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**Narayana Billava**  
Research Assistant, Abdul Nazir  
Sab Panchayat Raj Chair, Centre  
for, Multi-disciplinary  
Development, Research (CMDR),  
Dharwad, Karnataka.

**Arunkumar R Kulkarni**  
Assistant Professor, Centre for  
Multi-disciplinary Development  
Research (CMDR), Dharwad,  
Karnataka.

**Correspondence:**  
**Narayana Billava**  
Research Assistant, Abdul Nazir  
Sab Panchayat Raj Chair, Centre  
for, Multi-disciplinary  
Development, Research  
(CMDR), Dharwad, Karnataka.

## Rural sanitation and millennium development goals: targets, achievements and challenges

**Narayana Billava and Arunkumar R Kulkarni**

### Abstract

Sanitation is the most commonly needed basic facility for every household and provision of this facility is a major challenge in developing countries. The paper presents the coverage of sanitation facilities across the India as well as Karnataka states in particular over the period of time. It also tries to present the gap in meeting the MDG target and highlights the problems involved in having sanitation facilities. The paper is mainly based on the secondary data to understand the coverage and gaps in sanitation. Primary data, from the sample 235 households spread across 4 Gram Panchayats in Dharwad district in Karnataka, has been collected to understand the basic problems in having the sanitation facility. The paper finds that the coverage of sanitation is very slow and small states and small districts are progressing well compared to large populated states in the country. People's attitude and knowledge about sanitation are the main hurdles in having the facilities. Therefore, people's attitude and knowledge about sanitation needs to be changed through village level Social Service Organizations and Gram Panchayats.

**Keywords:** Rural Area, Sanitation, Millennium Development Goals, Households, Latrine Facility.

### 1. Introduction

Sanitation is one of the basic needs of human beings. It includes management of human excreta, solid waste, and drainage. The provision of sanitation facility is a prerequisite for human resource development, to maintain clean environment and has influence on economic development, health and numerous other sectors. Households' standard of living will improve through the better sanitation facility. According to World Health Organisation (WHO) an 'improved' sanitation facility is defined as one that hygienically separates human excreta from human contact, thus minimizing health risks to humans. Inadequate sanitation exposes people to human excreta and causes fecal-oral pathogens through different transmission pathways. Inadequate sanitation means lack of improved facilities (such as; toilets, conveyance, and treatment systems) and hygienic practices (for example, hand washing, proper water handling, personal hygiene, and so on). One gram of feces can contain: 10,000,000 viruses, 1,000,000 bacteria, 1,000 parasite cysts and 100 parasite eggs. Thus, inadequate sanitation kills people, causes diseases, environmental pollution, and diminishes welfare (WHO). According to World Bank study the total economic impacts of inadequate sanitation in India amounts to Rs. 2.44 trillion (US\$53.8 billion) for the year 2006. This total economic impact is 6.4 percent of India's GDP in 2006. This means the per person annual impact of Rs. 2,180 (US\$48). Considering the importance of sanitation, the United Nations special summit (2000), considered sanitation as one of the Millennium Development Goals (MDG) and the government of India, under the 73<sup>rd</sup> amendments to the Constitution is assigned rural sanitation as one of the prime duties of Panchayats. Government of India is supporting the efforts of state governments in achieving the goal. In spite of many efforts by the governments there has been very little change in the sanitation condition of rural India. However, the need for a systematic study is felt to understand the basic problems of the people in having sanitation facility. The study also intends to suggest measures to overcome these problems to achieve the Millennium Development Goal.

