.88	42.51
Punjab	18.46	63.70	17.84	44.97	44.80	10.23
Rajasthan	7.93	28.58	63.49	24.12	56.07	19.81
Tamil Nadu	16.89	28.23	54.89	34.56	35.46	29.98
Uttar Pradesh	9.54	60.95	29.51	26.46	64.91	7.62
Uttaranchal	10.37	37.69	51.94	28.36	59.88	11.76
West Bengal	7.31	23.45	69.24	21.85	46.30	32.86
India	12.46	33.93	53.40	34.50	43.37	22.13

Source: Census, 2001.

### ***Need for Sanitation and Hygiene Promotion***

Presently, access to sanitation services is markedly less than access to water supply in both rural and urban areas. Thus, there is an imperative need to focus attention on provision of sanitation. The provision of adequate sanitation facilities in urban areas is an important investment which safeguards people's health and well-being. It also protects the environment and ensures reduction in the spread of diseases. For healthy cities, adequate sanitation is essential as the chances for transmission of excreta related diseases are higher in densely populated areas. People also value the privacy and convenience of being able to use toilets within their home premises. Women, in particular, value a sense of security by using toilet within the home premises. In urban areas, there is hardly any open space for defecating. However, in the absence of adequate toilet facility, the poor and slum dwellers are forced to defecate in open or near rivers, lakes, ponds, railway tracks, roads, etc. People also prefer to live in clean and healthy environment. However, adequate sanitation requires political commitment and huge investment. A common problem with many of the efforts of urban governments to improve sanitation is reported to be largely supply-driven rather than demand-driven. The sanitation facilities should be affordable

and households should be consulted regarding their willingness to pay for use and maintenance of alternative sanitation systems and technologies. Thus, Water Supply and Sanitation Collaborative Council, 2004 has suggested the following steps in urban sanitation planning viz. (i) request for assistance; (ii) launch of the planning and consultative process; (iii) assessment of current status, (iv) assessment of user priorities; (v) identification; (vi) evaluation of feasible service combinations; (vii) consolidated sanitation plans; (viii) finalizing consolidated plans; and (ix) monitoring.

The common elements of sanitation promotion initiatives include the following approaches:

- identifying key target groups to be reached
- identifying core messages to be communicated
- awareness of the prevailing socio-cultural framework
- consideration of sanitation as a consumer good, not just as a potential health benefit; and
- using a mix of communication methods in vernacular language with clear messages.

In recent years there has been increasing recognition of the importance of sanitation, not only due to its impact on health directly, but also for its effect on improved living environment, human dignity and poverty reduction. Effective sanitation ensures a transformation of the living environment, especially in urban areas, and includes waste water treatment and disposal and solid waste management. Sanitation promotion is imperative because our past experience demonstrates that a supply driven strategy to simply build more toilets with household's subsidies may result in unused facilities. For instance, in Maharashtra, 1.7 million rural toilets were constructed with subsidies from the State Government over a four year period, but only 57 per cent were actually used. Similarly, a three country study in East Asia suggests that despite high average, only about 12 per cent of the poor households in Vietnam and Cambodia had effective access to toilets in 2001. Many cities in developing countries have similar problems with urban sewerage systems and this has led to a growing consensus on the importance of sanitation promotion in order to ensure that facilities are actually used and the intended health benefits become a reality.

There are three methods used for promotion of sanitation, viz. increased health and hygiene awareness; social marketing; incentives for sanitation projects. The increased health and hygiene awareness approach is based on three practices i.e. (i) participatory hygiene and sanitation transformation which was first developed in Africa and implemented through trained community facilities; (ii) health education and school sanitation which focuses on health education through schools or special health clubs; and (iii) community led promotion, which emerged mainly in South Asia and is implemented through rural communities and Panchayati Raj Institutions. Social marketing is broadly recognized as the use of marketing strategies and techniques to achieve a social goal. It is being widely used in the health sector.

It may be mentioned that the marketing concept is focused on 4 P's i.e. product, price, place and promotion. *Promotion* is the integrated use of tools such as advertising, public relations, media message, positioning, communications channels, selling strategies and media advocacy. For sanitation promotion, social marketing covers both demand and supply sides. It aims to stimulate a desire for toilets and then meet the client's needs by tailoring the design and range of the toilets to what the client wants and he can afford. For incentives and sanctions, governments and NGO's have used indirect methods to promote sanitation, including both incentives and sanctions. Incentives often take the form of subsidies at the household level or awards for achieving total sanitation at community level. Sanctions have been mainly through national or state level legislations such as bye-laws, rules, regulations, acts etc.

There are three models for implementation of sanitation promotion. The first model is called NGO programme which is being promoted by NGOs and civil societies. Another emerging model is to use the competitive advantages, resources and skills of both public and private sector. This is called as public-private-partnership model, since, private sector participation has the potential to improve efficiency and quality of service delivery. The third model is government projects/programme. There may be programmes both externally funded government projects and government funded projects.

