



National River Conservation Directorate
Ministry of Jal Shakti,
Department of Water Resources,
River Development & Ganga Rejuvenation
Government of India.

APPROACHES AND ACTIVITIES TO RIVER- PEOPLE CONNECT IN GODAVARI RIVER BASIN



July 2025



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National River Conservation Directorate (NRCD)

The National River Conservation Directorate, functioning under the Department of Water Resources, River Development & Ganga Rejuvenation, and Ministry of Jal Shakti providing financial assistance to the State Government for conservation of rivers under the Centrally Sponsored Schemes of 'National River Conservation Plan (NRCP)'. National River Conservation Plan to the State Governments/ local bodies to set up infrastructure for pollution abatement of rivers in identified polluted river stretches based on proposals received from the State Governments/ local bodies.

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The Center for Godavari River Basin Management and Studies (cGodavari) is a Brain Trust dedicated to River Science and River Basin Management. Established in 2024 by CSIR-NEERI and IIT Hyderabad, under the supervision of cGanga at IIT Kanpur, the center serves as a knowledge wing of the National River Conservation Directorate (NRCD). cGodavari is committed to restoring and conserving the Godavari River and its resources through the collation of information and knowledge, research and development, planning, monitoring, education, advocacy, and stakeholder engagement.

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cGanga is a think tank formed under the aegis of NMCG, and one of its stated objectives is to make India a world leader in river and water science. The Centre is headquartered at IIT Kanpur and has representation from most leading science and technological institutes of the country. cGanga's mandate is to serve as a think-tank in implementation and dynamic evolution of Ganga River Basin Management Plan (GRBMP) prepared by the Consortium of 7 IITs. In addition to this, it is also responsible for introducing new technologies, innovations, and solutions into India.

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Preface

In an era of unprecedented environmental change, understanding our rivers and their ecosystems has never been more critical. This report aims to provide a comprehensive overview of our rivers, highlighting their importance, current health, and the challenges they face. As we explore the various facets of river systems, we aim to equip readers with the knowledge necessary to appreciate and protect these vital waterways.

Throughout the following pages, you will find detailed insights into infrastructure related to water resource management, along with development plans focused on urban areas, sanitation systems, and riverfront management, all of which directly impact the health, safety, and resilience of communities across the basin.

This document is not merely a technical assessment, it is a call to action. We urge decision-makers, planners, community leaders, and citizens alike to recognize the vital role of infrastructure in shaping a more equitable and resilient future. Whether you are involved in policy, engineering, environmental planning, or community development, this report is designed to support informed decision-making and collaborative action across sectors.

We extend our heartfelt gratitude to the many stakeholders, experts, and institutions who have contributed their insights, data to this report. Their invaluable input has enriched this report, making it a beacon of knowledge and a practical resource for all who read it. It is our hope that this report will act as a catalyst for integrated and inclusive development, fostering long-term resilience, public health, and environmental sustainability for both present and future generations.

As you delve into the following sections, we invite you to consider both the challenges and the opportunities presented by the evolving needs of the basin. Together, through informed planning and collective responsibility, we can create a future where infrastructure serves not only human needs but also the long-term health of our environment.

Centre for the Godavari River Basin
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1. Introduction

This report on river-people connect is focused on the frequency of water use, water collection, water treatment methods, health problems, and the impact of floods and droughts. Additionally, it explores the cultural importance of the river and the awareness levels of government conservation programs among local areas. By analyzing quantitative and qualitative survey data from various locations, this report seeks to identify sites straddling the basin and examine demographic variables such as age, gender, education levels, occupation, caste, and religion. Additionally, there are different patterns and variations in water access, health concerns, and environmental awareness.

This report elaborates on the idea of what makes a river connect with its people and vice-versa. Close to 60 million people live on the Godavari Basin, making its size, reach and impact all the more important in thinking about how the river is lived with it, and consumed. Covering the states of Maharashtra, Karnataka, Telangana, Chattisgarh, Andhra Pradesh, Madhya Pradesh and Odisha, the Godavari River Basin changes character and identity as it travels through all of these states.

This report provides insights into essential components of river ecologies by engaging with its spiritual world, the ways in which residents of the river basin use and access water, and how the river ecologies double up as sources of livelihood and community engagement.

The report draws from existing data sets such as the Census of India, 2011, and pilot fieldwork conducted in select sites of the Godavari River Basin for a period of five months in 2024-2025. This present study aims to assess the socio-economic dimensions of river usage, focusing on various locations of four different states along the Godavari River basin. The fieldwork locations are Basara (Nirmal, Telangana), Bidar (Karnataka), Koraput/Kalahandi (Odisha), and Paithan/Patoda (Chhatrapati Sambhaji Nagar, Maharashtra). These locations possess rich religious and mythological importance.

2. The Spiritual World of the Godavari

Gautami, or Dakshin Ganga or Godavari, is a significant river as one of the seven rivers that hold the great sanctity of Hinduism. According to Hindu Jagruti Samiti (HinduJagruti.org),

सर्वतीर्थशिरोभूताम् आद्यांगोदांचधीमहि।
धर्मं या नः प्रचोदयात् ॥ (संदर्भः अज्ञात)

Meaning: We pray to the River Godavari, the most supreme place of pilgrimage and the first among rivers. Let this Godavari give us inspiration for Dharmacharan (abiding by Dharma) [Ref: unknown]

According to the Hindu mythological history, Lord Shriram spent 12 years in exile on the banks with Seeta. Many scholars and leaders from 'Aryavarta' stayed on the riverbank. The origin of the word Godavari comes from:

1. 'गां स्वर्गं ददाति स्नानेन इति गोदा । तासु वरी श्रेष्ठा गोदावरी । – शब्दकल्पद्रुम [Gam Swargam Dadaati snaanen Iti Goda; Taasu Vari Shreshtha Godavari – Shabdakalpadrum]
Meaning: One who helps in liberating (a person) when he has bathed in her, is known as Goda. The river, supreme among rivers, who help (a person) in attaining Swarga, is Godavari.
2. गौतमस्य गवे जीवनं ददाति इति गोदा । [Gautamasya Gave Jeevanam Dadaati Iti Goda]
Meaning: One who gave life to a cow (that died with Sage Gautam's touch) of Sage Gautam, is Goda (Godavari)!

According to Hindu Mythology, as narrated in the *Bramhapurana*, the sacred Godavari River was born out of divine intervention and penance during the *Satya-Yuga*. At that time, Earth faced an unprecedented calamity - a twelve-year-long drought, which left the land barren and life at risk. In response to this crisis, Sage Gautama undertook intense penance to seek the blessings of Lord Ganesha, praying for rainfall and relief from famine. Through divine grace, rain fell exclusively on his ashram, allowing crops to grow abundantly and enabling Gautama to support visiting sages and hermits from distant lands.

However, this prosperity bred envy among certain fellow sages, who, consumed by jealousy, conspired to defame the sage. They created an illusory cow and left it in his ashram. When the cow began feeding on the grain, Gautama unintentionally touched it, leading to its death. The incident was seized upon by the conspirators, who falsely accused him of committing the grave sin of *go-hatya* (cow slaughter) - a moral and spiritual offense of the highest order. As a result, the fellow sages abandoned their ashram.

¹ (Source: Hindu Jagruti Samiti, <https://www.hindujagruti.org/hinduism/sacred-river-godavari>)

Overcome with grief and seeking absolution, Gautama performed severe penances once again - this time to Lord Shiva, pleading for the descent of the holy Ganga to Earth so that he could be purified of the sin unjustly attributed to him. Pleased with his devotion, Lord Shiva released the sacred waters from his *jata* (matted hair), where Ganga had been held, and directed them to flow from Brahmagiri. The river that emerged became known as Godavari, named to distinguish it from Ganga, yet holding the same spiritual potency.

The *Bramhapurana* further states that those who bathe in or even dwell within the vicinity of the Godavari, within the span of one yojana, are granted liberation (*moksha*). As a divine manifestation, Godavari is thus considered both a purifier of sins and bestower of spiritual merit. Interestingly, the text notes that the waters held in Shiva's hair divided into two forms upon release - Ganga and Godavari - each sanctified by intense *tapasya* and divine will.

This myth not only reinforces the river's spiritual and ritual centrality but also illustrates key themes in Hindu cosmology: penance, devotion, cosmic justice, and the merciful intervention of the divine in restoring dharma.

In addition to its spiritual and mythological significance, the Godavari River is revered for its tangible contribution to human well-being, earning it titles such as Jeevadayini (life-giver) and Arogyadayini (health-bestower). Flowing across multiple states - Maharashtra, Chhattisgarh, Telangana, Andhra Pradesh, and Puducherry - the river has enriched the landscape and supported livelihoods for countless generations. Its waters have played a critical role in agricultural fertility, making the surrounding plains lush and productive through centuries of seasonal replenishment.

Godavari is also seen as a natural healer. Traditional Ayurvedic and scriptural sources, such as the *Rajani ghantu*, praise the river's water for its curative properties. The following Sanskrit shloka extols the health benefits of bathing in or consuming the river's water.

पित्तार्तिरक्तातिसमीरहारिपथ्यंपरंदीपनपापहारि।
कुष्ठादिदुष्टामयदोषहारि गोदावरीवारि तृषानिवारि ॥ – राजनिघंटु, वर्ग १४, श्लोक ३२

Translation:

The water of the River Godavari helps in eliminating ailments related to acidity (pitta), blood disorders, and excess wind (gas); it enhances digestion, destroys sin, cures skin diseases caused by sin, and quenches thirst.

Such attributes elevate the river beyond just a natural water source - it is perceived as a living force of nourishment, purification, and healing. These features further demonstrate how Godavari is woven into the very fabric of local ecosystems, economies, and cultural health practices.

2.1 Significant Ritual Practices on the Godavari Ghats across the Basin

The Godavari ghats hold a sacred significance in the spiritual life of the community across the basin. From the *Mundan ceremony* (Tonsure ceremony) to the coming-of-age ritual to the

purification ritual after death, the sacred Godavari is a threshold of transition. The ghats are a vibrant space for everyday intertwining.

Table 2.1 Famous Religious Sites on the River Godavari

S.No.	Name	State	Dedicated to	Important Festivals	Devotees Footfall
1.	Trimbakeshwar	Maharashtra	Lord Shiva	Kumbh	1.5 crore pilgrims ¹ annually
2.	Nashik	Maharashtra	Lord Shiva	Simhastha Kumbha Mela	Not available
3.	Paithan	Maharashtra	Sant Tukaram Sant Eknath and other saints from Jainism and Buddhism	Paithan Yatra	Not available
4.	Nanded	Maharashtra	Guru Gobind Singh, Hazur Saheb Gurudwara	Guru-ta-Gaddi	Not available
5.	Bhadrachalam	Telangana	Lord Vishnu	Sree Rama Navami	1000-2000 on weekdays/ 4000 on weekends ²
6.	Basara	Telangana	Goddess Saraswati	Basant Panchami: Aksharabhyasa	Not available
7.	Dharmapuri	Telangana	Lord Vishnu	Brahmotsavam	Not available
8.	Kaleshwaram	Telangana	Lord Shiva	Saraswati Pushkaralu	1.2 lakh pilgrims daily ³
9.	Kotilingala	Telangana	Lord Shiva	Godavari Maha Pushkaram	4 crore ⁴
10.	Rajahmundry	Andhra Pradesh	Lord Shiva	Godavari Pushkaram	1 crore ⁵

11.	Antarvedi	Andhra Pradesh	Lord Vishnu	Kalyanotsavam and Mudrikalankarana	1000+ ⁶
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1 From <https://101reporters.com/>

2 The New Indian Express (<https://www.newindianexpress.com/states/tehrangana/2024/Mar/21/ramalayam-devotees-unable-to-book-accommodation-as-footfall-increases>)

3 The New Indian Express (<https://www.newindianexpress.com/states/tehrangana/2025/May/17/massive-devotee-turnout-marks-second-day-of-saraswati-pushkaralu-in-tehrangana>)

4 The Hindu Business Line (<https://www.thehindubusinessline.com/news/national/godavari-pushkaram-ap-expects-nearly-4-crore-pilgrims/article7413494.ece>)

5 The Times of India (<https://timesofindia.indiatimes.com/city/visakhapatnam/pushkarams-footfall-touches-1-crore/articleshow/48129726.cms>)

6 The Hindu (<https://www.thehindu.com/news/national/andhra-pradesh/thousands-witness-antarvedi-chariot-festival/article6840890.ece>)

Basara is a pilgrimage site situated on the bank of the River Godavari in Nirmal district, Telangana. The Gnana Saraswati Temple is in Basar, where the children are brought for the learning ceremony called Aksharabhyasam. It is one of the sixteen samskaras in the Hindu religion. Children here perform the exercise of the first letter on the slate, and offer a pen, a pencil, and books to the goddess of knowledge. The temple has a very long mythological history from the Mahabharata, and it also depicts the significance of the River Godavari. After doing Aksharabhyasam, devotees visit the Godavari (Pushkar) Ghat to perform a holy dip in **Dakshin Kashi, Deepdaan, and Harathi (Aarti)**. The Godavari Ghat holds cultural beliefs, social bonding, and a great emotive dependency of its devotees. Economic dependency could be seen on the ghat; truly River Godavari is a lifeline for natives.