### 2. Findings and Results of the Research Study

#### 2.1 Coverage of Sanitation in India:

India has signed the United Nations Declaration of Millennium Development Goals (MDG) in

September 2000 and considered basic sanitation is one of the MDG targets and fixed target for reducing by half the proportion of people without access to basic sanitation by 2015. Table 1 shows coverage of sanitation in India. It shows that during the period 2001 to 2011 the coverage of latrine facility is increased by 36.4 to 46.9 percent in India. The progress of coverage of sanitation is not uniform across the states in India. The states like; Himachal Pradesh, Punjab access to basic sanitation by 2015. Table 1 shows coverage of sanitation in India. It shows that during the period 2001 to 2011 the coverage of latrine facility is increased by 36.4 to 46.9 percent in India. The progress of coverage of sanitation is not uniform across the states in India. The states like; Himachal Pradesh, Punjab, Uttarakhand, Haryana, Sikkim, Manipur, Goa, and Kerala have already reached the target of MDG and Maharashtra is expected to reach the target by 2015. It is very difficult to reach the target within the stipulated for the states like; Rajasthan, Uttar Pradesh, Bihar, Assam, Jharkhand, Orissa, and Madhya Pradesh. Considering the present progress of the coverage, these states may reach the

target by 2050. The progress of coverage of sanitation is much better in urban area compare to rural area. The states like Himachal Pradesh, Punjab, Uttarakhand, Haryana, Sikkim, Meghalaya, Gujarat, Andhra Pradesh, Karnataka, Goa, and Kerala have already reached MDG target in the year 2011 and Tripura, Maharashtra, Tamil Nadu, and Assam are expected to achieve MDG targets by 2015. According to census in the year 2001 the household sanitation coverage of rural India was 21.9 per cent but it increased by 30.7 percent in the year 2011. According to census 2011, the fastest growing economy seems to have missed out on having adequate toilet facilities for as high as 70 per cent in rural India. For example, nearly half of India's 1.2 billion people have no toilet at home, but more than half of India's people own a mobile phone, indicates the latest census data (2011). Out of 28 states only 8 states namely, Himachal Pradesh, Punjab, Haryana, Sikkim, Manipur, Goa, Kerala and West Bengal are ahead of the MDG targets in rural areas. The states (4) like Mizoram, Meghalaya, Maharashtra, and Assam are closure to MDG targets but will be reached by 2015.

