



SFD Report Chikkaballapur, India

prepared by:
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Chikkaballapur city is the district headquarters of the Chikkaballapur district and is located at a distance of about 56 km north of Bengaluru. The city is spread over an area of 18.25 sq.km encompassing an estimated population of 73,709 residents (2021).

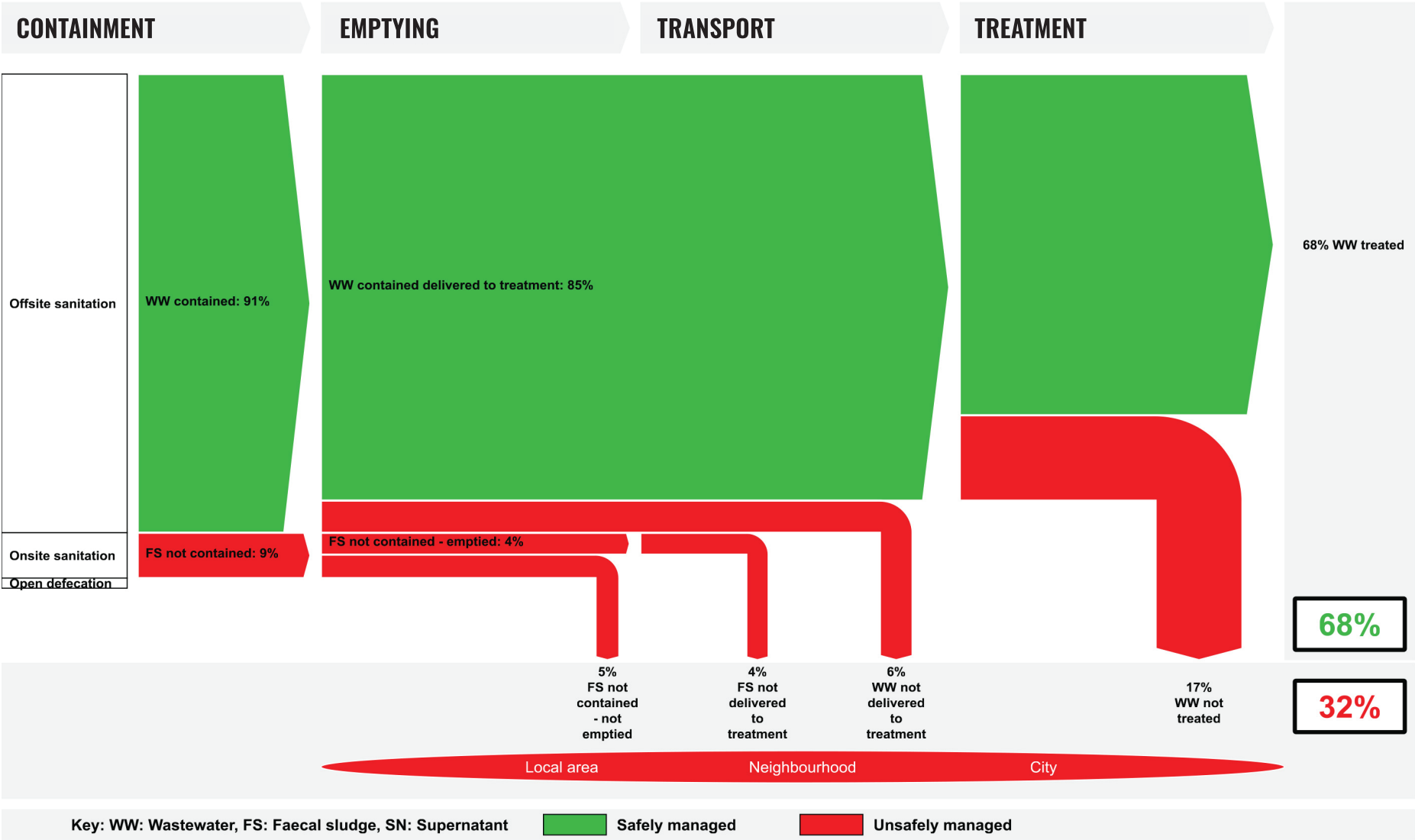
SFD GRAPHIC

Chikkaballapur, Karnataka, India

Version: Draft
SFD Level: SFD Lite

Date prepared: 20 Apr, 2021

Prepared by: TIDE



The SFD Promotion Initiative recommends preparation of a report on the city context, the analysis carried out and data sources used to produce this graphic. Full details on how to create an SFD Report are available at: sfd.susana.org

The SFD assessment has shown that 68% of the wastewater is safely managed, and 32% of the wastewater is unsafely managed.