In Basara, community engagement strategies could be seen at the time of the river festivals. Although the river Godavari is worshipped throughout the year, some important festivals are there which have resulted in strengthening the bond between the river and the people. “Dominantly, the power of the river to purify and to do away with 'pollution' (a concept associated with non-purity with regards to conducting rituals in Hinduism) has been seen as the essential attribute of most Indian rivers.” (Dahake,2018, p.4). People continue to perform sacred baths even in visibly polluted stretches of the sacred river. On the bathing ghat of Godavari, various communities from the Hindu religion can be seen predominantly. As considered in *Hindu Dharma* a holy dip in the River Godavari cures every sin of a person; it is a mandatory ritual of devotees, who come to the temple to take a dip in Godavari. The footfall every day at the Basara *ghats* is around 5000-1000, and on special occasions like Mula Nakshatra, Navratri, Vasant Panchami, it is between 60 thousand to 1.2 lakhs. There are two Godavari Ghats, the first one is under the temple management, and another is run by Veda Pathshala. Every day, Godavari Harathi is done by *Shishyas*, and cleaning and management are done by Veda Pathshala only. Some elderly participants of the survey responded that they come every day for bathing and worshipping.

Dev Anna, 67 years reported that, “Going to the river is part of our daily routine. We bathe, offer prayers, and in the process, we meet our friends every day and spend time together”.

The statement of the participants depicts that going to the river, even for religious purposes, creates a sense of togetherness in the community, performing the same ritual together, observing the changes together, and sharing experiences that strengthen the social bonds of people. Such shared practices create a positive atmosphere where tradition, faith, and community life seamlessly intertwine.

Moin Ali, 37 years reported that, “My friends and I come to fish every day. By evening, the entire ghat empties after the prayers and rituals, and we are the ones who witness the calmness of the Godavari. Sitting here brings a sense of peace.”

The statement depicts how the various communities cooperate and interact with the River Godavari. One community experiences peace from religious ritual, while another witnesses its calmness through shared space and togetherness. This interplay of rituals and routines reflects the harmonious relationship between the communities and the river, where each group finds meaning in its own way. The pictures below depict the harmonious relationship and routines with the sacred river, Godavari.



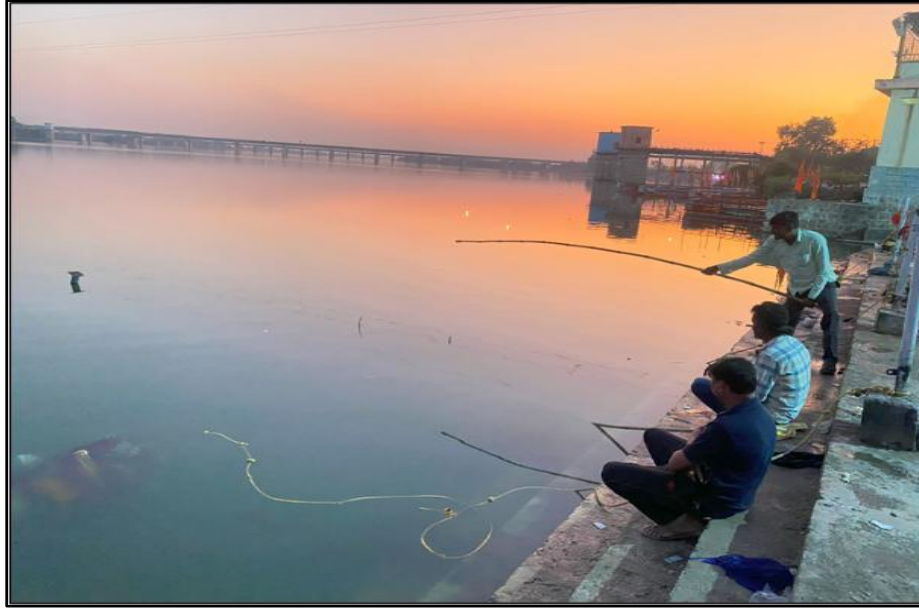


Figure 2.1 and Figure 2.2: Showing the harmonious relationship of rituals and routines of people

(Source: Primary field survey by the cGodavari team)

Another pilgrimage site on the Godavari bank is **Paithan, Chhatrapati Sambhaji Nagar**. This site is a significant pilgrimage for the Varkari Sampraday. The Varkaris make up 44.27%, representing the entire surveyed population of Paithan village. The Varkaris are deeply connected to Eknath Maharaj- a saint and Philosopher. The Warkari Sampraday is a Bhakti movement that brought social harmony, a message of equality, and devotion. The Varkaris, who are followers of Sant Eknath and Dnyaneshwar, practice Abhangs (Traditional singing), community service, pilgrimage, and simplicity in life. The people who adopt this sampraday never ask for their social caste. There is an annual Pandharpur Wari in Pandharpur, by singing hymns, and spreading the message of equality and devotion via Paithan, the second largest pilgrimage of Varkaris. The Varkaris of Paithan and other nearby villages keep fast on Ekadashi and come to the Eknath Maharaj Mandir to worship and spiritual dip in the holy Godavari River. The participants reported that it's (Godavari) is our Dakshin Kashi, our goddess. The Godavari River is also religiously significant because the saint Eknath Maharaj took **Jal Samadhi** in the river. The villagers celebrate Godavari Prakat Divas annually on Dashmi of Magh Month according to the Hindu calendar. Every year, 11,000 Deepdan is done on the Godavari Ghat. The Eknath Shashti is celebrated, which is the second largest Wari of Varkaris after Pandharpur. Almost 450 Dindis come to this place every year in March month, it is the day of Jal Samadhi Divas of Sant Eknath Maharaj. The survey data shows the significance of the Godavari River in Paithan.

As the majority of people follow Hinduism, they perform Hindu rituals and worship Hindu deities, but the Varkaris from this religious structure are devotees of Sant Eknath Maharaj and Maratha deity Vitthal, the central figure of Varkari tradition. The Varkari holds a unique spiritual identity.



Figure 2.3: Performing Mundan Sanskar in Gupteshwar, Koraput, Odisha.
 (Source: Primary field survey by the cGodavari team)



Figure 2.4 Performing Godavari Harathi by Veda Pathshala, Basara, Telangana.
 (Source: Primary field survey by the cGodavari team)



Figure 2.5 Performing Purification rituals in Gupteshwar, Koraput
 (Source: Primary field survey by the cGodavari team)



Figure 2.6 Performing sacred bath and Hari path on Ekadashi, Paithan Chhatrapati Sambhaji Nagar
 (Source: Primary field survey by the cGodavari team)

2.2 Suggestions Regarding Safety at Pilgrimage Sites

From the preliminary field work, which was mostly conducted on the river *ghats*, some suggestions to make it inclusive and physically safer are noted below.

1. In some regions, gentle ramps and handrails should be installed, alongside traditional steps, to support elderly people and individuals with mobility issues. It helps in reducing the risk of slipping, especially during monsoon or crowded festival days. In Gupteshwar, Koraput, reportedly, a common cause of death in rainy seasons are falls on the *ghats*, as there are no barricades on the *ghats* and *ghat* steps are not in good condition.
2. There should be a non-slip surface treatment or rough stone surfacing on steps and pathways to prevent slipping during bathing and other rituals.
3. There should be shaded resting areas and stone benches under trees. Especially for elderly men and women who may need to wait or rest before and after rituals. This is urgently needed in Paithan, as on every Ekadashi, elderly devotees come for a sacred bath on the *ghat*, on the same day they are fasting.
4. There should be gender-sensitive toilets on every *ghat*, that are clean and safe, including changing areas for women, preferably near but discreetly away from the main *ghat* steps.
5. There should be proper lighting for early morning and evening visits. For safety, there should be a volunteer presence or security, especially at the time of festivals.
6. There should be a different space for safe drinking water and snacking activities. So, there should not be any compromise with river health.
7. If the *ghats* are in temple management or under government management, they could appoint “swimmers” for any emergency of drowning.

3. River Water Usage and Access

3.1 Water usage, consumption and infrastructure

A study on water consumption, usage, and infrastructure reveals some key themes (such as frequency and type of river use, water collection method and timing, time and effort in water collection, water use and practices, water treatment and purification) to reflect on the role of socio-economic status, including education, age, gender, household size, etc. to understand water use. For instance, in our field survey we found that households with older male members consumed more water, often linked to bathing habits, level of employment, and access. Similarly, level of educational attainment influenced water-saving habits. Our field findings also highlights seasonal variations in consumption, like temperature changes, rainfall, etc.

3.1.1 Household Drinking Water Availability

The sacred Godavari is called Dakshin Kashi and is revered by many local communities for its spirituality. The understanding of a sacred bond between river and people goes beyond religious rituals and practices, and includes community engagement strategies that have been used to improve the river's health and the welfare of those sharing the water's gifts.

ANNEXURE

Annexure Table 1 illustrates the distribution of **primary sources of drinking water availability** within the six states (Andhra Pradesh, Telangana, Odisha, Maharashtra, Madhya Pradesh, and Karnataka) of the Godavari Basin. The water sources are categorized as tap water (treated and untreated), hand pump, tubewell/borehole, protected / unprotected dug wells², surface water sources (Spring, river/canal/tank), and other sources. In Madhya Pradesh, the top three sources of drinking water are handpumps (39.2%), wells (29%), and tap water (25.3%). Rural households are predominantly dependent on handpumps and wells. While urban households are dependent on tap water. Rural areas also rely on surface water sources like rivers, ponds, etc. Tap water is mostly available within the premises of over 26 lakh households. Hand pumps and wells are outside of

² Handpump- A manually operated mechanical device used to lift water from a well, typically using a lever or piston mechanism. (Source: https://en.wikipedia.org/wiki/Hand_pump),

Tubewell- a narrow screened tube, pipe or casing that is driven into a subsurface aquifer.

Borehole: similar to tubewells, but differ in that they are used to access deeper and more difficult to tap water resources, as well as requiring bedrock penetration.

(Source: <https://www.ctc-n.org/technologies/boreholes-and-tubewells>)

Protected dug well: A dug well that is protected from runoff water through a well lining or casing that is raised above ground level and a platform that diverts spilled water away from the well and covered so that bird droppings and animals cannot fall down the hole.

Unprotected dug well- a dug well which is unprotected from runoff water, unprotected from bird droppings and animals, or both.

(Source: The DHS Program User Forum, Definition of Protected and Unprotected Well. <https://userforum.dhsprogram.com/index.php?t=msg&th=7092&start=0&>)

premises, which makes it difficult to access. In Odisha, the top source of drinking water availability is wells (28.55%).

In rural households, hand pump use is predominant at 31.3%, and in urban areas, the dominant source is tap water, 45.9%. In Maharashtra, the urban areas are heavily dependent on tap water. Households with tap water within premises are high (84.7%), reflecting better infrastructure. In Andhra Pradesh, tap water is predominantly used as the primary source of drinking water at 48.1%. Handpumps are mostly used in rural areas, mostly near premises, but 22% still walk to fetch water. Nearly 20% of drinking water is sourced away from households in Andhra Pradesh and Telangana.³ Karnataka shows the dominance of tap water in rural areas due to a larger rural population. Here, the reliance on natural sources like rivers and spring is comparatively lower.

While the above data on household drinking water source distribution was on the state level, now it is similarly important to understand these patterns at the local level. To observe the ground realities, fieldwork was conducted across selected districts of five states (Odisha, Maharashtra, Andhra Pradesh, Karnataka, and Telangana). The following section presents a detailed analysis of the drinking water source of the selected districts.

Annexure Table 2 presents the **distribution of household drinking water sources at the district level**. The data is sourced from Census 2011, and it demonstrates the primary sources of accessing the drinking water on the local level, like taps, handpumps, wells, tubewells, other natural sources like rivers, canals, ponds, lakes, springs, and any other sources. Tap water is found to be the predominant source of household water supply in Aurangabad, followed by Adilabad and Bidar. It is lowest in Koraput and Kalahandi, where handpumps and wells are predominantly used, indicating underdeveloped piped networks within the villages. Rural dependency shows in the use of handpumps and wells.

3.1.2 Type of Household Sanitation Facility

Another key indicator to understand the water consumption is household sanitation facilities, which are equally essential to analyse the household-level infrastructure. The following section presents the household sanitation facilities in six states within the Godavari River basin.