The Ministry of Urban Development, Government of India, in December 2005 announced the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) to provide support to renewal and development of city



development plans, including plans for water and sanitation. The Ministry has also constituted a national taskforce on universal sanitation in urban areas. Two sub-committees under the task force have been set up - one on a National Urban Sanitation Policy and another to formulate a campaign for open defecation free slums. Toilet complexes in urban slums offer hope for improvement in living conditions for slum dwellers. There are two types of urban toilet complexes - firstly, the public toilets in commercial areas like markets, trade centres and bus stations, etc. These public toilets are characterized by very high incomes and are like any other economic activity in a market place. The work done by Sulabh International, Infosys and other NGOs', operated public toilets come under this category. The second type of urban toilets complexes are the community managed toilets which are usually in low density slum locations. There have been successful examples of community managed toilet in Trichy, Mumbai, and Pune. With the collaboration of the Municipalities and local NGOs working in these cities, the poor quality public toilets were transformed into a model that is managed by local woman groups.

The process of change which advocacy aims to bring about may occur at different levels, from the community level to the state and national levels. The change may occur at different stages in the decision making process. Thus, an important aspect of advocacy is the involvement of communities themselves in advocating for change. It also seeks to build alliances in order to change the process of decision making at all levels and involvement of communities in those decisions. Thus effective advocacy in sanitation sector include not only the promotion of positive water supply, sanitation and hygiene initiatives, but also the dimensions of decision making process.

Water and sanitation are key areas of concern for sustainable development. A large section of population does not have access to safe and affordable water supply and adequate sanitation. Most of them who do not have access to sanitation facilities belong to the poorest sections of the society. In absence of adequate sanitation facilities, people suffer from burden of communicable and non-communicable diseases. Proper sanitation and hygiene may reduce the morbidity and mortality caused by water and air borne diseases. In view of the above fact, concerted efforts were undertaken by water and sanitation activists from around the globe, including Water, Sanitation and Hygiene (WASH) Campaign, a target for sanitation was finally agreed at the World Summit on Sustainable Development in Johannesburg in September, 2002.

The year 2008 has been declared as the International Sanitation Year by the United Nations. Moreover, India will be organising the World Toilet Summit in 2008 at New Delhi, in order to facilitate the thread bare discussions and deliberations for sanitation and hygiene promotion.

The Water, Sanitation and Hygiene (WASH) Campaign focused *inter alia* on promoting the adoption of a sanitation target at the World Summit on Sustainable Development in 2002. Its activities centred on obtaining high level political support internationally and also focused on national activities to raise awareness about the importance of sanitation, hygiene and water supply. On the whole, WASH aims to raise the commitment of political and social leaders to achieving the goals of drinking water, sanitation and hygiene a reality for all and effecting the necessary behavioural changes through various information and communication channels, using traditional and mass media, hygiene promotion in schools, training and building local capacity in communication and improving networking and research.

### ***Solid Waste Management***

Rapid population growth, urbanization and industrial growth have led to severe problems of waste management in cities. The problem of solid waste disposal and sanitation appears almost intractable as urban India today is a site of rotting garbage. It is estimated that Indian cities generate 48 million metric tonnes of solid waste annually. TERI has estimated that the waste generation will exceed 260 million tonnes per year by 2047, i.e. more than 5 times the present level.

A survey of 241 Class II towns in 17 States of India was undertaken by the Central Pollution Control Board, Delhi in 2000 which indicated that 90 per cent of water supplied is polluted. This is because of the fact that our rivers are highly polluted due to non-regulation of waste dumping and discharging waste into them, while ground - water is polluted due to silting of solid wastes, waste water and industrial effluents. About 30.5 million Disability Adjusted Life Year (ACY) are lost annually owing to poor quality of drinking water and the absence of sanitation facilities. The financial loss in terms of productivity has been quantified as Rs. 360 billion annually. Most of the urban local bodies do not have adequate infrastructure facilities such as required capacities for treatment of raw water, adequate testing facilities and technical man power for operations and management. Only 72

of 4400 towns in the country have partial sewerage facilities and 17 have some form of primary treatment facilities before disposal. Of the 229 class 1 cities, 160 have sewerage systems for more than 75 per cent of the population and 92 cities for more than 50 per cent of the population. While waste generation in Class I cities has more than doubled from 1978 to 1995, the treatment capacity has decreased during the same period. Of the total waste water generated in the metropolitan cities, barely 30 per cent is treated before disposal. Untreated water is thrown into water bodies such as rivers, lakes, oceans and seas. In 118 cities, it is discharged indirectly into rivers, lakes, ponds, or creeks, while in 63 cities it is used for agriculture. It may be mentioned that most of the urban local bodies do not have sewerage line for disposal of waste water, and sewerage. This leads to degradation of the environment and affects the quality of life of inhabitants. It is estimated that about 75 to 80 per cent of water pollution is caused by domestic sewerage. Of the generated solid wastes in urban areas, only 72 per cent is collected daily and the remaining wastes are allowed to create problems of urban environment. This also creates health problems. More than 70 per cent Indian cities have inadequate waste transformation facilities. They mainly choose land filling or dumping for disposal of wastes. However, the landfill or dumping sites are poorly managed and lead to ground water contamination because of leachates. The land fill workers have also higher incidence of diseases such as diarrhoea, as well as fungal and skin infections due to working in unhygienic conditions. About 25 per cent of the waste generated is classified as hazardous.

