

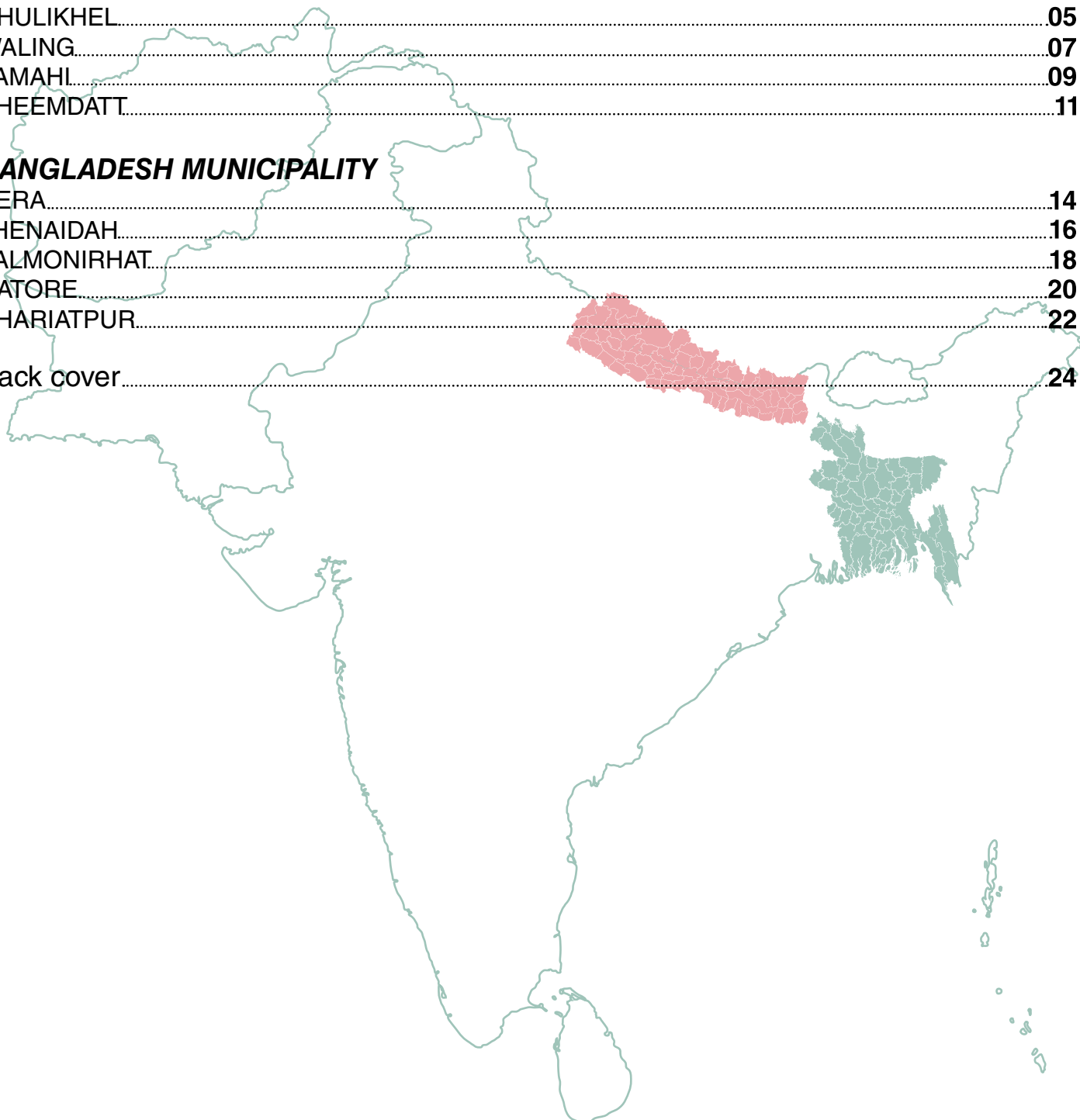
MUNICIPALITIES NETWORK POLICY ADVOCACY ON SANITATION IN SOUTH ASIA



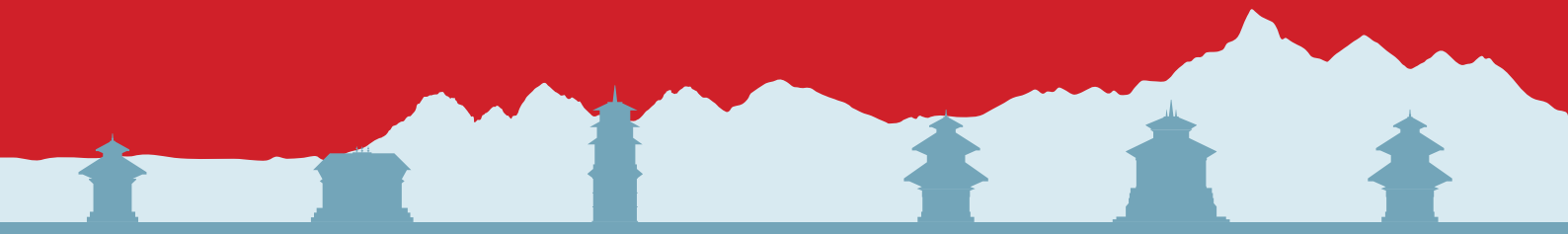
10 PILOT MUNICIPALITY PROFILES

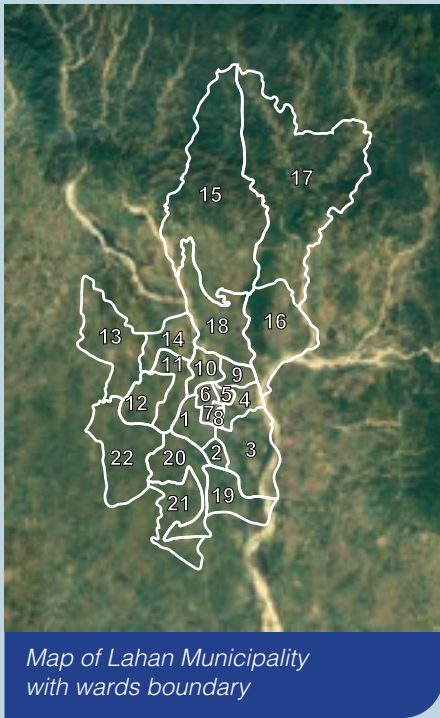
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MUNICIPALITIES NETWORK POLICY ADVOCACY ON SANITATION IN NEPAL - SOUTH ASIA





Map of Lahan Municipality with wards boundary

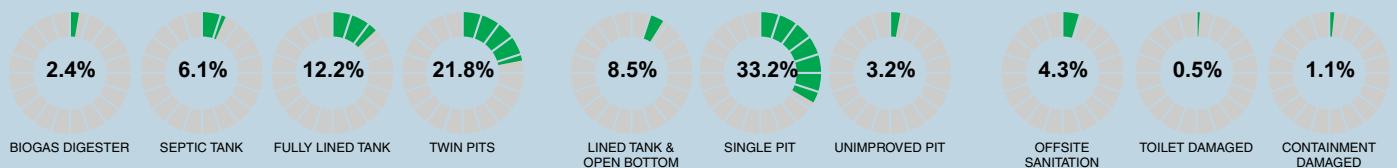
Lahan Municipality is located in Siraha District in the Province Number 2 of south-eastern Nepal. The municipality is extended into 167.17 square kilometres and politically divided into 24 wards. It is home to 91,766 population residing in 17,182 households. The population has increased gradually with rapid urbanization over a period of 20 years. The municipality has evolved as trade and industrial center from its agrarian economy.

Sanitation Status

The municipality was declared Open Defecation Free Zone in 2018. However, an approximately 6.6% of the households, majority with poor and underprivileged squatters living in the unregistered plots of land does not own toilet.

Containment

Twin pits and single pits constructed by concrete rings are prevailed in rural areas of the municipality for collection of faecal sludge (FS). Anaerobic biogas digester, designed for integrated treatment of human faeces, animal manure and organic waste at household have been promoted in rural areas nearby Chure Hills. Similarly, a septic tank which functioned as collection and primary treatment unit were installed at core urban centers. Whereas, households located at fringes of core urban and newly urbanized area have installed a fully lined tanks.



Types of household containments in Lahan Municipality

Emptying and Transportation

Regular emptying and transportation of FS is essential for proper functioning of the containment and preventing contamination of groundwater through overflow of the FS. The data revealed irregular emptying practices, such that 68% of the containments have never been emptied since installation. Also, emptying frequencies varies highly across the type and locations. Traditional manual scavengers, municipality and private entrepreneur are providing emptying and transportation services. Currently, in an average, 19 m³ and 46 m³ FS per day is emptied both manually and mechanically respectively.

