

Usage of Contemporary Public Bathing Spaces and Community Behavior: a case study of Gunasinghepura housing scheme, Colombo

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Abstract

Historically rooted in collective cultural practices, public bathing in dense urban settlements has evolved into a complex social phenomenon, intersecting with issues of space, identity, and community interaction. Most of the public bathing spaces including Gunasinghepura were built in the nineteen hundreds during British period. This study investigates community behaviour associated with contemporary public bathing spaces, with reference to public bathing spaces in Gunasinghepura housing scheme in Colombo, Sri Lanka. The research was developed with an extensive literature review on public bathing places and community usage. Through the literature review, location, spatial layout, materials, and other physical elements were selected as physical factors that affect the usage of public bathing spaces. Types of users with reference to gender and age, time of usage of the facility, and users' residential locations were selected as the parameters to clarify user behaviour types. Spatial and physical data of public bathing spaces were collected via onsite measuring, observations and photographic recordings. User behaviour and spatial usage data were collected via observations, semi-structured interviews and photographic and video recordings. A spatial analysis and a user behaviour analysis were adopted to identify the usage of public bathing spaces and user behaviour to examine how these spaces are occupied, navigated, and transformed by daily communal activities. Findings reveal that public bathing spaces continue to serve not only as functional spaces for hygiene but also as informal arenas for social exchange and community cohesion, where users adopted diverse behaviours. The study concludes that public bathing spaces play an important role in creating social interactions in specific contemporary urban contexts and emphasizes the need for preserving and developing them with a careful design framework.

Keywords: Public bathing spaces, Community Interaction, User Behavior, Urban low-income communities, Urban Public Infrastructure.

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Introduction

During the colonial period, particularly under British rule, the growth of Colombo as a port city and administrative hub brought new forms of housing and infrastructure. Migrant laborers and low-income populations settled in dense neighborhoods where private bathing facilities were minimal or nonexistent. Public wells, standpipes, and shared bathing enclosures emerged as infrastructural responses to urban poverty. However, such facilities often suffered from neglect, reflecting broader inequalities in urban planning. In the mid-twentieth century, with independence and the rapid urban growth that followed, public housing schemes such as Gunasinghepura became central to Colombo's development. However, the limited financial resources and high densities of these schemes meant that public bathing facilities were retained as essential elements.

Even though urban Colombo has changed quickly, low-income neighborhoods still struggle to get access to private sanitary facilities. Therefore, public bathing places continue to be essential to day-to-day living. Although these facilities are frequently seen as outdated, their continued existence emphasizes the importance of infrastructure and cultural continuity. With a focus on the Gunasinghepura Housing Scheme, this study investigates the utilization of modern public bathing spaces, their advantages and disadvantages, and how they affect community behavior. The purpose of the study is to examine how community behavior in low-income communities and modern public bathing spaces are related.

Research gap

While historical and cultural studies on public bathing are well-documented, there is limited research on contemporary public bathing spaces in low-income urban settlements. Specifically, the relationship between the physical design, spatial layout, and materiality of these facilities and the resulting community behavior, gendered use, and social interaction remains underexplored. This gap limits understanding of how such spaces function as both essential urban infrastructure and informal social hubs in modern contexts like Gunasinghepura.

Aim

The aim of this research is to investigate how contemporary public bathing spaces in dense urban settlements, specifically the Gunasinghepura housing scheme in Colombo, function both as physical infrastructure and as social arenas. This is explored by examining their spatial characteristics, patterns of use, and the community behaviours they foster, in order to highlight their ongoing social relevance and propose future design approaches for their preservation and development

Objectives

The objectives of this research are not limited to describing the physicality of public bathing spaces but extend toward understanding their role as social infrastructures. In order to balance breadth with depth, the objectives are organized into four interrelated categories.

