

A Comparative Study of Sanitation Status and Management at Yellammanagudda and Dharmasthala in Karnataka: Lessons for Tourism Development

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Abstract: *Tourism plays a vital role in the economic development of India, with substantial efforts made to enhance infrastructure and attract visitors. However, sanitation remains a critical issue at many tourist destinations, and this problem became even more evident during the Covid - 19 pandemic. This study explores the sanitation management systems at two prominent tourist sites in Karnataka, Yellammanagudda and Dharmasthala, to understand the factors influencing successful sanitation practices. Through primary data collected from 100 tourists at these sites, the study compares sanitation status and management strategies. The findings reveal that Dharmasthala excels in maintaining adequate sanitation due to strong leadership, strategic planning, proper financing, and community involvement, while Yellammanagudda faces significant challenges, such as insufficient facilities, poor waste management, and lack of proper planning. The study emphasizes that the failure in Yellammanagudda is largely attributed to a lack of coordination, resources, and poor management practices. The paper highlights the importance of effective sanitation management in tourism development and calls for increased awareness among policymakers and stakeholders to improve conditions at tourist spots in Karnataka, thereby ensuring a sustainable and attractive environment for tourists.*

Keywords: Sanitation, Hygiene, tourism, Management, Health

1. Introduction

Sanitation is a fundamental human need, essential for good health, human dignity, and overall well - being. It plays a critical role in fostering human development by maintaining a clean environment, improving public health, and contributing to economic growth. As a key factor in development, sanitation influences individuals, households, communities, and nations at large. In recognition of its significance, the United Nations General Assembly declared sanitation a human right in 2010. Conversely, inadequate sanitation negatively impacts health, education, welfare, and sectors like tourism, which are essential for national growth (World Bank, 2010). Lack of adequate sanitation remains a leading cause of diseases and deaths in developing countries (WHO). Despite efforts to improve sanitation through public investments, inadequate sanitation persists at public places across India.

Tourism is one of the world's largest and fastest - growing industries, serving as a major source of income, employment, and foreign currency for many countries. In India, tourism is the largest service industry and a key contributor to national income and employment generation. Recognizing its importance, both central and state governments have directed substantial resources toward developing tourism infrastructure, including hotels, highways, airports, access roads, and visitor attractions (Ministry of Tourism, 2007 & 2010). These efforts have also focused on preserving natural and cultural heritage and supporting events and cultural activities. However, despite these initiatives, sanitation facilities at tourist destinations often remain neglected. Policymakers and implementing agencies frequently overlook the importance of sanitation in tourism

development, which directly affects the attractiveness of tourist destinations.

Tourists are particularly sensitive to the quality of their environment, as their travel decisions are discretionary, and alternative destinations are readily available. Inadequate sanitation leads to poor tourist experiences, which can deter future visits, cause health issues (e. g., holiday sickness), and result in a loss of revenue from reduced tourism and low occupancy rates. In this context, a clean environment becomes increasingly crucial for promoting tourism, which is a vital driver of economic growth and employment generation. Yet, sanitation remains a major barrier to the full development of tourism in India (Kulkarni, 2019).

Recent efforts have been made to improve sanitation infrastructure at tourist sites, such as providing toilets and waste bins. However, the provision of sanitation infrastructure alone is insufficient to ensure effective sanitation management. Many initiatives focus primarily on building infrastructure, often neglecting the maintenance and operational aspects of these systems. Successful sanitation management depends not only on providing facilities but also on ensuring that these facilities function properly and that the environment remains clean and hygienic for visitors. The true measure of success should be based on the effective provision of services, including clean and functional toilets, waste management, and a tidy environment (Bill and Melinda Gates Foundation, 2004).

This paper seeks to assess the sanitation status and management at two major religious tourist sites in Karnataka: Dharmasthala and Yellammanagudda. Dharmasthala, located along the Netravati River in Dakshina Kannada district, is renowned for the Manjunatha Swamy Temple, housing

shrines of Shiva and other deities. Yellammanagudda, situated near Saundatti in Belgaum district, is famous for the ancient Yellamma Temple, featuring Chalukyan, Rashtrakuta, and Jain architectural influences. The study relies on primary data from 100 tourists (50 at each site) and interviews with key sanitation managers to identify sanitation status and its influencing factors at these sites during 2015 - 16.

