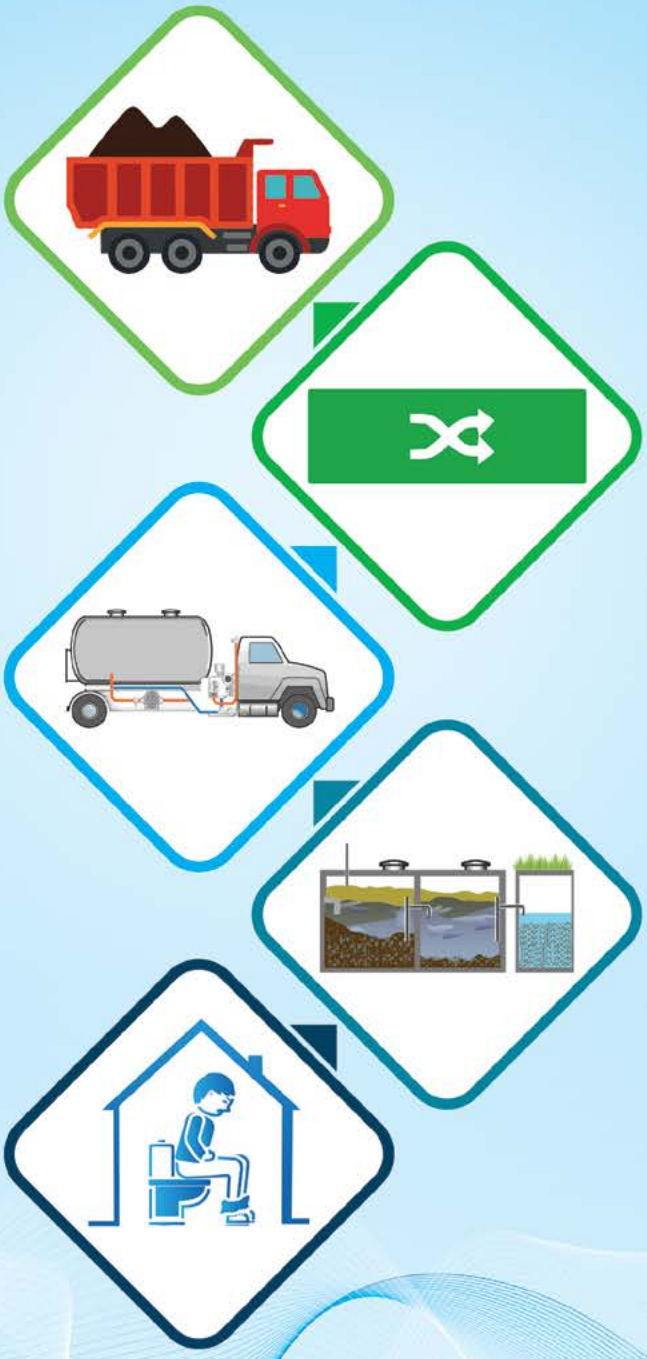
Municipal Sanitation Synopsis of Lumbini Province, Nepal -2024



Municipalities Network Advocacy on Sanitation in South Asia Phase II (MuNASS-II)

BILL & MELINDA GATES foundation

UCLG ASPAC United Cities and Local Governments Asia Pacific

Municipal Association of Nepal 2050

ENPHO Creating Eco Societies

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Disclaimer: The content presented in the Municipal Sanitation Synopsis relies on the data available (on the date of the survey) and further validated with respective municipalities. Please note that the information and suggestions may be revised due to dynamic circumstances, updated surveys, or alterations in municipal policies. It is recommended that readers validate and compare the data with the most recent sources to ensure precision and accuracy. While the overviews strive to offer a broad perspective and recommendations, it is important to recognize that specific local conditions can differ, and stakeholders are encouraged to undertake additional research or seek guidance from local authorities for thorough decision-making.

ACKNOWLEDGEMENT

We extend our sincere gratitude to Mr. Keshav Kumar Shrestha, Mayor of Buddhabhumi Municipality; Mr. Muktinath Yadav, Mayor of Gulariya Municipality; Mr. Khildhoj Panthi, Mayor of Resunga Municipality; Mr. Krishna Prasad Shrestha, Mayor of Sandhikharka Municipality; Mr. Ajay Thapa, Mayor of Shivraj Municipality; Ms. Bimala Aryal, Mayor of Sunwal Municipality; Mr. Santosh Lal Shrestha, Mayor of Tansen Municipality; Mr. Ramkrishna Khand, Mayor of Tilottama Municipality, along with all deputy mayors, ward chairpersons, and municipal staffs, for their unwavering support and valuable feedback throughout the study. Special thanks to respective Chief Administrative Officers (CAO), for efficiently coordinating and mobilizing team during the study.

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Furthermore, we are thankful to Mr. Bhim Prashad Dhungana, President of Municipal Association of Nepal (MuAN) for his gracious support.

Orientation program to conduct household survey for the enumerators appointed by the respective municipalities during SFD survey

Enumerator conducting household survey using a mobile application

CONTENTS

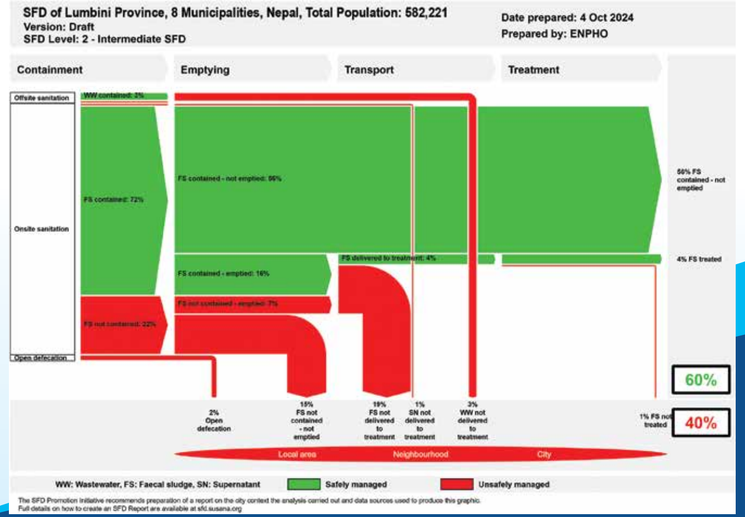
Desludging service provider emptying the containment

Municipal council members and stakeholders participating in SFD validation workshop to review and discuss findings.

SHIT FLOW DIAGRAM (SFD)

The shit flow diagram (SFD) represents the sanitation status of the municipalities across the sanitation value chain. FS generated by 60% of the municipalities' population is safely managed (Green). Initially, 72% of the FS is safely contained but the percentage decreases to 56% when FS generated by 16% of the population is emptied. This implies that 56% of FS are considered safely managed and remains safe until emptied. Furthermore, 4% of FS is considered treated, primarily from biogas digesters and treatment plant of Gulariya Municipality and Butwal Sanitary. The emptied FS remains safe depending on the emptying mechanism and the available treatment options/facilities.

Further, FS generated by 40% of the population is managed unsafely (Red). This includes 3% of WW not delivered to treatment plant, and 1% SN not delivered to treatment plant. Additionally, 19% FS is emptied (12% FS contained and 7% FS not contained) but not transported for treatment. Another 15% of FS is neither safely contained nor emptied which possesses the increased environmental risks. Furthermore, 2% of the population still practice open defecation, exacerbating sanitation challenges. These findings highlight critical gaps that must be addressed to mitigate environmental contamination and public health risks associated with inadequate FS management practices.



RECOMMENDATIONS

Strengthen enforcement of ODF activities and provide targeted support to households without toilets to ensure complete access and eliminate open defecation.

Infrastructure Upgrade:
Retrofit and replace unsafe containment systems with appropriate techniques and technologies such as septic tanks, biogas digesters, and twin pits.

Promote Mechanical Desludging:
Advocate for providing suitable mechanical desludging services within the municipality, along with its formal registration and proper regulation.

Regulate Sanitation Service:
Promote regular emptying of containments, ideally at least once every 3 to 5 years, to prevent overflow and ensure proper functioning.

Formulate and enforce policies and regulations mandating the use of safe sanitation technologies in new construction or renovations.

Ensure safe disposal by establishing FS treatment facilities and ensuring proper operation and maintenance of the facilities.

SANITATION SYNOPSIS OF LUMBINI PROVINCE, NEPAL -2024

Maya Devi Temple, Lumbini

DEMOGRAPHICS

- AREA : 22,288 KM²
- HOUSEHOLDS (HHS) : 1,141,902
- POPULATION : 5,122,078
  MALE : 2,454,508
  FEMALE : 2,667,670
- MUNICIPALITIES : 32
  SUB-METROPOLITAN : 4
- POPULATION GROWTH RATE : 1.24%
- STUDIED MUNICIPALITIES : 8

SOURCE: CENSUS, 2021

ABOUT

A study on faecal sludge management is being conducted in 65 municipalities of Nepal as part of the Municipalities Network Advocacy on Sanitation in South Asia II (MuNASS II) program. The study was carried out in eight municipalities i.e. Buddhabhumi, Gulariya, Resunga, Sandhikharkha, Shivaraj, Sunwal, Tansen, and Tilotamma of Lumbini Province.

OBJECTIVE OF THE STUDY

The study aims to assess the sanitation conditions with a focus on the faecal sludge management (FSM) and develop Shit Flow Diagram (SFD) for these 65 municipalities in Nepal.

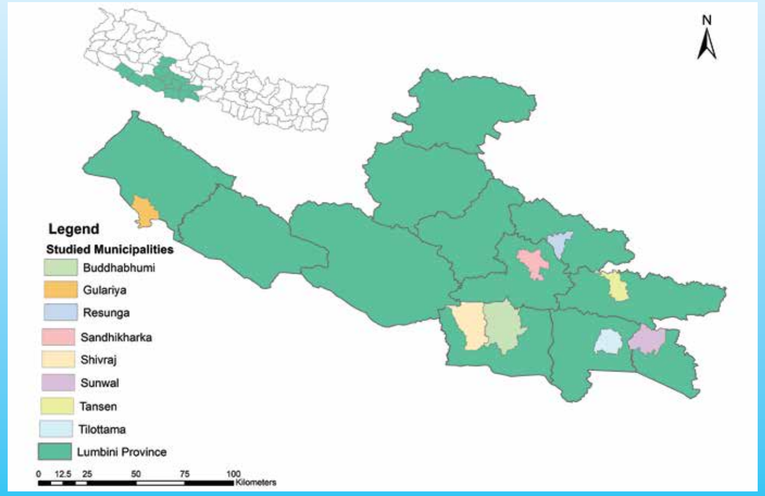
METHODOLOGY OF THE STUDY

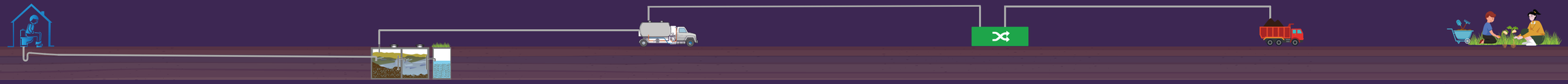
The methodology involved conducting a random questionnaire survey using the KOBO mobile application. Proportionate stratified random sampling was employed to determine the sample size of the households. Local enumerators selected by respective municipalities were mobilized for the survey. The enumerators, trained intensively for two days, were deployed by respective municipalities to collect survey data. Additionally, the Key Informant Interview (KII) was done with concerned stakeholders of the municipalities. Analysis included computing frequency distributions, means and cross tabulations.

PROVINCE PROFILE

Lumbini Province is the thrid largest province of Nepal with an area of 22,288 square km, comprising 15.14% of the total area of the country. It is extended from 27° 19' 60'' to 29° 59' 60'' N latitude and 81° 20' 60'' to 84° 01' 60'' E longitude. It is bordered by Gandaki Province and Karnali Province on the north, Gandaki Province on the east, Sudurpaschim Province on the west and Uttar Pradesh and Bihar of India on the south.

MAP LOCATING STUDIED MUNICIPALITIES IN LUMBINI PROVINCE





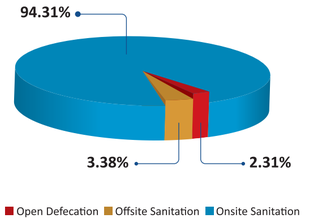
The Sanitation Service Chain (SSC) is a comprehensive service framework delineating the sequential stages of faecal sludge management from excreta generation to safe disposal. It encompasses five key phases: collection, containment, emptying and transportation, treatment, and reuse/safe disposal.

USER INTERFACE FACILITY

The sanitation facility, commonly referred to as toilet, serves as collection point for human waste and directs it to either offsite or onsite sanitation system.

In Lumbin Provice, 94.31% of households (HHs) have onsite sanitation systems and 3.38% of HHs have offsite sanitation systems. However, most HHs discharge blackwater directly to stormwater/open drains despite laws prohibiting such illegal connections while few HHs in Tansen Municipality is connected to a sewered network. Meanwhile, 2.31% of HHs lack access to improved sanitation facilities, resorting to open defecation.

Sanitation Facilities



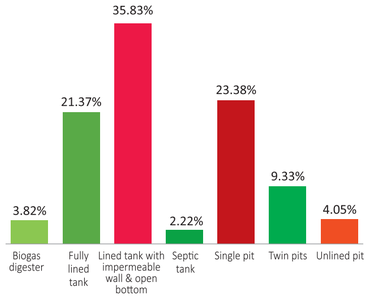
Direct connection of blackwater to an open drain

CONTAINMENT

The human waste collected from toilet is stored in different types of tanks for certain time period, known as containment, and the accumulated human waste in it is termed as faecal sludge (FS).

In the province, most of the HHs have built lined tanks with impermeable walls and open bottom, followed by single pits which are considered unsafe. Additionally, unlined pit is installed by smaller proportion of HH. These containments possess high risk of groundwater contamination due to leachate percolation through their permeable bases. Fully lined tank is installed by significant proportion of the HH. Only a small proportion of HHs have installed safe containment, such as septic tanks, biogas digesters, and twin pits.

Types of Containments



Twin pits at a household

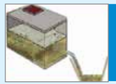
EMPTYING AND TRANSPORTATION

Regular emptying is essential to maintain the functionality of these containments. The survey reveals that only 28.62% of the HHs have emptied their containments at least once since installation.

The containments are being emptied in different time intervals, where 26.62% are emptied at an interval of 3 to 5 years. The unlined pits are emptied manually, while the HHs having other types of containments practiced both manual and mechanical emptying. The details are shown in the graph.

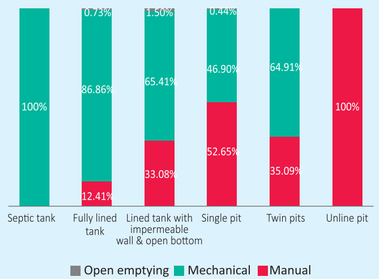
57.85% of HHs emptied FS mechanically (Municipal and private desludging service providers).

41.61% of HHs emptied FS manually (Self or using traditional sanitation workers).



0.54% practice open emptying where, FS is disposed into open drain.

Emptying Mechanism

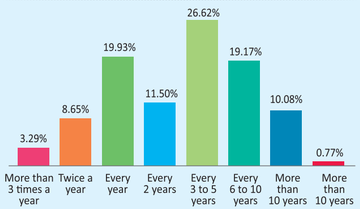


TREATMENT

Biogas digesters, if functioning properly, are regarded as safe and considered capable of treating faecal sludge. However, FS stored in other types of containment requires treatment. Gulariya Municipality has a dedicated faecal sludge treatment plant (FSTP) of 3 cubic meters per day capacity. Butwal Sanitary Pvt. Ltd. has constructed and operated FSTP at Ramnagar Community Forest. The remaining studied municipalities do not have any form of treatment plant.

Gulariya faecal sludge treatment plant

Emptying Frequency



Details of desludging services in surveyed municipalities

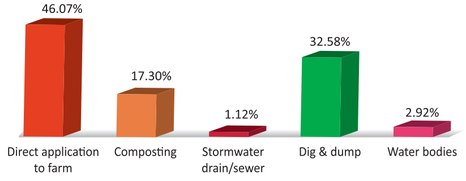
Service Provider	Municipality	Private
No. of service provider	2	17
No. of vehicles	2	23
Capacity of vehicles (litres)	2,500-5,000	2,500-5,000
Average number of trips per week per vehicle	2	7
Average service charge per trip (NPR)	3,000-4,000	1,000-15,000

SAFE DISPOSAL OR REUSE

Mechanically emptied FS are usually applied to farmlands or disposed in forest. Moreover, FS is transported to treatment plants and treated in the municipalities having treatment plant.

Almost half of the HHs that have manually emptied the containments apply it directly to farms, followed by dig and dump practice. A smaller proportion of HHs practice composting. Meanwhile, some HHs illegally dispose the FS into nearby open or stormwater drains, and some dump it directly into water bodies, which exacerbates environmental pollution.

Disposal practice of FS after manual emptying



ESTIMATION OF FAECAL SLUDGE

The estimation of faecal sludge production in the Lumbini Province was derived based on containment volume and average emptying frequency. Moreover, faecal sludge from biogas digesters, which does not require emptying like other containments, was excluded from the calculation.

Total estimated volume of FS generation in the 36 municipalities of Lumbini Province: 1,205,138 m^3 per year which is 3,301.75 m^3 per day.

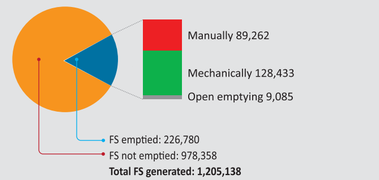
Total estimated volume of FS emptied: 226,780 m3 per year which is 621.31 m^3 per day.

Total estimated volume of mechanically emptied FS: 128,433 m^3 per year which is 351.87 m^3 per day.

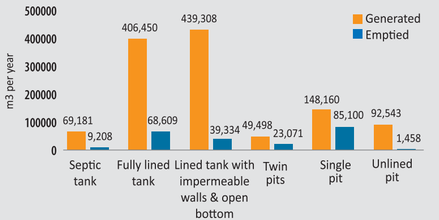
Total estimated volume of manually emptied FS: 89,262 m^3 per year which is 244.55 m^3 per day.

Total estimated volume of FS emptied by open emptying: 9,085 m^3 per year which is 24.89 m^3 per day.

Summary on faecal sludge produced, emptied, and transported in Lumbini province (cubic metre)

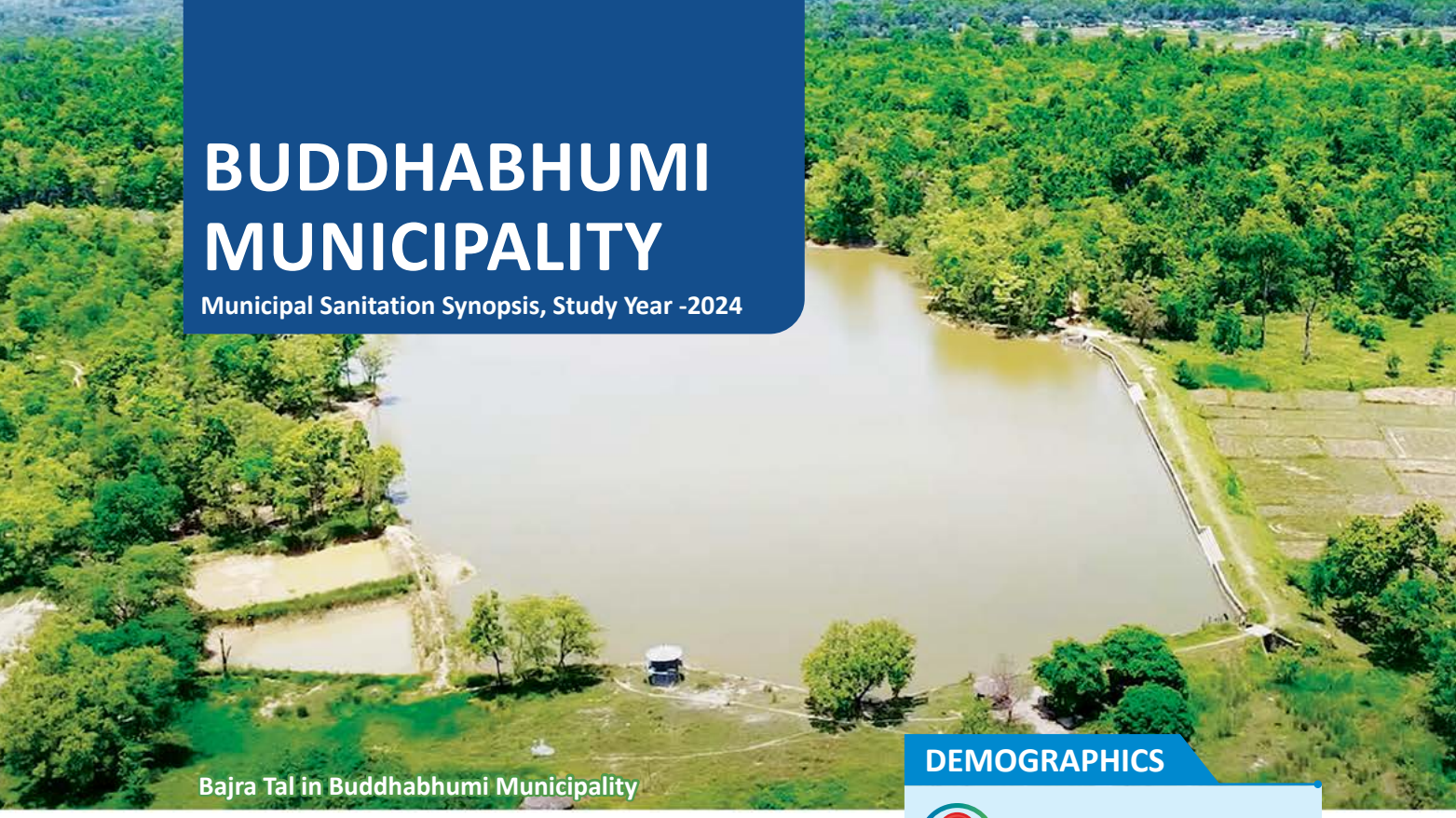


FS Generated and Emptied



BUDDHABHUMI MUNICIPALITY

Municipal Sanitation Synopsis, Study Year -2024



Bajra Tal in Buddhabhumi Municipality

CITY PROFILE

Buddhabhumi Municipality lies in Kapilvastu District of Lumbini Province, Nepal. The meaning of the municipality signifies the land of Gautam Buddha, an icon of peace in the world. The topography is situated in the western Terai region that features fertile plains which spread across 366.7 square kilometres of geographical area. It lies at 27° 38' 60'' N latitude, 83° 03' 36'' E longitude and altitude of 118 metres above sea level.