- **Study the architecture of contemporary public bathing spaces**
This involves examining the design features, spatial layouts, material choices, and technologies used in modern public bathing spaces. The aim is to understand how contemporary architecture addresses functional needs such as hygiene, water management, and comfort, while also creating an atmosphere of relaxation and community engagement.
- **Identify the architecture of contemporary public bathing spaces, which has not been studied before**
This focuses on uncovering overlooked or under-researched examples of public bathhouse architecture. It seeks to highlight unique architectural approaches, regional variations, or experimental design practices that may not yet be fully analyzed in academic or professional discourse.
- **Study the social relationships and behaviors around public bathing spaces**
Beyond the physical design, this examines how people interact within public baths—looking at patterns of gathering, rituals of bathing, cultural practices, and the sense of community fostered in these spaces. It explores the role of bathing spaces as more than hygienic facilities, recognizing them as sites of social exchange, leisure, and community identity.
- **Analyze the relationship between architecture of contemporary bathing spaces and social behaviors.**
This step connects architectural design to social outcomes, analyzing how elements such as openness, privacy, spatial hierarchy, or communal layouts influence user behavior. It investigates how architecture can encourage interaction, foster inclusivity, or provide retreat, thereby shaping the overall social experience of public bathing.

Scope of the study

This study is designed to investigate the dual role of contemporary public bathing spaces in low-income urban contexts, with particular reference to the Gunasinghepura housing scheme in Colombo. It focuses on analyzing both the physical parameters—such as location, spatial layout, materials, and supporting facilities—and the social parameters, including user demographics, patterns of use, and community behaviors. The research is designed to highlight how architectural features influence social

practices, and how these spaces function not only as infrastructures for hygiene but also as cultural and communal arenas. The scope is intentionally limited to a single housing scheme in order to allow for detailed spatial documentation, behavioral observation, and user interviews. By situating these findings within historical and theoretical perspectives, the study positions Gunasinghepura's bathing spaces as case study sites, through which broader issues of urban infrastructure, social interaction, and communal continuity can be examined.

Limitations

This study acknowledges three primary limitations: area, time, and social class.

i. Area Limitation – Focus on Gunasinghepura

The study is geographically confined to the Gunasinghepura Housing Scheme in Colombo. While this case offers valuable insights into the dynamics of public bathing in low-income settlements, it does not capture the full diversity of experiences across Colombo or Sri Lanka. Other housing schemes, rural villages, or middle-income contexts may reveal different patterns of usage, infrastructure, and cultural meaning.

This limitation is intentional: narrowing the focus allows an in-depth analysis, including detailed site surveys and behavioural mapping. However, the findings must be understood as context-specific and future research could adopt a comparative approach to expand these insights.

ii. Case study limitation – Selection of only three sites

The study was limited to three public bathing facilities within Gunasinghepura area. Other public bathing facilities in nearby locations or beyond the study boundary were not included as case studies.

iii. Time Limitation – Four Weeks of Data Collection

The research was conducted over a four-week period, which inevitably constrains the temporal scope of observations. Seasonal variations, religious festivals, or long-term changes in community dynamics may not be fully captured. For example, water usage might increase during hot months or decrease during monsoon seasons; similarly, cultural practices linked to annual rituals may shape bathing practices differently.

iv. Social group Limitation – Focus on Low-Income Communities

The study is focused exclusively on low-income communities that rely on public bathing facilities. Middle- or upper-income households, which typically have private bathrooms, are excluded. While this focus is necessary for understanding the persistence of communal bathing under conditions of scarcity, it also means that social group-based differences in bathing practices are not explored in detail.

Literature Review

History of Public Bathing Spaces and Their Evolution

The history of public bathing is as old as civilization itself, reflecting a universal human need for cleanliness, health, and social connection. Across cultures, bathing has never been merely about hygiene; it has also carried deep social, spiritual, and symbolic meanings. Public baths have historically served as places of healing, recreation, political debate, and cultural continuity. Their evolution provides a valuable lens for understanding how societies have balanced individual needs with collective practices, a theme that resonates strongly with the contemporary realities of low-income urban communities such as Gunasinghepura in Colombo.