2. Status of Sanitation

Sanitation status at the tourist places has been examined considering basic sanitation facilities (i. e. public toilet facility) and the overall status of sanitation in and around the tourist places. Table 1 shows the status of sanitation at Yellammanagudda and Dharmasthala.

Table 1: Status of Sanitation at Yellammanagudda and Dharmasthala (% of Tourists)

Sanitation	Yellammanagudda	Dharmasthala
Food Particles, Plastic Bottles/Bags, Cups, Glasses, Wrappers, etc. Lying in Open/Public Place	98.0	6.0
Littering Around the Garbage Bins	98.0	0.0
Garbage Bin with Foul Smell	98.0	0.0
Bad Smell of Sewer or Drainage	96.0	2.0
People Spitting in Open Near This Place	94.0	2.0
Pigs, Dogs, etc in and around the Place	84.0	0.0
Urination in and Around the Tourist Place	64.0	6.0
Open Defecation in and around the Tourist Destination	60.0	0.0
Smoking, Gambling and Other Illegal Activities in Open near This Place	40.0	3.0
Inadequate Number of Public Toilets to meet the Needs of Tourists	38.0	0.0
Waste Water Around the Drinking Water Source	28.0	0.0

Table 1 shows the overall status of sanitation at Yellammanagudda and Dharmasthala indicated by sample tourists. It reveals that in Dharmasthala almost all the tourists felt satisfied with various aspects of sanitation. Very few tourists reported urination, dumping waste and foul smell. On the other hand, in Yellammanagudda, sanitation conditions are not good. The wastes, such as food particles, plastic bottles/bags, cups, glasses, wrappers, etc which are used by the tourists at the tourist places are the major cause of the unhygienic condition. It has been observed that most of the tourists do not use dust bins for dumping their wastes, which is a bad habit observed in all the tourist selected places in Karnataka (especially in North Karnataka). Around 98 per cent of tourists report the presence of these materials in and around the tourist place of attraction in the selected tourist places. An inadequate number of public toilets leads to open defecation. Around 38 per cent of tourists felt an inadequate number of public toilets and 60 per cent of the tourists felt the presence of open defecation in Yellammanagudda. Most of the tourists are regular visitors to this place and they know the condition of toilets and hence they make their mind to defecate in open. The presence of waste food, drainage water, etc. makes stray animals, like pigs, dogs, donkeys to move around the tourist place. Garbage bins are also not being cleaned regularly and hence they emit foul smells in and around the temple. The wastewater can be seen around the source of water and this could be one of the major sources of the spread of diseases. Around 84 per cent of tourists reported that presence of stray animals, 96 per cent of tourists reported the foul smell of garbage bins and 28 per cent of tourists reported wastewater around the source of drinking water. Urination in and around the tourist place of attraction can also be observed especially in Yellammanagudda. Around 64 per cent of tourists reported urination and around 94 per cent reported spitting in and around the tourist place. Illegal activities like smoking, gambling, drinking, etc. are also reported by 40 per cent of tourists. Thus, the status of sanitation in these places indicates that in Dharmasthala sanitation is well managed while in Yellammanagudda not much attention has been given towards its maintenance.

Experience of Public Toilet Users

Most of the tourists visiting these two places are domestic tourists who belong to poor and middle - class families. Hence, they cannot spend money for getting sanitation services from private providers, i. e. from private lodges, guesthouses, etc. Therefore, public toilets are one of the important infrastructure requirements for tourists at tourist places. The usage of public toilets depends mainly on their maintenance. Poor public toilet services are one of the most visible symptoms of inadequate sanitation services. Therefore, tourist places should have accessible and functional toilet amenities and efficient public toilet management is especially crucial for tourists. Table 2 shows the experience of public toilets at selected tourist places.

Table 2: Experience of Public Toilet at Yellammanagudda and Dharmasthala (% of Tourists)

Toilet Experience	Yellammanagudda	Dharmasthala
Not Clean	32.8	0.0
No Water	23.6	0.0
Foul Smell Inside or Near Toilet	13.3	0.0
Not Felt Safe	9.7	0.0
Not given Enough Time	7.2	2.5
Flush was Not Working	3.1	2.5
Charged Extra Money	3.1	0.0
Door Latches Did Not Work	2.6	2.5
Long Waiting Time	2.6	0.0
No Facility for Disposal of Sanitary Items	10.0	0.0