A survey of 120 health care centres in West Bengal, Gujarat, Punjab, Tamil Nadu, Haryana, Delhi, and Uttar Pradesh in 2001 found that 42 per cent of health workers did not have knowledge about classification and segregation of bio-medical wastes. The survey revealed gross inadequacy of equipments and tools. Open dumping or burning of bio-medical waste was reported as a common practice. The risks and problems associated with solid wastes include blockage of drains, resulting in flooding, water logging and insanitary conditions; breeding of flies, bacteria and virus that spread diseases; breeding of mosquitoes, spreading malaria and dengue; providing shelter to rats that spoil food, and spread diseases; combusting of wastes causing air pollution; occupational health hazards who are engaged in waste collection and disposal; water pollution from leachates at dumping or landfill sites; emission of landfill gases dealing to climate change; and fires on disposal sites, thus causing major air pollution.

Environmental sanitation and human health are closely linked. Poor management of human wastes can lead to direct or indirect disease transmission. The main organisms that pose a threat to health are pathogenic bacteria, viruses, parasitic protozoa and helminthes that are excreted in large number. The sources of pollution affecting the occurrence and abundance of pathogens in a water shed and receiving coastal regions are primarily due to the direct or indirect load of excreta. Thus, proper sanitation is imperative to reduce the burden of diseases as well as improving efficiency of human population. Well planned water and sanitation interventions have been shown to be effective in reducing a number of diseases. Interventions to promote personal and domestic hygiene are also effective in reducing diseases. In particular, hand-washing with soap; after defecation; after handling babies faeces; before feeding and eating; and before preparing food have significant impacts on diarrhoea related morbidity.

### ***Disposal of Household Garbage***

Waste management is also an important aspect of sanitation and includes collection, handling, transport and disposal of wastes generated. Due to the effective collection and disposal of waste material, rodents and flies breed, resulting in the spread of diseases. The untreated wastes components may pollute the surface water and ground water, resulting in adverse health and environmental consequences. Thus, effective waste management can result in the improvement of health and reduction of morbidity and mortality, improvement of water and air quality and economic development.

The proportions of households reporting removal of their household waste by different modes have been estimated by NSSO. There are four categories of disposal methods, namely by local authorities, private arrangements, household members, and other arrangements. Most of the households reported that their own members are responsible for the removal of garbage from their houses. In urban areas, local authorities and private arrangements also play a major role in the removal of garbage (Table - 7).

**Table - 7**  
**Disposal of Household Garbage in Urban India (1999)**

State	Percentage of Households by removal of garbage by			
	Local Authorities	Private Arrangement	Household Members	Other Arrangements

		Among Residents		
Andhra Pradesh	14.5	8.1	75.3	2.2
Assam	4.0	9.3	78.1	8.7
Bihar	2.0	7.6	82.6	7.6
Gujarat	28.8	9.1	60.9	1.3
Haryana	8.4	14.6	76.9	0.1
Karnataka	20.4	4.8	70.3	4.5
Kerala	2.4	1.9	93.4	2.3
Madhya Pradesh	5.7	6.7	84.9	2.6
Maharashtra	6.9	22.6	65.2	5.3
Orissa	3.0	0.4	96.4	0.2
Punjab	3.4	13.6	78.7	4.3
Rajasthan	15.1	8.8	74.6	1.5
Tamil Nadu	17.9	3.0	76.4	2.7
Uttar Pradesh	14.4	14.5	69.0	2.1
West Bengal	28.7	8.8	59.7	2.8
India	13.7	11.9	71.2	3.2

Source : NSSO 54 Round, 1999.

However, there are efforts by various agencies in cities and towns to address the challenges of waste management. In urban India solid waste management comes under the purview of local municipal authorities who are responsible for the collection, segregation, transportation, storage, handling and CBO's also assist municipal authorities in managing solid wastes. The disposal method for solid wastes is mainly confined to dumping (Table - 8).

**Table - 8**  
**Arrangement for Shifting Garbage After Removal from House (1998)**

State	Percentage of Households Reporting Garbage Shifted to			
	Biogasplant for Manual pit	Community Dumping Spot	Households Individual Spots	Others
Andhra Pradesh	1.1	55.9	29.8	13.1

Assam	0.1	20.4	55.9	23.6
Bihar	1.6	14.3	47.9	35.9
Gujarat	2.8	57.2	22.0	17.9
Haryana	5.6	20.0	6.7	8.8
Karnataka	1.0	52.9	26.1	20.0
Kerala	2.2	7.6	75.2	15.0
Madhya Pradesh	1.5	35.0	33.7	29.6
Maharashtra	1.9	70.4	11.5	16.0
Orissa	-	26.3	61.5	12.2
Punjab	0.2	45.4	15.2	39.2
Rajasthan	0.1	32.7	27.7	39.5
Tamil Nadu	3.1	49.1	32.8	14.9
Uttar Pradesh	0.4	35.0	32.2	32.4
West Bengal	0.3	49.8	36.6	13.1
India	1.4	47.2	29.6	21.7

Source: NSSO 54th Round, 1999

The projected municipal waste generation in urban India is 48 million tonnes per year. It is likely to increase to 220.7 million tonnes by 2030 and 160.1 million tonnes by 2025. (Table 9)

**Table - 9**  
**Projected Municipal Waste Generation in Urban India**

Year	Projected Urban Population (Millions)	Waste Generation (gms/capita/day)	Total MSW Generation (Million tonnes)
2000	281.25	327	33.7
2005	315.53	391	45.0
2010	355.21	471	61.0
2015	401.90	571	83.0
2020	455.82	696	115.8

020			
2 025	517.18	848	160.1
2 030	586.05	1032	220.7

Source: World Bank, 2006

The World Bank Study (2006) has estimated that cost of municipal solid waste management varies from city to city. Composting technology is the most suited and cost effective technology for disposal of solid waste. The cost of solid waste management per capita per annum is variable, depending upon the size of city. However, in the mountain cities, the cost may be higher side.