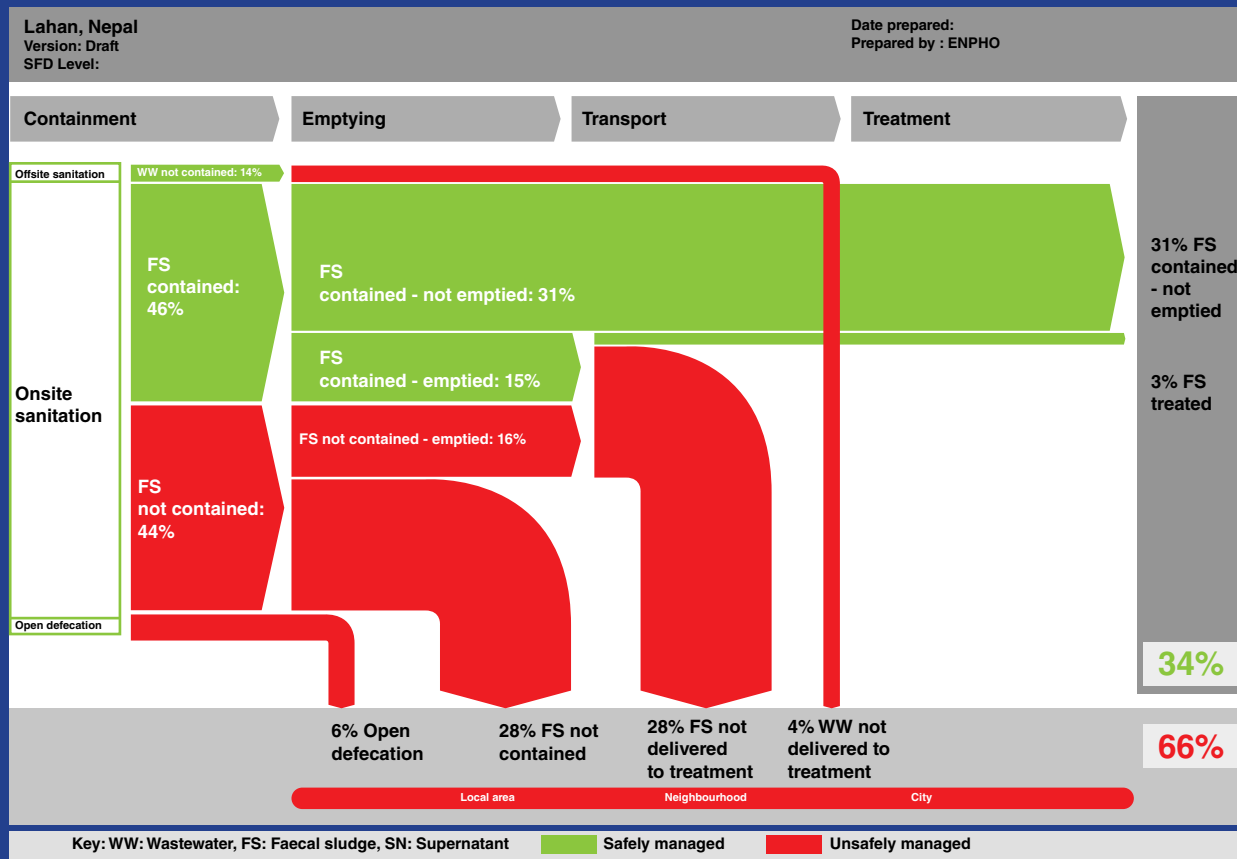
Treatment and Disposal

There is no faecal sludge treatment plant (FSTP) in the municipality. The collected FS is dumped in barren land.



Overview of Faecal Sludge Flow Status

The overall status of faecal sludge is represented by the Shit Flow Diagram (SFD). Only 3% of FS collected in an anaerobic biogas digester has been treated while 31% of FS collected in the fully lined tank is considered safely managed until it is emptied and rest being disposed haphazardly to environment. It increased threat on groundwater contamination resulting degradation of human health upon consumption of contaminated water.