The above table reveals that most of the tourists felt happy after the use of the public toilets in Dharmasthala. Very few expressed some difficulties concerning working of flush and time. Dharmasthala has over 3500 toilets and an adequate number of bathrooms which can meet the requirements of around 30000 pilgrims on weekends and by lakhs during festivals. In Yellammanagudda, presently, there are only 90 rooms with attached and general toilets, besides five public toilets of five units each. These are not enough to ensure hygiene and prevent open defecation, considering the number

of devotees visiting the temple throughout the year. In Yellammanagudda tourists had a bitter experience of the use of public toilets. The tourists are not happy with the cleanliness of public toilets as these toilets are not clean (32.8 per cent) and have a foul smell (13.3 per cent). These toilets also did not have water (23.6 per cent), door latches (2.6 per cent), flush (3.1 per cent) and no facility for disposal of sanitary items (10.0 per cent). Apart from all these problems, the tourists were charged extra money (3.1 per cent) for toilet use. It has been found that tourists prefer to avoid the use of public toilets, anticipating unhygienic conditions in and around the toilets. Thus, it is found that utilization of public toilets depends on cleanliness in and around the toilet, availability of water, safety and security, especially for women. Swachh Bharat Mission (SBM) provides for a minimum norm of one seat each for 100 to 400 men and 100 to 200 women, including an incremental increase in seats based on footfall. But the existing numbers of toilets are far less than the minimum required in Yellammanagudda. Thus, not much attention has been paid to providing public toilets by the local governments/tourism and other departments which are useful for almost all the tourists. It has also been observed that much effort has not been made to maintain these public toilets. Thus, temple authorities and local government have not taken much attention to providing sanitation facilities at this tourist place.

3. Management of Sanitation

Sanitation management refers to the systematic approach of maintaining cleanliness, hygiene, and safe environmental conditions in public places, ensuring that facilities meet accepted sanitation standards. This involves the development of sanitation infrastructure, such as toilets, drainage systems, waste disposal units, and clean drinking water sources, as well as training staff to uphold hygienic practices. Sanitation management is essential for maintaining health, environmental integrity, visitor satisfaction, and economic growth at high-traffic religious and tourist sites. Proper sanitation reduces the risk of communicable diseases by controlling waste and ensuring clean, safe facilities, which is especially critical in locations with a high turnover of visitors. Environmentally, it promotes sustainability by incorporating recycling, waste conversion, and water treatment, thus protecting surrounding ecosystems from pollution. Clean, well-maintained facilities significantly enhance the visitor experience, fostering tourism and pilgrimage, which can elevate the reputation of these sites and attract even more visitors. Economically, effective sanitation management creates local jobs and supports economic development by ensuring a welcoming, comfortable environment for tourists and pilgrims alike. The following paragraph presents sanitation management at Dharmasthala and Yellammanagudda, based on discussion with sanitation providers, namely, Temple authorities, gram panchayats and government departments (tourism department and Muzarai dept).

Dharmasthala is managed by Dharmadhikari Shri Veerendra Heggade, who oversees comprehensive sanitation planning as part of maintaining the spiritual and cultural sanctity of the place. This management involves careful placement of toilets, bathrooms, drainages, and dustbins to accommodate the high

influx of visitors, approximately 10,000 people daily. Dharmadhikari Shri Virendra Hedge wants pilgrims visiting Dharmasthala to experience the town in its purest form. In this direction, systematic efforts have been made for the construction of toilets, bathrooms, drainages, dust bins and drinking water, etc at suitable places based on the number of tourists. An adequate water supply has also been made for drinking and other purposes. To save the water, arrangements have also been made to recycle the water which is used for cleaning the utensils. The solid waste is converted into manure for agricultural purposes. The temple also operates a state-of-the-art sewage treatment plant built for Rs 13 crore. Thus, the Dharmadhikari of the temple authorities makes all efforts to plan for the provision of sanitation and also arranges for its management and for these efforts one couldn't find any hindrance. For the implementation of these plans, the authorities take required help from local and state governments, NGOs, and the community. Thus, sustainable practices are prioritized, including water recycling and converting solid waste into manure, facilitated by a sewage treatment plant built at the cost of Rs.13 crore. A strong workforce of 1,500 people, mainly volunteers, maintains cleanliness and provides 24x7 support for sanitation needs. With substantial resources from donations and temple revenue, Dharmasthala faces no significant financial constraints in sanitation management. The administration freely allocates funds toward developing and maintaining sanitation facilities, allowing for high-quality infrastructure and staff support. The temple grounds and roads are regularly cleaned, and pilgrims actively contribute to maintaining cleanliness. This collaboration between staff and visitors creates an environment where sanitation is well-maintained, contributing to a positive pilgrim experience.