DEMOGRAPHICS

Area : 366.67 km²

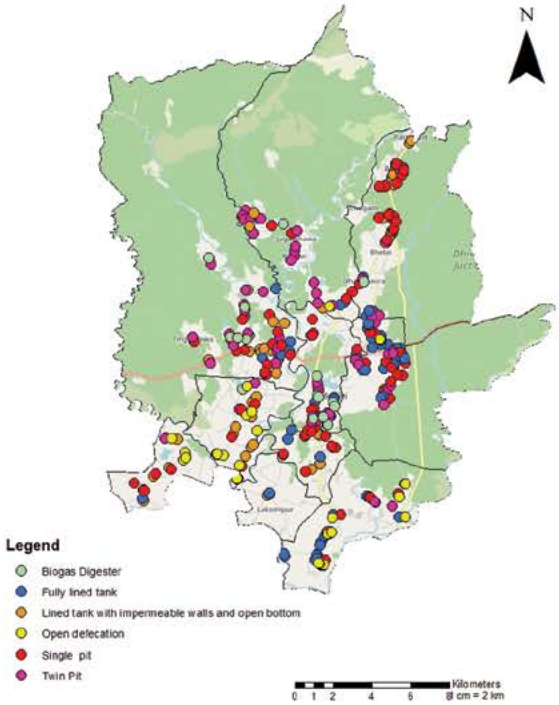
POPULATION : 76,507
Male : 36,951
Female : 39,556

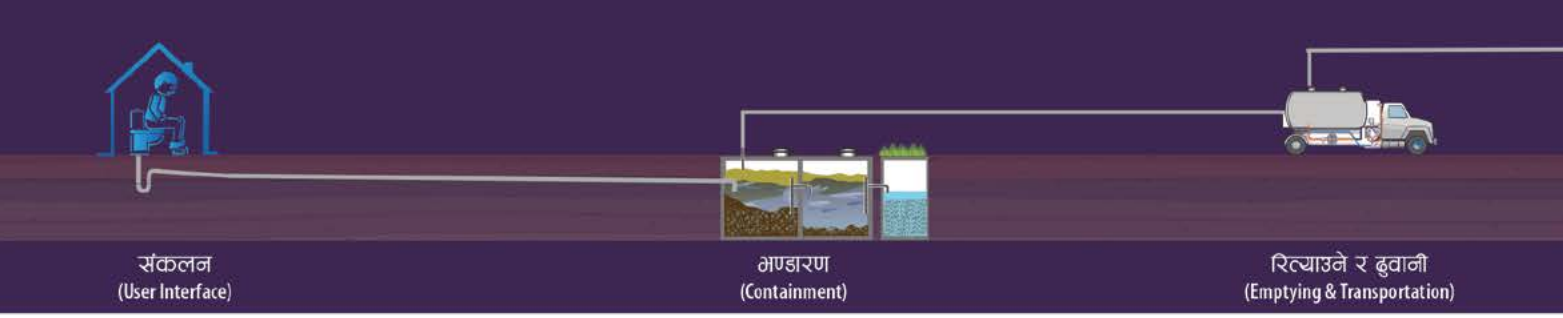
Household : 15,379

Wards : 10

Source: Census 2021

Types of sanitation technologies at households in Buddhabhumi Municipality

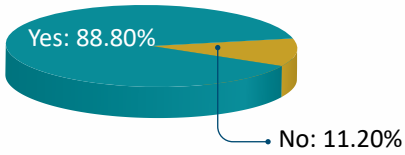




USER INTERFACE FACILITY

The municipality was declared an Open Defecation Free zone on 17 September 2019. However, the survey reveals that 11.20% of the households in the municipality do not have access to toilets and practice open defecation.

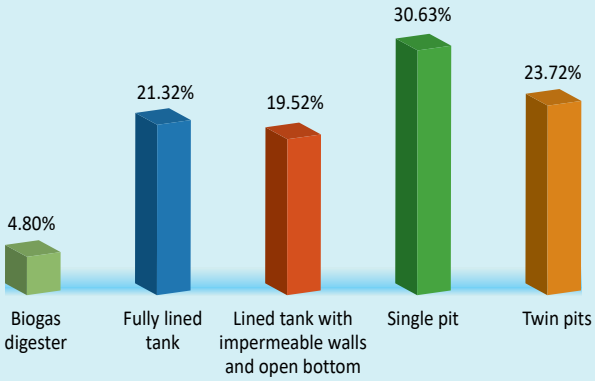
Sanitation Facility



CONTAINMENT

The sanitation systems that safely stores faecal sludge (FS) such as fully lined tanks, biogas digester and twin pits have been installed in a significant proportion of households. However, the safe use of twin pits depend on the groundwater table. Similarly, containments such as lined tanks with impermeable walls and open bottom, and single pits are installed in nearly half of the households. These containments contribute on groundwater contamination through leachate percolation.

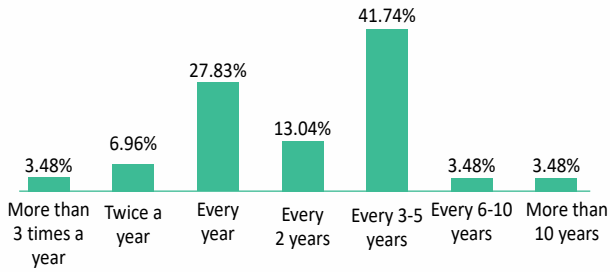
Types of containment



EMPTYING AND TRANSPORTATION

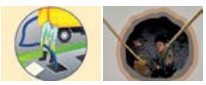
The survey finding shows that 36.28% of the households have emptied their containments at least once since installation. Most of these containments are emptied at an interval of 3 to 5 years. The emptying mechanism varies as per containment type. Usually, single pit and twin pits are manually emptied due to their smaller size. The detail of the emptying mechanism is shown in the graph.

Emptying Frequency



43.48% of HHs emptied FS mechanically (Private desludging service providers).

46.09% of HHs emptied FS manually (Self or using traditional sanitation workers)

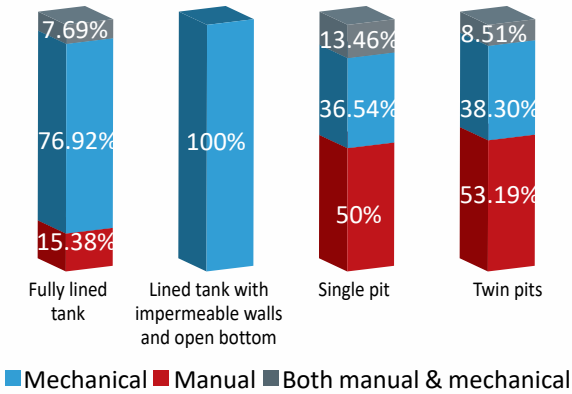


Both: 10.43%

Details of desludging service providers

Service Provider	Private
No. of service provider	4
No. of vehicles	4
Capacity of vehicle (litres)	4,000-5,000
Average number of trips per day per vehicle	1
Average service charge (NPR)	Rectangular containments- 2,000-3,000 per trip Circular pits- 300 per ring

Emptying Mechanism



ESTIMATION OF FAECAL SLUDGE

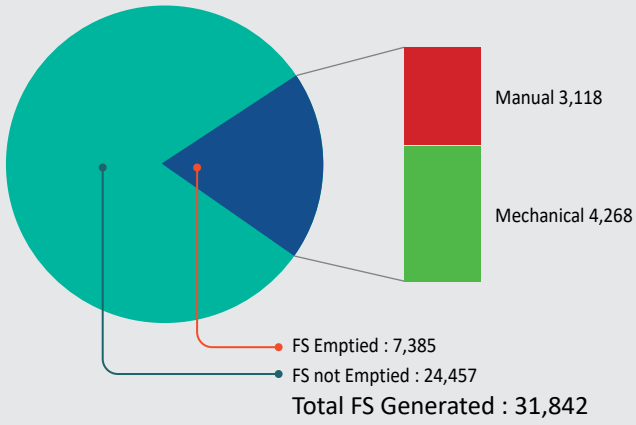
Total estimated volume of FS generation in the municipality: 31,842 m^3 per year which is 87.24 m^3 per day

Total volume of FS emptied in the municipality: 7,385 m^3 per year which is 20.23 m^3 per day.

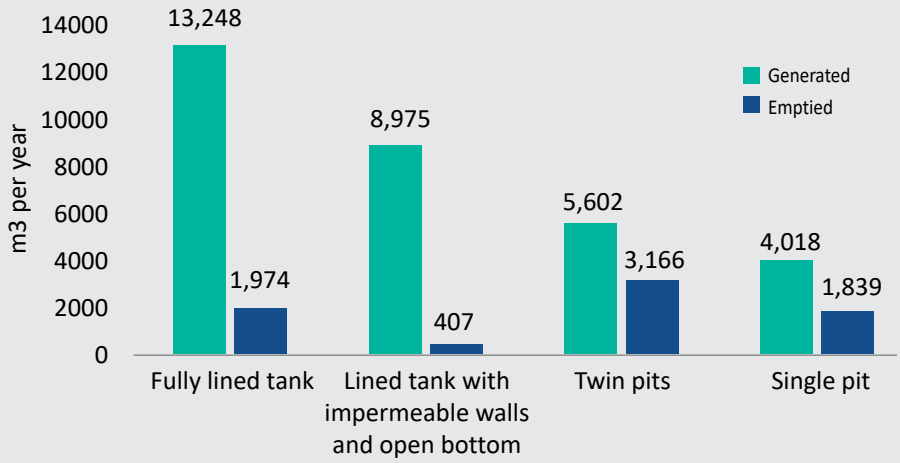
Total volume of FS emptied by mechanical desludging: 4,268 m^3 per year which is 11.69 m^3 per day.

Total volume of FS emptied by manual desludging: 3,118 m^3 per year which is 8.54 m^3 per day.

Summary of faecal sludge produced, emptied and transported in Buddhabhumi Municipality (cubic meter)



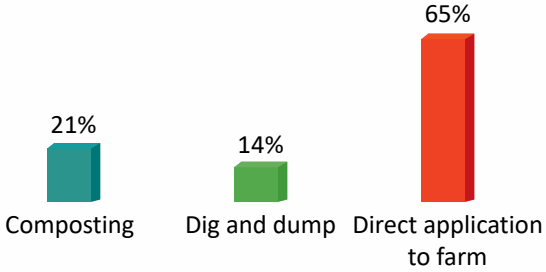
FS Generated and Emptied



SAFE DISPOSAL AND REUSE

The municipality does not have FSTP. Thus, mechanically emptied FS is directly applied to farmland as per demand. Similarly, the majority of manually emptied FS is applied directly to farmland, while few proportions of FS is dig and dump or composted. However, direct application to farmland possesses significant risk to environment and public health.

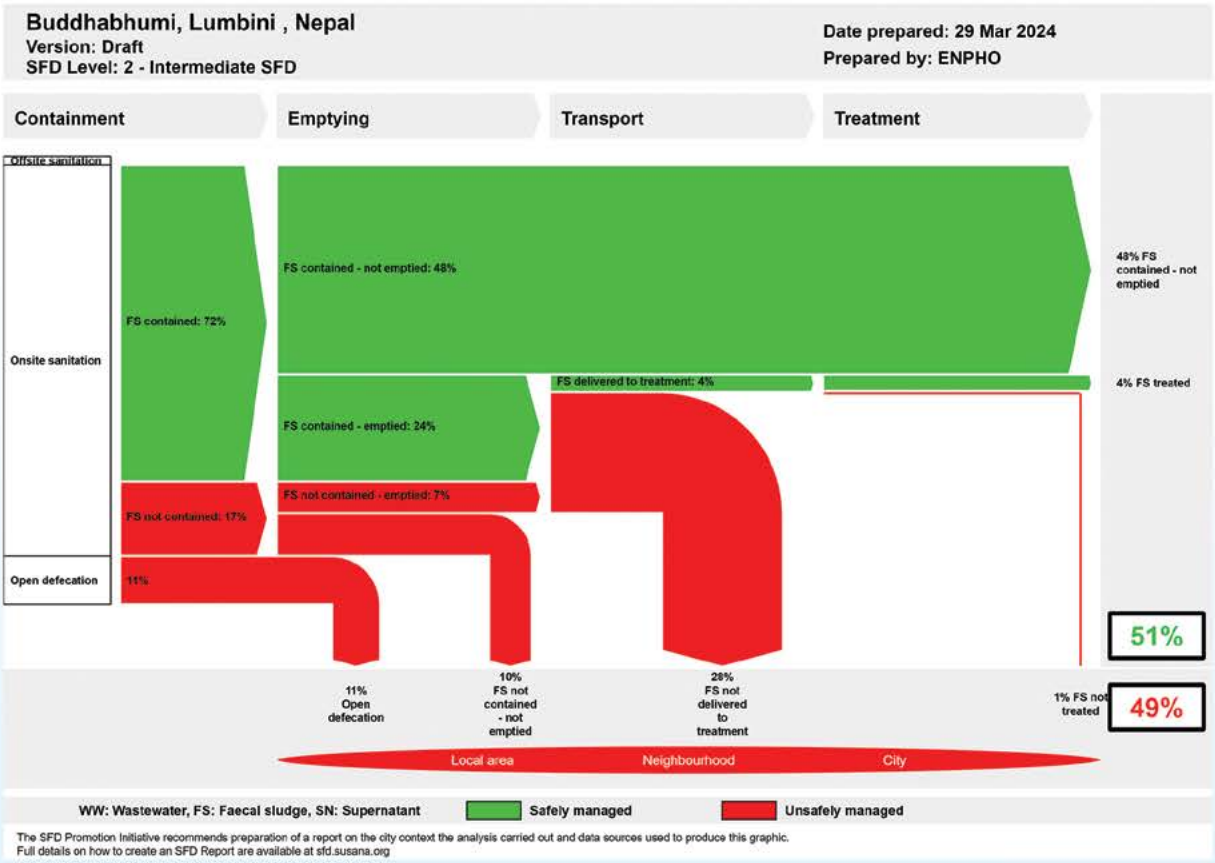
Disposal practice after manual emptying



SHIT FLOW DIAGRAM (SFD)

The SFD of Buddhabhumi Municipality visually represents the status of sanitation practices across the entire sanitation value chain. It shows that FS generated by 51% of the population is safely managed (Green). Initially, FS generated by 72% of the population is safely contained. However, this proportion drops to 48% which can be considered safe until emptied. The emptied FS remains safe depending upon the nature of the emptying mechanism and available treatment facilities. Out of the 24% safely contained FS which has been emptied, only 4% is delivered to treatment plant and treated, and this comes from a biogas digester. This highlights the necessity of safe emptying and treatment.

Overall, FS generated by 49% of the population is unsafely managed (Red). It includes 1% of FS not treated, 28% of FS not delivered to treatment plant, and 10% FS which is neither contained nor emptied. Additionally, 11% of the population practice open defecation that exacerbates the environmental risks. This highlights the significant gaps that must be addressed to mitigate environmental and public health risks associated with inadequate FS management practices.

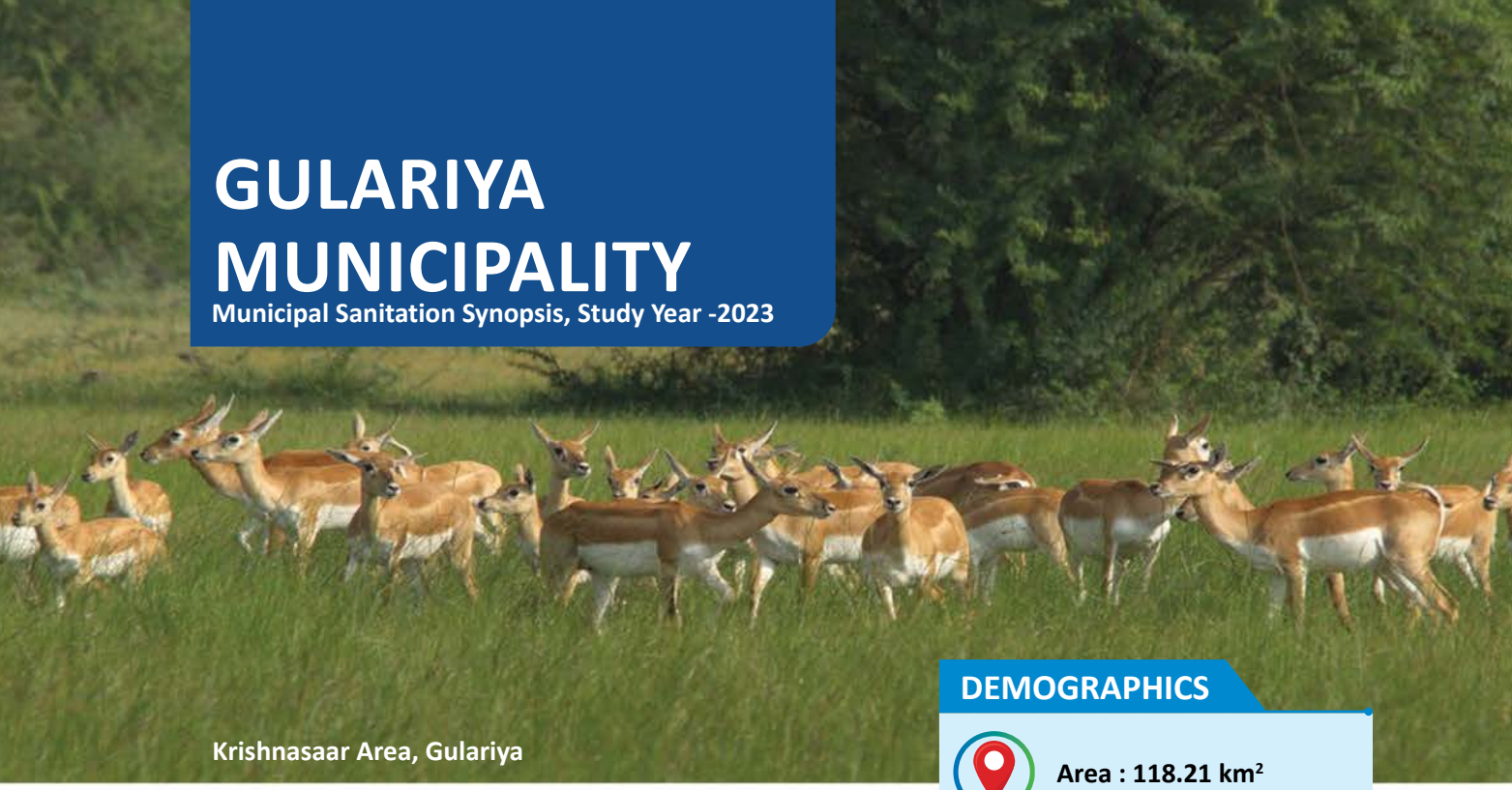


RECOMMENDATIONS

- Strengthen enforcement of ODF activities and provide targeted support to households without toilets to ensure complete access and eliminate open defecation.
- Replace and retrofit the unsafe containment systems to safer techniques and technologies such as septic tanks, biogas digesters and twin pits.
- Formulate and enforce comprehensive sanitation policies and regulations to ensure safer sanitation practices in the municipality.

GULARIYA MUNICIPALITY

Municipal Sanitation Synopsis, Study Year -2023



Krishnasaar Area, Gulariya

DEMOGRAPHICS

Area : 118.21 km²

POPULATION : 74,505
Male : 36,727
Female : 37,778

Household : 16002

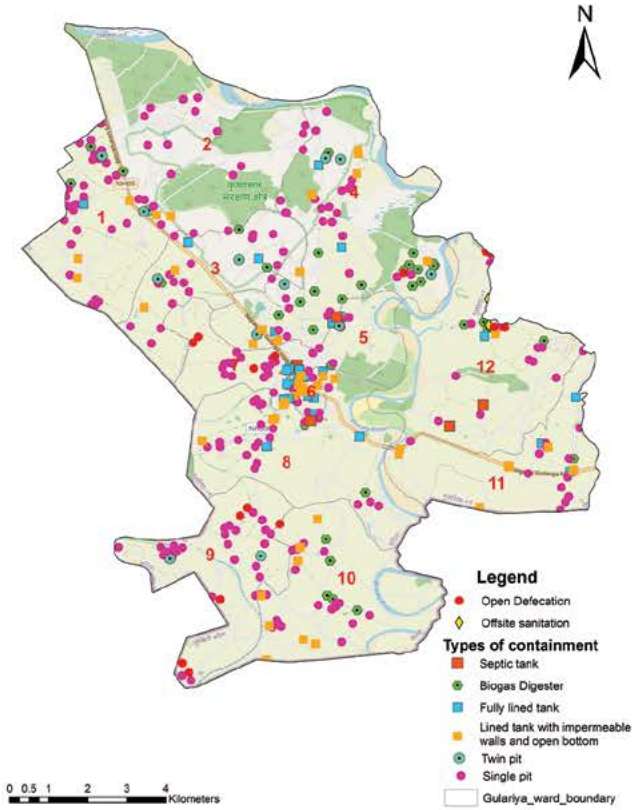
Wards : 12

Source: Census 2021

CITY PROFILE

Gulariya Municipality is located in Bardiya District of Lumbini Province, Nepal. The topography, situated in the west Terai region, features fertile plains along the Babai River. It lies at an altitude of 145 metres above sea level and has geographical coordinates ranging from 28° 08' 01" to 28° 17' 12" N latitude and 81° 16' 49" to 81° 24' 28" E longitude.