Annexure Table 3 presents the household sanitation facilities at the state level within the Godavari River basin. In these states, Madhya Pradesh shows one of the worst sanitation access rates among the other states. In rural areas of Madhya Pradesh, only 13% have the facility of latrines, over 96 lakhs defecate in the open. In contrast, Andhra Pradesh has a well-developed urban sanitation infrastructure, but rural areas have poor sanitation facilities. Also, in Maharashtra, urban sanitation is well-maintained, and in rural areas, only 38% of households have a private latrine facility, and the rest of the households defecate in the open. In rural Odisha, only 14% of households have

³ It is important to note, the data presented above is sourced from Census 2011, before the formation of Telangana. The figures provided under Andhra Pradesh include the regions that are now part of present-day Telangana.)

latrines on their premises, and urban access is better with 65%. Karnataka has good urban access, similar to other states.

To understand the household sanitation facility, we discuss the local level data at the district level.

Annexure Table 4 presents the household sanitation facilities at the district level; these districts were the sampling locations for the primary data collection. Out of these districts, Aurangabad (Chhatrapati Sambhaji Nagar) has the highest percentage of having access to latrines within their premises, while Kalahandi has the lowest, 11.72% of not having latrines. Bidar district of Karnataka has the highest percentage of public latrine usage. Aurangabad and Koraput districts have more underutilized public latrines. Adilabad district shows better coverage in urban areas. Kalahandi shares the lowest percentage of public latrine usage, while the open defecation in this region is comparatively higher than in other districts.

The above analysis of sanitation facilities highlights considerable variations in household access to latrines across the selected districts. While districts like Aurangabad demonstrate relatively better coverage, others, such as Kalahandi and Koraput, continue to face a significant deficit in basic sanitation infrastructure. However, understanding access to sanitation facilities is not sufficient; it is equally important to understand the sanitation facility types like piped sewer systems, pit latrines with slab, without slab, night soil disposed into open drain, night soil serviced by humans and animal.

Annexure Table 5 presents the type of household sanitation facility within the states in the Godavari Basin. The most common sewer system in Karnataka is the piped sewer system in urban areas in urban areas which is 28.3 lakhs, and pit slabs in rural areas are 11.3 lakhs. Service latrine use is low but somewhat prevalent in rural areas. The Septic tanks dominate in Odisha, especially in urban Odisha. Open defecation or no latrines is still an issue due to low household coverage. In Andhra Pradesh, open-drain night soil is alarmingly higher than in other states. Pit latrine usage is also high in Andhra Pradesh. Septic tanks in urban areas of Maharashtra are predominantly used (30.9 lakhs), and in rural areas (24.9 lakhs). Urban sanitation infrastructure appears stronger but still has over 1.3 lakh households disposing waste in open drains. Madhya Pradesh has the lowest household latrine access in this group of states. However, urban areas are comparatively better than rural areas in this regard.

The above data in **Annexure Table 6** presents the local level data on types of household sanitation facilities. The data demonstrates the districts that are selected for fieldwork and facilitates the comparison between the past and present conditions of sanitation facilities at the ground level. In the above data, Aurangabad has better access to latrines, especially flush-connected ones (Piped sewer systems) than another district. Pit latrine usage is minimal, and service latrines are almost 0.77% lower. Kalahandi and Koraput in Odisha show low access, with higher dependency on pit latrines and service latrines, which indicates a weaker sanitation access and facility. In Bidar, septic

and sewer systems are predominant in households in urban areas, whereas in rural areas, septic tanks are predominantly used. Service latrines (where night soil is removed by humans or animals) are still seen in all districts, especially in Kalahandi, raising serious public health concerns.

3.1.2.1 Access to Toilets

The above *Annexure Table 7* **Error! Reference source not found.** for accessing toilet facility population per 1000 is presented at the state level within the Godavari basin. Karnataka reports the highest overall access to toilets, 360 per 1000 population, closely followed by Maharashtra with 343 and Andhra Pradesh with 338 per 1000 population. The lowest access is reported by Odisha with 160 per 1000 population. Odisha is the worst-performing state within this group, especially in rural and rented sectors. The rented households consistently have much poorer access across all five states. Maharashtra has better rural coverage (184/1000), which is better than Madhya Pradesh and Odisha. Madhya Pradesh has a huge urban-rural disparity, and rented households suffer the most.

Access to the toilet facility should be examined at the ground level also, to obtain a clearer image of the access and facilities. The *Annexure Table 8* presents the data on access to toilets at the district level.

Annexure Table 8 **Error! Reference source not found.** highlights data on access to toilet facilities at the district level. Koraput has the lowest access to toilets among all the districts selected. Here, urban-rural access is totally contrasted, where rural shows 53 per 1000 population, while urban shows 560 per 1000 population. Kalahandi slightly differs from Koraput with 56 per 1000 population in rural areas. Aurangabad district of Maharashtra shows a better coverage in urban areas with 817 toilets per 1000 population but lags behind in rural areas. Adilabad has better rural sanitation coverage, performance is moderate, but better than that of rural Odisha. Karnataka's better performance in infrastructure lags in the Bidar district, which might be due to regional disparities, such as geographical remoteness, water shortages, and lower investment in water supply and toilet facilities. Rural coverage of Bidar district for accessing toilets is 86 per 1000 population. The analysis clearly reveals a clear urban-rural divide.

3.2 Water Availability

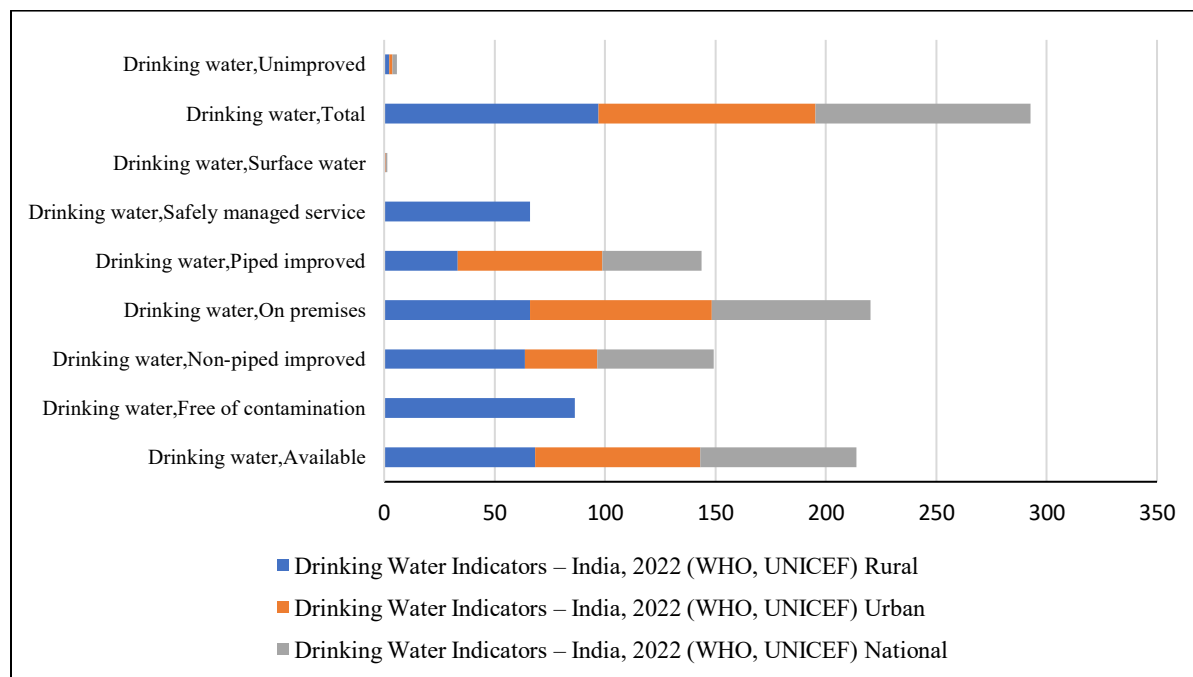


Figure 3.1: Water Availability as per WHO, INDIA 2022

Figure 3.1: Water Availability as per WHO, INDIA 2022 Figure 3.1 offers a detailed comparative view of key drinking water indicators of rural, urban, and national populations in India for the year 2022, based on data from WHO and UNICEF. It highlights the significant urban-rural divide in accessing safe and improved drinking water services.

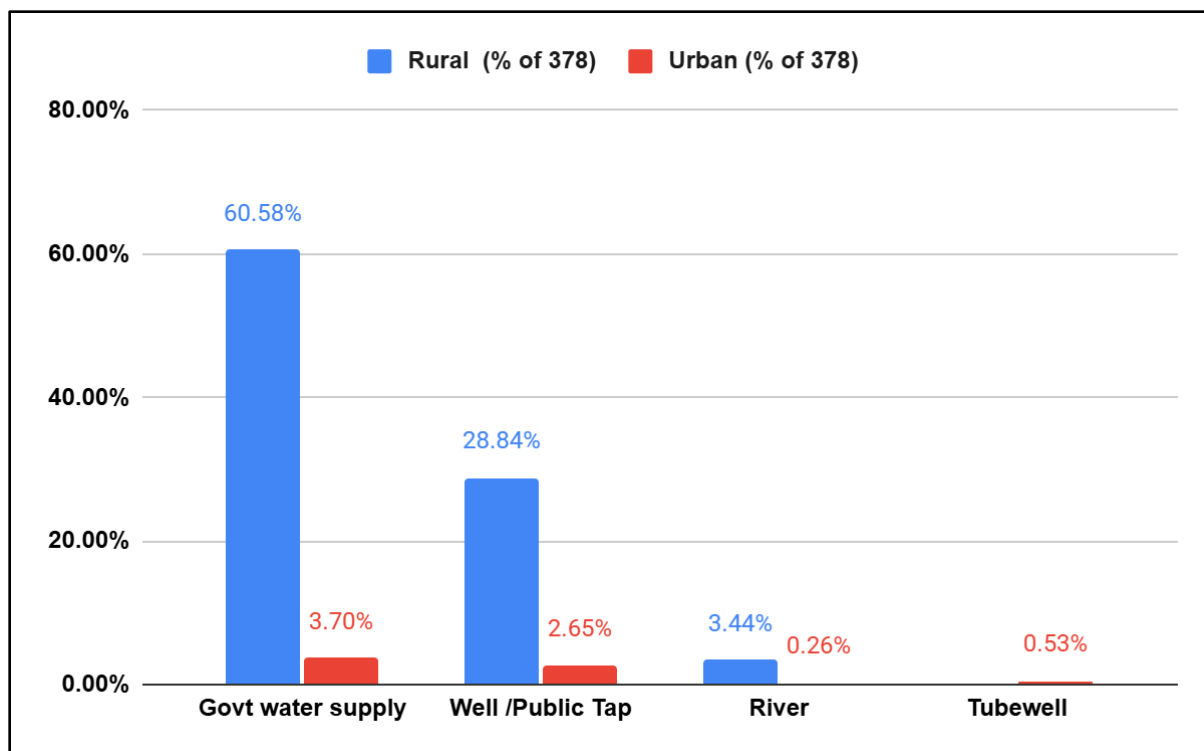


Figure 3.2 Rural- Urban distribution of drinking water sources (% of Total respondents, n=378)

Figure 3.2 presents the distribution of water source usage across rural and urban households, based on a total sample size of 378 respondents. Each percentage value is calculated as a share of the overall sample, allowing a direct comparison of rural and urban contributions to each water source type. Government piped water supply, which is classified as an improved source by WHO and UNICEF, is predominantly used by rural households (60.58%) compared to only 3.70% in urban areas. Similarly, 28.84% of rural respondents and 2.65% of urban respondents reported reliance on wells or public taps, both of which fall under the category of non-piped or unimproved sources. The use of surface water, such as rivers, was observed among 3.44% of rural households and just 0.26% of urban ones. Tube wells, reported by only 0.53% of urban respondents. Overall, the data highlights the unequal burden on rural areas, where dependence on unimproved water sources is significantly higher. This pattern of data closely aligns with WHO and UNICEF findings and reinforces the urgent need for improved water infrastructure accessibility in rural regions.

3.3 Water Scarcity in the region

According to the World Health Organization, 100 litres of water per day are needed to optimally meet an individual's basic needs (Howard et al., 2003, as cited in Rondinel-Oviedo & Sarmiento-Pastor, 2020, p.824). However, the findings from our preliminary field data indicate that water availability in several regions within the Godavari River Basin fall short of expectations. In Basara, for instance, despite being on the banks of the River Godavari, water scarcity is a major issue locally.

In the study by UNDP in the Mayurbhanj district of Odisha, reported that nearly 600 million Indians face a shortage of water due to a number of vulnerabilities. The land cracks due to droughts, crops wither, and the responsibility of fetching water falls on women. In 76 percent of Indian households, the burden of water collection falls on women's shoulders. The hours spent on fetching water are the hours for loss of education, from income-generating activities, and physical and mental rest.