SERVICE OUTCOMES

SFD MATRIX FOR CHIKKABALLAPUR

Tabulated form of the grid selection for data entry

| | | | | | | |
|--|--|--|--|---|---|---|
| Chikkaballapur Municipality, India, 28 Apr 2021. SFD Level : SFD Lite Population : 73709 | | | | | | |
| Proportion of Tanks : Septic Tanks : 3%, Fully Lined Tanks : 80%, Lined, Open Bottom Tanks : 17% | | | | | | |
| Containment | | | | | | |
| System Type | Population | Transport | Treatment | FS Emptying | FS Transport | FS Treatment |
| | Pop | W4a | W5a | F3 | F4 | F5 |
| System Label and Description | Proportion of population using this type of system (p) | Proportion of wastewater in sewer system, which is delivered to centralised treatment plants | Proportion of wastewater delivered to centralised treatment plants, which is treated | Proportion of this type of system from which faecal sludge is emptied | Proportion of faecal sludge emptied, which is delivered to treatment plants | Proportion of faecal sludge delivered to treatment plants, which is treated |
| T1A1C1 Toilet discharges directly to a centralised combined sewer | 91.0 | 93.0 | 80.0 | | | |
| T1A2C9 Septic tank connected to 'don't know where' | 0.3 | | | 70.0 | 0.0 | 0.0 |
| T1A3C9 Fully lined tank (sealed) connected to 'don't know where' | 7.5 | | | 70.0 | 0.0 | 0.0 |
| T1A4C9 Lined tank with impermeable walls and open bottom, connected to 'don't know where' | 1.2 | | | 70.0 | 0.0 | 0.0 |

OFFSITE SANITATION SYSTEM

Chikkaballapur town has a centralised sewerage system installed within the municipal area. As per the consultation with the CMC officials and physical survey, around 91% of the population is using the sewerage system (T1A1C1), which is connected to the treatment plant.



Storm water drains mixed with black water



Clogged storm water drains in the city

ONSITE SANITATION SYSTEM

CONTAINMENT:

9% population is dependent on the on-site sanitation system of which 0.3% of toilets are connected to septic tank (T1A2C9) installed at the government quarters in the outskirts of the city, 7.5% of fully lined tank (sealed) (T1A3C9), and 1.2 % of lined tanks with impermeable walls and open bottom (T1 A4C9) at ward number 14 and 30, respectively (based on field survey and community engagement).

EMPTYING:

Proportion of sludge emptied from on-site containment sanitation system is considered as 70% (F3) as the desludging frequency varies from 2-3 years.

Currently, the private sector and the CMC provides services for cleaning of septic tanks using desludging vehicle. From the 9% of the onsite sanitation system, around 5% of FS is not emptied and 4% of FS is not delivered to the treatment plant.



Discharge from the Sewage treatment plant

TRANSPORTATION:

The proportion of wastewater in sewer system delivered to centralized treatment plant is 3.5 MLD, which is 93% (W4a) of wastewater collected from 91% UGD connection, and the remaining 7% reaches the environment untreated due to the leakages in the connection.

Since there is no faecal sludge treatment plant present in the municipality, the common practice of managing the sludge is by dumping into the nearby manhole present in the UGD connections.

TREATMENT:

A Sewage Treatment Plant (STP) of the design capacity of 10 MLD is present within the municipality, but the current inflow is estimated to be around 3 - 3.5 MLD. Due to the improper operation and maintenance, no bio culture inoculation and no desilting has been carried out in the past 5 years, the efficiency of the treatment plant is assumed to be 80% (W5a). After treatment, water is discharged to the nearby water bodies.

There is no faecal sludge treatment plant present in the town, thus after desludging, the faecal sludge from the containment system is dumped into the nearest UGD manholes.



Discharge from the STP after treatment

GENERAL CITY INFORMATION

Chikkaballapur City is the district headquarters of the newly created Chikkaballapur district in the state of Karnataka, India. The city is about 56 km from north of Bengaluru and the nearest airport is Bengaluru International Airport which is 30 km from Chikkaballapur City. 'Panchagiri' is a common descriptor of Chikkaballapur as it is surrounded by 5 hills among which Nandi hills is famous.



Chikkaballapur city is a City Municipal Council (population falling under 50,000 to 3 lakh) and the administrative boundary is spread over an area of 18.25 sq. km divided into 31 wards. The city has a population 63,652 as per a report released by Census India 2011. The projected population in the year 2021 is estimated to be 73,709.

The local water resource present within the administrative boundary Jakkalamadagu reservoir spread over an extent of 51.25 sq.km and the other source of water is 164 borewells. The total water supply network is 120 km. The underground drainage network coverage of the city is 91% (13461 HHs) and the remaining 9% (1341 HHs) of ward number 14 and 30 are unsewered. The city comprises of 10 MLD capacity of waste stabilization pond, which is located at Gopalkrishna Amanikere, and it is spread over an area of 25 acres. The technology used in this STP involves a nature-based Waste Stabilization Pond consisting of an anaerobic pond, facultative pond followed by a maturation pond, each of 2 units. There is no FSTP (Faecal Sludge Treatment Plant) in the city.



Defunct screens in STP Chikkaballapur



Oxidation pond at the STP

DATA AND ASSUMPTIONS

A variety of data sources were used to determine the most reasonable estimates for percentages of excreta flow for the SFD matrix. The transect walks, observations, key informant interviews, community engagement were used for data collection purposes because of the limited availability of data in secondary sources.

LIST OF DATA SOURCES

- Baseline Survey /Consultation with the STP operators
- Community engagement in ward number 14 and 30
- Discussion with CMC, Chikkaballapur officials: Assistant Executive Engineer, UGD Supervisor

Supported by :



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The Shit Flow Diagram was created using the **SFD Lite Graphic Generator** on the Susana website
<https://sfd.susana.org/>