The Shri Renuka Yellamma Devi Trust has been under the supervision of the Government of Karnataka, managing the temple since 1975. Devotees from Karnataka and neighboring states, including Maharashtra and Andhra Pradesh, visit the Saundatti Yellamma Temple with great devotion. The temple witnesses a heavy flow of tourists during the Yellamma Jatra, which is held on the full moon day known as 'Bharat Hunnime'. It is one of the highest revenue-generating temples in Karnataka, earning about 16 crores per year. The trust receives funds from the government to pay worker salaries and provide basic facilities and maintenance. However, funding availability from the state government limits the provision of necessary services. Efforts are made to establish Dharmasthalas, health centers, and other facilities (buildings), but sanitation remains a low priority. Sulabh International has constructed a toilet complex with 5 toilet seats, and another complex is under construction. The trust lacks the financial resources and managerial capacity to plan and develop the temple effectively and does not have an adequate number of workers for maintenance. This has led to unhygienic conditions around the temple. Therefore, the management should have a clear development plan for the overall improvement of the temple, including sanitation. It has been observed that trustees, government officers, and local representatives lack awareness of the importance of sanitation in attracting tourists. As a result, sanitation issues are often neglected in the development and maintenance of the temple. There is a critical need for adequate toilets, bathrooms, restrooms, proper drainage, dustbins, etc., to

maintain cleanliness at this tourist site. However, only temporary, or short - term measures are implemented during festivals, and there has been slow progress in the provision of these facilities. In addition, these facilities need to be maintained with adequate staff to clean and transport waste, which is lacking in Yellammanagudda. Recognizing the problem, devotees have constructed nearly 150 rooms for tourists, but these are insufficient. The lack of adequate accommodation forces devotees to camp in open areas, especially during Bharat Hunnime and Davana Hunnime, leading to open defecation. Thus, the management should collaborate with local and state governments, NGOs, and communities to improve coordination among different government departments and local bodies to complement each other's development efforts.

The sanitation infrastructures, such as toilets, bathrooms, drainages, etc needs to be properly maintained for their better use. For the maintenance of sanitation in Dharmasthala, there is a strong workforce of 1, 500 people, the majority of the volunteers. One can see that pilgrims can walk barefoot without worrying about what they are stepping on. Such is the system that cleaners and sanitation workers are alert 24x7. Temple roads are swept and cleaned with water thrice a day. Tourists also do not dump any waste. Thus, both temple authorities and tourists/pilgrims co - operate in maintaining the cleanliness of the place. In Yellammanagudda, there is only one Sulabh toilet complex and another complex is being constructed near the temple. It is found that the public toilets are very less as compared to the number of tourists visiting the place. Therefore, it is common to see open defecation around the temple complex. According to a senior official of the Development and Maintenance Committee of Shri Renuka Devi temple, there are very few workers to keep the complex clean as a large number of devotees visit the temple, especially during major festivals.

An adequate amount of funds are very much required for the development and maintenance of the tourist places. It seems that the management of Dharmasthala has no dearth of resources for the development and maintenance of sanitation infrastructures. The management is free to utilize the funds collected based on its requirements. On the other hand, the management of the Yellamma temple (though it earns about 16 crores) receives very little money from the government for its maintenance. With limited funds and prioritization of other public services, it is not possible to provide and maintain the sanitation infrastructure. Provision of sanitation is the last priority having little resources left. Government officers at the local level and local people representatives lack knowledge about the benefits of tourism to the local economy in terms of creating jobs, income and overall development of the area. Apart from this, lack of visualization of complete sanitation due to target - oriented approach works based on budgetary allocation also contributed to inadequate sanitation.

Dharmasthala's success in sanitation management is largely attributed to the leadership and vision of Dharmadhikari Shri Veerendra Heggade, who prioritizes sanitation as essential to the sanctity and quality of the pilgrim experience. Under his guidance, sanitation has been systematically planned, with ample financial resources from temple revenues and donations invested in infrastructure, including a state - of - the

- art Rs.13 crore sewage treatment plant, extensive drainage systems, and strategically placed toilets and dustbins. This dedication to cleanliness is further supported by a large, committed workforce of 1, 500 people, primarily volunteers, who maintain 24/7 vigilance in keeping the area clean. Visitors themselves contribute to the cleanliness, creating a cooperative environment. Additionally, Dharmasthala works collaboratively with local government, NGOs, and community groups to promote sustainable practices like recycling water and converting waste into manure, demonstrating an effective, multi - faceted approach to sanitation management.