Water scarcity is not only an environmental issue, but also a pressing social and environmental challenge. It affects women and children, undermines health, education, and livelihood, and it also reinforces the continuous cycle of poverty and inequality.

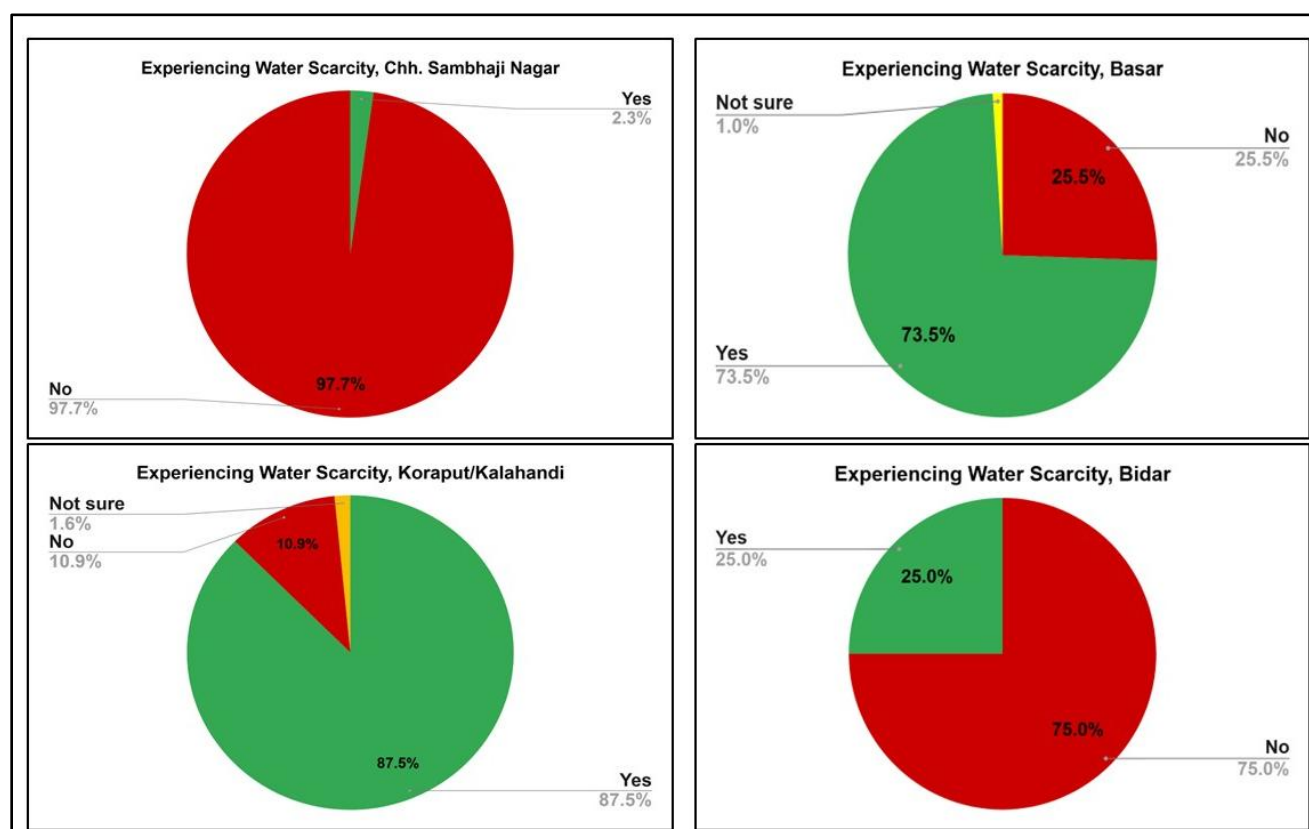


Figure 3.3 Water scarcity, Bidar, Koraput/Kalahandi, Basar and Chh. Sambhaji Nagar

The data in **Figure 3.3** shows the water scarcity in the region. This data significantly reveals the regional contrast in our field data. In Chhatrapati Sambhaji Nagar, an overwhelming 97.7% of respondents reported “no experience of water scarcity”, indicating relatively stable water access in the region. In stark contrast, Koraput/Kalahandi shows a higher proportion of respondents experiencing water scarcity, with 87.5% reporting this, followed closely by Basara, with 73.5%. These findings point to challenges in water availability in tribal or ecologically sensitive regions.

While Bidar presents a more balanced picture, with 25% of respondents experiencing water scarcity and 75% denying the experience of water scarcity. Interestingly, a lower proportion of respondents in Koraput/Kalahandi (1.6%) and Basara (1.0%) also expressed uncertainty, which reflects either seasonal variation in scarcity or gaps in awareness. This data highlights the uneven distribution of water stress across districts, suggesting the need for localized water resource planning and urgent interventions, especially in Basara and Koraput/Kalahandi.

Some of the answers linked to inequity in water access lie in socio-economic disparity and exclusion. For instance, the caste composition of Basara reveals deep-rooted socio-economic disparities, particularly with regards to access to essential resources like water and sanitation. Our field data shows that a majority of respondents in Basara who struggled to get access to direct, clean water belonged to the SC and minority communities, and lived in areas like Ashukhana, SC gali, and Kotwal gali, where water scarcity was a persistent challenge, with no proper access to clean water and poor sanitation, unclean drains

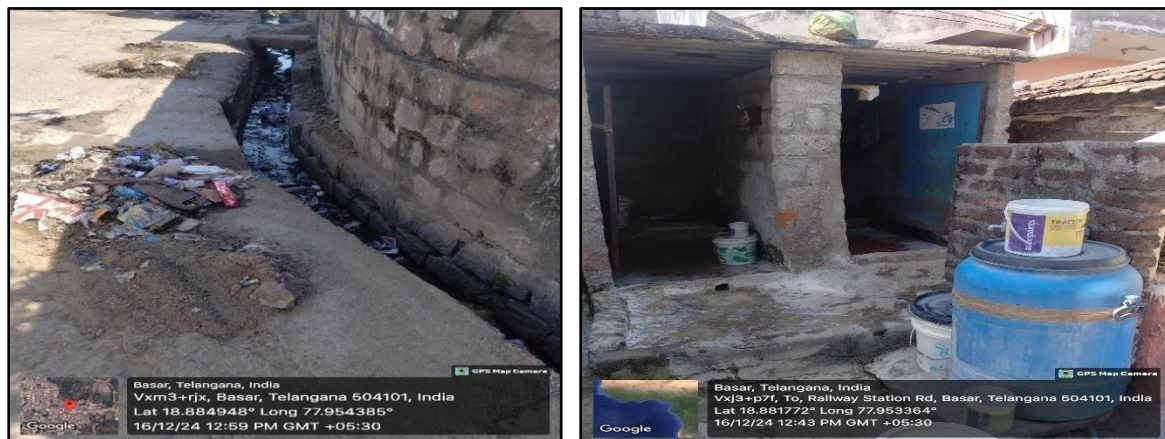


Figure 3.4 Unclean drain, open toilets, and poor sanitation in Basara

4. River Communities

In this chapter, we look at some “river communities” through the lens of community conservation efforts, gender and livelihoods. The aim of this chapter is to focus on communities and people who remain beyond the scope of policy and other forms of intervention, even though they are the most important part of the focus of river ecologies.

4.1 Community Conservation

In the context of the Godavari River Basin, community engagement is crucial for water conservation and in improving the river’s health. Community engagement does not only include the participation of local communities, but includes NGOs, local rural-urban bodies, and awareness campaigns for understanding the need for water conservation. Over the years, a lot of traditional strategies for water conservation have been adapted at the local community level. The local rural body (Gram Panchayat) initiated a sustainable way to raise awareness about water-saving at the household level in the village. In the Godavari River basin, many traditional initiatives for water conservation have been adapted, such as in Bidar, where old water channels are being resurrected. We list some of these efforts below.

Figure **4.1** provides a conceptual framework that illustrates how community engagement involves a collaborative capacity including social networks, traditional knowledge about water conservation, and trust building between the community and law enforcement agencies. NGOs provide important pathways to initiate conservation efforts. From the collaborative work among the locals and different agencies, we can get positive outcomes, which could be for the ecological, social, and economic betterment of the communities. Despite putting in multiple efforts from both sides, persistent gaps include lack of knowledge, language and cultural gaps, and obstacles in service delivery.

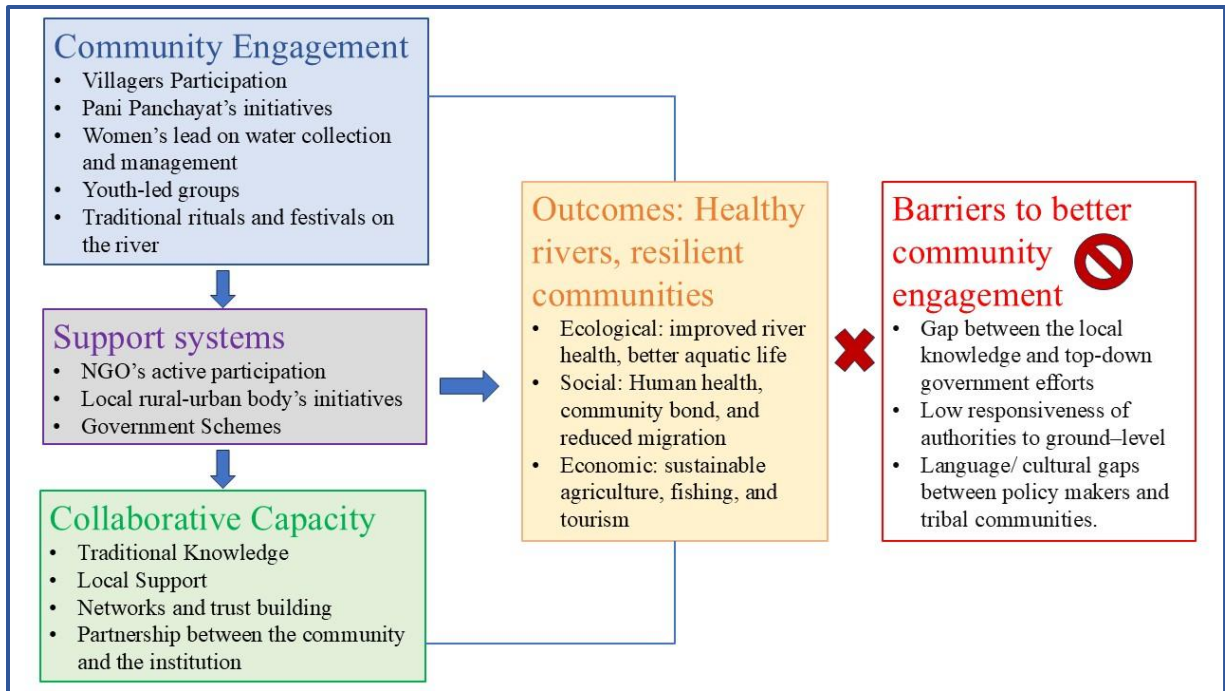


Figure 4.1: A conceptual framework for community engagement for sustainable water engagement⁴

Below are some examples of community conservation efforts on the Godavari basin, drawn from our fieldwork and literature research.

4.1.1 Naubad Karez Qanat, Bidar

In Bidar, Karnataka rainfall peaks from 800 mm-900mm. During the summer season, it peaks at 50mm -60mm. Due to Bidar being a drought-prone area, historically, many of its underground water channels or *qanats* were built by Ahmed Shah of the Bahmani sultanate, including providing the facility of one well in every house. Earlier, the Kalyani Chalukyas also worked on water conservation by planning of streams, *nalas*, stepwells, etc. In Bidar, aquifers or *qanats* are very common and serve as vital groundwater sources for drinking, agriculture, industrial, and other purposes. The presence of shallow aquifers facilitated water infrastructure development, such as the Naubad Karez Qanat, to support the community's needs.

Bidar has a history of pioneering traditional and indigenous water harvesting and distribution systems in the region. Agriculturists and artisans have historically depended on such irrigation networks. While farmers used to rely on the Naubad Karez for cultivation, other communities like craftsmen, artisans, and other traders flourished due to the economic stability it provided.

⁴ Source: A conceptual framework has been formulated in the context of the present research to depict the key components and processes of community engagement in water governance.



Figure 4.2 Tunnel of the Naubad Karez, Bidar
(Source: Primary field survey by the cGodavari team)



Figure 4.3 Mouth of the Naubad Karez, Bidar

(Source: Primary field survey by the cGodavari team)

The pictures represented in **Figure 4.2** and **Figure 4.3** show the conservation and resurrection of the Naubad Karez, by the NGO Team YUVAA.