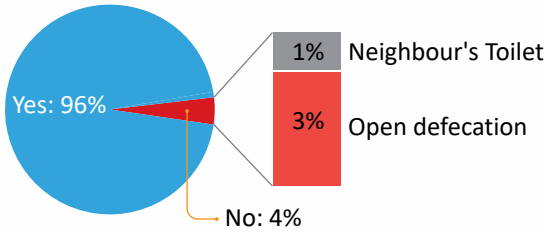
Types of sanitation technologies at households in Gulariya Municipality



USER INTERFACE FACILITY

Gulariya Municipality was declared as an Open Defecation Free (ODF) zone in May 2015. However, the survey reveals that 4% of the HHs do not have access to toilets and practice open defecation. Despite laws prohibiting the direct discharge of blackwater to stormwater/open drains, 1% of toilets have such illegal connections.

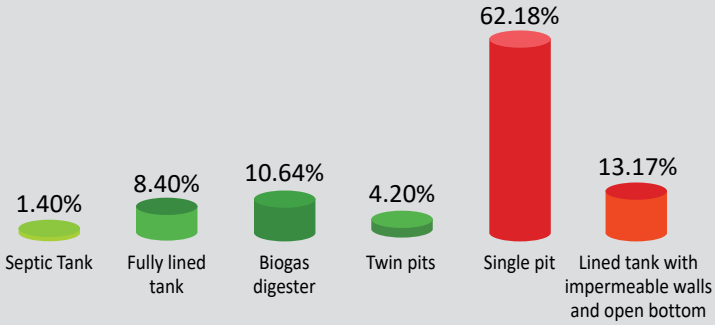
Sanitation Facility



CONTAINMENT

A small proportion of HHs have installed safer sanitation technologies such as septic tanks, biogas digesters and twin pits. While majority of HHs use single pit followed by lined tanks with impermeable walls and open bottom which contributes on groundwater contamination through leachate percolation. Additionally, few proportion of HHs also use fully lined tanks.

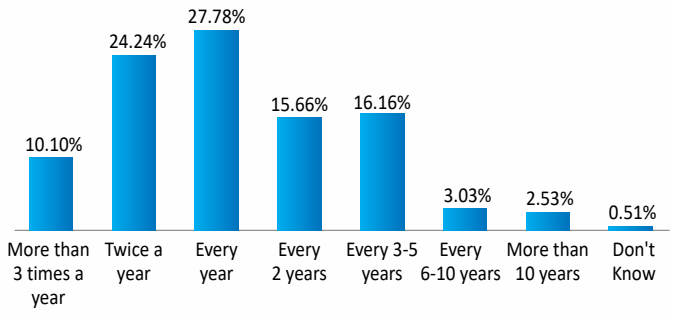
Types of containment



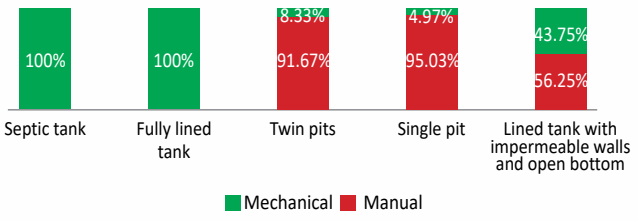
EMPTYING AND TRANSPORTATION

About 62.07% of the households have emptied their containments at least once since installation. Single pits and twin pits require frequent emptying due to their small size and are emptied manually. Most of these containments are emptied at an interval of a year. Despite the availability of mechanical desludging vehicle in the municipality, there is common use of low wage traditional sanitation workers contributing to manual emptying practice.

Emptying Frequency



Emptying Mechanism



12.6% of HHs emptied FS mechanically (Municipal desludging vehicle).

87.4% of HHs emptied FS manually (Self-emptying or traditional sanitation workers).

Details of desludging service providers

Service Provider	Municipality
No. of service provider	1
No. of vehicles	1
Capacity of vehicles (litres)	5,000
Average number of trips per week per vehicle	2
Average service charge per trip (NPR)	3,500

ESTIMATION OF FAECAL SLUDGE

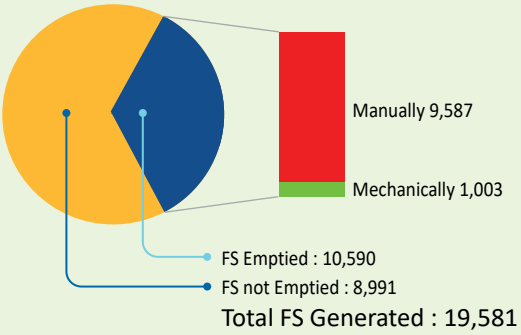
Total estimated volume of FS generation in the municipality: 19,581 m^3 per year which is 53.65 m^3 per day

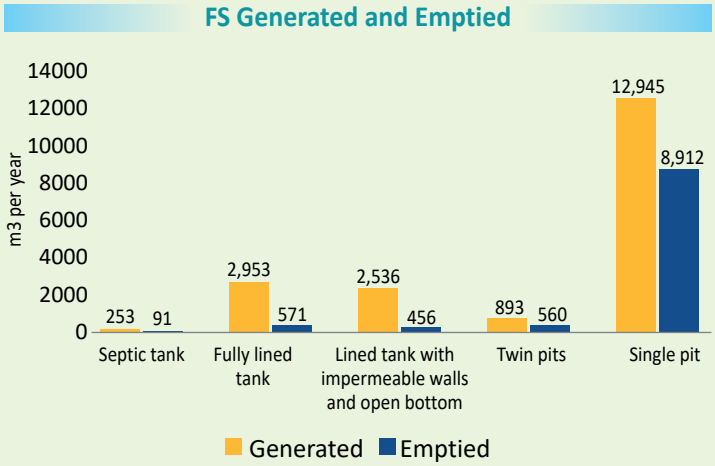
Total volume of FS emptied in the municipality: 10,590 m^3 per year which is 29.01 m^3 per day.

Total volume of FS emptied by mechanical desludging: 1,003 m^3 per year which is 2.75 m^3 per day.

Total volume of FS emptied by manual desludging: 9,587 m^3 per year which is 26.27 m^3 per day.

Summary of faecal sludge produced, emptied and transported in Gulariya Municipality (cubic meter)





TREATMENT

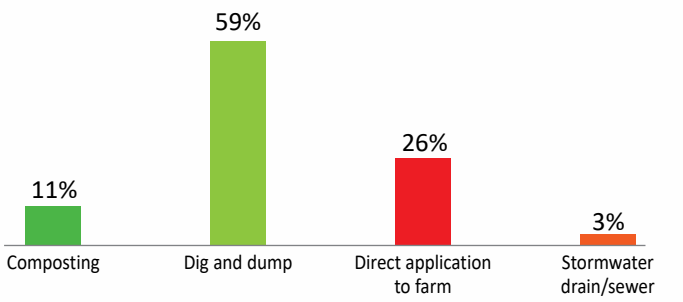
An innovative Faecal Sludge Treatment Plant (FSTP) has been established in Gulariya Municipality. It has been constructed to treat faecal sludge, converting it into a saleable resource, specifically compost.


Gulariya FSTP

SAFE DISPOSAL OR REUSE

The majority of manually emptied FS is dig and dump in available land, followed by direct application to farm, composting and illegal disposal in stormwater drain. Meanwhile, mechanically emptied FS is taken to treatment plant and manure is produced as byproduct. However, direct application to farmland and dispose to water bodies possesses significant risk to environment and public health.

Disposal practice after manual emptying

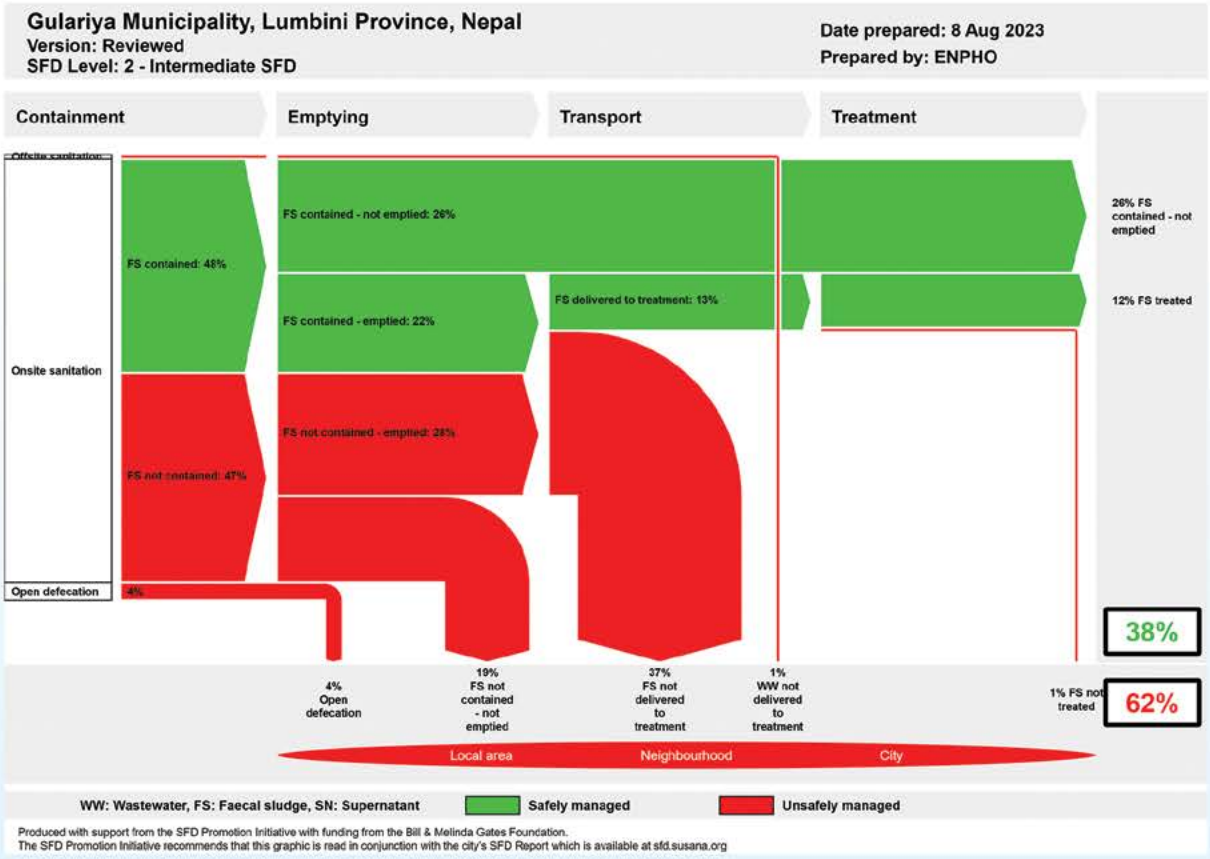



Compost production from FSTP

SHIT FLOW DIAGRAM (SFD)

The SFD of Gulariya Municipality visually represents the status of sanitation practices across the entire sanitation value chain. It shows that FS generated by 38% of the population is safely managed (Green). Initially, FS generated by 48% of the population is safely contained. However, this proportion drops to 26% which can be considered safe until emptied. The emptied FS remains safe depending upon the nature of the emptying mechanism and available treatment facilities. Out of the 22% of safely contained FS which has been emptied, only 13% is delivered to treatment plant and 12% are treated, primarily from biogas digesters and at the treatment plant.

Overall, FS generated by 62% of the population is unsafely managed (Red). It includes 1% of FS not treated, 1% of WW not treated, 37% of emptied FS (9% FS contained and 28% FS not contained) not delivered to treatment plant, and 19% of FS which is neither contained nor emptied. Additionally, 4% of the population practice open defecation exacerbating the environmental risks. This highlights the significant gaps that must be addressed to mitigate environmental and public health risks associated with inadequate FS management practices.

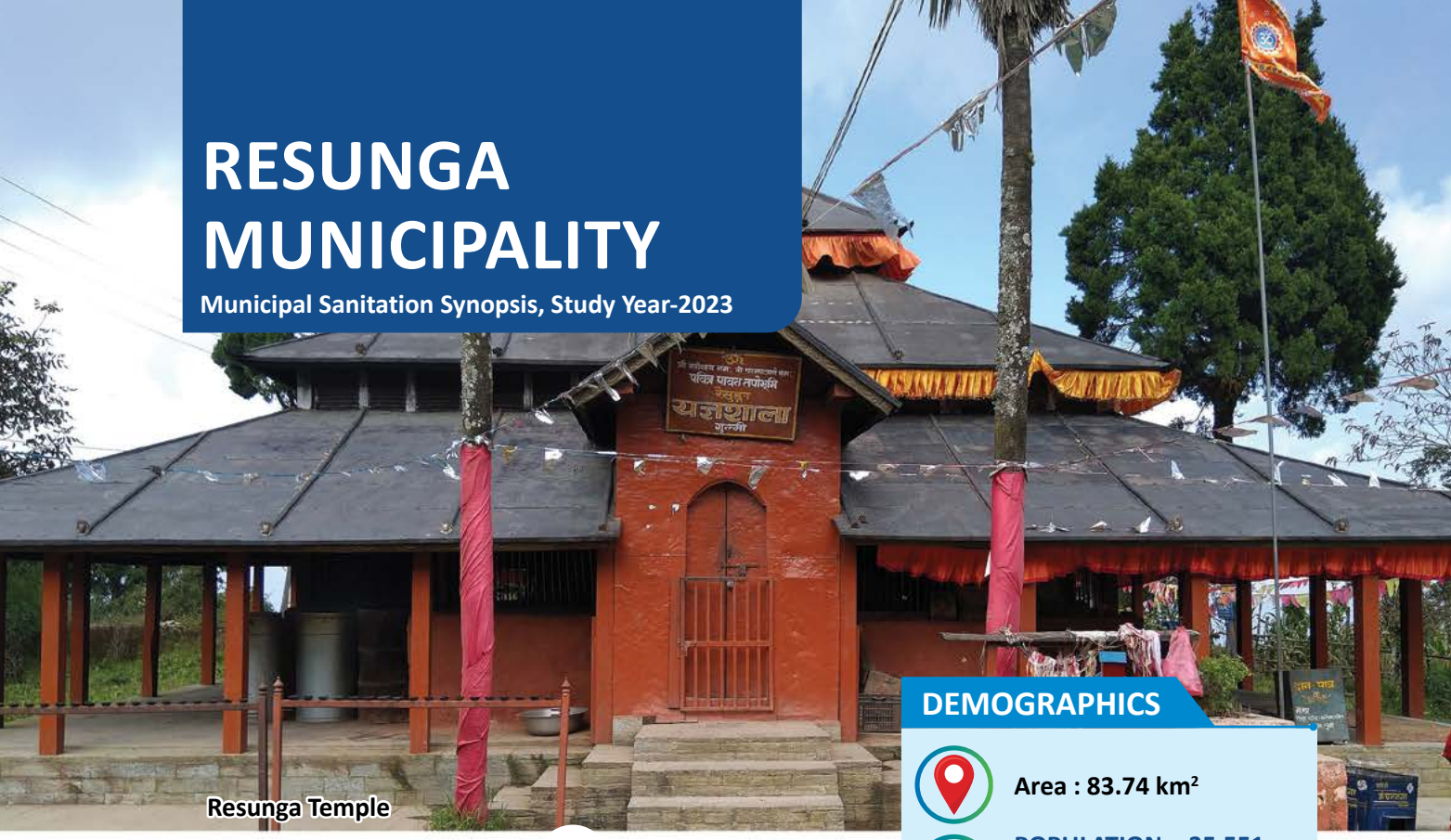


RECOMMENDATIONS

- Replace and retrofit the unsafe containment systems to safer techniques and technologies such as septic tanks, biogas digesters and twin pits.
- Increase promotion and accessibility of mechanized emptying services to enhance utilization of the FSTP of Gulariya Municipality.
- Formulate and enforce sanitation policies and regulations to ensure safe sanitation practices in the municipality.

RESUNGA MUNICIPALITY

Municipal Sanitation Synopsis, Study Year-2023



Resunga Temple

DEMOGRAPHICS

Area : 83.74 km²

POPULATION : 35,551
Male : 14,550
Female : 17,001

Household : 9,015

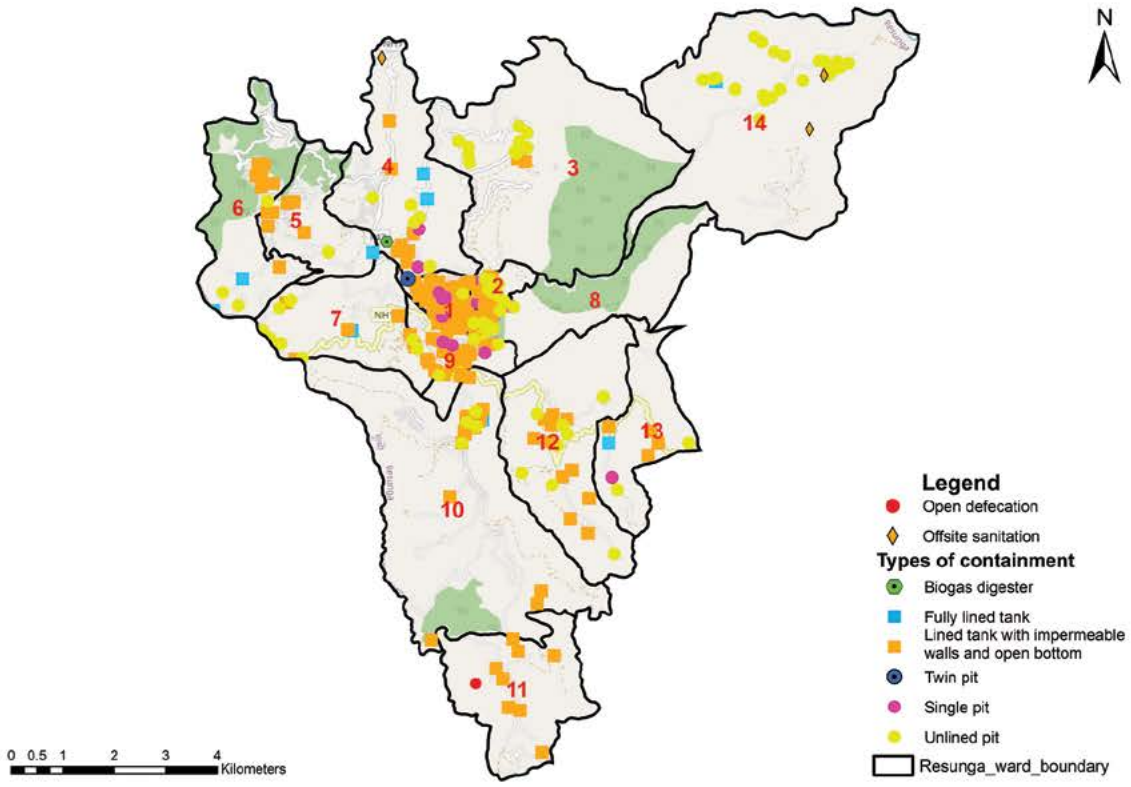
Wards : 14

Source: Census 2021

CITY PROFILE

Resunga Municipality is located in Gulmi District of Lumbini Province in Nepal. It spans from 27° 58' 60" to 28° 07' 60" N latitude and 83° 11' 60" to 83° 18' 60" E longitude. The municipality's elevation ranges from 645 to 2,325 metres above sea level.

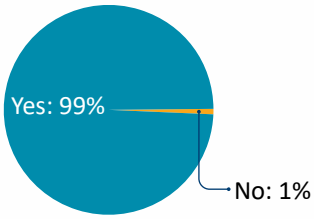
Types of sanitation technologies at households in Resunga Municipality.



USER INTERFACE FACILITY

Resunga Municipality attained Open Defecation Free (ODF) status on 11 July 2015. However, a HH survey revealed that 1% of HHs still lack access to toilet and practice open defecation. Moreover, 1% of HHs have offsite sanitation system.

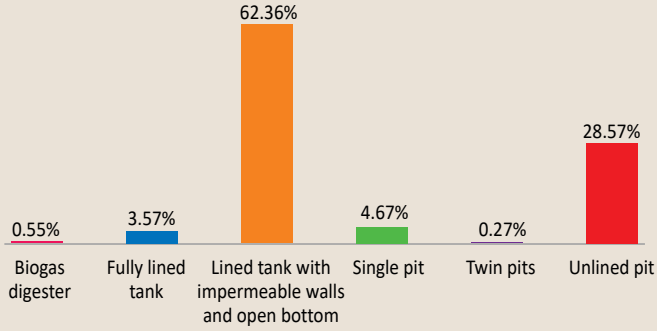
Sanitation Facility



CONTAINMENT

The majority of HHs rely on lined tanks with impermeable walls and open bottom and unlined pits. Also, few HHs rely on single pits. These containments have permeable base, allowing leachate percolation and possessing a risk to groundwater contamination. However, limited HHs have opted for technologies such as biogas digesters, fully lined tanks and twin pits that stores FS safely. While biogas digesters and twin pits are safe technology options.

Types of containment



EMPTYING AND TRANSPORTATION

According to the survey, only 11% of the HHs have emptied their containments at least once since installation. HHs typically empty their containments at an interval of every 3 to 5 years or every 6 to 10 years. Also, a significant proportion of households empty their containments in more than 10 years of interval. The desludging services are provided solely by the municipality. Moreover, manual emptying is prevalent in the municipality.

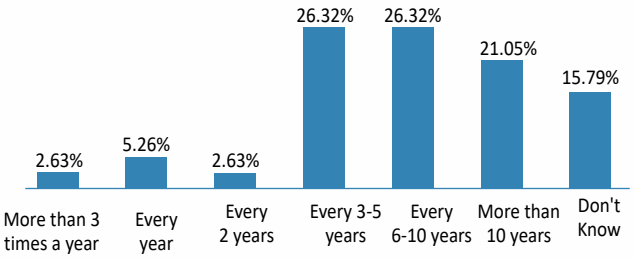
37% of HHs emptied FS mechanically (Municipal desludging service provider).

63% of HHs emptied FS manually (Self or traditional sanitation workers).