The compliance of Municipal Solid Wastes Rules, 2000 by Class I cities has been reported to be poor. Except in case of street sweeping (76.10 per cent), most of the parameters for handling and arranging solid wastes by municipal authorities are reported to be poor. (Table -10).

**Table - 10**  
**Status of Compliance of Municipal Solid Wastes Rules 2000 by Class I Cities**

<b>Particulars</b>	<b>Percentage</b>
Storage at Source	41.77
Segregation of Recycles	36.47
Primary Collection	38.36
Street Sweeping	76.10
Storage Depot	28.40
Transportation	53.10
Processing of Waste	9.18
Disposal (Sanitary Landfill)	1.73

Source: USAID, 2005

Keeping the present status in view, the Government of India is providing adequate funds under provision of infrastructure development

schemes and also through devolution by the Finance Commission for ensuring proper system of collecting, storage, segregation, transportation, handling and disposal of solid wastes. Ever since the scheme of Liberation and Rehabilitation of Scavengers and their Dependents was launched in 1991-92 with a total outlay of Rs. 50.50 crores as central assistance, there has been steady increase in fund allocation. The accumulative assistance of Central Government under the scheme during 1991-92 to 1999-2000 has been reported to be Rs. 531.07 crores.

The Government of India has established the National Scavenging Employees Finance and Development Corporation for the purpose and Rs. 2164.97 lakh had been released to the States from 1997-98 to 1999-2000. The Corporation has sanctioned 6149 units which were expected to benefit 6344 persons.

### ***Manual Scavenging***

Scavengers and sweepers still carry out the basic sanitary services in cities and towns. While many are employed by urban local authorities to clean the sewers and sweep the streets, a significant number still work in their traditional occupations. This means that scavengers are still cleaning toilets by hand and carrying night soil in baskets/buckets on their heads or waists. As their occupation renders them permanently polluted, scavengers are treated as 'untouchables', even by other Scheduled Castes. Again, scavengers are not limited to urban areas only. In rural areas also they are engaged in cleaning of service (dry) toilets as well as safe disposal of wastes including lifting and flaying of fallen carcass (dead animals) and also processing, tanning and manufacturing of leather goods. These activities are performed by a specific caste or community in the rural areas. In Uttar Pradesh 'Chamar' and 'Jatav' (Scheduled Castes) are engaged in this job while in some parts of the State a sizeable number of lower castes of both Muslims and Hindus are engaged in this job. This means that scavengers have extremely limited job opportunities compared to those engaged in other sanitary work such that they have to live in acute poverty and in segregated communities and have extremely low level of literacy and job mobility. Such socio-economic conditions for scavengers still persist, despite various provisions in the Indian Constitution which stipulate that the State should promote the economic and educational interests of Scheduled Castes and protect them from discrimination and exploitation.



Interestingly, in 1993 the Employment of Manual Scavengers and Construction of Dry Toilets (Prohibition) Act 1993 was implemented in the country to abolish scavenging and rehabilitate scavengers. It was estimated that the dehumanizing practice of scavenging was continued in 2587 towns, involving 7,00,000 scavengers during 1995. Although accurate figures of scavengers, including sweepers is not available, yet it is estimated that in India more than 150 million untouchable's are engaged in lower jobs, like cleaning toilets, streets, sewers and handling municipal solid wastes including industrial wastes; lifting and flaying fallen carcass; handling hides and collecting trash. Obviously, they are marginalized and living in sub-human conditions.

In generalized terms, the reality of scavengers could be described as under: (i) Scavengers constitute an underprivileged social group treated as 'impure' and consequently socially ostracized and ritually avoided; (ii) Like "Pariah" groups, they are treated as inferior and often regarded as less than human. They live on the fringe of society, often excluded from social contact, even though their services are accepted as highly valuable; (iii) They are socially ostracized because of practicing a polluting profession, as also for certain peculiar and objectionable habits; (iv) They are backward, and often oppressed, not because they are racially, socially and culturally inferior than others, but simply because they have been assigned the lowest of the low status in social hierarchy; having suffered condemnable human indignities throughout the ages; (v) They have been treated like dreaded contagious disease calling for a disdainful distance and the most minimal social contact; (vi) Because of their degradation, scavengers have been compelled to live their life as socially disadvantaged persons reluctantly resigned to accepting their social degradation and discrimination as part of their fate; (vii) Besides social backwardness, scavengers are economically backward too. Most families of scavengers therefore live in poverty because of both structural and personal factors - Structural factors being the low family income on account of engagement in low paying occupations, and personal factors being their large family size and male members' indulgence in smoking, drinking and gambling; (ix) Most scavengers are illiterate and thus educationally backward. In spite of the facilities for their free education, children are not sent to schools in an overwhelming number of cases, and female education is not considered to be at all important; (x) The economic and educational backwardness has deprived many scavenger families from the advantage of the Constitutionally concerned privileges

meant for the welfare of the dispossessed; (xi) Politically too, scavengers are least organized as compared to people of other low-born sub-castes.