**Table 1: Coverage of Basic Sanitation and MDG Targets in India**

State	% of HHs having latrine 2001			% of HHs having Latrine 2011			Increase in the Coverage of Latrine during 2001 to 2011			MGD Targets by 2015		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Jammu & Kashmir	41.8	86.9	53.1	38.6	87.5	51.2	-3.2	0.6	-2.0	70.9	93.4	76.6
Himachal Pradesh	27.7	77.2	33.4	66.6	89.1	69.1	38.9	11.9	35.7	63.9	88.6	66.7
Panjab	40.9	86.5	56.8	70.4	93.4	79.3	29.5	6.8	22.4	70.5	93.3	78.4
Uttarakhand	31.6	86.9	45.2	11.3	93.6	65.8	-20.3	6.7	20.6	65.8	93.4	72.6
Haryana	28.7	80.7	44.5	56.1	89.9	68.6	27.4	9.2	24.1	64.3	90.3	72.3
Rajasthan	14.6	76.1	29.0	19.6	82.0	35.0	5.0	5.9	6.0	57.3	88.1	64.5
U Pradesh	19.2	80.0	31.4	21.8	83.1	35.6	2.5	3.1	4.2	59.6	90.0	65.7
Bihar	13.9	69.7	19.2	17.6	69.0	23.1	3.7	-0.7	3.9	57.0	84.8	59.6
Sikkim	59.4	91.8	63.4	84.1	95.2	87.2	24.8	3.4	23.8	79.7	95.9	81.7
Arunachal Pradesh	47.3	87.0	56.3	52.7	89.5	62.0	5.4	2.6	5.7	73.7	93.5	78.2
Nagaland	64.6	94.1	70.6	69.2	94.6	76.5	4.6	0.5	6.0	82.3	97.1	85.3
Manipur	77.5	95.3	82.0	86.0	95.8	89.3	8.5	0.5	7.3	88.7	97.7	91.0
Mizoram	79.7	98.0	89.0	84.6	98.5	91.9	4.8	0.5	2.9	89.9	99.0	94.5
Tripura	77.9	97.0	81.4	81.5	97.9	86.0	3.5	0.9	4.6	89.0	98.5	90.7
Meghalaya	40.1	91.6	51.2	53.9	95.7	62.9	13.8	4.2	11.7	70.0	95.8	75.6
Assam	59.6	94.6	64.6	59.6	93.7	64.9	0.0	-0.9	0.3	79.8	97.3	82.3
West Bengal	26.9	84.8	43.7	46.7	85.0	58.8	19.8	0.2	15.1	63.5	92.4	71.9
Jharkhand	6.6	66.7	19.7	7.6	67.2	22.0	1.1	0.5	2.4	53.3	83.3	59.8
Odisha	7.7	59.7	14.9	14.1	64.8	22.0	6.4	5.1	7.1	53.9	79.8	57.4
Chhattisgarh	5.2	52.6	14.2	14.5	60.2	24.6	9.3	7.6	10.4	52.6	76.3	57.1
M Pradesh	8.9	67.7	24.0	13.1	74.2	28.8	4.2	6.5	4.8	54.5	83.9	62.0
Gujarat	21.7	80.5	44.6	33.0	87.7	57.3	11.4	7.2	12.7	60.8	90.3	72.3
Maharashtra	18.2	58.1	35.1	38.0	71.3	53.1	19.8	13.2	18.0	59.1	79.0	67.5
Andhra Pradesh	18.1	78.1	33.0	32.2	86.1	49.6	14.0	8.1	16.6	59.1	89.0	66.5
Karnataka	17.4	75.2	37.5	28.4	84.9	51.2	11.0	9.7	13.7	58.7	87.6	68.7
Goa	48.2	69.2	58.6	70.9	85.3	79.7	22.7	16.0	21.1	74.1	84.6	79.3
Kerala	81.3	92.0	84.0	93.2	97.4	95.2	11.9	5.4	11.2	90.7	96.0	92.0
Tamil Nadu	14.4	64.3	35.2	23.2	75.1	48.3	8.9	10.8	13.1	57.2	82.2	67.6
<b>India</b>	<b>21.9</b>	<b>73.7</b>	<b>36.4</b>	<b>30.7</b>	<b>81.4</b>	<b>46.9</b>	<b>8.8</b>	<b>7.6</b>	<b>10.5</b>	<b>61.0</b>	<b>86.9</b>	<b>68.2</b>

Source: Census 2001, 2011

## 2.2 Coverage of Sanitation in Karnataka:

Karnataka government is given top priority to develop environmental sanitation and health communication strategies by introducing many sanitation schemes. According census the state level coverage of sanitation was increased from 37.5 per cent to 51.3 during 2001 to 2011. With this level of coverage, the state is expected to achieve MDG target by 2025. In Karnataka, already 7 districts has reached MDG targets, namely, Uttar Kannada, Shimoga, Udupi, Bangalore Urban, Dakshin Kannada, Kodagu, and Bangalore (Rural). Two districts are expected to reach MDG targets by 2015 (Chikkaballapura and Chikmangalur) and 21 districts are not expected to reach the targets by 2015. The urban household latrine coverage has increased from 75.2 per cent to 84.9 per cent during 2001 to 2011. Thus, Karnataka, as a whole, has achieved MDG targets while covering urban sanitation facility. The coverage of urban sanitation is highest in Dakshin Kannada and lowest in Yadagir among the all districts in Karnataka. The (14) districts like Uttar Kannada, Davangere, Shimoga, Udupi, Chikmangalur, Bangalore Urban, Mandya, Hassan, Dakshin Kannada, Kodagu, Mysore, Chikkaballapura,

Bangalore Rural, and Dharwad have been achieved MDG targets. The districts like Belgaum, Bijapur, Tumkur, and Ramanagara will reach MDG target by 2015. On the other hand districts like Haveri, Bellary, Chitradurga, Chamarajanagar, Kolar, Bagalkot, Bidar, Raichur, Koppal, Gadag, Gulbarga and Yadagir will not achieve MDG targets by 2015.