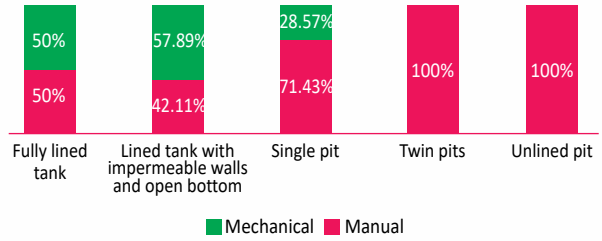
Details of desludging service providers

Service Provider	Municipality
No. of service provider	1
No. of vehicles	1
Capacity of vehicle (litres)	2,500
Average number of trips per week per vehicle	1
Average service charge (NPR)	Rectangular containments- 2,000-2,500 per trip Circular pits- 300 per ring

Emptying Frequency



Emptying mechanism of containments



Desludging vehicle of Resunga Municipality

ESTIMATION OF FAECAL SLUDGE

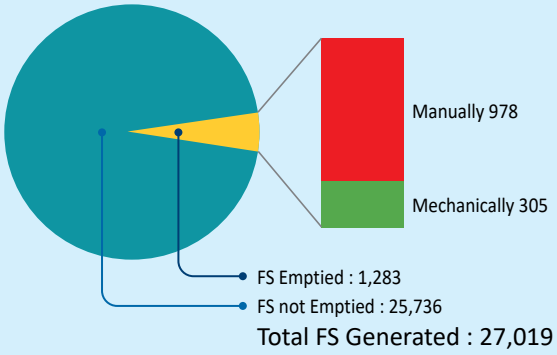
Total estimated volume of FS generation in the municipality: 27,019 m^3 per year which is 74.1 m^3 per day.

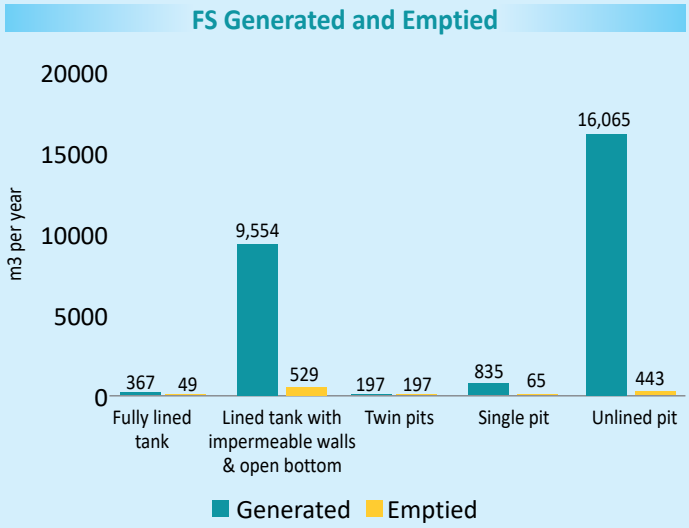
Total volume of FS emptied in the municipality: 1,283 m^3 per year which is 3.52 m^3 per day.

Total volume of FS emptied by mechanical desludging: 978 m^3 per year which is 2.68 m^3 per day.

Total volume of FS emptied by manual desludging: 305 m^3 per year which is 1 m^3 per day.

Summary of faecal sludge produced, emptied and transported in Resunga Municipality (cubic meter)

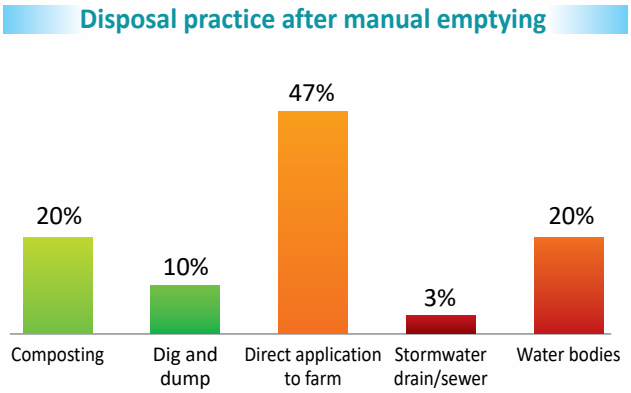




SAFE DISPOSAL OR REUSE

The municipality does not have faecal sludge treatment plant however, a designated place is available for disposal of solid waste and faecal sludge. Here, mechanically emptied faecal sludge is usually disposed of in the designated site. While manually emptied FS is often used as compost, directly applied to farm, dig and dump, and some are discharged into water bodies and stormwater drain without proper treatment. However, direct application to farmland and dispose to water bodies possesses significant risk to environment and public health.

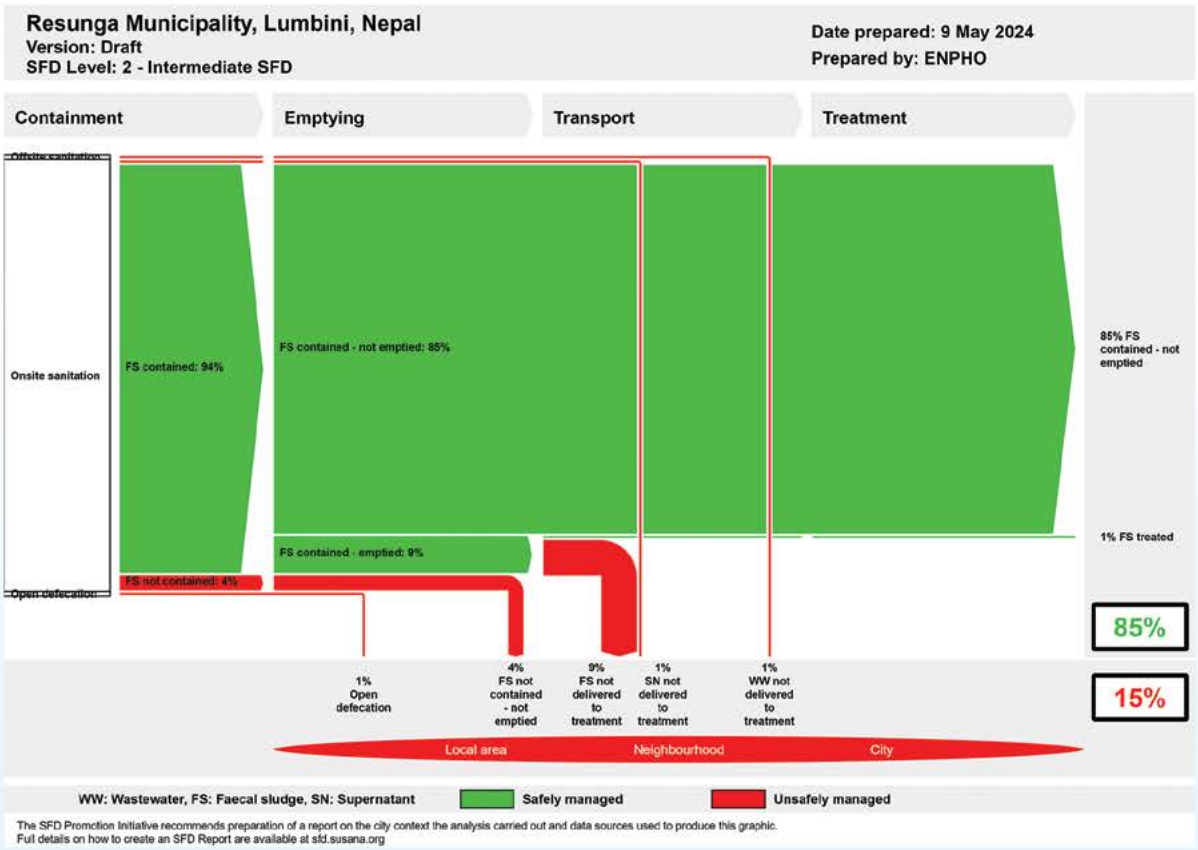
Solid waste and faecal sludge disposal site of Resunga Municipality



SHIT FLOW DIAGRAM (SFD)

The SFD of Resunga Municipality visually represents the status of sanitation practices across the entire sanitation value chain. It shows that FS generated by 85% of the population is safely managed (Green). Initially, 94% of faecal sludge (FS) is safely contained. However, this proportion drops to 85% after emptying while considering the unemptied FS is safe. Only 1% of FS undergoes proper treatment with availability of biogas digester at HHs. This points out the necessity of proper emptying and treatment of FS.

Overall, FS from 15% of the population is unsafely managed (Red). It includes 4% of FS neither contained nor emptied, 9% FS not delivered to treatment, 1% of Supernatant (SN) and 1% of Wastewater (WW) is discharged untreated into the environment, possessing risks of pollution. Moreover, 1% of the population still practice open defecation exacerbating sanitation challenges. This highlights significant gaps that must be addressed to mitigate environmental and public health risks associated with inadequate FS management practices.

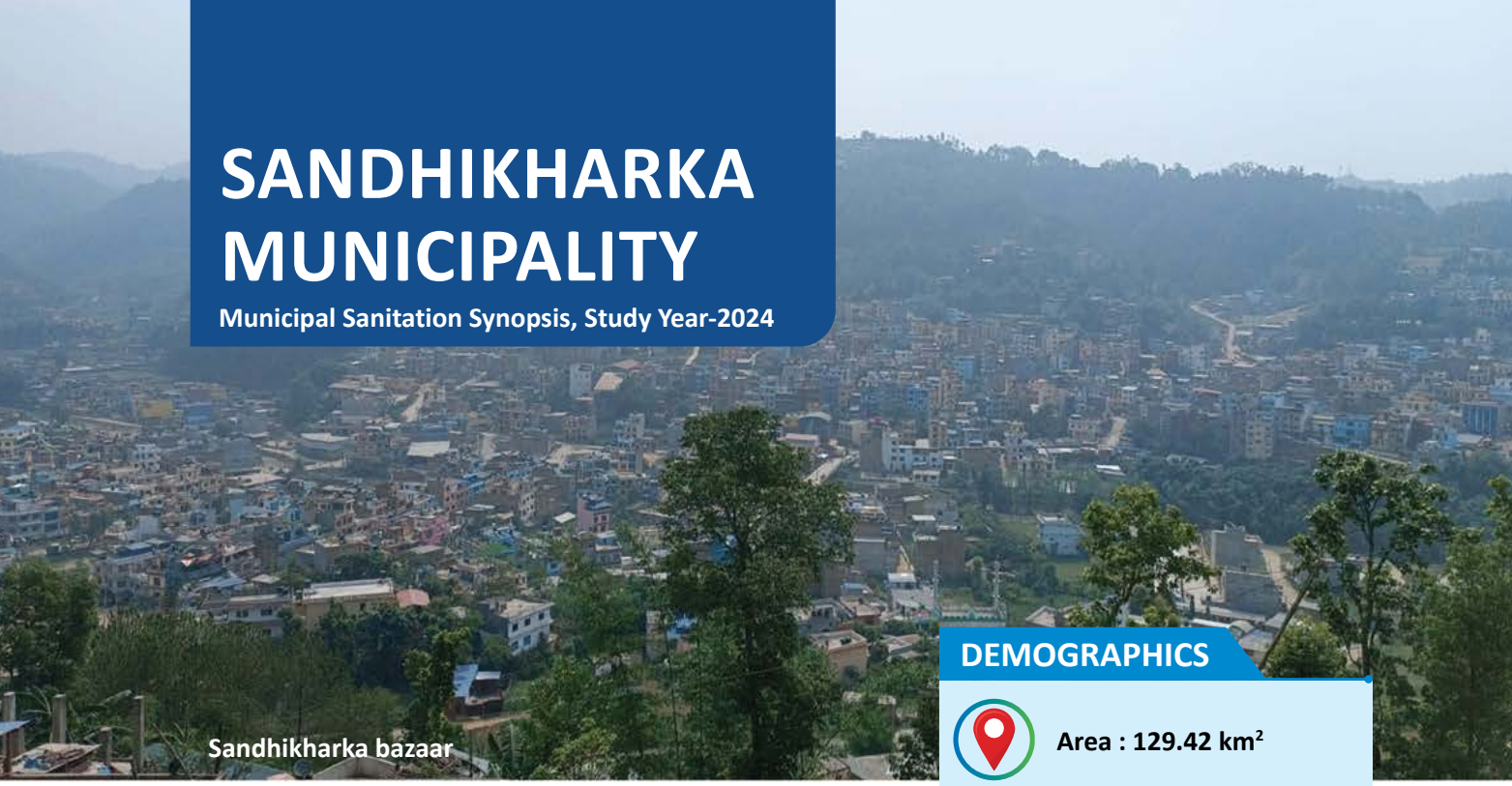


RECOMMENDATIONS

- Replace and retrofit the unsafe containment systems to safer techniques and technologies such as septic tanks, biogas digesters and twin pits.
- Promote mechanical desludging services in the municipality to address the current gap in sanitation value chain.
- Construct a faecal sludge treatment plant to manage FS effectively.
- Formulate and enforce sanitation policies and regulations to ensure safe sanitation practices in the municipality.

SANDHIKHARKA MUNICIPALITY

Municipal Sanitation Synopsis, Study Year-2024



Sandhikharka bazaar

DEMOGRAPHICS

Area : 129.42 km²

POPULATION : 42,492
Male : 19,490
Female : 23,002

Household : 12,070

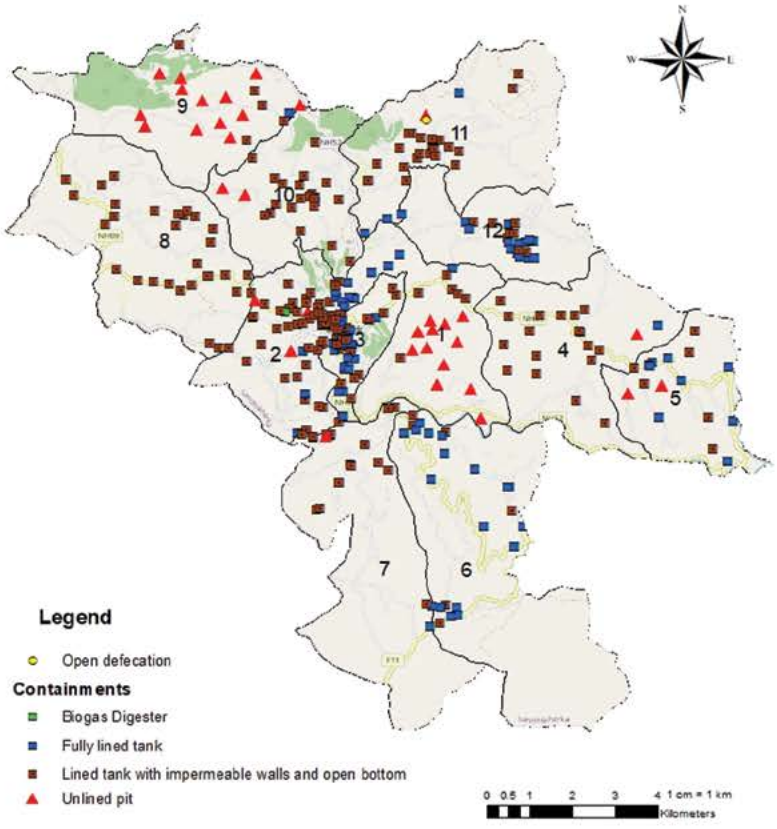
Wards : 12

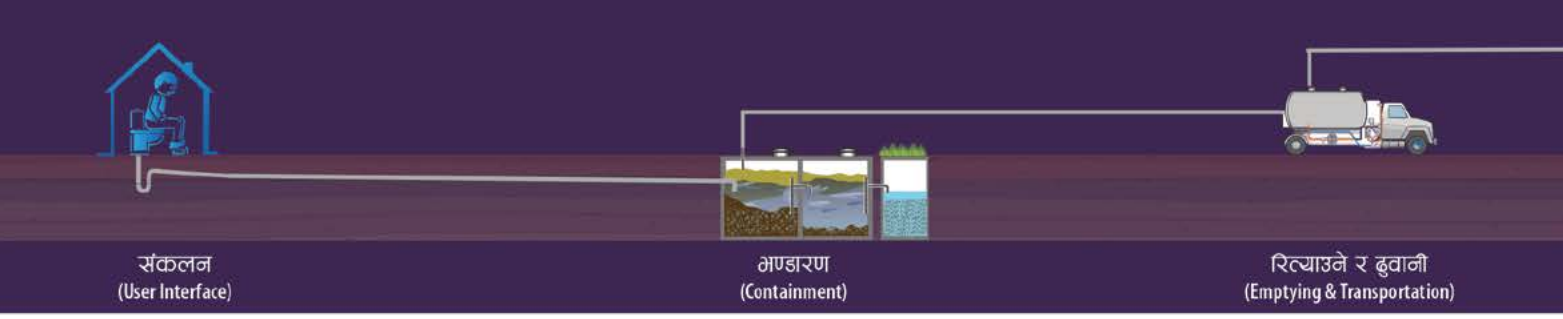
Source: Census 2021

CITY PROFILE

Sandhikharka is an urban municipality located in Arghakhanchi District of Lumbini Province. It is situated at an altitude ranging from 940 to 1,280 meters above mean sea level and has geographical coordinates between 27° 57' 21" to 27° 59' 56" N latitude and 83° 06' 30" to 83° 08' 48" E longitude.

Types of sanitation technologies at households in Sandhikharka Municipality

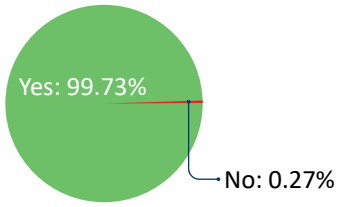




USER INTERFACE FACILITY

Sandhikharka Municipality attained Open Defecation Free (ODF) status in 2013 A.D. However, 0.27% of the households still do not have access to toilets, resorting to open defecation.

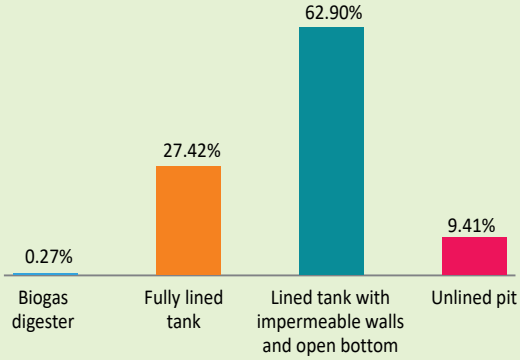
Sanitation Facility



CONTAINMENT

The survey shows that the majority of the HH in the municipality have lined tank with impermeable walls and open bottom, and about one-tenth installed unlined pit. These containments possess high risk of water source contamination due to leachate percolation from their permeable base. Only a small proportion of HHs have constructed biogas digester, and fully lined tanks. Biogas can be considered safe as it can treat the FS through its anaerobic digestion process, generating biogas as a byproduct.

Types of containment

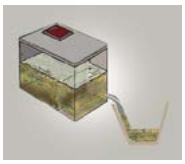


EMPTYING AND TRANSPORTATION

The survey reveals that 8.87% of the HHs have emptied their containments at least once since installation. Usually, containments are emptied at an interval of more than 5 years. Only 27.27% of the containments are emptied at an interval of 3 to 5 years. The emptying mechanism of containments is illustrated in the graph. The private desludger from Buddhabhumi Municipality, serves at Sandhikharka Municipality in an on-demand basis.

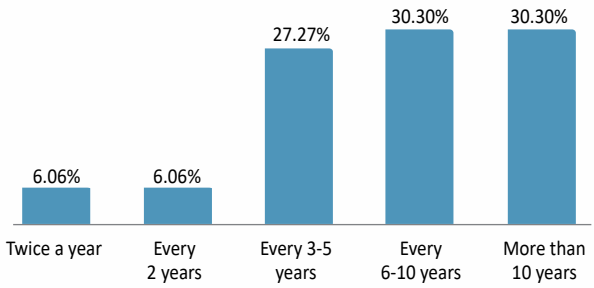
27.27% of HHs emptied FS mechanically (Private desludging service providers of neighbouring municipalities)

63.64% of HHs emptied FS manually (self-emptying or traditional sanitation workers)

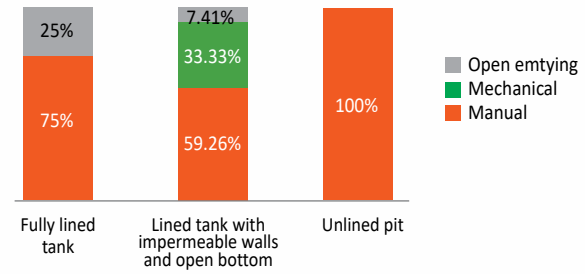


9.09% practice open emptying where, FS is disposed into an open drain during rainy season.

Emptying Frequency



Emptying mechanism



Discharge of FS in an open drain

ESTIMATION OF FAECAL SLUDGE

Total estimated volume of FS generation in the municipality: 21,380 m^3 per year which is 58.6 m^3 per day

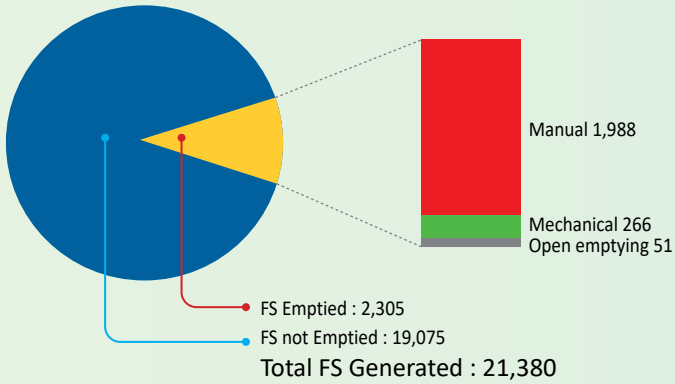
Total volume of FS emptied in the municipality: 2,305 m^3 per year which is 6.3 m^3 per day.

Total volume of FS emptied by mechanical desludging FS: 266 m^3 per year which is 0.7 m^3 per day.

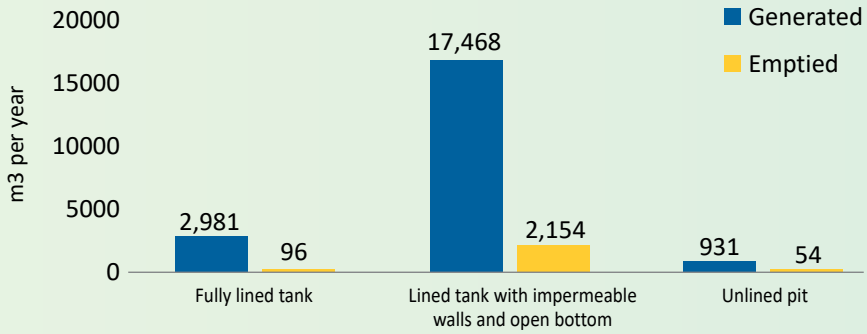
Total volume of FS emptied by manual desludging: 1,988 m^3 per year which is 5.4 m^3 per day.