The objective of the above - mentioned Act was to liberate them from their existing hereditary, obnoxious and inhuman occupation of manually removing night-soil and filth and to provide for alternative and dignified occupations within a period of five years.

On the whole, the Scheme had the following components:

- a) Time-bound programme for identification of scavengers and their dependents and their aptitude for alternative trade.
- b) Training in identified trades for scavengers and their dependents in the nearest local training institutions/centres of various departments of State Governments, Central Government and other semi-government and non-government organizations.
- c) Rehabilitation of scavengers in various trades and occupations by providing subsidy, margin money, loan and bank loan also.

The responsibility of rehabilitation of municipal scavengers in the service of local bodies has been entrusted to the local bodies themselves. The scheme proposes to provide rehabilitation training to private scavengers and their dependents, including the dependents of scavengers employed by local bodies. The scheme arranges for training of all the scavengers, whether they are partially or wholly engaged in the said occupation.

The rehabilitation of scavengers thus freed from the traditional work of disposing night soil as head load, is the responsibility of the Ministry of Social Justice and Empowerment. This is the 'soft core' work of the entire scheme of liberation and rehabilitation. To meet this objective, the scheme evolved three time-bound programmes of identification of scavengers and their dependents at the national level in different States/Union Territories and up to the level of village, besides surveying of aptitudes of scavengers for alternative jobs or trades and a comprehensive training programme for identified trade or job.

In India even today, there are a large number of manual scavengers. According to official estimates of the Ministry of Social Justice and

Empowerment, Government of India, the number of manual scavengers in the country during the year 2002-03 was 676009. The highest number was in Uttar Pradesh (1,49,202), followed by Madhya Pradesh (80,072) and Maharashtra (64,785). Delhi alone had a population of 17,420 manual scavengers. The actual figures would be more than 1.3 million manual scavengers. It is likely that the private manual scavengers have not been taken into account in the official estimates.

According to an estimate in the year 1989, there were 7.20 million dry toilets in the country and by 31st March, 2000 this number increased to 9.6 million. These are still being cleaned manually by scavengers. Under Low Cost Sanitation Project, implemented by the Ministry of Housing and Poverty Alleviation, between 1980 to and 2005, 2.08 million toilets were constructed and only 45,447 manual scavengers were liberated. The Ministry of Social Justice and Empowerment, claimed that 1.56 lakh people were trained and 4.08 lakh were rehabilitated until 2002 and that Rs. 712.14 crores had been released to different States.

A press release of the Union Ministry of Social Justice and Empowerment on July 22, 2005, estimated the total number of manual scavengers in the country as 6.76 lakh. According to estimates, the largest number of scavengers is in Uttar Pradesh (1.49 lakh), followed by Madhya Pradesh (80,000) and Gujarat (64,000). Despite the sheer admission by the Central Government, almost all the State Governments have denied the existence of manual scavengers and dry toilets in their States before Supreme Court. The Petitioners advocated effective implementation of the Employment of Manual Scavenging and Construction of Dry Toilet (Prohibition) Act, 1993, which has banned manual scavenging. They held that 12 lakh people in the country were still engaged in the degrading practice and 95 per cent of them are Dalits, who were compelled to undertake this traditional occupation.

### ***Community Toilets***

The scheme of Low Cost Sanitation for liberation of the scavengers started from 1980-81, also included community toilets. In urban areas, urban local bodies have constructed community toilets. Community toilets not only provide sanitation facility, but at the same time have a demonstrative effect as well. The people using these become habitual users of toilets, and in turn realize the need for individual household toilets. Thus,

community toilets may be important tools for bringing about behavioural changes among the communities and particularly in the slum pockets. HUDCO has reported that 3,966 number of units were sanctioned, 2982 completed and 193 were in progress during 2005. Most of the sanctioned units were reported in the State of Maharashtra (2,809) followed, by West Bengal (400) and Tamil Nadu (372). Similarly, the largest number of completed units were reported in Maharashtra. HUDCO is also involved in the implementation of the 'pay and use' toilets programme under the Night Shelters Scheme, and has reported sanctioning of 69 schemes for 'pay and use' toilets, under which a subsidy per seat is provided. This scheme had been merged with the scheme of Valmiki Ambedkar Awas Yojana (VAMBAY), as part of the sanitation component of the scheme for which 20 per cent of the funds were earmarked.

Community toilets are needed for slum and pavement dwellers, rickshaw pullers and the floating population. However, the experience of maintenance and upkeep of these units by municipal authorities has been dismal. The construction and maintenance of 'pay and use' toilets for the floating population should be ensured by NGOs working in the field. Community Managed Toilets (CMT's) are very successful in Trichy, Mumbai and Pune. These are being managed by NGOs like SPARC and Gramalaya. The community toilets in municipal areas are maintained by the urban local bodies through their health departments.