4.1.2 Hiware Bazar, Maharashtra

Another example of understanding the river-people connection is Hiware Bazar in the Ahmednagar district of Maharashtra. Shri Popatrao Pawar, honoured with the Padma Shri award, is a visionary leader who initiated the water conservation activities here in Hiware Bazar in the 1990s. He served as the sarpanch of the village in the 1990s. Earlier, the village used to receive 200-300mm of annual rainfall, resulting in water scarcity and poverty, forcing many farmers to migrate to other places. Hiware Bazar reportedly reports the highest number of farmer suicides in the country. (The FERN, 2022, Online source). Popatrao Pawar was inspired by Ralegan Siddhi's water conservation work; initiating water conservation, rainwater harvesting, and watershed management in the village. Augmenting rainwater harvesting methods with changing cropping pattern and the resolution to stop growing sugarcane, a water-guzzling crop, in favour of pulses, flowers, vegetables, and fruits—led to phenomenal changes in the village's water profile. In 25 years, Hiware Bazar village has not called for a water tanker, and multiple families who migrated to other villages have returned to their village. The salvation of Hiware Bazar village took years of hard work and community support. From this example of conservation activities, multiple villages initiated this effort. Hiware Bazar's conservation method is called the 'Village of Millionaires'. This village turned itself into a 'Model of development' and received the "National Water Award 2007".



Figure 4.4 and Figure 4.5 Present the images of water conservation efforts in Hiware Bazar in MH ⁵(Sources)

4.2 Gender and River Communities: Women's Role in Water Management

The Godavari River is not only a giver of fertility to the land and health to the human body, but it is also incorporated in daily chores, particularly for women. As the primary collectors, users, and managers of water, women and rivers are functionally and spiritually connected. Women are holistically associated with different forms of water, from the functional to spiritual, from cleaning physical spaces to purifying the sins of the family (according to Hindu mythology); women are the owners of water. The bond of women and water (river) is intrinsically embedded in rituals, emotions, and social life.

According to the UNICEF- World Health Organisation, “Women and girls are responsible for fetching water in 7 out of 10 households without supplies on premises” (WHO/UNICEF, 2023, online report).⁶ WHO stated that globally, women are most likely to be responsible for fetching water for households, while girls are nearly twice as likely to bear the responsibility and spend more time doing it each day. It is crucial to study the role of water in human life from a gendered perspective. Because this is the most visible but invisible issue for women and girls. Cecilia Sharp, UNICEF Director of WASH and CEED, stated in a 2023 that “Every step a girl takes to collect water is a step away from learning, play, and safety.” (WHO/UNICEF, 2023, online report)

According to the report, “globally, 1.8 billion people live in households without water supplies on the premises. Women and girls aged 15 and older are primarily responsible for water collection in 7 out of 10 such households, compared with 3 in 10 households for their male peers. Girls under 15 (7 %) are also more likely than boys under 15 (4 %) to fetch water. In most cases, women and girls make longer journeys to collect it, losing time in education, work, and leisure, and putting themselves at risk of physical injury and dangers on the way” (WHO/UNICEF, 2023, online report)

Women across the world have the most spiritual, practical, and intimate relationship with the river. The sacred rivers of India are often personified as a female deity. As observed in various geographical regions for different sacred rivers, “rivers are linguistically and ritually treated as

⁵ <https://nfs.inroad.in/best-practice-detail?id=103710;>

<https://www.oneindia.com/feature/a-maharashtra-villages-journey-from-punishment-zone-to-award-winning-watershed-management-2519958.html>

⁶Source:<https://www.who.int/news/item/06-07-2023-women-and-girls-bear-brunt-of-water-and-sanitation-crisis---new-unicef-who-report>

women,” and offering as a ritual (bangles, turmeric, saree) to the river reaffirms this sacred femininity (Down to Earth, 2021, online report)

The above perspective on the cultural and symbolic role of water in women’s lives reveals the significance of the river in women’s social life. During our fieldwork we found this important relationship repeated across the four sites, with different impact on women’s lives and experiences in relation to River Godavari.

In Basara, Telangana, the interaction between water facilities and women is linked to scarcity with many women have to walk far to collect water, and prepare for its safe storage. A majority of the women reported that it's their job to collect water as they are homemakers.

Shakeela Begum, 43 years, reported “It’s always us women who fetch the water; the men of the house wouldn’t go to another lane to get it”.

Water collection is traditionally seen as a woman’s duty along with handling essential household tasks. Some of the female respondents reported that, due to a lack of water ⁷availability, water storage has become a problem, leading to various health impacts. In these areas, only one public tap is found in one *galli* (colony), without continuous water supply. Water is available only every 3-4 days, making it difficult to maintain hygiene, wash clothes regularly, bathe properly, and uphold basic sanitation.



⁷ Source: <https://www.downtoearth.org.in/water/rivers-up-close-and-personal-41907?utm>

Figure 4.6 and Figure 4.7 Public taps and women's labour in Basara, Telangana

(Source: Primary field survey by the cGodavari team)

Spandana, 39 years, reported “They said they would provide us with Bhagirathi Mission water, lay pipelines, and give us hope, but we don’t even have drinking water. No one pays attention to us, no one listens to us.”

Certain areas like Kotwal gali, Ashurkhana, Bhoi gali, SC gali, and Uppukunta Gali in Basar have pipelines of Bhagirathi Missions, but no water supply is there. A lot of people complained about not being listened to despite informing local bodies regarding lack of water supply.

Our field data from Basara had a total of 66.02% of male participants, and we found that they interact with the water bodies differently. The fluctuation in water levels affects the availability in rivers, and it affects the labor and costs too impacting fishing and agriculture. Some respondents reported that only those with good water availability, are able to produce paddy. Farmers with limited irrigation facilities cultivate soya and cotton crops, or are forced to find alternative jobs or migrate.

In Koraput/Kalahandi, Odisha, out of 128 participants of this survey, 55.12% were women and 44.88% were men. The distribution of men and women gives insights into their interaction with water resources, livelihood patterns, and household responsibilities. The women actively participated in the survey, which depicts their crucial role in managing the water accessibility for domestic use, sometimes agriculture, and small-scale businesses. While men’s interaction with water is primarily fishing, they are also connected to water through work in agriculture, and migration-based labour for the collection of forest-based essentials.

Rukki Mudali, 42 years old, reported that, “The girls in the house go to fetch water because they help with household chores. They bring three buckets of water in the morning and evening”.

In most rural and urban households, daughters had to share the burden of bringing water from distant water sources with their mothers. This responsibility is added to their daily chores, often affecting their time for education and other activities. Additionally, water scarcity and poor sanitation health impacts young adolescent girls through the recurrence of UTI (Urinary Tract Infection), irregular periods, PCOS/PCOD reported by some young girls and women. These local experiences reflect a global issue. As UN Women (2024)⁸ notes,

“Millions of women and girls worldwide still cannot afford menstrual products or access water and sanitation facilities to manage their menstrual health and hygiene.” This highlights how inadequate WASH access not only affects physical health but also leads to missed school and work, reinforcing menstrual poverty and gendered health inequities.

⁸https://www.unwomen.org/en/news-stories/explainer/2024/05/period-poverty-why-millions-of-girls-and-women-cannot-afford-their-periods?utm_

Reshma Nayak, a 19-year-old undergraduate student, residing in Sanajenna village in the Jeypore block of Koraput district, Odisha, fulfilled the responsibility of fetching household water from the local handpump daily. Despite the presence of several male children and adolescent boys nearby, none offered assistance. When asked why she did not seek help from them, she simply responded, “It’s my work”. The handpump required time and physical labour. Upon enquiry about her education, she replied, “Yes, I am pursuing a degree. I went to college, and had to come back earlier as my mother has to cook food, and I needed to fetch water for that”.

In response to questions about water-related health concerns such as skin infections, cold, cough, or fever, Reshma said, “There are no health problems due to water here; instead, water itself is the problem. Every morning and evening, we have to fetch it”. When the conversation shifted to menstruation, she mentioned that it was the first day of her period and she was experiencing stomach pain: “I have severe stomach pain, today is the first day. I can’t cook because of my condition, so I came to get water-otherwise, my mother would have to do everything alone”. With that, she picked up two heavy buckets and walked back home, without complaint or pause, quietly carrying the weight of water and household responsibilities.

This case study reflects the intersecting burdens of gender, domestic labour, and education faced by young women in rural areas. Despite being a college student, Reshma is expected to contribute significantly to household tasks, particularly water collection. Her narrative brings forth how water scarcity and gender roles reinforce each other and how even during menstruation, women often find little room for rest or relief. Such stories underline the urgency of gender-sensitive water access solutions.



Figure 4.8 and Figure 4.9 Young girls carrying water for domestic use in Odisha

(Source: Primary field survey by the cGodavari team)

In our field site in Koraput, we found that the coming-of-age ritual of Jal Kamini was a significant cultural practice that marks the transition of young girls into adulthood. Jal Kamini is not just a personal milestone for a girl, but it's a communal event involving family members and elderly people. During the ceremony, adolescent girls participate in rituals that involve bathing in sacred water bodies like rivers in that region, believed to cleanse and bless them for their journey into adulthood. It involves offerings of special gifts, traditional folk songs, and a feast for the community. However, lack of water or compromised water bodies means that this ritual and its performance is affected, as are ways by which the community comes together to protect river commons.

4.3 Livelihoods on the Godavari River Basin: Two Case Studies

4.3.1 Case Study: Paithani Sarees, Maharashtra

The Paithani silk saree is a treasured part of India's textile tradition, celebrated for its rich cultural roots, fine craftsmanship, and historical importance. It is known for its detailed designs and bright colours; it has been a popular choice among women in Maharashtra for generations. Paithani is more than just a garment, it represents a deep legacy a deep legacy of skilled artistry and cultural pride. The saree's origin can be traced back to Paithan, a historic town of Maharashtra located along the Godavari River (The weaving of the sarees in this region dates back to the 2nd century BCE, when Paithani sarees were made exclusively for royals and often decorated with intricate

patterns and even precious stones. Traditionally woven from fine silk and enriched with gold and silver threads, these sarees were symbols of royalty and elegance. Though the designs and patterns have seen some evolution over time, the essential techniques and traditional elements have remained, preserving the saree's historical and cultural importance. The rich weaving process, traditionally handloom powered can take weeks or even months, leading to a wide range: 3000 Rs for simple machine assisted up to 2 lakh+ for bridal pure-*zari* handloom Paithanis. Geographical Indication (GI) status, granted in 2010, along with governmental support via subsidies, has helped preserve and enhance the competitiveness and cultural prestige of authentic Paithani sarees.

Sharda Giradi, aged 42, is a resident of Paithan in the Aurangabad district and has been engaged in the intricate art of Paithani weaving. She is one among several female artisans working in the textile industry of this traditional handloom craft.

“I have been working for five years, but not continuously. Each time a new batch of Paithani weaving begins, we need to undergo training again because the managers keep getting transferred. It's not guaranteed that we'll be selected every time”. She added that if one doesn't get selected in the training programme, there are multiple private Paithani units in Paithan where they can continue working, “But weaving Paithani is the kind of work I can do for my whole life. Regarding her income, she shared that she receives only ₹8,000 for four months of work” .

When asked how she manages on such a meagre income, she explained, “A home cannot run on one man's income alone, so we women must work too. If we get better pay elsewhere, we will shift jobs....Usually, a saree takes around four months, but if the design is very complex, it can take six to eight months]....I love weaving Paithani. As a woman, I feel I'm doing something to make another woman look beautiful. This craft is truly wonderful. There's financial difficulty, yes—but this work comes straight from my heart”

Sharda Giradi's case highlights the delicate balance between tradition, compulsion, and passion that defines women's participation in Paithani handloom weaving. Despite irregular employment, low wages, and the instability caused by the frequent managerial transfers, Sharda remains deeply committed to her craft. For her, weaving Paithani sarees is not just a livelihood—it is a source of identity, creative expression, and pride. Her statement that she feels joy in creating something beautiful for another woman encapsulates the emotional and cultural significance of this work. At the same time, her experience reflects the systemic challenges women artisans face: inadequate pay, lack of continuity in training, and dependence on male income. Sharda's story is a testament to how **economic vulnerability coexists with artistic devotion** and underscores the need for policy support that ensures skill recognition, fair wages, and stable employment for women in traditional crafts.



Figure 4.10 and Figure 4.11: Weaving Paithani Sarees, Paithan.

(Source: Primary field survey by the cGodavari team)

4.3.2 Case Study: Pujaris/ Temple Priests on sacred Hindu pilgrimage sites of the Godavari

In the pilgrimage sites on the ghats of the Godavari, pujaris or temple priests fulfil a very important role. In Gupteshwar, Koraput, Saroj Das, a 51-year-old pujari, performs rituals on the riverbank and in the Mahadev temple. The pujari does not demand any payment for his services. He reported, “If someone offers, I take it, but don’t ask for anything”. His livelihood is not fixed by price, but is voluntary.