Total volume of FS emptied by open emptying: 51 m^3 per year which is 0.1 m^3 per day.

Summary of faecal sludge produced, emptied and transported in Sandhikharka Municipality (cubic meter)



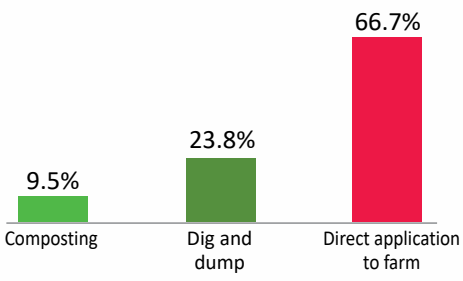
FS Generated and Emptied



SAFE DISPOSAL OR REUSE

The municipality does not have faecal sludge treatment plant (FSTP). The mechanically emptied FS by neighboring desludging vehicle is disposed of in the forest areas or water bodies, while manually emptied FS is directly applied in farm, dig and dump or practice composting. Direct application to farmland possesses significant risk to environment and public health.

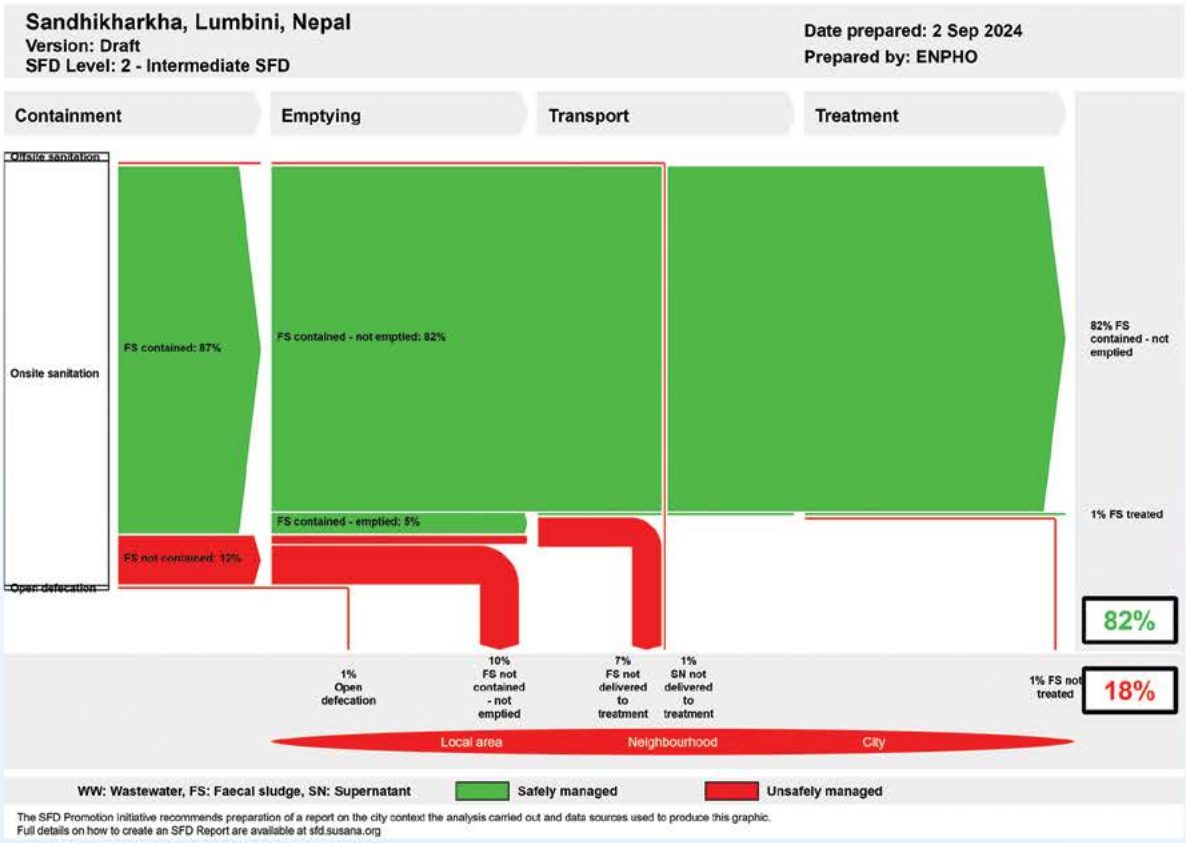
Disposal practice after manual emptying



SHIT FLOW DIAGRAM (SFD)

The SFD of Sandhikharka Municipality visually represents the status of sanitation practices across the entire sanitation value chain. It shows that FS generated by 82% of the population is safely managed (Green). Initially, FS generated by 87% of the population is safely contained. However, this proportion drops to 82% which can be considered safe until emptied. The emptied FS remains safe depending upon the nature of the emptying mechanism and available treatment facilities. Out of 5% safely contained FS which has been emptied, only 1% is treated, and this comes from a biogas digester. This highlights the necessity of safe emptying and treatment.

Overall, FS generated by 18% of the population is unsafely managed (Red). It includes 7% of FS is not delivered to treatment plant, 1% FS remains untreated, 1% SN not delivered to treatment plant and 10% FS is neither contained nor emptied. Additionally, 1% of the population still openly defecates exacerbating the environmental risks. This highlights the significant gaps that must be addressed to mitigate environmental and public health risks associated with inadequate FS management practices.

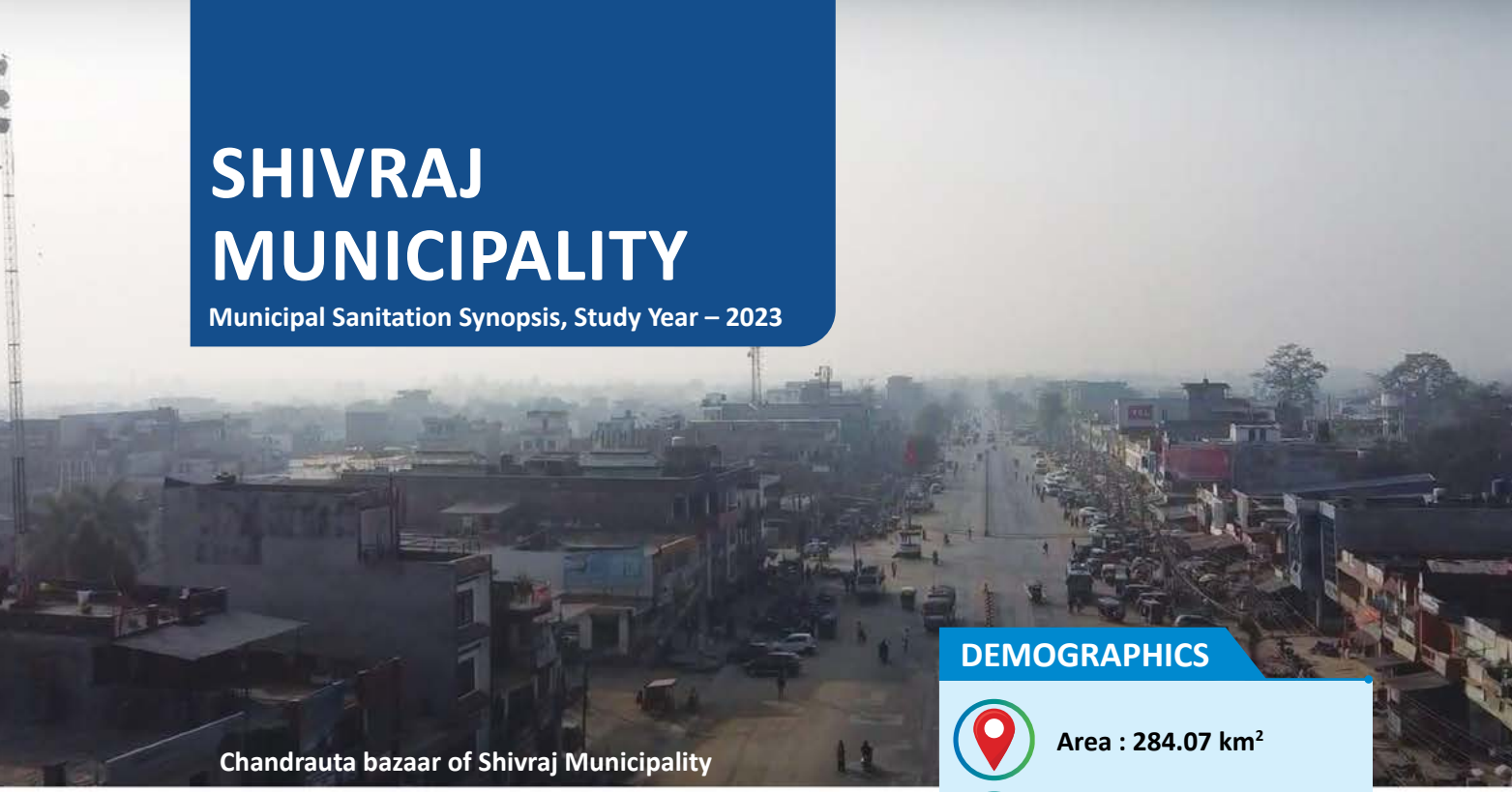


RECOMMENDATIONS

- Replace and retrofit unsafe containments with appropriate sanitation techniques and technologies such as septic tanks, biogas digesters, and twin pits to ensure protection of groundwater sources.
- Promote mechanical desludging services in the municipality to address the current gap in sanitation value chain.
- Construct a faecal sludge treatment plant to manage FS effectively.
- Formulate and enforce sanitation policies and regulations to ensure safe sanitation practices in the municipality.

SHIVRAJ MUNICIPALITY

Municipal Sanitation Synopsis, Study Year – 2023



Chandrauta bazaar of Shivraj Municipality

DEMOGRAPHICS

Area : 284.07 km²

POPULATION : 84,810
Male : 41,328
Female : 43,482

Household : 16,241

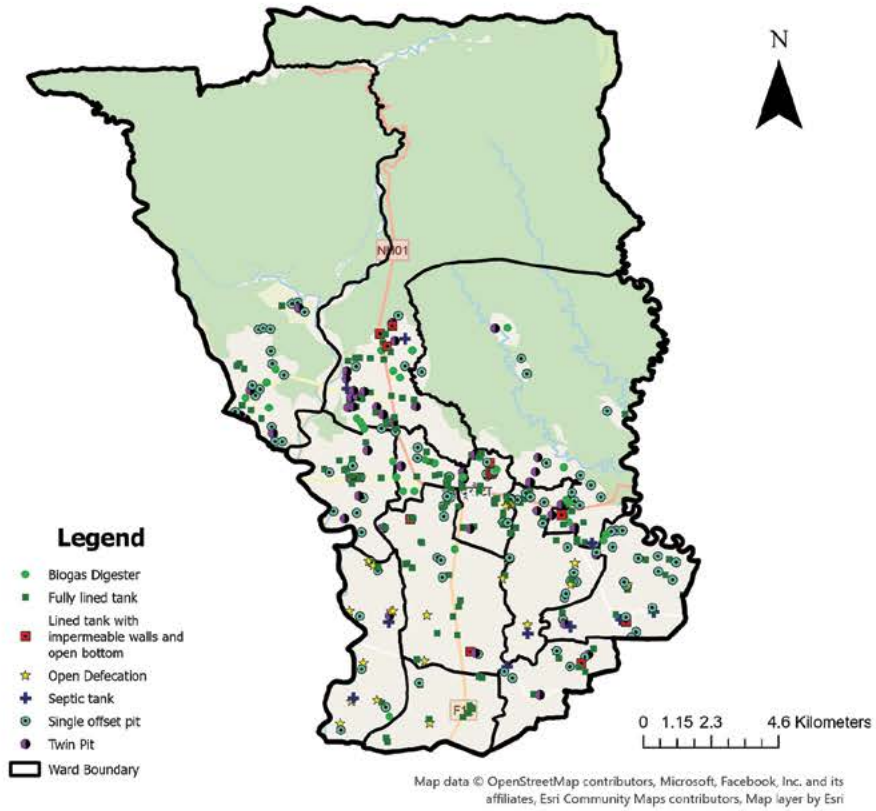
Wards : 11

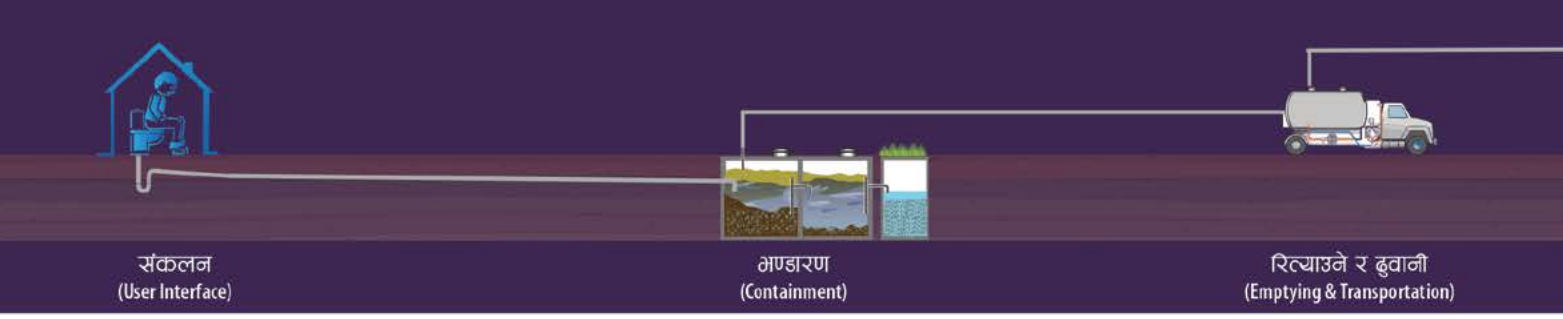
Source: Census 2021

CITY PROFILE

Shivraj Municipality lies in the Kapilvastu District of Lumbini Province, Nepal. The municipality is situated from 27° 34' 06" to 27° 47' 44" N latitude, 82° 43' 52" to 82° 56' 07" E longitude and at an altitude of 700 to 1,000 meters above sea level, featuring flat terrain and chure hill.

Types of sanitation technologies at households in Shivraj Municipality

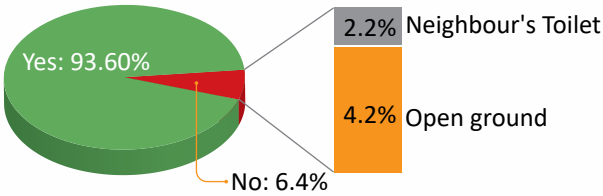




USER INTERFACE FACILITY

Shivraj Municipality was declared as an Open Defecation Free (ODF) zone on 17 September 2019. However, the survey reveals that 6.40% of the HHs in the municipality do not have access to toilet resorting to open defecation.

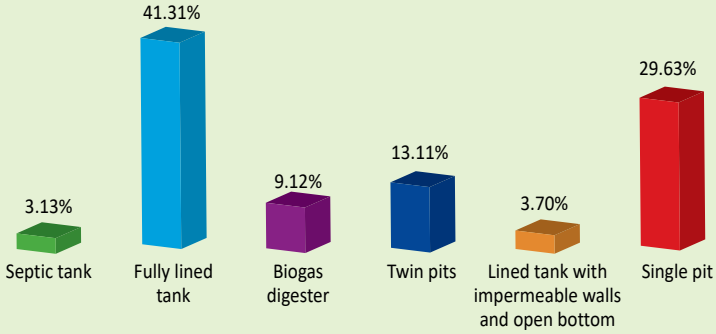
Sanitation Facility



CONTAINMENT

Most HHs rely on fully lined tanks while a smaller percentage of households use safe sanitation systems such as twin pits, biogas digesters, and septic tanks. A significant percentage still use sanitation systems, like single pits and lined tanks with impermeable walls and open bottoms, which can cause groundwater pollution due to leachate percolation.

Types of containment



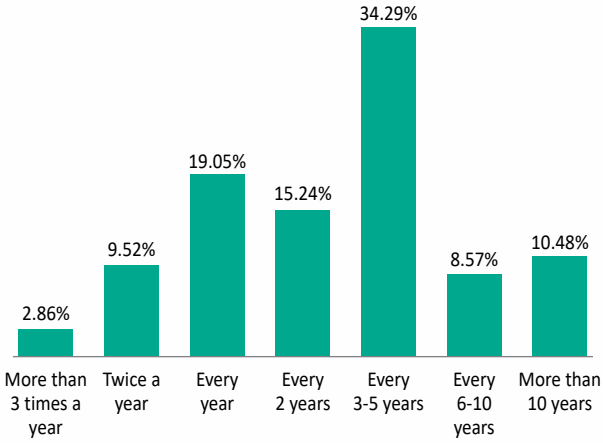
EMPTYING AND TRANSPORTATION

Only 39.03% of the HHs have emptied their containments at least once since installation. The containments are usually emptied at an interval of every 3 to 5 years. Most of the containments are mechanically emptied, but small percentage of fully lined tanks and lined pits with semi-permeable walls and open bottom (single pit and twin pits) are manually emptied.

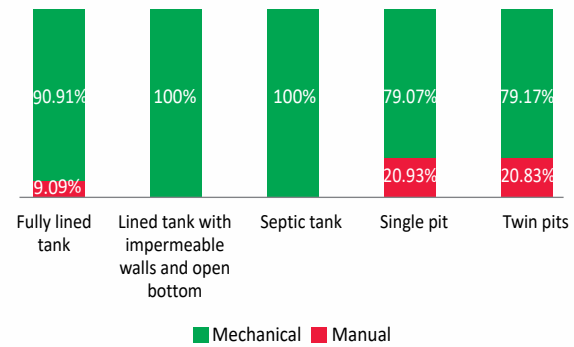
83.81% of HHs emptied FS mechanically (Private desludging service providers).

16.19% of HHs emptied FS manually (Self or using traditional sanitation workers).

Emptying Frequency



Emptying mechanism



Details of desludging service providers

Service Provider	Private
No. of service provider	3
No. of vehicles	3
Capacity of vehicle (litres)	4,000
Average number of trips per day per vehicle	1
Average service charge (NPR)	Rectangular containments- 2,000-2,500 per trip Circular pits- 300 per ring

ESTIMATION OF FAECAL SLUDGE

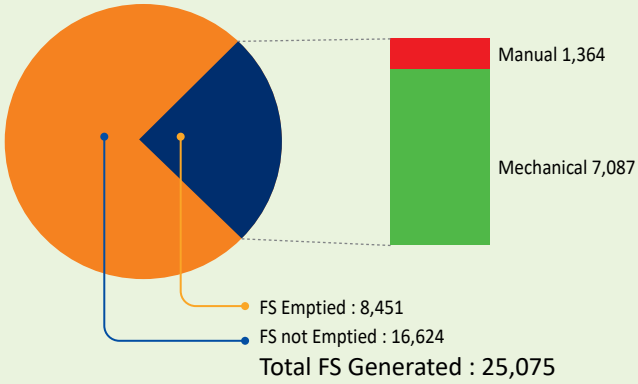
Total estimated volume of FS generation in the municipality: 25,075 m^3per year which is 68.70 m^3 per day

Total volume of FS emptied in the municipality: 8,451 m^3 per year which is 23.15 m^3 per day.

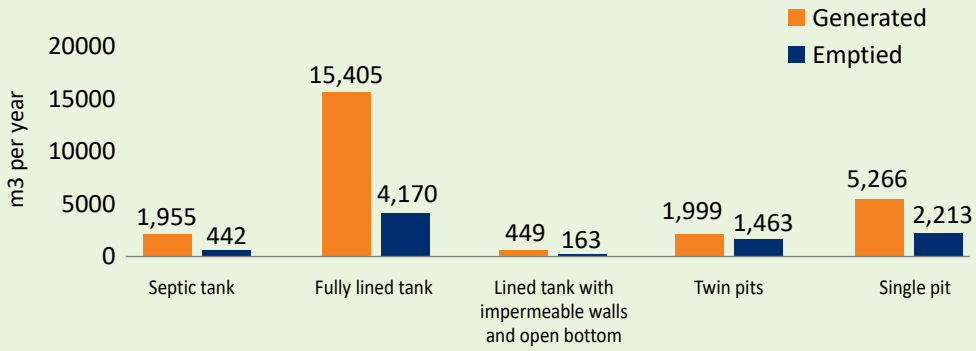
Total volume of FS emptied by mechanical desludging: 7,087 m^3 per year which is 19.42 m^3 per day.

Total volume of FS emptied by manual desludging: 1,364 m^3 per year which is 3.74 m^3 per day

Summary of faecal sludge produced, emptied and transported in Shivraj Municipality (cubic meter)



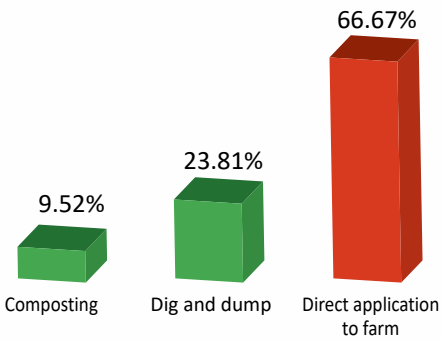
FS Generated and Emptied



SAFE DISPOSAL OR REUSE

The municipality lacks a faecal sludge treatment plant. The mechanically emptied FS is illegally dumped into water bodies, open environment, and some apply it in farmlands. Meanwhile, the majority of manually emptied FS is directly applied to farmlands followed by dig and dump and composting. However, direct application to farmland and disposal to water bodies possesses significant risk to environment and public health.