It has been generally observed that the proper maintenance of community toilets could not be ensured to a greater extent. Many community toilets have also become non-functional on account of a variety of reasons ranging from non availability of water, faulty construction, lack of safety and security for women, absence of operation and maintenance, lack of special provision for children and disabled and insufficient funds for running the system etc.

A study conducted by Directorate of Urban Administration and Development, Government Madhya Pradesh during 2005, regarding community toilets in Bhopal, Indore, Gwalior and Jabalpur, under Water and Asian Cities Programme - UN Habitat, demonstrated that the use of community toilets depends on the availability of infrastructure facilities such as water, bathing facility, effluent disposal in sewer line or in septic tank. The status of infrastructure in community toilets has been reported to be poor. The facilities for bathing and water availability were reported very

low. Even, the toilets are not been properly maintained. One of the important factors determining the proper operation and maintenance of community toilets is the availability of funds for operation and maintenance. However, majority of the community toilets do not charge for delivery of services. It appears that for ensuring functional and structural sustainability of community toilets, a participatory demand-driven approach is required.

### ***Public- Private-Partnership***

Public-Private Partnership is the newly emerging instrument for resource mobilization, sharing responsibilities, tasks and resources. In the context of sanitation and water supply, ULB's , CBO's, NGO's and private organizations may be the stakeholders. The effective implementation of sanitation and water supply projects depends upon the partners or stakeholders. Thus, sharing responsibilities, tasks and resources among the stakeholders is imperative. The World Economic Forum's Financing for Development Initiatives emerged from the UN Conference on Financing for Development in 2002 which called for greater coherence between public and private sectors to achieve development goals. The Round Table Conference on Development Driven Public-Private-Partnerships in Water and Sanitation look place in London, in May, 2005. The discussions revolved around eight major dimensions viz. availability of information; effectiveness of the public-private partnership process; risk transfer to the private sector; social versus commercial objectives; role of multilateral agencies; partner commitment; scope of partnerships; and regulation.

Conventional public finance in sanitation has largely been concentrated on subsidies for household and public toilets and grant for urban sewerage and solid waste systems. However, the focus of public finance must be shifted to sanitation promotion and to covering additional resources. Public expenditure on sanitation programme is justified as it enhances sustainability and helps to leverage additional resources. Sanitation promotion for various sub sectors has different implications for demand, supply and for leveraging resources. The financial arrangements in sanitation may include community resources, market based resources, and civil societies based resources. However, successful financing for scaling up sanitation access will require support from a range of stakeholders, including various sectors of government and non-government departments/organizations.

## ***Emerging Issues***

How gaps between growing population, infrastructure and services may be bridged?

How environmental and financial sustainability of sanitation services may be ensured?

What should be the approach for capacity building in urban sanitation?

How community participation in management of urban sanitation, solid wastes may be enhanced?

What are macro and sectoral policy reforms that are needed for managing urban sanitation?

How sanitation, sewerage and sanitary conditions in urban areas be improved?

What methods and implementation models may be adopted for sanitation and hygiene promotion?

How additional resources for sanitation promotion may be mobilized?

How can the expected roles and actions by different stakeholders in sanitation and hygiene promotion be explored?

How can proper maintenance and functioning of community toilets be ensured?

What should be the approaches and methods for institutional and behavioural changes for promoting sanitation and hygiene?

What should be the appropriate technologies for sewerage, waste water, solid waste, and storm water disposal?

What should be the mechanism for financing and cost recovery in urban sanitation projects?

How can social marketing and community managed programmes in urban sanitation sector be promoted?

What are the best practices of sanitation and hygiene promotion in developed and developing countries and what lessons may be learnt in India?

## ***Objectives of the Workshop***

Keeping the above background in view, the one day Advocacy Workshop would have the following objectives:

- ❖ to discuss the emerging perspective, trends and issues in urban sanitation and hygiene promotion;
- ❖ to highlight the problems of solid waste management, sanitation, hygiene and manual scavenging in the urban areas;
- ❖ to examine the causes, factors and constraints in management of urban sanitation, as well as the affective enforcement of Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993;
- ❖ to assess the scope of public-private partnership and community participation in urban sanitation promotion;
- ❖ to discuss the guidelines, criteria and parameters for framing the draft policy on urban sanitation and hygiene promotion for the state of Uttar Pradesh;
- ❖ to suggest policy measures for improving urban sanitation conditions and conversion of dry toilets, ultimately leading to abolishing of manual scavenging.

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*Annexure*

## ***Experiences in Sanitation Promotion***

### ***Sulabh International***

Sulabh International Social Service Organisation (SISSO), a NGO, founded by Dr. Bindeshwar Pathak has demonstrated the success of low

cost, pour flush, water-seal toilets with twin leach pits for on-site sanitation technology throughout the country. This technology is affordable even by the economically weaker sections of the society and is designed to suit different levels of income groups. SISSO had constructed over 8,00,000 twin pit flush toilets by 1997. It has made nearly 240 towns scavenging free where about 40 thousand scavengers have been relieved of the degrading human practice of manual removal and transport of human excreta. In the towns which have become scavenging free, all dry or bucket toilets have been converted into the twin pit pour-flush toilets. It has built and maintained about 3,200 community toilets which are run on pay-and-use basis. Over 10 million people use the sanitation facilities provided by SISSO daily. A key to the success of SISSO lies in creating public awareness and seeking community participation in implementing and maintaining the infrastructure. It is also involved in research and development activities to promote low cost sanitation technology and the method to reach the people for its successful implementation.