In stark contrast, in Basara, Telangana, every *seva*, ritual, or Sanskar has a fixed cost. From performing *poojas* to the *Aksharabhyasam*. The *pujaris* there rely on structured donations for survival, and the ritual economy is more formalized. In the main temple (Gnana Sarswati temple), the amount for *pooja* is fixed, in nearby temples on the *ghat*, purification rituals and Mundan Sanskar are performed by the devotees for which a fixed price is charged. In Paithan, the Varakari Sampradaya thrives on collective spiritual practice rather than hierarchical priesthood. No individual pujaris received *Dakshina*, as the devotees are deeply rooted in the Bhakti tradition.

These diverse practices reflect how livelihoods linked to *ghats* and temples are shaped by local belief systems, cultural traditions, and regional economies. Yet, across all locations, one thing remains constant: the river *ghat* is not just a site of ritual, but a lifeline of both spiritual and social belonging. Pujaris like Saroj Das, elderly devotees, women performing *vratas*/ fasts, and children

take part in rites of passage on river *ghats* daily. All these are not just for faith, but as part of their way of life. The *ghats* are sacred spaces that should be physically safe, socially inclusive, and culturally sensitive, and it is not just a matter of infrastructure but a matter of dignity for those whose lives revolve around the *ghats*.



Figure 4.12 Interviewing the elderly devotees in Paithan, Chhatrapati Sambhaji Nagar.

(Source: Primary field survey by the cGodavari team)

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Appendix

CENTRE FOR GODAVARI RIVER BASIN MANAGEMENT STUDIES THE GODAVARI RIVER BASIN: A STUDY ON ACTIVITIES AND APPROACHES TO RIVER-PEOPLE CONNECT.

DATE: /...../.....

QUESTIONNAIRE NO.

Greetings! We are conducting a study on the human activities and approaches around the Godavari River Basin. The study topic focuses on natural resource conservation, so I kindly request that you respond to the questions openly and honestly. Please remember that your answers will be kept confidential for research purposes. If you prefer not to answer any of these questions, that is completely acceptable. If you would like to pause or take a break at any time, please let me know.

Thank You!

Yours truly

Asif Qureshi

Department of Civil Engineering

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CONSENT OF THE RESPONDENTS

I _____ S/O _____ I am a resident of
village _____ Block _____ District _____ State _____ Pin
_____. The researcher explained the purpose of the study in detail. I have read and
understood all the above information and I am giving my consent to take relevant information from
me and my family. I am sharing authentic information related to socio-demographic profiles
_____. This is being taken into our full cognizance. The due information should be
used only for research purposes and confidentiality should be also maintained. If the above
information is useful to our society, it can be used for scientific purposes and publication without
revealing our identity.

Date: / /

Signature

Socio-Demographic Information:

Name:

Age:

Gender:

Education:

Caste/Tribe:

Religion:

Family Type:

Marital status:

Occupation:

Household income monthly:

Village:

District:

Frequency and Type of River use:

1. How often do you visit the river?

- Daily
- Weekly
- Monthly
- Rarely

2. For what primary purpose do you visit the river?

- Domestic use
- Agricultural
- Fishing
- Religious Rituals
- Other (Specify)

3. What changes have you noticed in the river's environment over time?

- Changes in water quality
- Pollution
- Vegetation
- Changes in river flow and water levels

4. In your opinion, do these changes affect your daily life or livelihood?

- Yes, significantly
- Yes, to some extent

- No impact
- Not sure

Water Collection Method and Timing:

5. What is your primary source of water collection?

- Well, /Public Tap
- Govt. water supply
- River
- Rainwater collection
- Others (specify)

6. What method do you use to collect water?

- Buckets
- Pots
- Pipes
- Plastic Containers
- Others (specify)

7. At what time of day do you usually collect water?

- Early Morning (Before 8 AM)
- Late morning (8 AM-12 PM)
- Afternoon (12 PM- 4 PM)
- Evening (4 PM-8 PM)
- Night (After 8 PM)

Time and effort in water collection:

8. How much time does it take you to collect water on average?

- Less than 15 minutes
- 15-30 minutes
- 30-60 minutes
- More than 1 hour

9. How far is the water source from your home?

- Less than 500 meters
- 500 meters- 1 Kilometre
- 1-2 kilometres
- More than 2 kilometres

Water use & practices:

10. Do you use river water directly for drinking or cooking?

- Yes
- No
- Occasionally

11. Are you aware of any restrictions or guidelines for using river water in your community?

- Yes
- No

Water Treatment and Purification:

12. Do you purify the water after collecting it?

- Yes
- No
- Occasionally

13. If yes, what method do you use for purification?

- Boiling
- Filtration
- Chlorination/Tablets
- UV Purifier
- Other (specify)

Health impacts:

14. Have you or your family members experienced any health issues that you believe are related to water usage?

- Yes
- No
- Unsure

15. If yes, which of the following issues have occurred most frequently?

- Diarrhoea
- Skin infections
- Reductive health issues (Menstruation, pregnancy, infections, etc.)
- Stomach pain
- Gastrointestinal illness
- Other (Specify)

16. Do you think water-related diseases are a common issue in your community?

- Yes, very common
- Somewhat common
- Rarely
- Not at all

17. If water-related health issues occur, do you seek medical treatment?

- Always
- Sometimes
- Rarely
- Never

18. Are you aware of any govt. or NGO program related to safe drinking water in your area?

- Yes
- No
- Not sure

Flood and Drought Condition Assessment

19. When did the last major flood occur in your area?

- Less than 1 year
- 1-3 years ago
- 3-5 years ago
- More than 5 years ago

20. How often do floods typically occur in your area?

- Every year
- Every 2-3 years
- Every 3-5 years
- Rarely

21. What was the primary cause of the recent flood in your area?

- Heavy rainfall
- River overflow
- Dam release
- Other (please specify)

22. What management practices were implemented after the last flood?

- Relief camps and shelter
- Distribution of food and water
- Medical aid and health services
- Infrastructure repair
- None of the above

23. Do you believe flood management practices in your area are effective?

- Yes, very effective
- Somewhat effective
- Not effective
- Unsure

24. Are there early warning systems in place for floods?

- Yes
- No
- Unsure

25. When did the last major drought occur in your area?

- Less than 1 year
- 1-3 years ago
- 3-5 years ago
- More than 5 years ago

26. How often does drought typically occur in your area?

- Every year
- Every 2-3 years

- Every 3-5 years
- Rarely

27. What was the primary cause of the recent drought in your area?

- Insufficient rainfall
- Over-extraction of groundwater
- Climate change
- Other (please specify)

28. What management practices were implemented after the last drought?

- Water rationing and distribution
- Crop insurance and compensation
- Groundwater replenishment project
- Public awareness campaigns
- None of the above

29. Do you believe drought management practices in your area are effective?

- Yes, very effective
- Somewhat effective
- Not effective
- Unsure

30. Are there early warning systems in place for droughts?

- Yes
- No
- Unsure

31. Are you aware of any government or local programs that offer assistance or guidance for flood or drought relief?

- Yes
- No

Environmental impact & cultural significance:

32. Do you think your activities impact the cleanliness of the river?

- Yes, very much
- Somewhat
- Not at all

33. Do you participate in any religious or cultural rituals by the river?

- Always
- Sometimes
- Rarely
- Never

34. In your opinion, how important is the river for cultural events in your community?

- Very important
- Somewhat important
- Not important

Community Engagement Strategies:

35. Have you ever experienced water scarcity in your region?

- Yes
- No
- Not sure

36. Have you attended any community awareness programs related to river conservation?

- Yes
- No

37. How would you rate the importance of preserving the river for future generations?

- Very important
- Important
- Neutral
- Not important

Questionnaire for an Ethnographic study.

Health and Environment

1. What changes have you noticed in the river's environment (such as water quality, pollution, or vegetation) over time, and how do these changes affect the well-being of the community?
2. How do you think the quality of water in the river affects the health of people in your community?
3. Can you describe any health challenges you or your family face that may be related to the river's condition?
4. How do you think water quality from the river affects women's reproductive health in your community?
5. How does the division of labor for water collection work during pregnancy or menstruation?
6. Are there specific concerns about using river water for drinking, bathing, and cooking for pregnant women or new mothers?
7. Are there traditional practices around water that new mothers follow during the postpartum period? If yes, how do these practices impact recovery?
8. Is there any awareness in your community about the impact of contaminated water on women's health, especially reproductive health?

Social and Cultural Perspectives

9. Have you ever experienced any supernatural incident in the river such as any mythological stories related to Ghosts, spirits, etc.?
10. If yes, how does it affect your beliefs regarding the river?
11. How does the river serve as a gathering place or social space within your community?

12. Can you describe any ways in which the river strengthens or challenges community bonds? (if any conflicts occurred anyway)
13. What cultural practices or festivals related to the river are important to you, and how do they reflect your community's identity?
14. How do you feel about the current state of these cultural practices around the river?

Economic Perspective

15. In what ways does the river support your livelihood or the local economy (such as fishing, agriculture, tourism, etc.)?
16. How does pollution in the river affect your work, and what cost does it bring to your community?
17. Have you or others in your community had to invest in alternative solutions or practices due to the current state of the river?
18. Have you received any support (such as grants or subsidies) to reduce the economic impact of conservation efforts? If not, what kind of support would be helpful?

Governance, Policy, and Public Awareness

19. What policies or regulations related to the river are you aware of, and how do you feel about them?
20. Have you ever been involved in the decision-making process regarding river conservation?
21. In what ways have local community leaders or organizations contributed to managing or protecting the river?
22. How have policies about pollution control or water management affected your community or your activities by the river?
23. Can you describe any instances where the government's policies conflicted with community practices or needs?
24. What do you believe the government could do to improve its relationship with local communities regarding river management?

ANNEXURE

Annexure Table 1: Source of drinking water

Locations	Total/	Location	Total	Source of drinking water							
	Rural/		number of	Tap	Handpump	Tubewell	Well	Tank, Pond,	River, Canal	Spring	Any other
	Urban		households					Lake			
MADHYA PRADESH	Total	Total	1,09,19,653	27,63,309	42,79,126	4,29,966	31,66,076	34,264	1,45,914	56,471	44,527
		Within Premises	26,83,472	16,36,469	3,02,833	1,84,912	5,54,730	2,325	0	0	2,203
		Near Premises	55,87,538	8,91,850	29,02,284	1,40,299	15,60,903	12,279	51,224	18,558	10,141
		Away	26,48,643	2,34,990	10,74,009	1,04,755	10,50,443	19,660	94,690	37,913	32,183
	Rural	Total	81,24,795	8,65,372	39,01,634	2,30,514	28,88,972	25,146	1,39,478	54,568	19,111
		Within Premises	11,39,638	4,08,865	2,04,094	59,788	4,64,952	1,135	0	0	804
		Near Premises	47,64,716	3,82,834	27,38,301	1,01,607	14,61,034	9,372	49,134	17,580	4,854
		Away	22,20,441	73,673	9,59,239	69,119	9,62,986	14,639	90,344	36,988	13,453
	Urban	Total	27,94,858	18,97,937	3,77,492	1,99,452	2,77,104	9,118	6,436	1,903	25,416
		Within Premises	15,43,834	12,27,604	98,739	1,25,124	89,778	1,190	0	0	1,399
		Near Premises	8,22,822	5,09,016	1,63,983	38,692	99,869	2,907	2,090	978	5,287
		Away	4,28,202	1,61,317	1,14,770	35,636	87,457	5,021	4,346	925	18,730

ODISHA	Total	Total	78,70,127	6,87,284	22,40,821	21,23,509	22,47,230	1,46,271	2,08,173	1,73,380	43,459
		Within Premises	14,94,093	3,86,425	2,17,226	2,05,779	6,77,824	5,194	0	0	1,645
		Near Premises	39,52,297	2,06,143	14,86,048	11,54,847	9,34,119	46,190	63,291	51,019	10,640
		Away	24,23,737	94,716	5,37,547	7,62,883	6,35,287	94,887	1,44,882	1,22,361	31,174
	Rural	Total	67,82,879	1,88,170	21,22,822	19,54,280	19,73,084	1,41,038	1,99,816	1,67,921	35,748
		Within Premises	9,27,759	50,252	1,94,330	1,65,813	5,11,396	4,935	0	0	1,033
		Near Premises	36,58,144	1,00,618	14,28,054	10,89,874	8,74,257	45,072	60,886	49,802	9,581
		Away	21,96,976	37,300	5,00,438	6,98,593	5,87,431	91,031	1,38,930	1,18,119	25,134
	Urban	Total	10,87,248	4,99,114	1,17,999	1,69,229	2,74,146	5,233	8,357	5,459	7,711
		Within Premises	5,66,334	3,36,173	22,896	39,966	1,66,428	259	0	0	612
		Near Premises	2,94,153	1,05,525	57,994	64,973	59,862	1,118	2,405	1,217	1,059
		Away	2,26,761	57,416	37,109	64,290	47,856	3,856	5,952	4,242	6,040
MAHARASHTRA	Total	Total	1,90,63,149	1,22,03,492	24,58,825	5,53,962	33,89,768	78,662	1,22,331	94,958	1,61,151
		Within Premises	1,01,82,393	86,28,031	4,49,862	2,17,707	8,57,192	12,134	0	0	17,467
		Near Premises	65,29,878	30,28,245	15,20,750	2,26,534	15,47,981	39,099	59,844	50,002	57,423