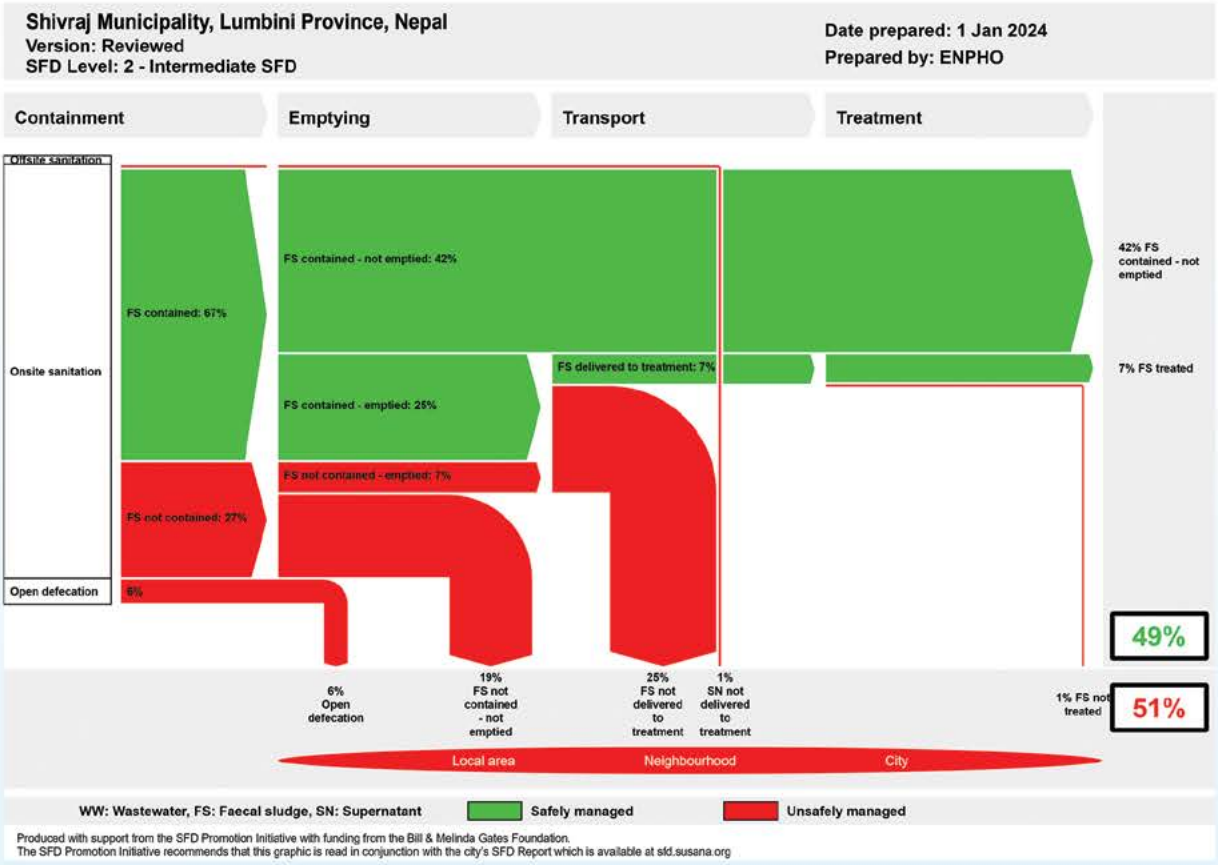
Disposal practice after manual emptying



SHIT FLOW DIAGRAM (SFD)

The SFD of Shivraj Municipality visually represents the status of sanitation practices across the entire sanitation value chain. It shows that FS generated by 49% of the population is safely managed (Green). Initially, FS generated by 67% of the population is safely contained. However, this proportion drops to 42% which can be considered safe until emptied. The emptied FS remains safe depending upon the nature of the emptying mechanism and available treatment facilities. Out of the 25% safely contained FS which has been emptied only 7% is treated, and this comes from a biogas digester. This highlights the necessity of safe emptying and treatment.

Overall, FS generated by 51% of the population is unsafely managed (Red). It includes 1% of SN not delivered to treatment plant, 25% of emptied FS (18% FS contained and 7% FS not contained) not delivered to treatment plant, 1% FS not treated, and 19% FS which is neither contained nor emptied. Additionally, 6% of the population still openly defecates, exacerbating the environmental risks. This highlights the significant gaps that must be addressed to mitigate environmental and public health risks associated with inadequate FS management practices.



RECOMMENDATIONS

- Replace and retrofit the existing unsafe containment systems to safer techniques and technologies such as septic tanks, biogas digesters and twin pits.
- Implement regulations or building codes mandating the use of safe sanitation systems in new construction or renovations.
- Advocate for the formal registration and regulation of private desludging service providers operating within the municipality.
- Formulate and enforce sanitation policies and regulations to ensure safe sanitation practices in the municipality.

SUNWAL MUNICIPALITY

Municipal Sanitation Synopsis, Study Year-2023

Sunwal Municipal Office

DEMOGRAPHICS

Area : 139.10 km²

POPULATION : 72,085
Male : 33,793
Female : 38,292

Household : 17,418

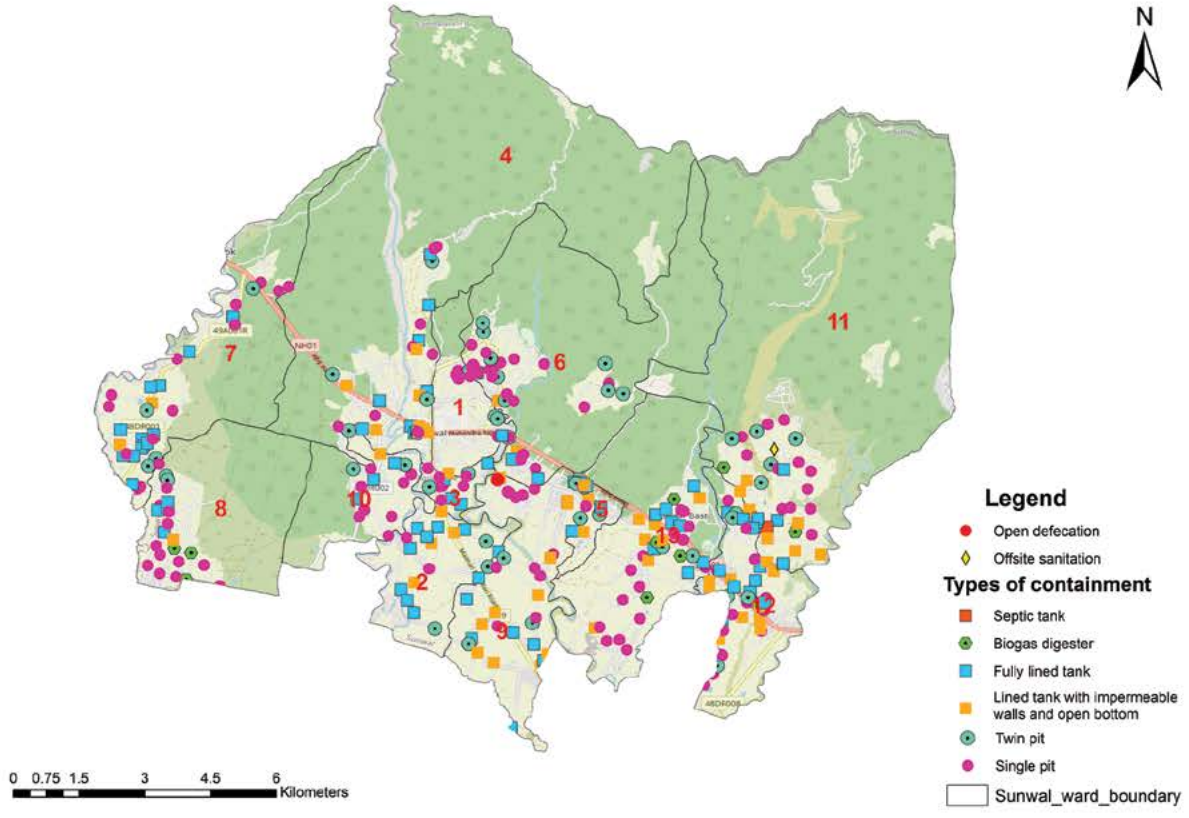
Wards : 13

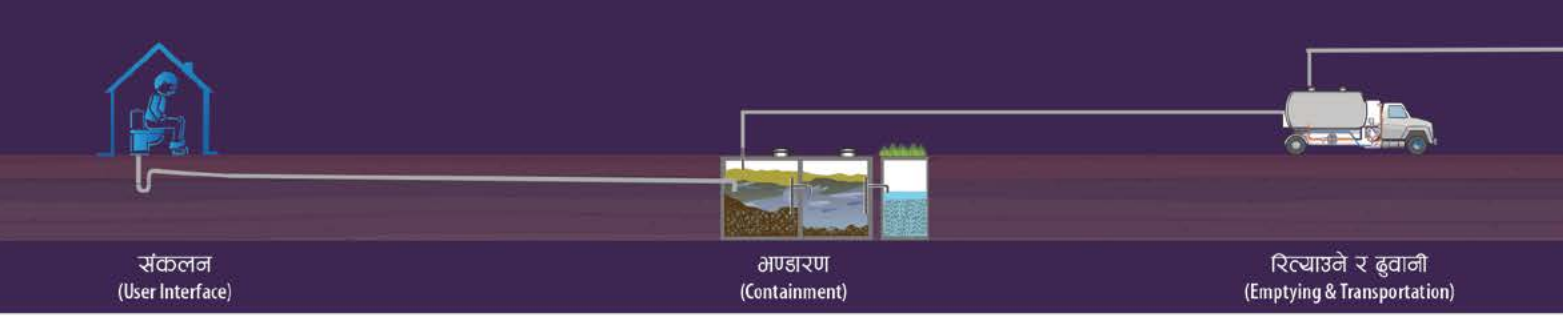
Source: Census 2021

CITY PROFILE

Sunwal Municipality is located in Nawalparasi District of Lumbini Province in the southwestern region of Nepal. It lies at 27° 36' 21" N latitude, 83° 38' 27" E longitude and at an altitude of 138 to 1,023 meters above sea level.

Types of Sanitation Technologies at households in Sunwal Municipality

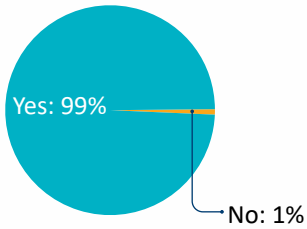




USER INTERFACE FACILITY

Sunwal Municipality attained Open Defecation Free (ODF) status on 30 June 2015. However, a HH survey revealed that 1% of HHs still lack access to toilet and practice open defecation.

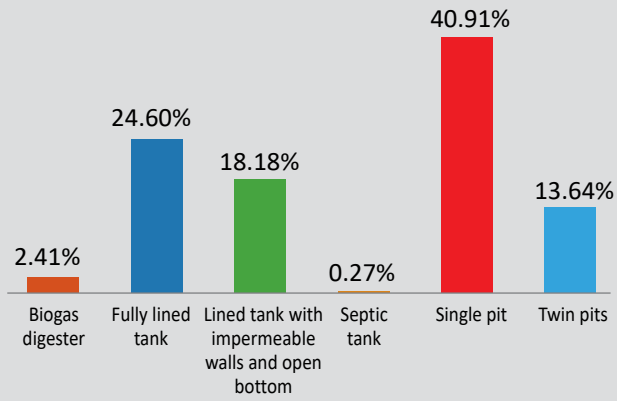
Sanitation Facility



CONTAINMENT

The survey showed that most of the HHs use open bottom containments such as single pits and lined tanks with impermeable walls and open bottom. These types of containments allow leachate percolation and possesses a risk to groundwater contamination. Thus, are considered as unsafe containments. However, few HHs use containments such as biogas digester, septic tanks, fully lined tanks and twin pits which prevents leachate percolate and safely stores FS.

Types of containment



EMPTYING AND TRANSPORTATION

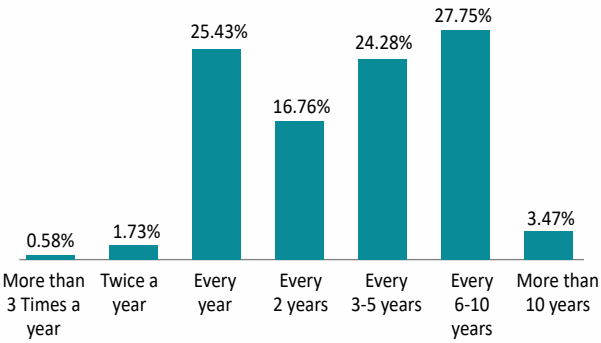
Based on the survey, 49% of HHs have emptied their containments at least once after installation. The containments are usually emptied at an interval of every 6 to 10 years while significant proportion of HHs empty at an interval of every year and every 3 to 5 years. Private desludging service providers are engaged for the emptying and transport of faecal sludge in the municipality.

84% of HHs emptied FS mechanically (Private desludging service providers).

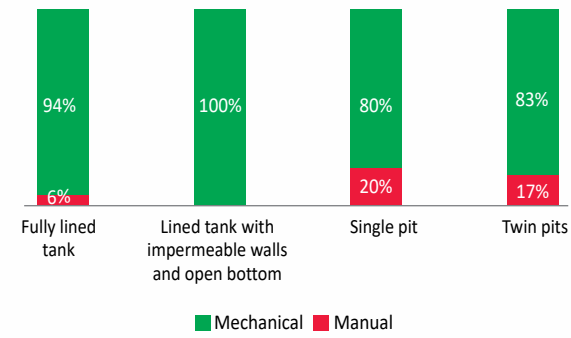
16% of HHs emptied FS manually (Self- emptying or traditional sanitation workers.

Service Provider	Private
No. of service provider	4
No. of vehicles	4
Capacity of vehicle (litres)	5,000
Average number of trips per day per vehicle	1
Average service charge per trip (NPR)	1,000 -3,500

Emptying Frequency



Emptying mechanism



ESTIMATION OF FAECAL SLUDGE

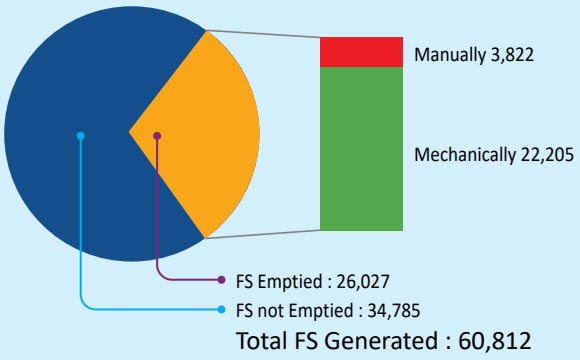
Total estimated volume of FS generation in the municipality: 60,812 m^3 per year which is 166.6 m^3 per day.

Total volume of FS emptied in the municipality: 26,027 m^3 per year which is 71.3 m^3 per day

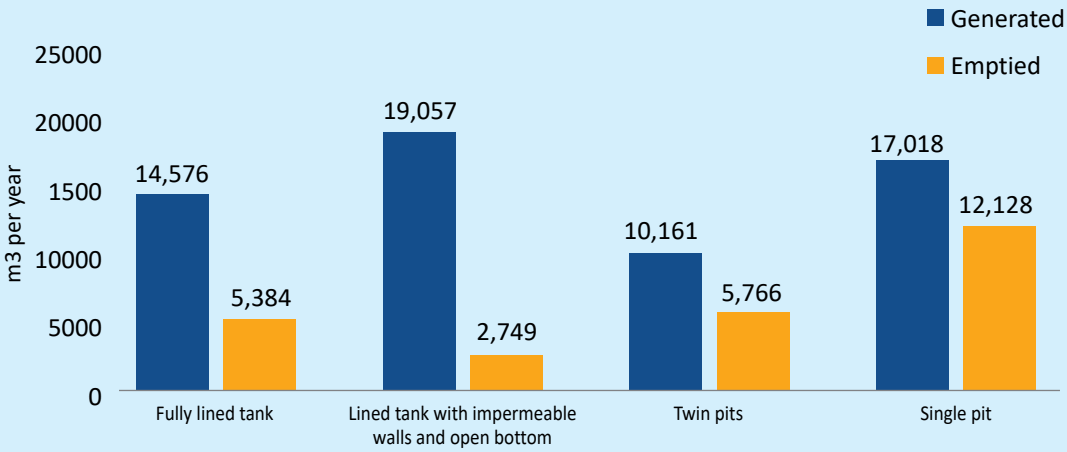
Total volume of FS emptied by mechanical desludging: 22,205 m^3 per year which is 60.83 m^3 per day

Total volume of FS emptied by manual desludging: 3,822 m^3 per year which is 10.47 m^3 per day

Summary of faecal sludge produced, emptied and transported in Sunwal Municipality (cubic meter)



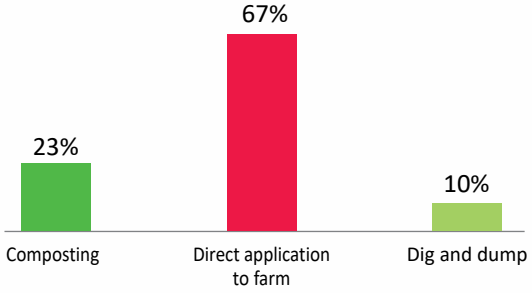
FS Generated and Emptied



SAFE DISPOSAL OR REUSE

Mechanically emptied FS are generally disposed of in the forest or applied to farmlands. While manually emptied FS is composted, directly applied to farms or dig and dump. However, direct application to farmland possesses significant risk to environment and public health.

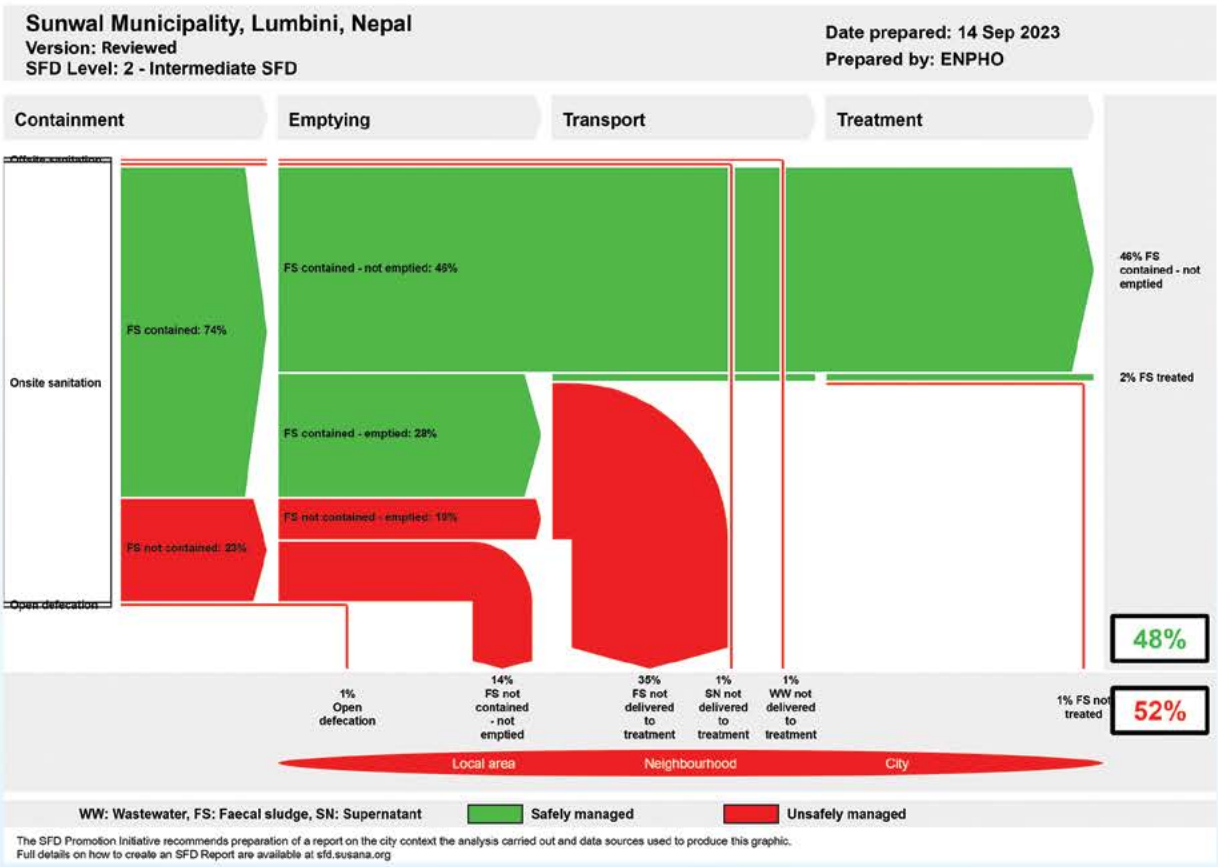
Disposal practice after manual emptying



SHIT FLOW DIAGRAM (SFD)

The SFD of Sunwal Municipality visually represents the status of sanitation practices across the entire sanitation value chain. It shows that FS generated by 48% of the population is safely managed (Green). Initially, 74% of FS is safely contained. However, this proportion drops to 46% when 28% of FS contained is emptied while considering the unemptied FS is safe. Of the 28% of FS contained which is emptied, the 2% are treated that primarily comes from population using biogas digesters.

Furthermore, FS generated by 52% of the population is unsafely managed (Red). It includes 1% of WW and 1% SN which are not delivered to treatment plant. Additionally, 14% of FS are neither safely contained nor emptied, and 35% of FS (25% of FS contained, 10% of FS not contained) are emptied but not delivered to treatment options. This indicates emptied FS remains safe depending on the emptying mechanism and the available treatment options/facilities. Moreover, 1% of the population still practice open defecation, exacerbating the sanitation challenges. These findings highlight the urgent need to tackle critical gaps to mitigate environmental threats and the associated public health risks arising from inadequate FS management.