The rural sanitation coverage has increased from 17.4 per cent to 28.4 percent during the period 2001 to 2011. Dakshina Kannada had the highest household sanitation coverage at 88.1 per cent and Yadgir had lowest household sanitation coverage at 4.3 per cent among all districts in Karnataka in the year 2011. The districts like Uttar Kannada, Shimoga, Udupi, Bangalore Urban, Dakshin Kannada, Kodagu, and Bangalore Rural have already achieved MDG targets and the Chikmangalur district is expected to reach MDG target by 2015. Remaining 22 districts will not reach MDG targets by 2015. Table 2 shows coverage of basic sanitation in Karnataka. It shows the coverage of sanitation across the districts in Karnataka varies across the districts.

**Table 2: Coverage of Basic Sanitation and MDG Targets in Karnataka**

District	% of HHs having latrine 2001			% of HHs having Latrine			Increase in the Coverage of			MGD Targets by 2015		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Belgaum	10.1	58.0	21.7	18.5	72.4	32.8	8.4	14.4	11.1	55.1	79.0	60.9
Bagalkot	5.4	33.7	13.6	7.2	42.5	18.8	1.8	8.8	5.2	52.7	66.9	56.8
Bijapur	3.3	43.2	12.0	5.0	59.5	18.1	1.7	16.3	6.1	51.7	71.6	56.0
Bidar	8.2	62.3	19.4	8.8	68.1	23.2	0.6	5.8	3.8	54.1	81.2	59.7
Raichur	6.1	43.0	15.5	10.0	50.6	20.7	3.9	7.6	5.2	53.1	71.5	57.8
koppal	8.5	39.5	13.8	12.0	48.4	18.5	3.5	8.9	4.7	54.3	69.8	56.9
Gadag	7.0	33.5	16.2	9.2	42.3	21.2	2.2	8.8	5.0	53.5	66.8	58.1
Dharwad	15.5	69.7	45.5	23.1	82.0	57.0	7.6	12.3	11.5	57.8	84.9	72.8
U. kannada	22.5	64.1	34.6	50.6	80.6	59.3	28.1	16.5	24.7	61.3	82.1	67.3
Haveri	17.6	61.5	26.4	28.2	69.7	37.3	10.6	8.2	10.9	58.8	80.8	63.2
Bellary	12.5	53.7	27.2	12.1	63.5	32.4	-0.4	9.8	5.2	56.3	76.9	63.6
Chitradurga	11.1	65.3	21.1	19.1	73.9	30.3	8.0	8.6	9.2	55.6	82.7	60.6
Davangere	18.9	66.8	33.5	29.8	80.9	46.4	10.9	14.1	12.9	59.5	83.4	66.8
Shimoga	33.0	75.8	48.2	61.8	87.7	71.2	28.8	11.9	23.0	66.5	87.9	74.1
Udupi	49.9	83.9	56.3	83.6	96.0	87.2	33.7	12.1	30.9	75.0	92.0	78.2
Chikmangalur	32.9	79.5	42.0	54.1	89.4	61.5	21.2	9.9	19.5	66.5	89.8	71.0
Tumkur	13.9	76.0	26.0	18.3	82.5	32.5	4.4	6.5	6.5	57.0	88.0	63.0
Bangalore	41.0	91.1	85.3	74.8	96.8	94.8	33.8	5.7	9.5	70.5	95.6	92.7
Mandya	16.3	73.7	25.4	27.5	85.9	37.5	11.2	12.2	12.1	58.2	86.9	62.7
Hassan	16.7	79.3	27.8	26.7	89.9	39.9	10.0	10.6	12.1	58.4	89.7	63.9
D.Kannada	47.2	86.1	62.5	88.1	97.6	92.7	40.9	11.5	30.2	73.6	93.1	81.3
Kodagu	48.5	74.6	52.1	78.8	97.0	81.4	30.3	22.4	29.3	74.3	87.3	76.1
Mysore	16.7	89.7	44.1	27.0	94.2	55.0	10.3	4.5	10.9	58.4	94.9	72.1
Chamarajanagar	11.5	56.5	18.1	15.4	64.3	23.5	3.9	7.8	5.4	55.8	78.3	59.1
Gulbarga	4.9	61.6	22.0	4.5	68.2	25.5	-0.4	6.6	3.5	52.5	80.8	61.0
Yadagir	5.7	38.0	10.9	4.3	40.2	11.2	-1.4	2.2	0.3	52.9	69.0	55.5
Kolar	20.4	74.9	36.6	25.5	80.2	42.8	5.1	5.3	6.2	60.2	87.5	68.3
Chikkaballapura	19.2	74.5	29.7	32.0	88.2	49.4	12.8	13.7	19.7	59.6	87.3	64.9
Bangalore Rural	26.0	82.9	39.2	75.5	91.3	79.9	49.5	8.4	40.7	63.0	91.5	69.6
Ramanagara	16.7	83.2	29.6	28.0	88.5	41.9	11.3	5.3	12.3	58.4	91.6	64.8
<b>Karnataka State</b>	<b>17.4</b>	<b>75.2</b>	<b>37.5</b>	<b>28.4</b>	<b>84.9</b>	<b>51.2</b>	<b>11.0</b>	<b>9.7</b>	<b>13.7</b>	<b>58.7</b>	<b>87.6</b>	<b>68.8</b>