Ancient Civilizations and Bathing Traditions

Throughout history, public bathing has served as both a hygienic necessity and a profound social and spiritual practice. The Great Bath of Mohenjo-daro (c. 2500 BCE) stands as one of the earliest known examples of ritualized communal bathing, reflecting the Indus Valley Civilization's emphasis on purification and civic order (Possehl & Gregory, 2002). In ancient Egypt, the Nile functioned as a public and ritual site for washing associated with both health and religious purity (Riggs, 2012). Reflecting the advancement of Roman urban development, Roman *thermae* evolved into expansive architectural and social complexes that integrated hygiene with leisure and civic life. (Fagan & Garrett, 2002). Beyond their functional role, those complexes also fostered recreation, education, and broad public participation, underscoring their democratic accessibility and cultural significance (Yegul, 1996). The Islamic *hammam* adapted Roman and Byzantine forms to fit Islamic values, emphasizing ritual purity before prayer and serving as gendered spaces for social interaction (Ergin, n.d.; Sibley & Jackson, 2012). Likewise, Japan's **onsen** and **senjo** traditions linked bathing to nature, healing, and community, reflecting environmental and cultural contexts (Clark, 1994). Across these civilizations, public bathing symbolized both cleanliness and community, a duality that continues to manifest in modern contexts such as Sri Lanka's ritual and public bathing practices (Gunawardena, 2010).

South Asia developed rich traditions of communal bathing that fused spirituality, social interaction, and environmental management. Rivers such as the Ganges in India and the Mahaweli in Sri Lanka have long been revered as sacred spaces, serving both as sources of life and as sites for purification, pilgrimage, and collective ritual (Eck & Diana, 2012). Bathing in these rivers symbolized spiritual renewal, social belonging, and the cyclical relationship between humanity and nature. In Sri Lanka, village tanks (*wewa*), constructed during the Anuradhapura (377 BCE–1017 CE) and Polonnaruwa (1056–1236 CE) periods, represented advanced hydraulic systems that simultaneously supported agriculture, domestic use, and communal bathing (Bandara, 2003). These water bodies were social hubs where villagers gathered to wash, converse, and sustain community ties, embodying shared responsibility for water and collective identity (Dharmasena, 2020). In many South Asian traditions bathing held profound ritual importance, where reinforced the connection between bodily purification and spiritual readiness by acts of cleansing before entering temples (Fuller, 2004). Bathing as a moment in which the sacred and the secular intertwined through collective acts of purification is further emphasized by festivals and folk practices, such as Vesak and other culturally rooted rituals (Obeyesekere, 1990). Across South Asia, public bathing continues to express the intersection of hygiene, spirituality, ecology, and community belonging (Shaw, 2007).

Colonial and Modern Developments in Sri Lanka

During the colonial period, particularly under British rule, the growth of Colombo as a port city and administrative hub brought new forms of housing and infrastructure. Migrant laborers and low-income populations settled in dense neighborhoods where private bathing facilities were minimal or nonexistent. Public wells, standpipes, and shared bathing enclosures emerged as infrastructural responses to urban poverty.

Colonial authorities sometimes formalized these practices by building public washhouses and bathing wells, recognizing their necessity for sanitation. However, such facilities often suffered from neglect, reflecting broader inequalities in urban planning. The division of space between the elite, who enjoyed private bathrooms in spacious homes, and the poor, who relied on communal facilities, entrenched class differences that persist into the present.

In the mid-twentieth century, with independence and the rapid urban growth that followed, public housing schemes became central to Colombo's development. Projects such as Gunasinghepura were designed to relocate communities from slums and shantytowns into more structured environments. However, the limited financial resources and high densities of these schemes meant that public bathing facilities were retained as essential elements. Shared bathing areas, often located at the peripheries of housing blocks, became everyday social nodes, echoing much older traditions of communal bathing but reshaped by modern urban pressures.