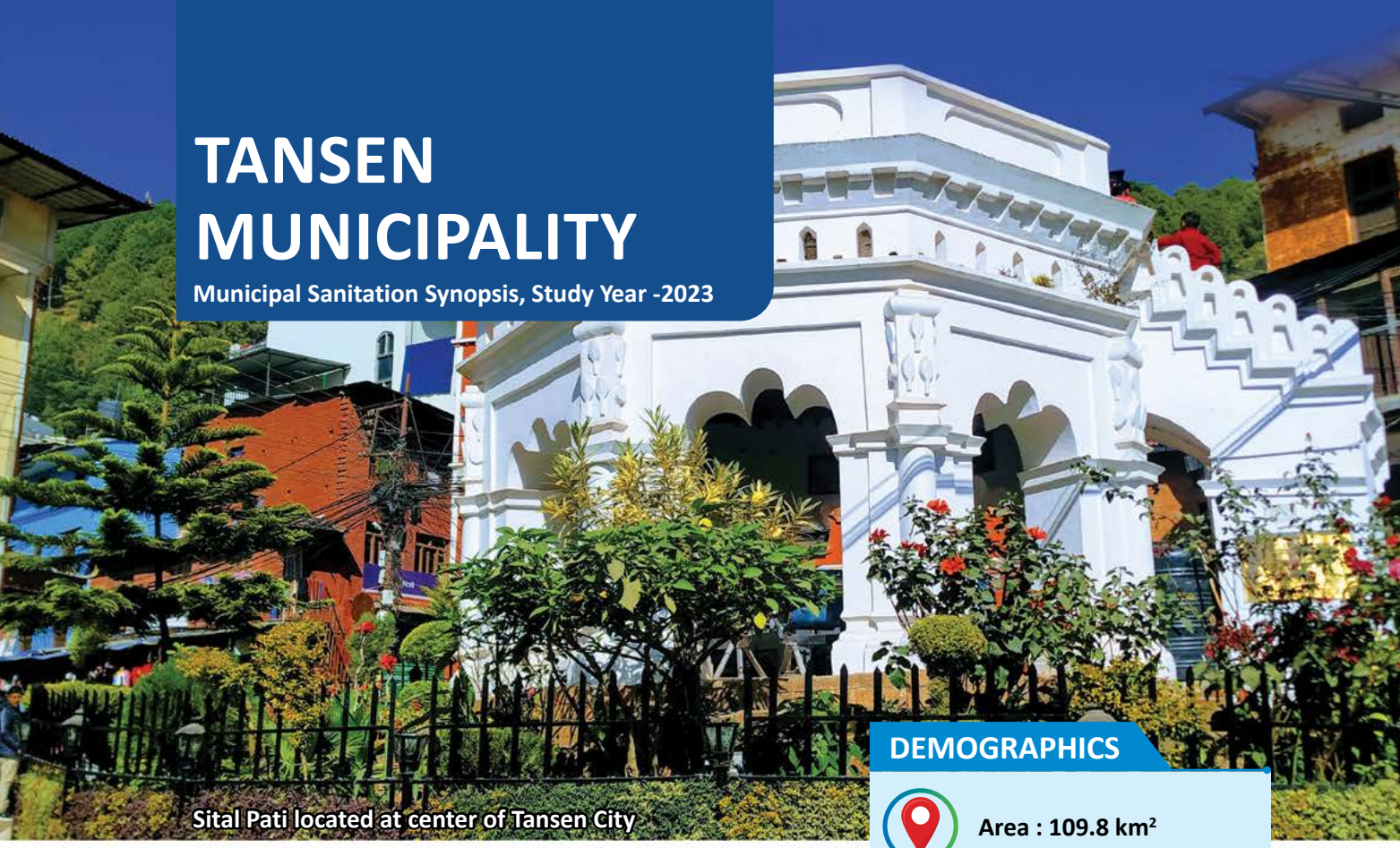


RECOMMENDATIONS

- Replace and retrofit the unsafe containment systems to safer techniques and technologies such as septic tanks, biogas digesters and twin pits.
- Advocate for the formal registration and regulation of private desludging service providers operating within the municipality.
- Construct a faecal sludge treatment plant to manage FS effectively.
- Formulate and enforce sanitation policies and regulations to ensure safe sanitation practices in the municipality.

TANSEN MUNICIPALITY

Municipal Sanitation Synopsis, Study Year -2023



Sital Pati located at center of Tansen City

DEMOGRAPHICS

Area : 109.8 km²

POPULATION : 50,792
Male : 23,414
Female : 27,378

Household : 14,782

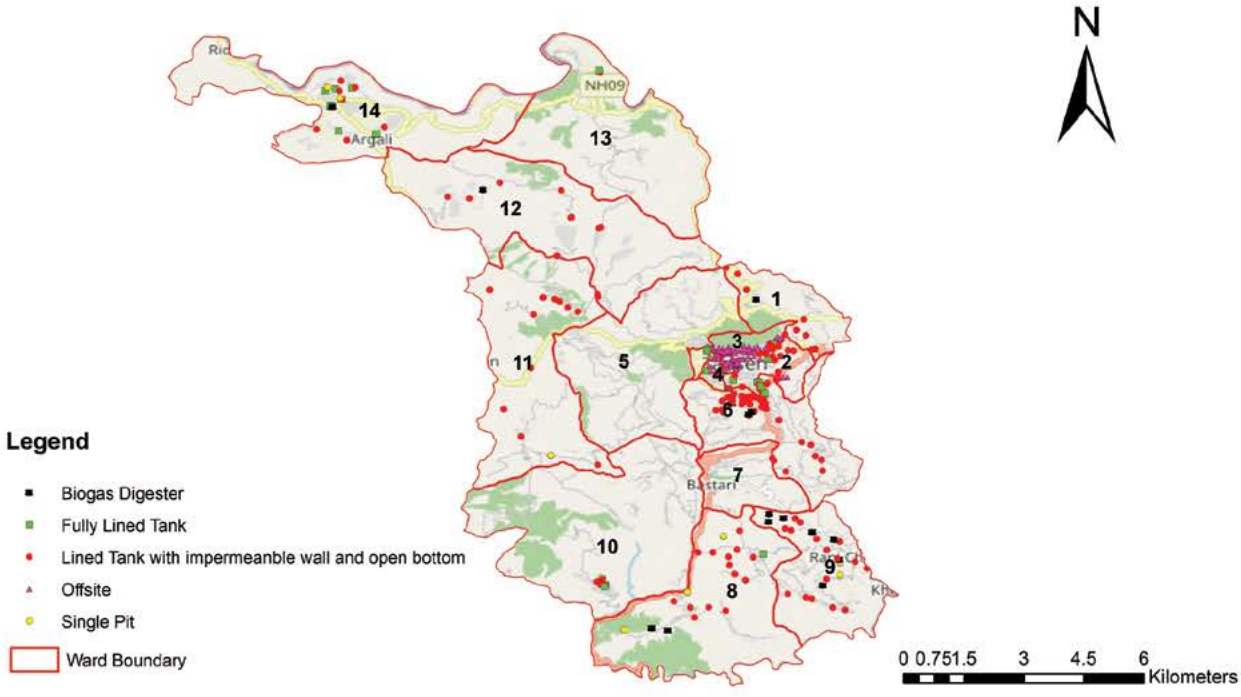
Wards : 14

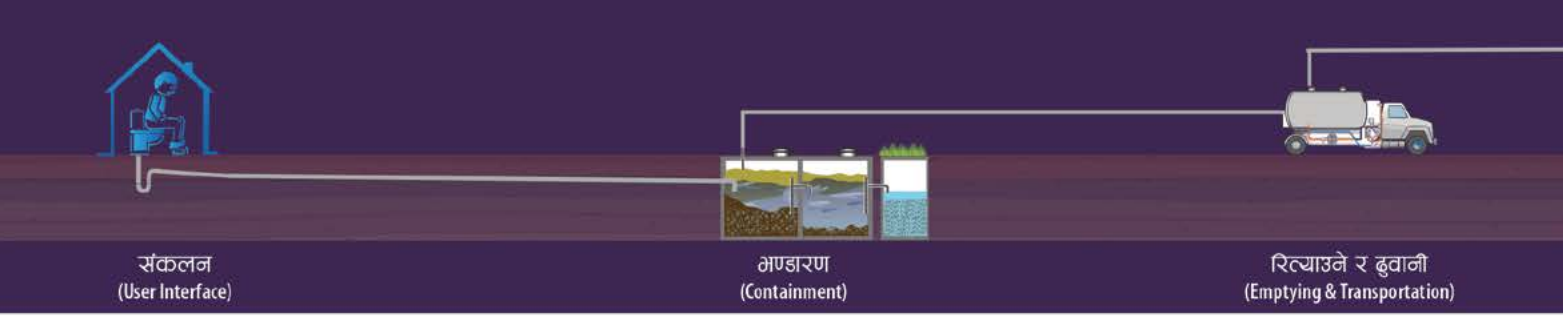
Source: Census 2021

CITY PROFILE

Tansen Municipality is one of the oldest municipalities in the country. It is located in Palpa District, Lumbini Province. Its geographic location is 27° 29' 60" to 27° 31' 48" N latitude and 83° 18' 36" to 83° 20' 60" E longitude. It lies at an altitude of 1,350 meters above sea level.

Types of Sanitation Technologies at households in Tansen Municipality

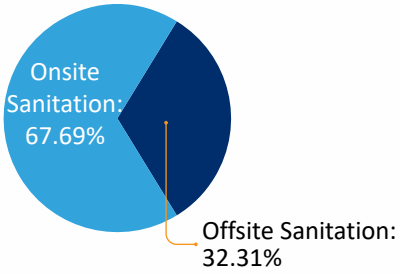




USER INTERFACE FACILITY

Palpa District was declared an Open Defecation Free (ODF) zone on 7 April 2018. The survey showed that 100% of households in the municipality have access to toilets.

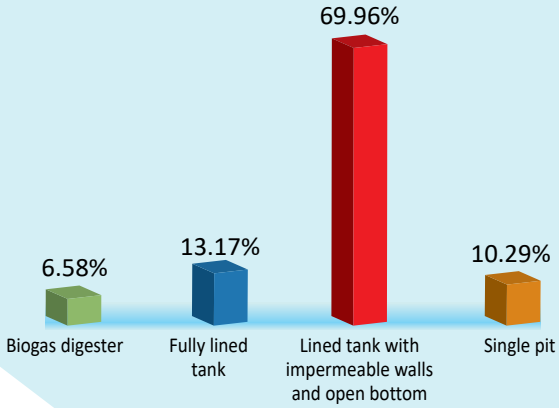
Sanitation Facility



CONTAINMENT

The majority of HHs in the municipality rely on containments with open bottom such as lined tank with impermeable walls and open bottom and single pits allowing leachate percolation, possessing a risk to groundwater contamination. Moreover, a few proportion of HHs have opted for technologies such as fully lined tanks and biogas digesters that safely store FS.

Types of containment



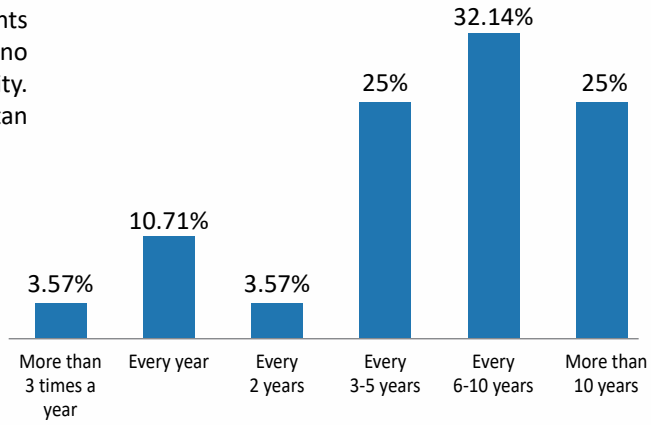
EMPTYING AND TRANSPORTATION

Here, 12.26% of the households have emptied the containment at least once since installation through both manual and mechanical emptying services. Most of the containments are emptied at an interval of every 6 to 10 years. There is no private desludging service providers within the municipality. A desludging service provider from Butwal Sub-metropolitan City is providing the service in the municipality.

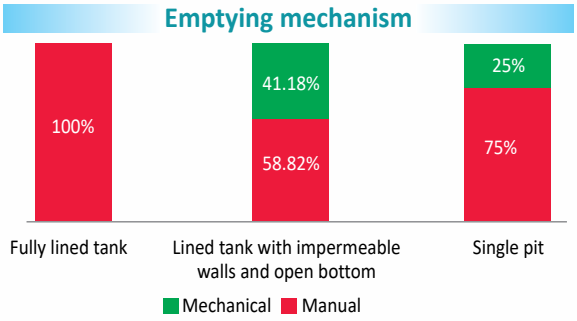
32.14% of HHs emptied FS mechanically (Private desludging service providers of neighbouring municipalities).

67.86% of HHs emptied FS manually (Self- emptying or traditional sanitation workers).

Emptying Frequency



Emptying mechanism



Private desludging service vehicle

ESTIMATION OF FAECAL SLUDGE

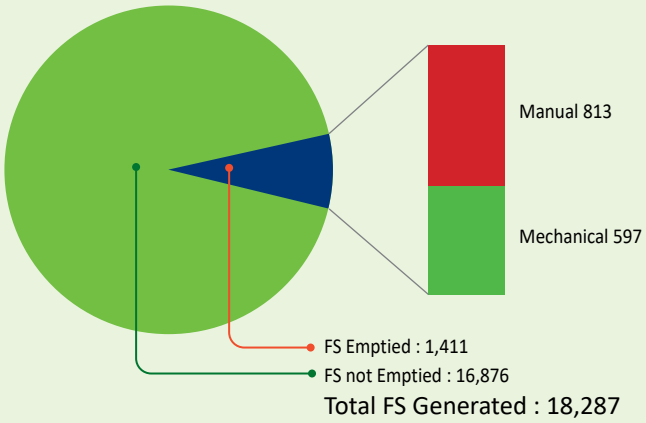
Total estimated volume of FS generation in the municipality 18,287 m^3 per year which is 50 m^3 per day.

Total volume of FS emptied in the municipality: 1,411 m^3 per year which is 4 m^3 per day.

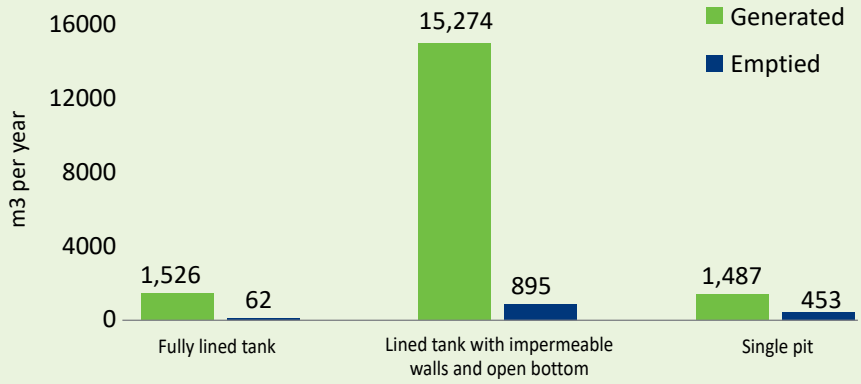
Total volume of FS emptied by mechanical desludging: 597 m^3 per year which is 1.63 m^3 per day.

Total volume of FS emptied by manual desludging: 813 m^3 per year which is 2.22 m^3 per day.

Summary of faecal sludge produced, emptied and transported in Tansen Municipality (cubic meter)



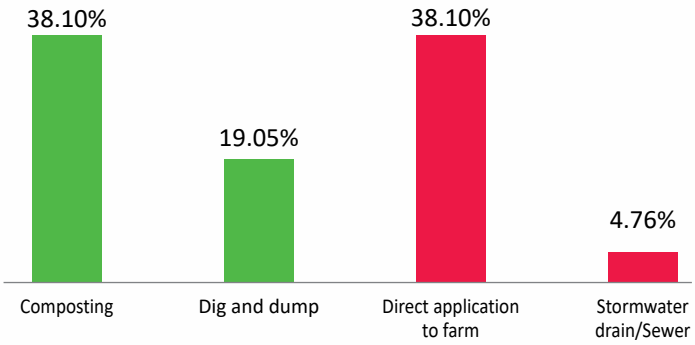
FS Generated and Emptied



SAFE DISPOSAL OR REUSE

The municipality does not have any form of treatment plant to treat faecal sludge. Therefore, manually emptied FS are directly applied to farmland or composted. While mechanically emptied FS is applied to farmlands as per demand or disposed of in the forest. However, direct application to farmland possesses significant risk to environment and public health.

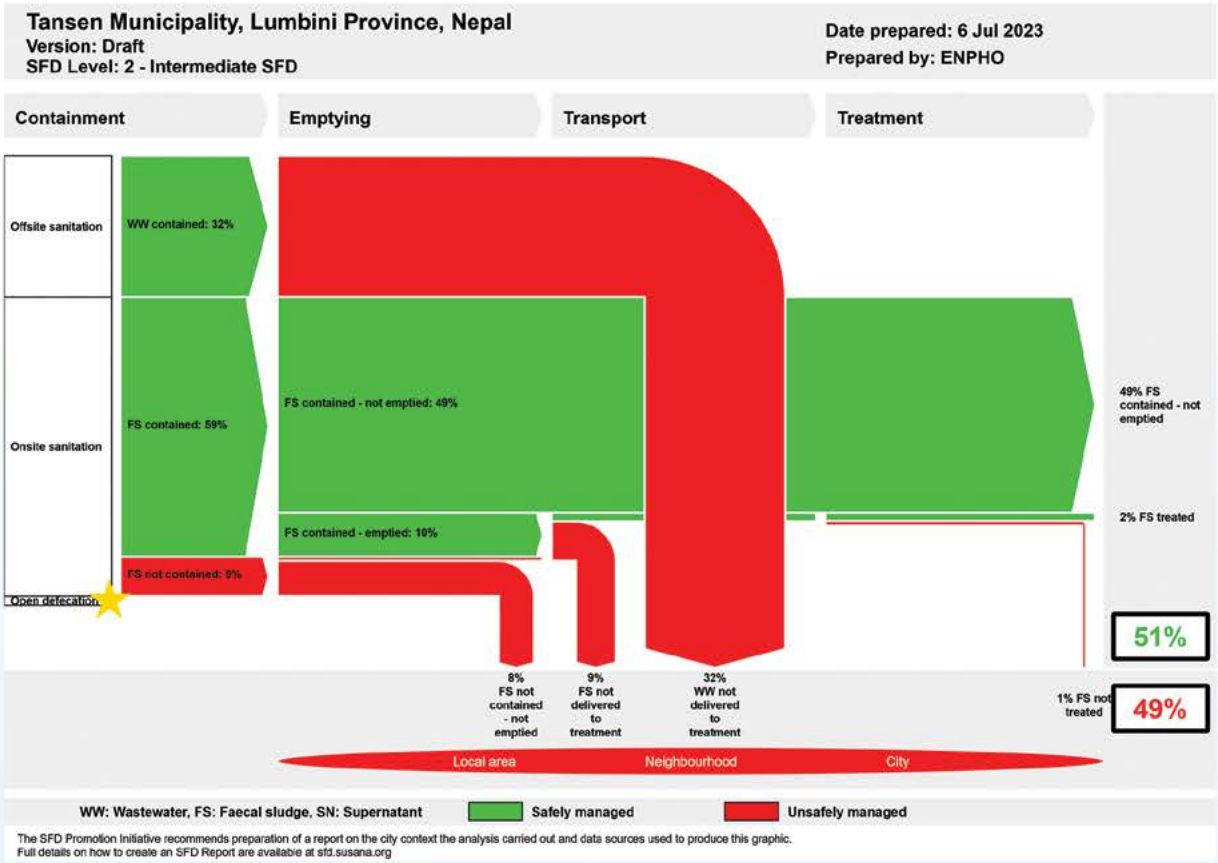
Diposal practice after manual emptying



SHIT FLOW DIAGRAM (SFD)

The SFD of Tansen Municipality visually represents the status of sanitation practices across the entire sanitation value chain. The diagram illustrates that FS generated by 51% of the population is safely managed (Green). Initially, 59% of FS is safely contained and this proportion drops to 49% when 10% of FS is emptied. Of the 10 % of FS emptied, 2% of FS is treated which primarily comes from users of biogas digester. This underlines the necessity of safe emptying treatment. The emptied FS remains safe depending upon the nature of the emptying mechanism and available treatment facilities.

Furthermore, FS generated by 49% of the population is unsafely managed (Red). It includes 1% of untreated FS, 32% of WW not delivered to treatment, 8% of FS are neither contained nor emptied and 9% of emptied FS (8% FS contained, 1% FS not contained) not delivered to treatment plant. This highlights significant gaps that must be addressed to mitigate environmental and public health risks associated with inadequate FS management practices.

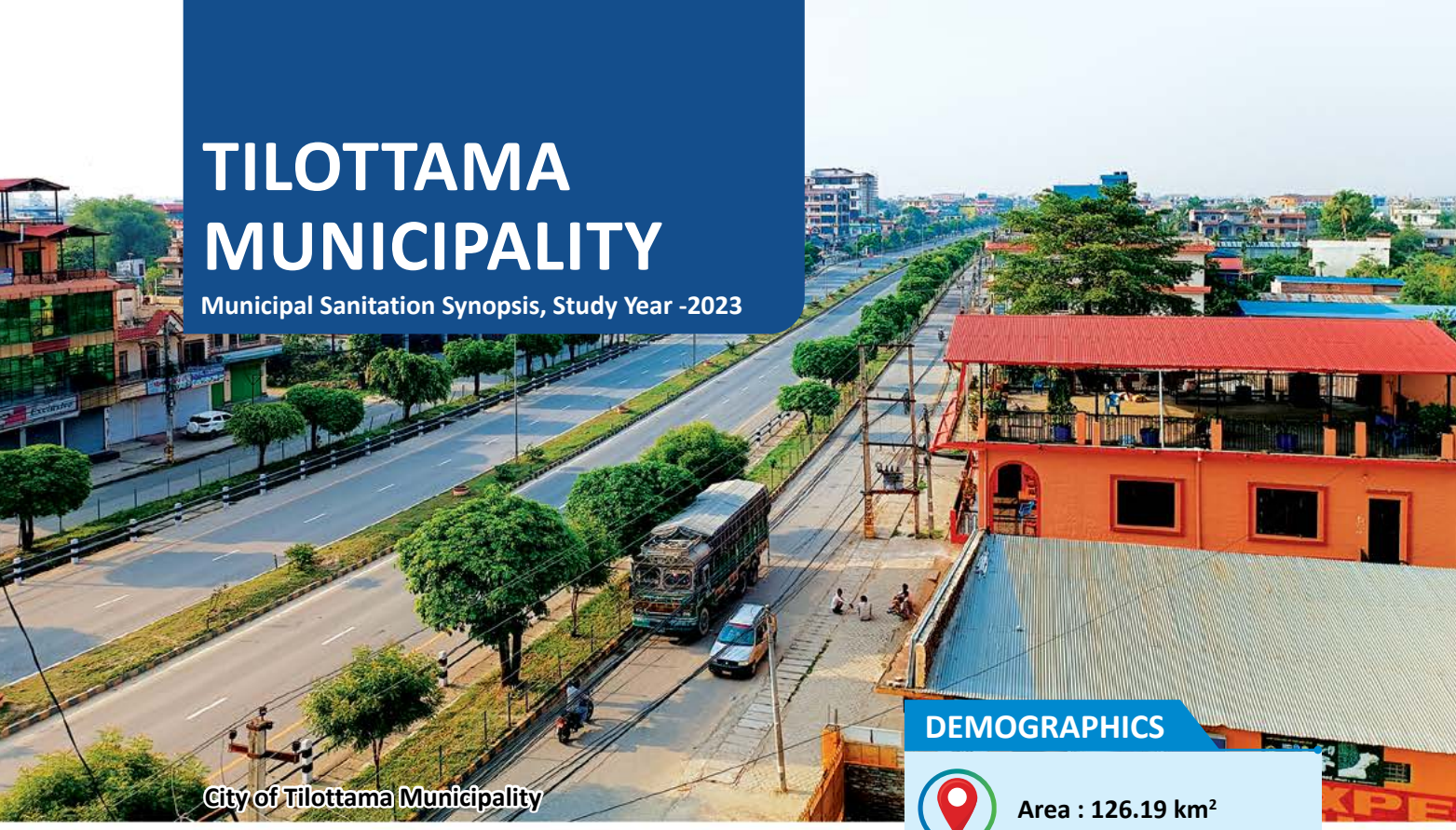


RECOMMENDATIONS

- Retrofit and replace unsafe containment systems with safer techniques and technologies such as septic tanks, biogas digesters, and twin pits.
- Advocate for the formal registration and regulation of private desludging service providers operating within the municipality.
- Construct a wastewater or faecal sludge treatment plant to manage WW and FS effectively.
- Formulate and enforce sanitation policies and regulations to ensure safe sanitation practices in the municipality.