Sources: Government of India (2001); Pathak 1997.

### ***Parivartan***

*Parivartan Project, Ahmedabad, India:* Households in Ahmedabad's slums were mobilized to invest in one third of the development costs of community infrastructure. Despite initial success, expansion has been slow. Effort is being directed at formalizing a public-private-NGO arrangement for funding and implementation.

### ***User Charges for Public Toilets***

In Kenya, an association of business owners contracted private operators to rehabilitate and operate the local authority toilets, which were in disrepair. Currently between 500 and 1,000 people, each paying between \$0.06 and \$0.12 per use to the private operator, use each facility every day. In India, Sulabh piloted a concept of user fee backed management of public toilets, which has been very successful. It has subsequently spread the concept throughout the country. In Pune, India, an NGO, SPARC, together with two people's organizations, had built 114 toilet blocks through a



contract with local government. The toilet block includes a room for the caretaker to reduce maintenance costs and families using the toilet blocks buy a monthly pass for Rs.20 (US\$0.44). In Bamako, Mali an annual fee of US\$600 is levied and besides operational costs, covers capital cost recovery.

*Sources: Vietnam: EAUDSU (2002); India- Soozal: Sakthivel and Fitzgerald (2002); Pakistan: Arif (1997); Lesotho: Pearson (2002); Kenya: Mbuvi (2004); India – toilet: Burra and Patel (2002) and Patel and Bapat (2004), India – Parivartan: Vyas (undated); (2002), Mali: WUP (2003); Burkina Faso: Ouedraogo and Kolsky (2002)*

### ***Solid Waste Disposal Concessions in India***

Over 50 municipal authorities in India have been awarded such concessions. As an example, Kolhapur Municipal Corporation has entered into a 30-year concession to develop a waste treatment facility (270 tons per day capacity). The private operator is responsible to raise the project finance based on returns from sale of compost generated from the operation.

### ***Pooled Financing for Water and Sewerage Projects in India***

Using the framework of US Bond Banks, a Water and Sanitation Pooled Fund (WSPF) was created in the state of Tamil Nadu to enable small urban areas to borrow funds for Water Supply and Sanitation Scheme. Pooling allowed better risk sharing and lower market rates for capital market borrowing. Credit enhancement mechanisms such as debt service reserve fund and partial guarantees through USAID's Development Credit Authority also helped to lower the cost of funds. Based on this experience, Government of India program has been developed to support creation of state level pooled funds.

### ***Community-led Infrastructure Finance Facility (CLIFF)***

CLIFF developed out of partnership by the UK-based Homeless International and its Indian partners, the National Slum Dwellers Federation (NSDF), Mahila Milan (a community-based finance system), and SPARC, a Mumbai-based NGO. DFID primarily funds the CLIFF initiative, which is focused on providing for three critical elements of community infrastructure financing: (a) development of pilot and demonstration projects; (b) bridging

finance for initial scaling up; and (c) partial support for risk management and mitigation. CLIFF's operations require that the basic mobilization work has already been done and a strong institutional base of reputable stakeholders exists. CLIFF is managed globally by Homeless International, and in the first phase is being implemented by a special company (Nirman) set up by the Indian partners. Plans to expand this to countries in Africa are under-way. This initiative combines the basic features of project development support, partial guarantees for risk mitigation, and accessing market-based investment funds.

*Sources: India-pooled finance: Baker (2003); Mexico: IFC (n.d.), Kelhofer (2003); Brazil: Presentation from ANA by Pereira (undated); Tanzania: Wandera (2000); Kenya: Kentainers Ltd (2003);: India-concessions: Devi and Satyanarayana (2001); CLIFF: McLeod (2002), Mehta (2003)*

### **" Clean Surat"**

Plague hit the city of Surat (Gujarat) in September 1994, known for its filthiest slums swollen with migrant workers. However, In 1997, Surat (population 3.4 million) was ranked by India's heritage trust as the country's "second cleanest city". Municipal administrators have been streaming in to learn from the mobilisation campaign by the City Commissioner Mr. S. R. Rao. He attributes the success "to the people of Surat, their representatives, the 15, 000 employees of the Surat Municipal Corporation, the press and the judiciary". He encouraged the authorities and leaders and citizen groups to get involved in the making of new Surat. He also demonstrated that his Corporation could 'deliver'.

Sanitation has been a key focus in the "My Surat - Clean Surat" campaign which also targets 18 other action areas. Daily fieldwork is organised by city zones, each of them networked with a central control system through computer and radio links. Everyone, from Commissioners to cleaners, is expected to be out on the job each day between 7:30 am and 12:30 pm. A micro plan for sanitation divides the city zones into sectors of 3500 square meter, each with its own supervisory and task forces. Public toilets and urinals are cleaned each day, while every afternoon another group of cleaners moves out to follow up on the morning's activity. Special ward maps help these teams pinpoint critical locations. Defaulting citizens have to pay administrative charges for cleaning them up ranging from Rs. 50 to Rs.