Physical and user behavior characters in public bathing spaces

Public bathing denotes shared spaces designed for collective hygiene, recreation, or ritual purification. These facilities ranging from ancient Roman *thermae* and Ottoman *hamams* to modern aquatic centers are more than functional infrastructures; they embody cultural values and social interaction patterns through their spatial and sensory design (Komatina & Čeferin, 2020). The physical character of public bathing architecture has evolved through millennia, reflecting climate adaptation, ritual significance, and technological innovation. Across civilizations, these spaces integrate thermal sequences, material articulation, and sensory design to facilitate both cleansing and social unity. Spatial sequencing forms the backbone of most public bathing facilities. Roman baths, for instance, arranged spaces in progressive temperature zones frigidarium, tepidarium, and caldarium facilitating ritual transitions from cold to hot (Nassar et al., 2022). Ottoman and North African hamams inherited and localized this model, introducing domed roofs with circular apertures to diffuse natural light and regulate humidity (Raftani & Radoine, 2008). Material and construction techniques profoundly shape the atmosphere of bathing spaces. In Islamic and Mediterranean contexts, stone, marble, and ceramic tiles were preferred for their thermal capacity and reflective qualities, enhancing both aesthetic and functional performance (Dib, 2021). Hydrological systems are integral to the architectural form. The Roman and Byzantine baths employed aqueduct-fed cisterns and hypocaust heating systems sophisticated examples of early sustainable design (Tomaeva, 2023). Ottoman-Turkish hamams, as described by Erdogan et al. (2019), aligned with topography and local hydrology, reinforcing an ecological sensitivity still relevant in contemporary sustainability discourses.

Lighting and acoustics contribute to the phenomenology of bathing. The hammams of Fez used punctured domes to produce diffuse illumination, simultaneously evoking transcendence and intimacy (Raftani & Radoine, 2008). In contrast, the baths of Gadara demonstrated monumental hall-

type structures emphasizing collective visibility and civic pride (Nassar et al., 2022). Social spatiality in how architecture mediates human interaction remains central. Gutman (2008) and Glassberg (1979) show that early 20th-century American public baths were designed not just for sanitation but also for moral reform and community cohesion. In European urban studies, Balmaseda (2021) highlights how modern public water spaces reanimate urban life, merging ecological design with social inclusivity. These emerging designs maintain continuity with historical bathing principles while addressing present environmental and social imperatives.

Research across urban and rural contexts highlights that these social dimensions shape both the physical design and the social meaning of communal bathing environments. Gender remains the most significant variable affecting spatial organization and accessibility. Joshi (2011) shows that limited privacy and safety in public or semi-public bathing facilities, often cause struggles for women in lower-income and rural settings, restricting their comfort and autonomy (Joshi, 2011). Mishra (2021) further highlights, when shaping their daily routines and reinforcing structural gender inequalities, the lack of secure and private bathing spaces disproportionately impacts women in these settings (Mishra, 2021). Staats (1994) provides ethnographic evidence from Moroccan hammams, where women's baths serve as gendered spaces of empowerment and social solidarity. Similarly, Gutman (2008) shows how gender-segregated swimming pools in 20th-century New York reflected social progressiveness yet reinforced moral hierarchies tied to propriety and race. Age introduces another layer of spatial differentiation. Triatmodjo and Dewi (2023) found that elderly users in suburban settings require accessible and safe bathing environments adapted for mobility limitations, influencing contemporary architectural standards for inclusive design (Triatmodjo & Dewi, 2023). Children's interactions with public bathing spaces also vary by age, Pivik (2012) reported that younger populations perceive public pools as essential for community health and social well-being (Pivik, n.d.). Residential location influences both accessibility and social identity in public bathing practices. Asmal, Amin, and Ali (2017) revealed that in Indonesian fishing communities, communal water facilities act as multifunctional spaces that reinforce social cohesion while mitigating infrastructural disparities (Asmal et al., 2016).

Methodology

Parameter selection

This research was grounded in an extensive literature review on public bath wells within the Gunasinghepura housing scheme and their influence on contemporary social behavior. Key features influencing user behavior were found to include spatial transition factors, such as the distance between the housing scheme and the wells, the interior layouts of the bath wells, and the materials used and these were selected as physical parameters to study the selected public bathing spaces. Simultaneously, the number of people who visited the facilities and functional patterns of use were examined to decipher spatial practices and behavioral trends in the public bathing spaces.

Case study selection

Three case studies in Colombo were selected for this research. The selected public bathing spaces are located alongside the Gunasinghepura housing scheme.

When selecting the case studies following criteria were used.

- Located in Colombo
- Located within a residential area – to observe natural community behavior.
- Current active usage of the place as a bathing place (Not abandoned or mainly used for another purpose)

Methodological framework

Since the study aims to examine not only the geographical and physical features of public bath wells but also the social behavioral patterns that arise within them, a mixed research framework was adopted.