TILOTTAMA MUNICIPALITY

Municipal Sanitation Synopsis, Study Year -2023



City of Tilottama Municipality

DEMOGRAPHICS

Area : 126.19 km²

POPULATION : 149,479
Male : 71,526
Female : 77,953

Source: Census 2021

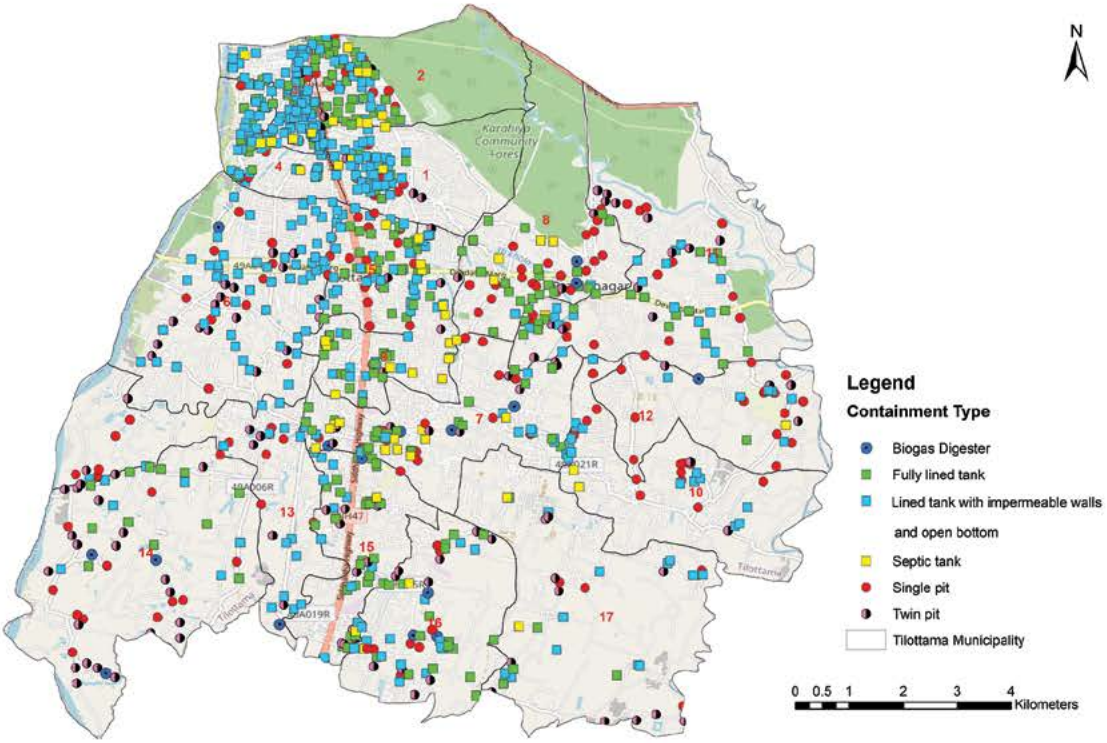
Household : 35,991

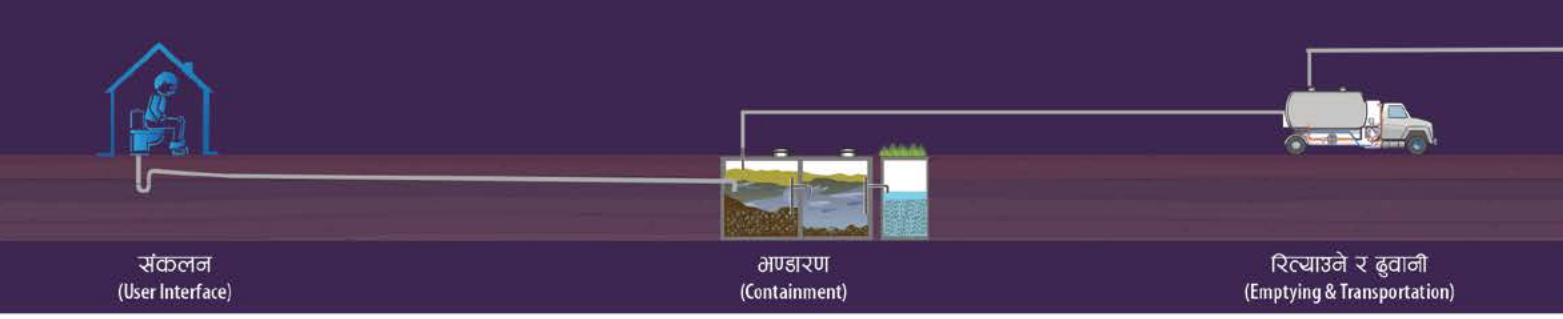
Wards : 17

CITY PROFILE

Tilottama Municipality is in Rupandehi District, Lumbini Province of Nepal. The municipality was named after Tilottama River, also popularly known as Tinau River. The municipality anges from 27° 32' 60" to 27° 38' 60" N latitude and 83° 24' 60" to 83° 32' 60" E longitude. The elevation ranges between 160 to 175 metres above mean sea level.

Types of sanitation technologies at households in Tilottama Municipality





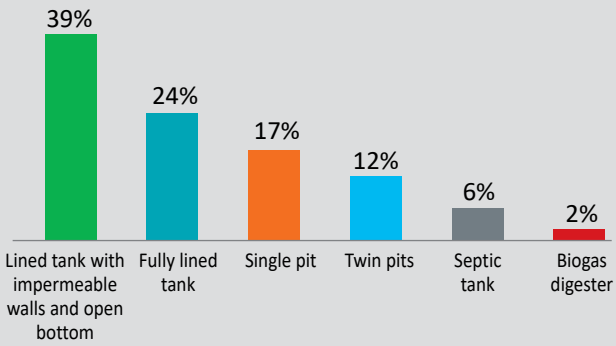
USER INTERFACE FACILITY

Tilottama Municipality attained Open Defecation Free (ODF) status in 2017 A.D. The survey revealed that all the households in the municipality have access to toilets.

CONTAINMENT

The majority of HHs rely on lined tanks with impermeable walls and open bottom and single pits allowing leachate percolation, possessing a risk to groundwater contamination. Moreover, a few proportion of HHs have opted for safe technologies such as septic tanks, biogas digesters and twin pits.

Types of containment



Twin pits found at household of Tilottama municipality

EMPTYING AND TRANSPORTATION

According to the survey, 23% of the HHs have emptied their containments at least once since installation. Usually, the containments are emptied at an interval of 6 to 10 years.

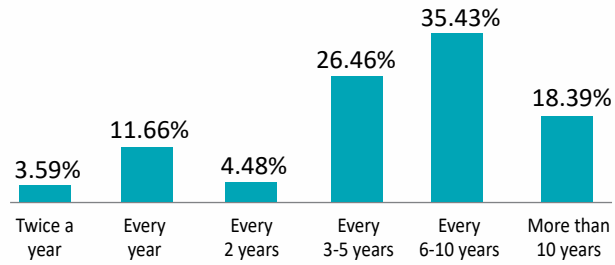
Butwal Sanitary Private Ltd. has been providing faecal sludge desludging and treatment service to different municipalities of the Lumbini Province including Tilottama Municipality.

KII with desludging service provider

84% of HHs emptied FS mechanically (Private desludging service providers).

16% of HHs emptied FS manually (self or traditional sanitation workers)

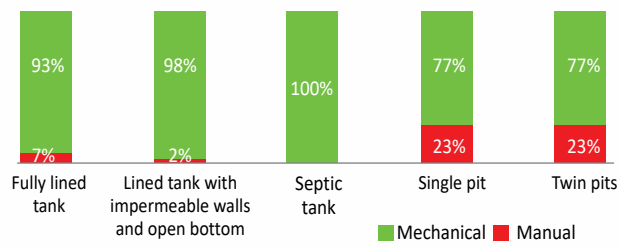
Emptying Frequency



Details of desludging service providers

Service Provider	Private
No. of service provider	6
No. of vehicles	12
Capacity of vehicle (litres)	3,500 -4,500
Average number of trips per day per vehicle	1
Average service charge per trip (NPR)	2,500

Emptying mechanism



ESTIMATION OF FAECAL SLUDGE

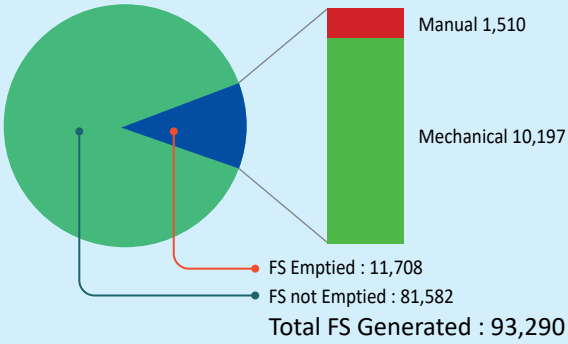
Total estimated volume of FS generation in the municipality: 93,290 m^3 per year which is 255.59 m^3 per day.

Total volume of FS emptied in the municipality: 11,708 m^3 per year which is 32.08 m^3 per day.

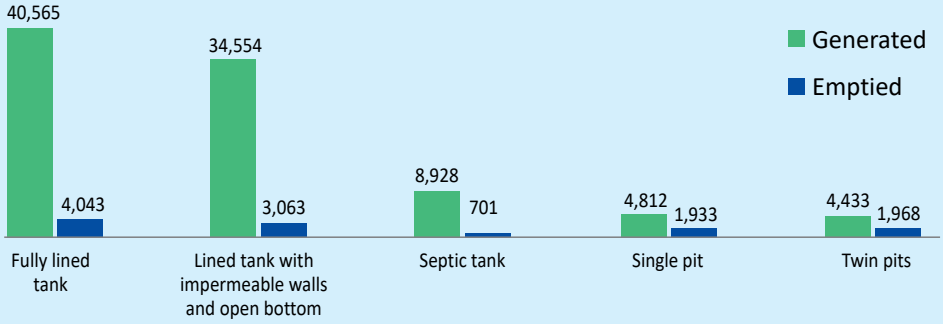
Total volume of FS emptied by mechanical desludging: 10,197 m^3 per year which is 27.94 m^3 per day

Total volume of FS emptied by manual desludging: 1,510 m^3 per year which is 4.14 m^3 per day

Summary of faecal sludge produced, emptied and transported in Tilottama Municipality (cubic meter)



FS Generated and Emptied



TREATMENT

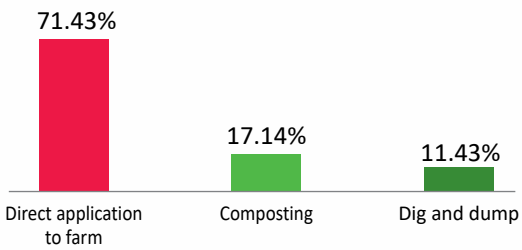
The municipality itself has not established a faecal sludge treatment plant. However, Butwal Sanitary Pvt Ltd has been providing treatment services since 2021 A.D. It has constructed and operated a faecal sludge treatment plant located in the Ramnagar Community Forest in the border of Butwal Sub-Metropolitan City and ward 2 of Tilottama Municipality.

Treatment component at Butwal Sanitary Pvt. Ltd.

SAFE DISPOSAL OR REUSE

The faecal sludge emptied mechanically by Butwal Sanitary are transported to FSTP while some private sectors apply the emptied FS in farmlands or disposed of in nearby forest and water bodies. The majority of manually emptied FS are applied in farmlands without treatment, while some are dig and dump or composted. However, direct application to farms and disposal to water bodies possess risks to the environment and public health.

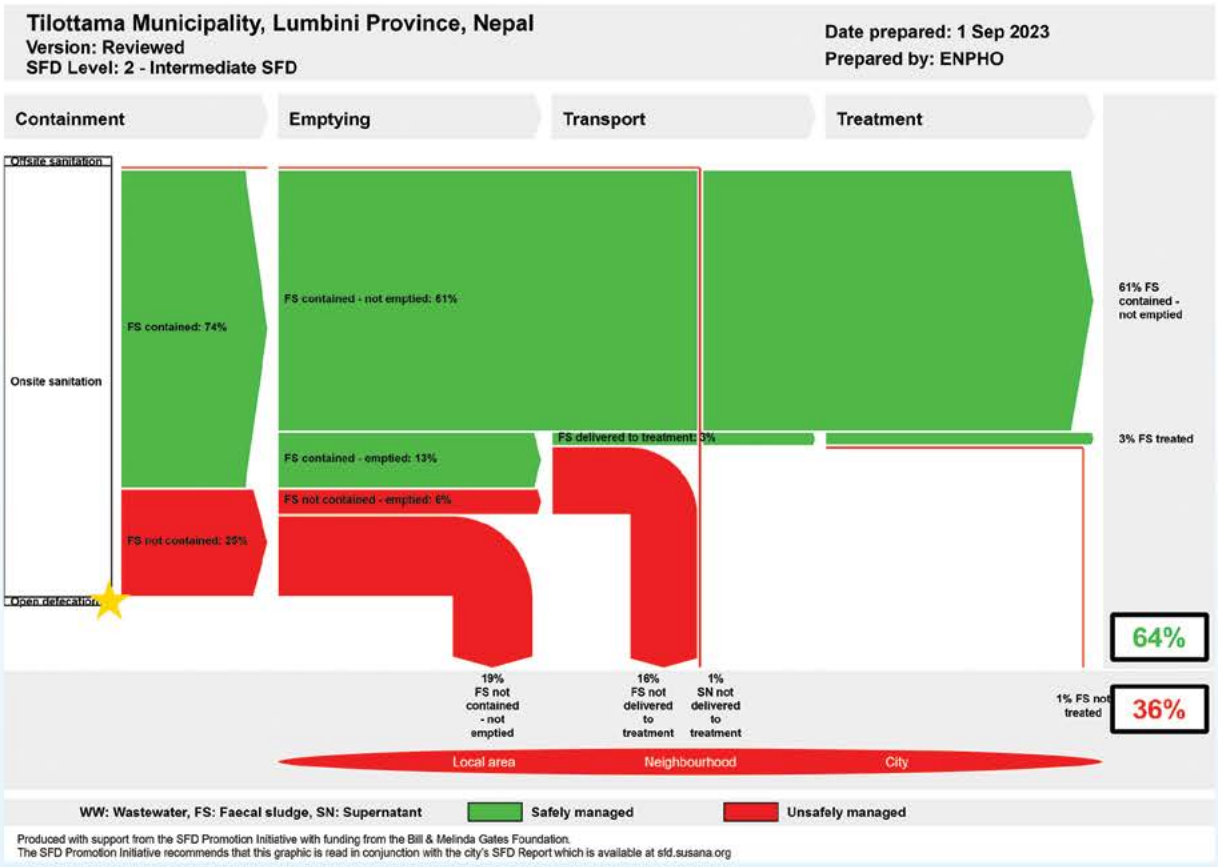
Disposal practice after manual emptying



SHIT FLOW DIAGRAM (SFD)

The SFD of Tilottama Municipality visually represents the status of sanitation practices across the entire sanitation value chain. The diagram illustrates that FS generated by 64% of population is safely managed (Green). Initially, 74% of FS is safely contained. However, this proportion drops to 61% considering the unemptied FS is safe. The remaining 13% of FS which is contained and emptied, remains safe depending upon the nature of the emptying mechanism and further availability of treatment facilities. This points out the necessity of proper emptying and treatment of FS. Only 3% of FS undergoes proper treatment.

Furthermore, FS generated by 36% of population is unsafely managed (Red). It includes 1% supernatant (SN) not delivered to treatment plant and 1% FS not treated. Additionally, 19% of FS is neither contained nor treated and 16% of FS emptied (10% FS contained and 6% FS not contained) is not delivered to treatment plant possessing risks of environmental pollution. This highlights significant gaps that must be addressed to mitigate environmental and public health risks associated with inadequate FS management practices.



RECOMMENDATIONS

- Replace and retrofit the unsafe containment systems to safer techniques and technologies such as septic tanks, biogas digesters and twin pits.
- Advocate for the formal registration and regulation of private desludging service providers operating within the municipality.
- Construct a faecal sludge treatment plant to manage FS effectively.
- Formulate and enforce sanitation policies and regulations to ensure safe sanitation practices in the municipality.

ABOUT THE PROJECT:

Municipalities Network Advocacy on Sanitation in South Asia phase II (MuNASS-II)

Funded By	: Bill & Melinda Gates Foundation (BMGF)
Executing Agency	: United Cities and Local Governments Asia-Pacific (UCLG ASPAC)
Implementing Agency	: Municipal Association of Nepal (MuAN)
Technical Partner	: Environment and Public Health Organization (ENPHO)
Program Duration	: November 2021 – December 2024

In 2017, phase I of "MuNASS program" was implemented to support the roll-out of the Institutional and Regulatory Framework (IRF) for Faecal Sludge Management in Nepal. After implementation of Phase I of the MuNASS program, a need to scale up the program was recognized. In this prospective Phase II of MuNASS program was launched to support meet SDG target 6.2. The project was initiated with the objectives to determine the sanitation status of 65 municipalities and to generate national and provincial level SFD, to enhance knowledge and skill of municipal staffs on installation and operation of FSTP and to enhance capacity of elected representatives and municipal officials regarding the need for FSM/CWIS.

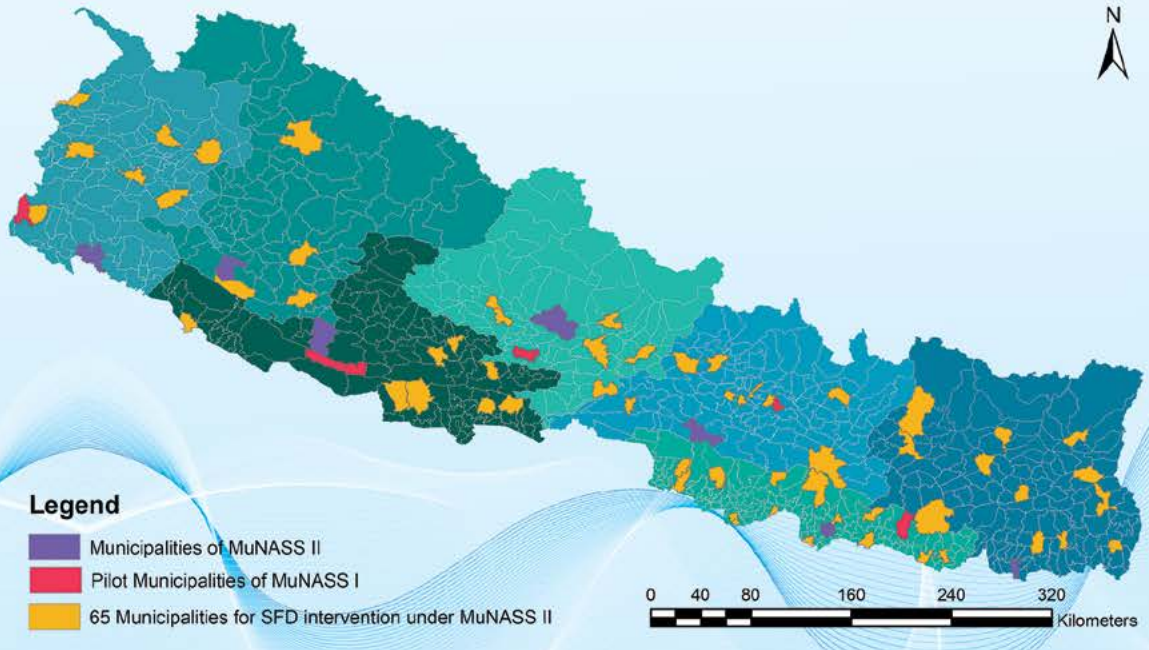
GOAL

The goal of MuNASS Phase II is to develop and demonstrate innovation on safely managed sanitation to achieve SDG 6.2 and mainstream into regional agenda, paying special attention to the needs of women and girls and those in vulnerable situations.

OUTCOMES/OBJECTIVES:

- Demonstrate innovation on SDG 6.2 measurement by mobilizing cities in South Asia
- Documentation of the Municipal-led investment for CWIS and FSM in South Asia is available
- SDG 6.2 are mainstreamed into the regional agenda through advocacy, knowledge exchange and joint activities among municipalities in the Asia-Pacific region.

Program Locations of MuNASS I and MuNASS II in Nepal



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