The failure of sanitation management in Yellammanagudda can be attributed to limited management autonomy, inadequate funding, insufficient workforce, and a lack of awareness about the importance of sanitation in tourism. Managed by the Shri Renuka Yellamma Devi Trust under government oversight, Yellammanagudda lacks decision - making freedom, resulting in a reliance on temporary solutions rather than long - term planning, particularly during festivals. Although the temple generates considerable revenue (approximately Rs.16 crore annually), sanitation receives minimal funding, as government allocations are focused on other services, leaving essential infrastructure like toilets and drainage underdeveloped. Additionally, an insufficient workforce leads to poorly maintained facilities, with overcrowding and open defecation becoming common during peak times. This situation is exacerbated by the limited understanding of local government representatives and trustees regarding the role of sanitation in tourism, which results in sanitation being a low priority and weak collaboration with government departments, NGOs, and the community to address the issue comprehensively.

In summary, Dharmasthala's sanitation success is motivated by visionary leadership, financial freedom, and strong community support, while Yellammanagudda's challenges stem from restricted autonomy, insufficient funding, limited workforce, and lack of coordinated planning. Addressing these factors could help Yellammanagudda improve its sanitation management to enhance visitor safety and satisfaction.

4. Concluding Observations and Suggestions

Sanitation management is essential for religious and tourist sites like Dharmasthala and Yellammanagudda. Dharmasthala exemplifies successful sanitation practices due to its strong leadership, financial autonomy, and community support. Yellammanagudda, despite significant revenue, struggles with inadequate sanitation management due to limited funding, lack of workforce, and low prioritization. Improved coordination with government bodies, NGOs, and the local community could enhance sanitation efforts at Yellammanagudda, making it more accessible and appealing to tourists and devotees. It is suggested that every tourist place should have a development plan for providing and maintaining sanitation facilities. The plans should aim at long term and sustainable solutions and should avoid temporary or short - term measures for the overall development of the tourist place. Based on the need, the government may allow the temple authorities to keep the collected money for its

development and maintenance purposes. The priority of the government should be the maintenance of Cleanliness and hygiene in all the tourist places along with other developmental activities.

References

- [1] ACNielsen ORG - MARG. (2006). Collection of domestic tourism statistics for the state of Karnataka. Submitted to the Ministry of Tourism, Government of India, New Delhi.
- [2] Ansari, T. M. (2015). Sanitation and Swachh Bharat Abhiyan. Omega Publications.
- [3] Bill & Melinda Gates Foundation. (2004). Success and failure assessment methodology for wastewater and faecal sludge treatment projects in low - income countries. Journal of Environmental Planning and Management.
- [4] Cullet, P., & Bhullar, L. (2015). Sanitation law and policy in India: An introduction to basic instruments. Oxford University Press.
- [5] Greed, C. (2006). The role of the public toilet: Pathogen transmitter or health facilitator? Sage Publications.
- [6] Hutton, G., Rodriguez, E., Thang, P., & Kov, P. (2008). Economic impacts of sanitation in Cambodia. Economic Impacts of Sanitation in South Asia, World Bank.
- [7] Kulkarni, A. R. (2019). Impact of inadequate sanitation on tourism in Karnataka. Serials Publications.
- [8] Ministry of Tourism. (2007). Competitiveness of tourism sector in India with selected countries of the world. Government of India.
- [9] Ministry of Tourism. (2010). Report on infrastructure gaps in tourism sector in Badami - Pattadakal - Aihole, Karnataka. Government of India.
- [10] United Nations. (2010). The human right to water and sanitation: Resolution adopted by the General Assembly. Retrieved from <http://www.onwa.ca/upload/documents/un-water-as-a-human-right.pdf>
- [11] World Bank. (2010). Economic impacts of inadequate sanitation in India. Water and Sanitation Programme, Washington, DC.
- [12] Sulabh International Social Service Organisation. (n. d.). Sulabh story in brief. Retrieved from <http://www.sulabhinternational.org/sulabh-story-in-brief/>