Data Collection Methods

Public Bathing Places' Spatial and Physical Data Collection Method

Physical data were collected to understand the tangible and spatial characteristics of the public bathing facilities. The process included spatial documentation, on-site measurements, observations, and photographic recording. Each bathing well was studied in detail by documenting its location, spatial layout, materials, and physical components such as roofing, flooring, and supporting infrastructure. Measured drawings were created to record dimensions, circulation paths, and spatial organization. Photographs and sketches were used to capture the relationship between interior and exterior zones, material aging, and the condition of supporting elements like seating, ladders, and washing areas. This method provided a factual and measurable understanding of the spatial and physical characteristics of the public bathing spaces, as well as a basis for analyzing how architectural design influences user comfort, privacy, and engagement.

Public Bathing Places' Community Behavior Data Collection Method

Social data were gathered to explore patterns of community behavior and interaction within and around the bathing spaces with reference to gender, age, and user's residential location. The primary techniques included behavioral observation, semi-structured interviews, and video-photographic documentation. Observations focused on recording user demographics (age, gender, residential proximity), frequency and time of use, and types of social activities taking place. Semi-structured interviews with regular users helped to understand their perceptions of privacy, safety, accessibility, and hygiene related to the public bathing space. These methods allowed the researcher to capture both the visible behavioral patterns and the subjective experiences of users, highlighting how people collectively occupy, negotiate, and transform these communal facilities.

Data Analysis Methods

Public Bathing Places' Spatial and Physical Data Analysis Method

Physical data were analyzed through spatial and material analysis, examining how design characteristics influenced the usability and functionality of the bathing spaces. Each bath well's layout, enclosure, and material palette were evaluated to determine their spatial quality, which impacts accessibility and usability of the place. The analysis thus connected architectural character and material condition to the level of community engagement and physical comfort within the spaces. Comparative analysis between the three case studies was used to identify spatial similarities and differences.

Public Bathing Places' Community Behavior Data Analysis Method

Social data were analyzed using behavioral pattern analysis, correlating user demographics and activities with spatial characteristics. The recorded data were categorized by time of day, age group, gender, and residential location to understand who uses the facilities, when, and how. Observational notes and interview responses were synthesized to reveal social trends and usage patterns. This mixed method analysis with both qualitative and quantitative attributes linked the community demographic profile with the community behavioral patterns, which ultimately lead to identifying the relationship between the spatial character of the public bathing spaces and community behavior.

Research Results

Case Study: Gunasinghepura Housing Scheme

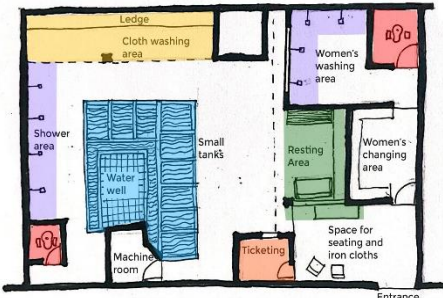
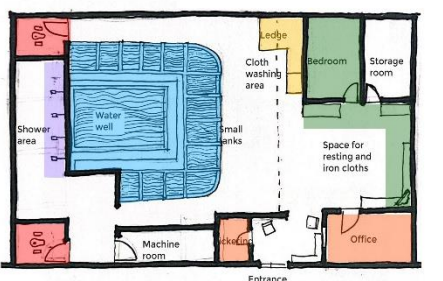
Gunasinghepura is one of the most crowded low-income housing developments in Colombo. Among the bath wells in this area, three bath wells were selected for this research.

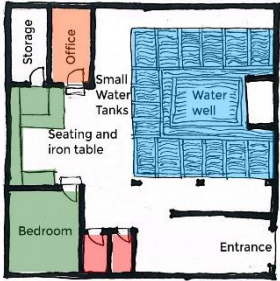


Figure 1 : Case study locations

Source: Author

Table 9 :Physical factors

Case study	Location (p/p1)	Spatial layout (p/p2)	Materials (p/p3)	Other physical elements (p/p4)
Bath well A	 This well is located next to Dias PI Road, beside the housing scheme.	 Well in the middle and other facilities are around it.	 -Floor and water wells: Rough concrete surface -Walls: Masonry -Roof: Asbestos roofing sheets and concrete slabs	 A ladder to climb to the upper level where they dry cloths  A cloth iron table
Bath well B	 This well is located next to the Dias PI road, besides the housing scheme	 Well in the middle and other facilities are located around it.	 -Floor and water wells: Rough concrete surface -Walls: Masonry	 Relaxing area has seatings and a radio.