5,000, depending on the mess. At 3:00 p.m. each afternoon, Surat's 15 commissioners meet, armed with 9-page computerized reports for a "free and fair discussion and joint decision-making". Sharing of experiences and random cross-checks are especially encouraged.

Over 50 "Pay and Use" toilets for men, women, and children operate through private initiative, and include the participation of the well-known Sulabh Corporation and Akhil Bharatiya Paryavaran Sansthan. 1600 public "pay" toilets were constructed and more than 90 per cent were located inside the slums. They can be used free of charge by women and children, and males over 12 years pay Rs. 0. 50, a very small sum. People demonstrated their willingness and ability to pay and this small payment has kept all of these units operating. The feedback system operating out of each ward office includes deadlines for responding to categorised complaints. This is 48 hours for cleanliness of public toilets and cesspool overflow, and 24 hours for solid waste disposal. City media have been mobilised to keep a close tab on the progress and help educate the public regarding new patterns of behaviour. Eighty per cent of Surat's slums have now been provided with sanitation and other basic facilities.

Public support has made sanitation a political issue for the first time. Surat demonstrates what people and the political system can do together if there is will on both sides. "The Surat Miracle" has been achieved within the constraints of existing administrative and financial procedures. All the money required for this change came from funds available in the normal budget, supplemented by funds raised by the citizen's groups brought together by the Commissioner. No State or Central funds were divested for sanitation. In other words, the new sanitation effort is sustainable for the long term. Naturally, one may ask – "if Surat can do it, what excuse does that leave other cities for not following suit?"

Source: WHO (2004)

### ***The Community-Managed Sanitation Programme in Kerala***

The Socio-Economic Units (SEUs) of the State of Kerala initiated a programme in 1988 with support from the governments of the Netherlands and Denmark to assist the Kerala Water Authority (KWA) to promote community approaches for effective implementation and management of sanitation facilities. The programme emphasised the promotion of toilet

constructions, handwashing with soap, construction of drainage at public taps, chlorination of traditional wells and improvement of school sanitation. The goal was to provide poor households with permanent toilets of good quality, in such a way that they appreciated the facility and would use it properly. The programme has given priority to the mobilisation and motivation of the users, and promotion and monitoring for good practices that includes flexibility in planning, negotiation with local elected bodies, decentralised and local management, partnership (involving personnel affiliated to all major local institutions - schools, nursery schools, clinics, women's or youth groups), education and capacity-building, financial contributions from local governments and households, reliance on local materials, local masons, and competitive tenders. The local committee undertook a wide range of activities related to education and sanitation. These activities include mapping, site selection, organising education programmes, home visits, and managing household selection, purchase, transport, etc. The committee monitors the use and cleanliness of the toilets and the indicators for other good hygiene.

The physical achievement of the programme was 35,500 toilets construction. These toilets facilitated about 2,00,000 low income (below poverty line) people with hygiene education programme. The SEU succeeded to cover a total 60 per cent of poor population in the programme areas. This achievement was more than double as compared to the achievement of other programmes which were implemented before the SEU. Each SEU serves an average 20 panchayats (a population between 400, 000 to 1,000,000). About 85 to 98 per cent of the toilets in each area are found to be very clean, more than 80 per cent have water stored within or very near the toilet and about 20 to 70 per cent of the families have soap available in the toilet. A total of 274 school health clubs had been formed and was operating under this programme. The school health club is usually composed of all children in the fifth standard (about 10 to 11 years of age). The school health clubs are involved in a wide range of activities, such as ensuring the school grounds clean and waste containers (which are used) in each class, monitoring the use of toilets and helping to clean them, monitoring washing of hands and cleaning of containers for food, monitoring the school water point and ensuring correct use, and holding campaigns for special health issues in the school and community. The parent-teacher associations pay 25 to 50 percent of the cost of toilet facilities in the school. The project considers the school health clubs, a majority of which are very active, to be a good investment in safe hygiene behaviours of the future generation.

The success of this experimental project lies in its involvement of people of all political and cultural affiliations. The focus has been on developing a decentralised strategy managed by local governments and voluntary community groups.

Source: IRC International Water and Sanitation Centre. 1996.

### ***Water Aid India Sanitation in Tamil Nadu***

Water Aid India, with its NGO partners, creates an enabling environment for the successful sanitation programme. Community groups are facilitated to provide fundamental sanitation and hygiene information. Technology is made available at an affordable price to accommodate the growing demand for sanitation facilities. Both production and promotion are decentralized so as to allow for competitive pricing and innovations. Credit and other financial opportunities are also provided for those in need. These are not disbursed as a form of reward, but rather as an enabling factor for those who might otherwise not be able to afford a toilet. The individual subsidy that comes from the Government is redirected to a village development fund based on community consensus and decision. The community for common village development activities manages the fund. Banks and local financial institutions recognise sanitation as a priority investment and credit is available to community groups at market interest rate. No household is excluded and both the burden and benefits are shared through cooperation

Source: WSP-SA 2000

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