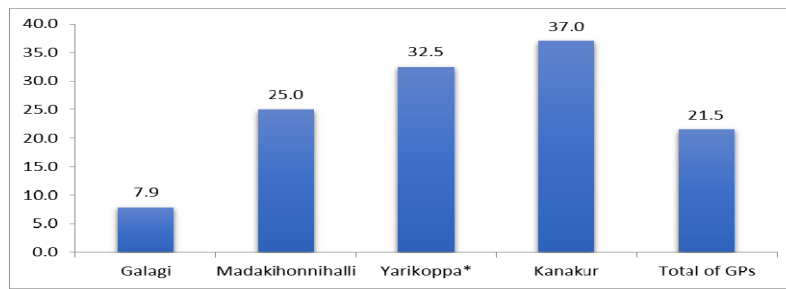
Source: Census 2001, 2011

Thus, in spite of many efforts by the government the coverage of sanitation is not satisfactory especially in rural areas. In this context the following section presents problems in coverage of sanitation in selected Gram Panchayats of Dharwad district.

**2.3. Ground Realities about Rural Sanitation Facility in Selected Gram Panchayats:**

A preliminary idea of the extent to which households have access to latrine facility in the selected GPs can be seen from

the table below. Under the section 1 (Act 29 of 1997), one of the important functions of the GP is to provide latrines to not less than ten per cent of the households every year.



Source: Primary Data

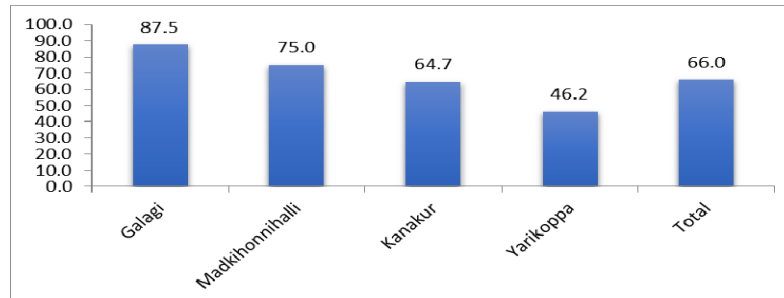
Fig 1: % of Sample HHs Having Latrine Facility

Figure 1 depicts that only 21.5 per cent of sample households are covered with latrine facility in selected villages. One of the villages (Kavalageri) has utilised swacha gram scheme properly and constructed around 150 individual latrines under this scheme (with a subsidy of Rs 3500). The other two villages (including GP headquarter, Kanakur) have not utilised the funds so far. According to Kanakur GP secretary, the fund have not been utilised because people do not cooperate in construction of drainage and latrine. The GPs in backward taluk (Kalaghatagi) have fewer latrine facilities as compared to the GPs in developed taluk (Dharwad). Among all GPs, the Galagi Gram Panchayat has fewer latrine facilities than the other GPs. One of the villages (Hasarambi) does not have any

latrine facilities among the selected sample households from Galagi GP.