		Away	23,50,878	5,47,216	4,88,213	1,09,721	9,84,595	27,429	62,487	44,956	86,261
	Rural	Total	1,09,93,623	50,06,729	20,96,754	4,17,923	31,29,153	59,347	1,17,305	90,649	75,763
		Within Premises	42,71,679	30,47,003	3,46,486	1,31,974	7,28,759	7,778	0	0	9,679
		Near Premises	48,27,962	16,62,214	13,34,489	1,96,439	14,68,425	32,182	57,070	46,874	30,269
		Away	18,93,982	2,97,512	4,15,779	89,510	9,31,969	19,387	60,235	43,775	35,815
		Total	80,69,526	71,96,763	3,62,071	1,36,039	2,60,615	19,315	5,026	4,309	85,388
	Urban	Within Premises	59,10,714	55,81,028	1,03,376	85,733	1,28,433	4,356	0	0	7,788
		Near Premises	17,01,916	13,66,031	1,86,261	30,095	79,556	6,917	2,774	3,128	27,154
		Away	4,56,896	2,49,704	72,434	20,211	52,626	8,042	2,252	1,181	50,446
		Total	1,68,49,857	81,05,960	43,99,109	9,99,858	27,78,668	1,58,628	1,36,935	70,660	2,00,039
ANDHRA PRADESH	Total	Within Premises	52,71,711	34,65,131	6,23,254	3,37,946	8,28,803	4,514	0	0	12,063
		Near Premises	82,38,138	36,85,087	27,90,361	3,90,430	11,60,731	72,180	52,836	26,944	59,569
		Away	33,40,008	9,55,742	9,85,494	2,71,482	7,89,134	81,934	84,099	43,716	1,28,407
		Total	1,26,76,218	51,04,676	39,10,729	7,26,562	24,78,492	1,52,127	1,31,689	68,810	1,03,133
	Rural	Within Premises	28,83,364	16,18,398	4,53,799	1,56,797	6,45,324	3,525	0	0	5,521
		Total									

		Near Premises	70,16,091	28,29,246	25,70,531	3,44,959	10,94,881	69,703	50,386	25,646	30,739
		Away	27,76,763	6,57,032	8,86,399	2,24,806	7,38,287	78,899	81,303	43,164	66,873
	Urban	Total	41,73,639	30,01,284	4,88,380	2,73,296	3,00,176	6,501	5,246	1,850	96,906
		Within Premises	23,88,347	18,46,733	1,69,455	1,81,149	1,83,479	989	0	0	6,542
		Near Premises	12,22,047	8,55,841	2,19,830	45,471	65,850	2,477	2,450	1,298	28,830
		Away	5,63,245	2,98,710	99,095	46,676	50,847	3,035	2,796	552	61,534
KARNATAKA	Total	Total	1,02,32,133	60,25,364	17,50,387	8,76,001	12,68,913	1,10,689	1,11,748	30,540	58,491
		Within Premises	32,47,501	24,68,101	1,08,065	1,84,767	4,74,771	7,894	0	0	3,903
		Near Premises	47,49,343	27,41,505	10,52,937	4,03,499	4,36,551	41,384	46,156	14,279	13,032
		Away	22,35,289	8,15,758	5,89,385	2,87,735	3,57,591	61,411	65,592	16,261	41,556
	Rural	Total	66,75,173	32,35,817	15,30,208	6,09,016	10,38,380	1,00,592	1,05,028	28,511	27,621
		Within Premises	12,36,195	7,50,419	71,271	70,823	3,34,769	6,884	0	0	2,029
		Near Premises	36,95,743	19,39,315	9,44,174	3,20,805	3,90,357	38,863	41,960	12,690	7,579
		Away	17,43,235	5,46,083	5,14,763	2,17,388	3,13,254	54,845	63,068	15,821	18,013
	Urban	Total	35,56,960	27,89,547	2,20,179	2,66,985	2,30,533	10,097	6,720	2,029	30,870

		Within Premises	20,11,306	17,17,682	36,794	1,13,944	1,40,002	1,010	0	0	1,874
		Near Premises	10,53,600	8,02,190	1,08,763	82,694	46,194	2,521	4,196	1,589	5,453
		Away	4,92,054	2,69,675	74,622	70,347	44,337	6,566	2,524	440	23,543

Source: (Census 2011)

Annexure Table 2: Presents the district-level distribution of household drinking water

Location	Total/	Location	Total	Source of drinking water							
	Rural/		number of	Tap	Handpump	Tubewell	Well	Tank, Pond,	River, Canal	Spring	Any other
	Urban		households					Lake			
Koraput	Total	Total	2,86,863	23,008	1,04,122	65,371	49,924	3,684	8,493	30,451	1,810
		Within Premises	34,199	15,666	3,053	3,881	11,464	123	0	0	12
		Near Premises	1,63,627	5,134	77,917	43,603	24,186	1,066	2,348	8,652	721
		Away	89,037	2,208	23,152	17,887	14,274	2,495	6,145	21,799	1,077
	Rural	Total	2,41,724	7,430	98,786	56,362	37,320	3,579	8,009	28,670	1,568
		Within Premises	13,634	3,318	2,585	2,561	5,050	113	0	0	7
		Near Premises	1,52,104	3,340	75,047	39,873	21,150	1,052	2,328	8,606	708

		Away	75,986	772	21,154	13,928	11,120	2,414	5,681	20,064	853
	Urban	Total	45,139	15,578	5,336	9,009	12,604	105	484	1,781	242
		Within Premises	20,565	12,348	468	1,320	6,414	10	0	0	5
		Near Premises	11,523	1,794	2,870	3,730	3,036	14	20	46	13
		Away	13,051	1,436	1,998	3,959	3,154	81	464	1,735	224
Kalahandi	Total	Total	3,24,771	8,969	1,54,450	98,637	41,973	2,751	9,784	7,777	430
		Within Premises	28,708	3,468	3,961	3,622	17,620	27	0	0	10
		Near Premises	2,02,520	3,326	1,15,055	61,553	15,758	1,261	2,169	3,211	187
		Away	93,543	2,175	35,434	33,462	8,595	1,463	7,615	4,566	233
	Rural	Total	3,04,484	4,690	1,47,913	94,726	36,620	2,738	9,655	7,728	414
		Within Premises	21,614	1,215	3,618	3,055	13,693	26	0	0	7
		Near Premises	1,95,040	2,249	1,11,537	59,766	14,736	1,251	2,141	3,178	182
		Away	87,830	1,226	32,758	31,905	8,191	1,461	7,514	4,550	225
	Urban	Total	20,287	4,279	6,537	3,911	5,353	13	129	49	16
		Within Premises	7,094	2,253	343	567	3,927	1	0	0	3
		Near Premises	7,480	1,077	3,518	1,787	1,022	10	28	33	5
		Away	5,713	949	2,676	1,557	404	2	101	16	8
	Total	Total	5,26,155	3,26,990	80,650	11,988	95,885	1,665	1,164	732	7,081

Aurangabad		Within Premises	2,92,430	2,40,371	20,689	5,191	25,214	235	0	0	730
		Near Premises	1,69,352	72,118	47,356	4,185	41,715	665	544	232	2,537
		Away	64,373	14,501	12,605	2,612	28,956	765	620	500	3,814
	Rural	Total	3,34,823	1,64,787	64,071	8,536	92,842	1,030	1,148	603	1,806
		Within Premises	1,38,754	99,094	12,631	2,543	24,138	149	0	0	199
		Near Premises	1,43,481	55,633	41,390	3,746	40,847	486	533	113	733
		Away	52,588	10,060	10,050	2,247	27,857	395	615	490	874
	Urban	Total	1,91,332	1,62,203	16,579	3,452	3,043	635	16	129	5,275
		Within Premises	1,53,676	1,41,277	8,058	2,648	1,076	86	0	0	531
		Near Premises	25,871	16,485	5,966	439	868	179	11	119	1,804
		Away	11,785	4,441	2,555	365	1,099	370	5	10	2,940
Bidar	Total	Total	2,47,350	1,27,758	52,420	16,687	44,377	2,079	526	275	3,228
		Within Premises	62,900	43,238	2,532	1,826	14,984	181	0	0	139
		Near Premises	1,10,772	62,007	27,872	7,739	11,287	997	92	104	674
		Away	73,678	22,513	22,016	7,122	18,106	901	434	171	2,415
	Rural	Total	1,95,936	97,667	48,936	14,086	30,939	1,832	523	211	1,742
		Within Premises	34,690	26,379	1,981	855	5,209	171	0	0	95

		Near Premises	97,419	52,576	26,158	7,202	10,115	869	90	75	334
		Away	63,827	18,712	20,797	6,029	15,615	792	433	136	1,313
	Urban	Total	51,414	30,091	3,484	2,601	13,438	247	3	64	1,486
		Within Premises	28,210	16,859	551	971	9,775	10	0	0	44
		Near Premises	13,353	9,431	1,714	537	1,172	128	2	29	340
		Away	9,851	3,801	1,219	1,093	2,491	109	1	35	1,102
Adilabad	Total	Total	5,18,594	1,39,386	1,63,605	41,159	1,59,673	1,102	7,438	1,323	4,908
		Within Premises	1,58,595	68,766	8,024	10,015	71,537	30	0	0	223
		Near Premises	2,37,354	52,223	1,09,280	19,803	52,093	324	1,737	455	1,439
		Away	1,22,645	18,397	46,301	11,341	36,043	748	5,701	868	3,246
	Rural	Total	3,87,003	63,985	1,44,117	29,895	1,37,152	866	7,249	1,291	2,448
		Within Premises	81,342	18,098	5,308	3,677	54,137	5	0	0	117
		Near Premises	2,04,730	35,405	99,412	17,516	49,335	179	1,684	428	771
		Away	1,00,931	10,482	39,397	8,702	33,680	682	5,565	863	1,560
	Urban	Total	1,31,591	75,401	19,488	11,264	22,521	236	189	32	2,460
		Within Premises	77,253	50,668	2,716	6,338	17,400	25	0	0	106
		Near Premises	32,624	16,818	9,868	2,287	2,758	145	53	27	668
		Away	21,714	7,915	6,904	2,639	2,363	66	136	5	1,686

Source: (Census 2011)

Annexure Table 3: Household Sanitation facilities at the state level

Locations	Total/ Rural/ Urban	Total number of households	Number of households having latrine facility within the premises	Number of households not having latrine facility within the premises	No latrine within premises	
					Alternative source	
					Public latrine	Open
ANDHRA PRADESH	Total	2,10,24,534	1,04,24,003	1,06,00,531	5,15,370	1,00,85,161
	Rural	1,42,46,309	45,85,620	96,60,689	3,83,046	92,77,643
	Urban	67,78,225	58,38,383	9,39,842	1,32,324	8,07,518
MADHYA PRADESH	Total	1,49,67,597	43,13,282	1,06,54,315	1,77,797	1,04,76,518
	Rural	1,11,22,365	14,59,201	96,63,164	50,926	96,12,238
	Urban	38,45,232	28,54,081	9,91,151	1,26,871	8,64,280
MAHARASHTRA	Total	2,38,30,580	1,26,53,950	1,11,76,630	30,82,317	80,94,313
	Rural	1,30,16,652	49,46,854	80,69,798	8,07,153	72,62,645

	Urban	1,08,13,928	77,07,096	31,06,832	22,75,164	8,31,668
ODISHA	Total	96,61,085	21,29,296	75,31,789	1,32,398	73,99,391
	Rural	81,44,012	11,46,552	69,97,460	1,01,308	68,96,152
	Urban	15,17,073	9,82,744	5,34,329	31,090	5,03,239
KARNATAKA	Total	1,31,79,911	67,49,396	64,30,515	5,04,217	59,26,298
	Rural	78,64,196	22,34,534	56,29,662	2,72,968	53,56,694
	Urban	53,15,715	45,14,862	8,00,853	2,31,249	5,69,604

Source: (Census 2011)