			-Roof: Asbestos roofing sheets and concrete slabs	
Bath well C	 This well is located among the lately build house cluster	 Well in the middle and other facilities located around it.	 -Floor and water wells: Rough concrete surface -Walls: Masonry -Roof: Asbestos roofing sheets and concrete slabs	 A mirror near the

Source of all images: Author

Analysis p-p1 - Bath well A is located next to bath well B on Dias PI Road, beside the Gunasinghepura housing scheme, among the houses built after the Gunasinghepura housing scheme. Bath well C is located approx. 200m away from previous two, and approx. 20m away from the Gunasinghepura housing scheme. It is also located among the houses built after the housing scheme. Considering all bath wells in close proximity, 75% are located next to the housing scheme. This is an advantage for the bath wells because most of the people in the housing scheme tend to use these facilities. It creates a healthy neighborhood with people's movements around these facilities. Because of the high usage these bath houses need to be maintained regularly rather than the ones located away from the housing scheme.

Analysis p-p2 - Considering the spatial layouts, every bath well has a central water well, and surrounding it are small water tanks. Water is taken from the water well with a motor and is channeled through a gutter and fills these small tanks. People take water from these tanks with baskets. So, the main bathing area is located around these water bodies. All three bath wells have open to sky bathing areas, relaxing areas, and washrooms. 60% of bath wells have concrete ledges created for cloth washing purposes, 60% have separate shower areas, and only 30% have changing areas. As a special area, only bath well A has women's dedicated facilities. It has a changing room, one toilet, and covered bathing area.

Analysis p-p3 - For constructing wells and water tanks concrete were used, and masonry walls were used, and covered areas have asbestos roofs and some areas are covered with concrete slabs. Floor finish is applied as a rough concrete texture. All three bath wells have used locally available materials.

Analysis p-p4 - As other physical elements, there are wooden benches, chairs, iron tables, mirrors, and plastic chairs. Apart from that, bath well B has a radio in the relaxing area. All these items old and aged, and some are even partly broken.

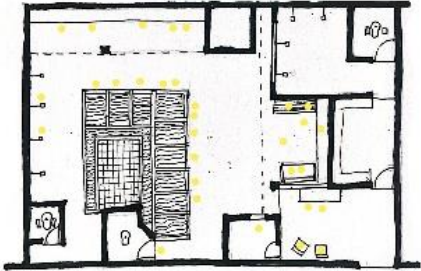
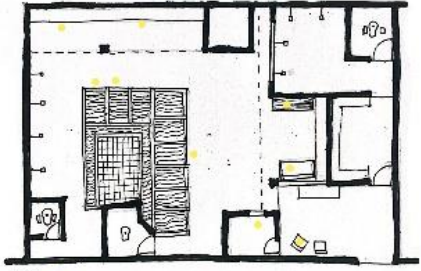
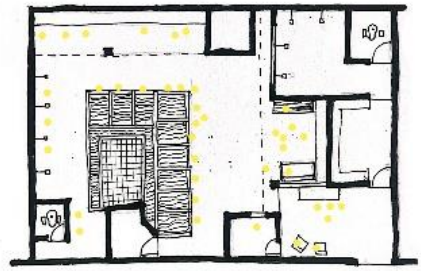
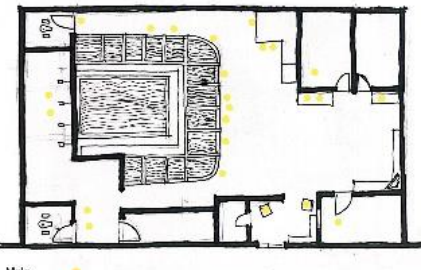
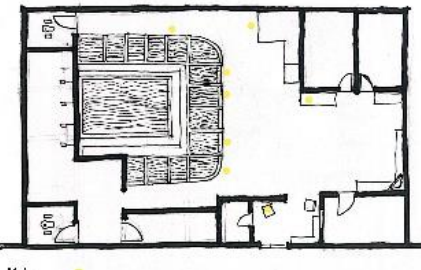
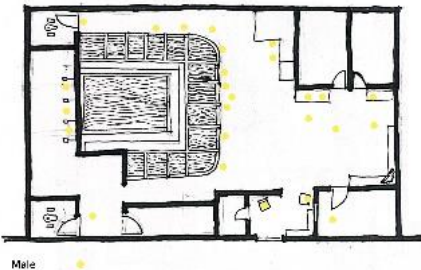
Conclusion of Physical Parameters