**2.3.1 Households using Latrine facility**

Figure 2 shows that around 21.5% rural households have a latrine facility, although some rural households are not using them. Rural people often find it very convenient to defecate in the open fields. It is usual for them to carry a small tin of water, which hardly suffices for proper cleaning. Figure reveals that only 66.0 per cent of households are using latrine facility and it indicating poor awareness and negligence for personal hygiene and public health.



Source: Primary Data

Fig 2: Households Using Latrine Facility (%)

**2.3.2. Reasons for Households not having Latrine**

As discussed earlier more than 78.5 per cent of rural households do not have latrine facilities (figure 1) because of many reasons. Table 3 presents the reasons for not having latrine facilities. The major reason (more than 96%) for not

constructing latrine is due to economic problem and scarcity of place. Only one per cent of households (in Galagi GP) said that due to scarcity of water they could not have latrine facility. A few other reasons include bad smell, staying in a rented house, or lack of interest in constructing latrine.

Table 3: Reasons for not having a Latrine

GP Name	Economic Problem	Scarcity of Place	Scarcity of Water	Other Problems*	Total
Galagi	68.8	28.0	2.2	1.1	100
Madakihonihalli	86.1	11.1	-	2.8	100
Kanakur	82.8	13.8	-	3.4	100
Yarikoppa	81.5	14.8	-	3.7	100
Total	76.2	20.5	1.1	2.2	100

- Because of bad smell, rented house, not interest to construct a latrine
- Source: Primary Data

The village water supply and sanitation committee (VWSC) is representative of the village community and functions as a local institution (GP) at the village level involving all the activities related to water and sanitation from planning to operation and maintenance. Only Yarikoppa and Kanakur GPs are having VWSS committee in the selected GPs. But VWSS is not carrying out any activities in these GPs. But, not even a single VWSC is working properly in selected GP. Lack of awareness about the benefits of better sanitation, poverty, lack of people's initiative and involvement and improper designs and technology are the main reasons for lack of sanitation facilities in rural areas.

### 3. Concluding Observations

The analysis of the census data reveals that the coverage of sanitation in India is not satisfactory. There are wide spread disparities in the coverage of sanitation across the states and within the state. 19 states are not expected to reach the MDG target by 2015. In Karnataka also there are wide disparities across the districts and across rural and urban areas. The data reveals that 21 districts are lagging behind in achieving the MDG target by 2015. The micro level study indicates that though households are having latrine, they are not using it. This is mainly because of negligence for personal hygiene and public health and poor awareness. The community latrines are not being used because of improper maintenance. The major reasons for not having latrines are; economic problem, scarcity of place, shortage of water, staying in a rented house and lack of interest in constructing the latrine. Thus, people's attitude towards sanitation and lack of knowledge about benefits of sanitation are the major reasons for under coverage of sanitation. Thus, NGOs and GPs can play a significant role in providing knowledge to rural people and change their attitude towards the same.

### 4. Policy Implications

1. Much effort needs to be made to create awareness about sanitation. This can be done through NGOs and GPs.
2. Proper maintenance of community toilets by GPs or any private agencies
3. Government has to continue implementation of various programmes and introduce new schemes to facilitate the provision of sanitation facility in the rural areas.
4. The community, local organizations and NGOs have to participate frequently in Gram Sabhas and raise their voices on inadequate and poor sanitation facility in rural areas.
5. All political parties have to be more concerned about sanitation and try to get more schemes and programmes for their GPs.

### 5. Acknowledgement

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