Annexure Table 4: Household sanitation facilities at the district level

Locations	Total/ Rural/ Urban	Total number of households	Number of households having latrine facility within the premises	Number of households not having latrine facility within the premises	No latrine within premises	
					Alternative source	
					Public latrine	Open
Aurangabad	Total	7,36,587	3,60,410	3,76,177	12,532	3,63,645
	Rural	4,19,120	82,852	3,36,268	5,840	3,30,428
	Urban	3,17,467	2,77,558	39,909	6,692	33,217
Koraput	Total	3,38,205	58,682	2,79,523	4,332	2,75,191
	Rural	2,83,522	23,180	2,60,342	3,804	2,56,538
	Urban	54,683	35,502	19,181	528	18,653
Kalahandi	Total	4,04,814	47,442	3,57,372	3,107	3,54,265
	Rural	3,77,001	31,078	3,45,923	2,959	3,42,964
	Urban	27,813	16,364	11,449	148	11,301
Bidar	Total	3,13,521	72,805	2,40,716	9,605	2,31,111
	Rural	2,37,380	20,983	2,16,397	7,033	2,09,364
	Urban	76,141	51,822	24,319	2,572	21,747

Adilabad	Total	6,51,770	1,91,052	4,60,718	14,704	4,46,014
	Rural	4,73,949	65,289	4,08,660	8,645	4,00,015
	Urban	1,77,821	1,25,763	52,058	6,059	45,999

Source: (Census 2011)

Annexure Table 5: Type of household sanitation facility at the state level

Locations	Total/ Rural/ Urban	Total number of households	Number of households having latrine facility within the premises	Type of latrine facility within the premises							
				Flush/pour flush latrine connected to			Pit latrine		Night soil disposed into open drain	Service Latrine	
				Piped sewer system	Septic tank	Other system	With slab/ ventilated improved pit	Without slab/open pit		Night soil removed by human	Night soil serviced by animal
KARNATAKA	Total	1,31,79,911	67,49,396	29,94,610	17,11,701	1,55,429	17,45,410	43,709	61,802	7,740	28,995
	Rural	78,64,196	22,34,534	1,60,870	8,05,618	90,803	11,27,230	25,245	9,328	2,052	13,388
	Urban	53,15,715	45,14,862	28,33,740	9,06,083	64,626	6,18,180	18,464	52,474	5,688	15,607
ODISHA	Total	96,61,085	21,29,296	2,45,165	13,15,150	1,50,103	2,03,893	1,33,700	30,567	26,496	24,222
	Rural	81,44,012	11,46,552	71,241	6,31,754	1,15,270	1,57,159	1,17,062	17,691	18,949	17,426
	Urban	15,17,073	9,82,744	1,73,924	6,83,396	34,833	46,734	16,638	12,876	7,547	6,796
ANDHRA PRADESH	Total	2,10,24,534	1,04,24,003	26,15,637	62,33,616	2,04,395	10,39,752	1,01,806	1,65,673	10,357	52,767
	Rural	1,42,46,309	45,85,620	3,29,120	32,23,554	1,16,556	7,73,438	87,845	25,523	3,246	26,338

	Urban	67,78,225	58,38,383	22,86,517	30,10,062	87,839	2,66,314	13,961	1,40,150	7,111	26,429
MAHARASHTRA	Total	2,38,30,580	1,26,53,950	43,75,612	55,90,244	3,89,057	19,77,733	1,11,922	1,54,331	9,622	45,429
	Rural	1,30,16,652	49,46,854	2,90,804	24,93,671	2,94,807	17,41,883	87,995	20,875	4,291	12,528
	Urban	1,08,13,928	77,07,096	40,84,808	30,96,573	94,250	2,35,850	23,927	1,33,456	5,331	32,901
MADHYA PRADESH	Total	1,49,67,597	43,13,282	8,64,102	28,53,398	1,87,638	2,46,364	1,00,805	41,363	5,664	13,948
	Rural	1,11,22,365	14,59,201	88,849	9,25,512	1,39,900	1,99,296	84,031	10,896	2,947	7,770
	Urban	38,45,232	28,54,081	7,75,253	19,27,886	47,738	47,068	16,774	30,467	2,717	6,178

Source: (Census 2011)

Annexure Table 6: Type of household sanitation facilities at the district level

Locations	Total/ Rural/ Urban	Total number of households	Number of households having latrine facility within the premises	Type of latrine facility within the premises							
				Flush/pour flush latrine connected to			Pit latrine		Night soil disposed into open drain	Service Latrine	
				Piped sewer system	Septic tank	Other system	With slab/ ventilated improved pit	Without slab/ open pit		Night soil removed by human	Night soil serviced by animal
Bidar	Total	3,13,521	72,805	14,850	39,838	7,176	4,229	1,260	4,286	21	1,145
	Rural	2,37,380	20,983	2,952	10,723	3,877	2,083	567	352	-	429
	Urban	76,141	51,822	11,898	29,115	3,299	2,146	693	3,934	21	716
Koraput	Total	3,38,205	58,682	11,313	36,555	4,727	2,469	1,941	768	199	710
	Rural	2,83,522	23,180	2,823	12,175	3,936	1,565	1,821	393	110	357
	Urban	54,683	35,502	8,490	24,380	791	904	120	375	89	353
Kalahandi	Total	4,04,814	47,442	3,695	28,058	3,720	4,794	4,512	1,060	744	859
	Rural	3,77,001	31,078	2,081	17,558	2,835	2,913	3,814	813	483	581
	Urban	27,813	16,364	1,614	10,500	885	1,881	698	247	261	278
Aurangabad	Total	7,36,587	3,60,410	2,03,597	98,859	6,139	37,401	2,213	9,400	15	2,786
	Rural	4,19,120	82,852	7,722	37,855	4,244	29,788	1,476	1,269	15	483
	Urban	3,17,467	2,77,558	1,95,875	61,004	1,895	7,613	737	8,131	-	2,303

Adilabad	Total	6,51,770	1,91,052	31,608	1,23,415	9,390	18,467	1,683	4,078	86	2,325
	Rural	4,73,949	65,289	8,272	39,209	4,768	10,032	1,037	817	36	1,118
	Urban	1,77,821	1,25,763	23,336	84,206	4,622	8,435	646	3,261	50	1,207

Source: (Census 2011)

Annexure Table 7: Number of populations per 1000 with access to toilet facilities

LOCATIONS	Total/ Rural/ Urban	HOUSEHOLDS AND DISTRIBUTION OF 1000 POPULATION BY				
		TOILET FACILITIES				
		AND OWNERSHIP STATUS OF HOUSE OCCUPIED				
		Ownership	Total	Total	Toilet facility available to	
		status of	number of	population	Number of	Population
		house occupied	households		households	(per 1000)
ODISHA	Total	Total	78,70,127	1,000	11,72,207	160
		Owned	70,57,278	908	7,22,003	108
		Rented	5,17,917	58	3,50,213	40
		Any other	2,94,932	34	99,991	12
	Rural	Total	67,82,879	1,000	5,23,272	86
		Owned	64,76,122	961	4,33,702	75
		Rented	1,57,160	20	58,754	7
		Any other	1,49,597	19	30,816	4
	Urban	Total	10,87,248	1,000	6,48,935	607
		Owned	5,81,156	586	2,88,301	311
		Rented	3,60,757	290	2,91,459	237
		Any other	1,45,335	124	69,175	59
MADHYA PRADESH	Total	Total	1,09,19,653	1,000	26,19,446	243
		Owned	97,07,723	911	18,37,131	184
		Rented	8,74,112	64	6,29,797	47
		Any other	3,37,818	25	1,52,518	12

	Rural	Total	81,24,795	1,000	7,26,218	93
		Owned	77,69,734	967	6,20,573	83
		Rented	1,82,941	17	65,108	6
		Any other	1,72,120	16	40,537	4
	Urban	Total	27,94,858	1,000	18,93,228	683
		Owned	19,37,989	745	12,16,558	481
		Rented	6,91,171	203	5,64,689	166
		Any other	1,65,698	52	1,11,981	36
MAHARASHTRA	Total	Total	1,90,63,149	1,000	66,88,468	343
		Owned	1,53,10,948	829	48,30,687	261
		Rented	30,19,967	136	16,42,267	72
		Any other	7,32,234	35	2,15,514	10
	Rural	Total	1,09,93,623	1,000	20,01,936	184
		Owned	98,91,493	918	16,54,179	159
		Rented	7,23,860	53	2,74,089	19
		Any other	3,78,270	29	73,668	6
	Urban	Total	80,69,526	1,000	46,86,532	570
		Owned	54,19,455	703	31,76,508	406
		Rented	22,96,107	254	13,68,178	148
		Any other	3,53,964	43	1,41,846	16
ANDHRA PRADESH	Total	Total	1,68,49,857	1,000	55,59,206	338
		Owned	1,37,94,857	833	35,37,478	225
		Rented	27,14,552	149	18,81,634	105

	Rural	Any other	3,40,448	18	1,40,094	8
		Total	1,26,76,218	1,000	23,00,695	181
		Owned	1,14,57,396	914	18,18,121	147
		Rented	10,01,058	71	4,30,006	30
		Any other	2,17,764	15	52,568	4
	Urban	Total	41,73,639	1,000	32,58,511	787
		Owned	23,37,461	599	17,19,357	450
		Rented	17,13,494	373	14,51,628	317
		Any other	1,22,684	28	87,526	20
KARNATAKA	Total	Total	1,02,32,133	1,000	38,37,026	360
		Owned	80,28,342	824	23,14,528	239
		Rented	19,08,864	152	13,97,437	111
		Any other	2,94,927	24	1,25,061	10
	Rural	Total	66,75,173	1,000	11,61,259	175
		Owned	60,85,360	931	9,61,807	152
		Rented	4,15,592	48	1,51,312	17
		Any other	1,74,221	21	48,140	6
	Urban	Total	35,56,960	1,000	26,75,767	738
		Owned	19,42,982	602	13,52,721	415
		Rented	14,93,272	366	12,46,125	303
		Any other	1,20,706	32	76,921	20

Source: (Census 2011)

Annexure Table 8: Access to the toilet facility at the district level

Locations	Total/urban/rural	Ownership status of house occupied	Total number of households	Total population	Toilet facility available to	
					Number of households	Population (per 1000)
Koraput	Total	Total	2,86,863	1,000	37,624	144
		Owned	2,45,775	857	13,316	57
		Rented	25,726	89	17,003	60
		Any other	15,362	54	7,305	27
	Rural	Total	2,41,724	1,000	12,142	53
		Owned	2,25,439	936	6,226	29
		Rented	8,353	33	2,931	12
		Any other	7,932	31	2,985	12
	Urban	Total	45,139	1,000	25,482	590
		Owned	20,336	469	7,090	192
		Rented	17,373	365	14,072	299
		Any other	7,430	166	4,320	99
Kalahandi	Total	Total	3,24,771	1,000	26,926	94
		Owned	3,03,398	938	18,499	69
		Rented	10,008	30	6,086	18
		Any other	11,365	32	2,341	7
	Rural	Total	3,04,484	1,000	15,574	56
		Owned	2,89,934	957	12,439	46
		Rented	4,647	14	1,776	6

	Urban	Any other	9,903	29	1,359	4
		Total	20,287	1,000	11,352	583
		Owned	13,464	711	6,060	357
		Rented	5,361	226	4,310	184
		Any other	1,462	63	982	42
Aurangabad	Total	Total	5,26,155	1,000	2,03,462	380
		Owned	4,25,476	845	1,35,699	277
		Rented	87,550	133	62,286	94
		Any other	13,129	22	5,477	9
	Rural	Total	3,34,823	1,000	46,060	135
		Owned	3,02,425	924	36,196	113
		Rented	24,814	57	8,050	18
		Any other	7,584	19	1,814	4
	Urban	Total	1,91,332	1,000	1,57,402	817
		Owned	1,23,051	704	99,503	568
		Rented	62,736	269	54,236	231
		Any other	5,545	27	3,663	18
Bidar	Total	Total	2,47,350	1,000	48,090	198
		Owned	2,23,077	922	34,150	154
		Rented	21,220	68	12,947	41
		Any other	3,053	10	993	3
	Rural	Total	1,95,936	1,000	16,052	86
		Owned	1,87,469	965	14,027	77

		Rented	6,307	26	1,628	7
		Any other	2,160	9	397	2
	Urban	Total	51,414	1,000	32,038	622
		Owned	35,608	758	20,123	442
		Rented	14,913	227	11,319	170
		Any other	893	15	596	10
Adilabad	Total	Total	5,18,594	1,000	1,23,668	248
		Owned	4,39,473	861	75,534	161
		Rented	62,935	109	37,297	66
		Any other	16,186	30	10,837	21
	Rural	Total	3,87,003	1,000	44,311	117
		Owned	3,58,315	936	34,623	95
		Rented	24,253	54	8,447	19
		Any other	4,435	10	1,241	3
	Urban	Total	1,31,591	1,000	79,357	612
		Owned	81,158	653	40,911	346
		Rented	38,682	260	28,850	196
		Any other	11,751	87	9,596	70

Source: (Census 2011)