All facilities share a common spatial layout centered around a main water well and surrounding tanks, with open-to-sky bathing areas, relaxing zones, and washrooms as standard features. However, the degree of amenity provision varies: 60% of the bath wells include concrete ledges for washing clothes, 60% have separate shower areas, and only 30% offer changing facilities, highlighting a lack of comprehensive user comfort. Notably, only Bath Well A provides dedicated women's facilities, including a changing room, toilet, and covered bathing space, emphasizing a significant gap in gender inclusivity across the sites.

From a construction perspective, concrete and masonry dominate as building materials, with asbestos roofing and rough concrete floor finishes, all sourced locally reflecting a practical, low-cost

construction approach. The presence of aged and partially damaged furniture (wooden benches, iron tables, mirrors, and plastic chairs) indicates limited maintenance and declining physical quality. Overall, the findings suggest that while the bath wells function adequately in layout and material use, they lack modern comfort, inclusivity, and upkeep improvements that must be addressed to enhance user experience and ensure long-term sustainability.

Table 10 : User behavior types

	Case Study	Morning 6.00 a.m. – 11.00 a.m.	Noon 11.00 a.m. – 3.00 p.m.	Evening 3.00 p.m. –7.00 p.m.
	Bath well A	 Male ● Female ●	 Male ● Female ●	 Male ● Female ●
	Bath well B	 Male ● Female ●	 Male ● Female ●	 Male ● Female ●



Age (s-p2)	Bath well C			
		1 - 18 18 - 35 35 - 60 60 - above	1 - 18 18 - 35 35 - 60 60 - above	1 - 18 18 - 35 35 - 60 60 - above



Considering user behavior types Gender, Age, and User's residential locations, were selected as main factors investigated.

Analysis s-p1 – During the study period, none of the bath wells (A, B, or C) had female visitors.

Analysis s-p2 - Considering age factors, most visited age groups are 35-60 and 60 and above, which and account for 80% of overall users. So, most users from all three facilities are either middle aged men or older men. Children's attendance at these facilities was very rare.

Analysis s-p3 – 97% of the users are from close vicinity, but people who visit the city from other cities, also visit these bath wells. But number of those visitors is less than the users from nearby places.

Conclusion of Social Parameters

The analysis reveals that 100% of users were male, as none of the bath wells (A, B, or C) recorded any female visitors during the study period. In terms of age distribution, 80% of the users belong to the 35–60 and 60-above age groups, indicating that the majority of users are middle-aged and elderly men. The attendance of children was less than 5%, showing that younger age groups rarely use these facilities. Regarding proximity, 97% of users are residents from the nearby area, while only 3% are visitors from other cities. Overall, the findings demonstrate that the bath wells are primarily used by local, older male residents, with minimal participation from women, children, or outsiders.

Overall Analysis:

The open-to-sky layouts, rough concrete finishes, and open bathing spaces make the bath wells more suitable for male users, while discouraging female participation. This is reflected in the findings, where 100% of users were male and no female visitors were recorded during the study period. The absence of enclosed or well-shielded spaces, coupled with the lack of adequate changing areas (only 30%) and dedicated female facilities (present only in Bath Well A), highlights how spatial design directly influences gender-based accessibility and comfort.

Similarly, the basic and utilitarian material palette concrete structures, rough floors, and aging furniture suggests that these spaces primarily cater to habitual, function-oriented users rather than recreational bathers. This correlates with the demographic composition, where 80% of users are middle-aged and elderly men, individuals who may value familiarity and practicality over aesthetics or modern amenities. The limited presence of children (less than 5%) indicates that the existing physical environment may not support comfort, safety, or attractiveness for younger users.

The locally sourced construction materials and aging, partly broken furnishings reflect low investment in maintenance, which may reinforce users' utilitarian approach and further dissuade new or diverse

users. Despite this, 97% of users from nearby areas show that the bath wells remain socially embedded in the local community's daily routine, functioning as a practical necessity rather than a leisure facility.

In conclusion, the physical simplicity and infrastructural limitations of the bath wells directly shape a narrow, male-dominated, and locally confined user base. Enhancing inclusivity, privacy, and comfort through thoughtful spatial and material upgrades could broaden participation—especially among women and younger generations while preserving the communal value of these traditional bathing spaces.

Areas for Development

- Design Interventions

Residents repeatedly emphasized the need for better drainage, roofing, and lighting. Separate enclosures for men and women were also requested to enhance privacy.

- Policy Recognition

A key issue is the lack of formal recognition of public bathing facilities as legitimate urban infrastructure. They are often treated as temporary or peripheral, leading to underinvestment. Policy frameworks need to integrate such facilities into housing schemes, acknowledging their enduring necessity for low-income communities.

Design Recommendations

The findings point towards specific design strategies that can improve the functionality and dignity of public bathing facilities while preserving their social value.

- Improved Hygiene and Drainage
- Introduce tiled surfaces, proper sloping, and covered drainage systems to reduce stagnant water.
- Ensure reliable water supply and waste disposal mechanisms.
- Privacy and Safety Enhancements
- Provide gender-sensitive layouts with separate enclosures for men and women.
- Ensure adequate lighting to make evening usage safe, particularly for women.
- Designs should be adaptable to different scales of housing schemes, ensuring flexibility in diverse urban contexts.
- Integration with Community Spaces
- Design neighborhood networks, Integrating bathing facilities
- Urban water infrastructure development
- Integrating urban public spaces with public bathing facilities

These design improvements would elevate public bathing facilities from basic infrastructure to dignified, inclusive spaces that enhance urban quality of life.

Conclusion

This research was conducted to investigate how contemporary public bathing spaces in dense urban settlements, specifically the Gunasinghepura housing scheme in Colombo, function both as physical infrastructure and as social arenas. The parameters were derived from the literature review, identifying location, spatial layout, materials, and other physical elements as the physical parameters, and gender, age, and users' residential location as the social parameters. The analyses of physical parameters and social parameters were conducted separately.

The study reveals a direct relationship between the physical form of bathing spaces and the behavioral patterns of their users. The open layouts and exposed bathing areas result in a male-dominated user group, primarily consisting of middle-aged and elderly men. Limited facilities for women and children, combined with poor maintenance and basic material finishes, further restrict inclusivity and comfort.

Despite these shortcomings, the bathing wells continue to serve as active social nodes that sustain daily interaction among residents. Their proximity to housing clusters ensures consistent use, demonstrating their functional relevance in dense, low-income urban environments. The findings highlight the importance of integrating spatial and social considerations in the design of communal bathing infrastructures. Future improvements should focus on introducing gender-sensitive layouts, improved hygiene systems, and better material quality to enhance safety, privacy, and durability. Recognizing these spaces within urban policy frameworks would further support their development as inclusive, sustainable components of community infrastructure.

Areas for further studies

Although this study provides targeted insights into the social and physical aspects of public bathing spaces in Gunasinghepura, there are several areas that need further exploration. Bathing practices may be influenced by class, location, and culture, according to comparative studies conducted across various housing schemes and communities. Evolving usage patterns would be clarified by longitudinal research that captures seasonal and long-term changes. To understand why women and younger users avoid these facilities and how design can promote inclusivity, gender focused research is required. Upgrades that are environmentally conscious can be informed by technical research on sustainable water management and material innovations. Lastly, studies focused on policy can support the positioning of public bathing spaces as essential elements of urban development. When combined, these approaches can promote the development of more dignified, inclusive, and sustainable communal bathing spaces.

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