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Shit Flow Diagram of Lahan Municipality

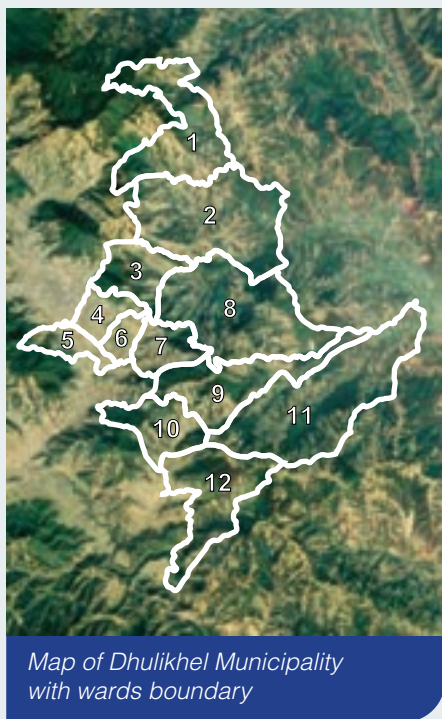


Muni Sah Sudi

Mayor of Lahan Municipality
(NEPAL)

Mayor Speaks:

"We eagerly look forward to network with other municipalities because sanitation is now turning into a challenge as it is also directly related to public health and other issues such as girls' education and so on."

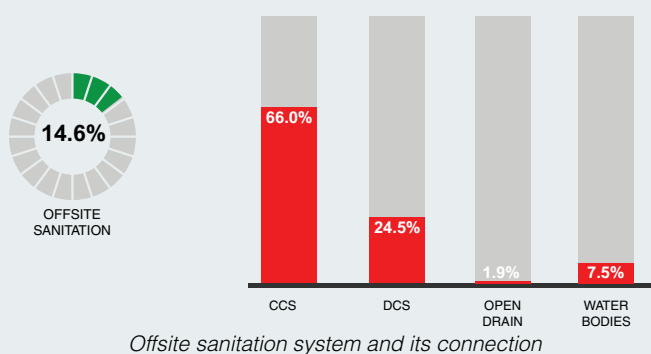


Dhulikhel Municipality is located in Kavrepalanchok District in Province No. 3 of Nepal. Two major highways, B.P. Highway and Araniko Highway pass through the municipality. It has been an important trading center on the commercial route linking Nepal to Tibet for centuries. The municipality was established in the 1980s and was last restructured in 2017. The additional wards added to the municipality are more rural in character.

The municipality is divided into 12 wards extended over 54.62 square kilometers. The total population of 31,590 resides in the total 6,500 households as per unpublished data provided by the municipality.

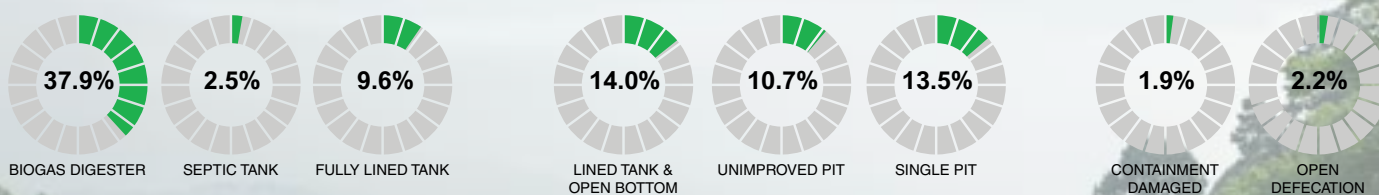
Sanitation Status

The municipality was declared Open Defecation Free Zone in 2018. However, approximately 2.2% of the households at rural and isolated settlement do not own toilet.



Containment

In an aggregate, 13.5% of the households have access to the sewerage network. Centralized Combined Sewerage (CCS) laid in the traditional and urban core area of the municipality is connected to two defunct wastewater treatment plants. Whereas Decentralized Combined Sewerage (DSC) installed at Shreekhandapur is connected to the functional wastewater treatment plant. Households at newly settled urban areas have installed either fully lined tank or lined tank with impermeable walls and an open bottom to store faecal sludge. An anaerobic biogas digester has been promoted in Devitar, Ravi Opi, Sardabatasye, Patlekhet and SankhupatiChowr designed for the integrated treatment of human faeces, animal dungs and organic waste. While households without livestock have constructed pit latrines.



Emptying and Transportation

Regular emptying and transportation of FS is essential for the proper functioning of the containment and preventing contamination of groundwater through the overflow of the FS. The data revealed approximately 17.5% of households have emptied their containment since installation. Self-manual emptying is most popular mechanism despite municipal mechanical desludging service since 2007. In an average 12.5 m³ of FS is being emptied manually in a day. The municipality has been in an average 10 m³ of FS (approximately 2 trips) in a week.



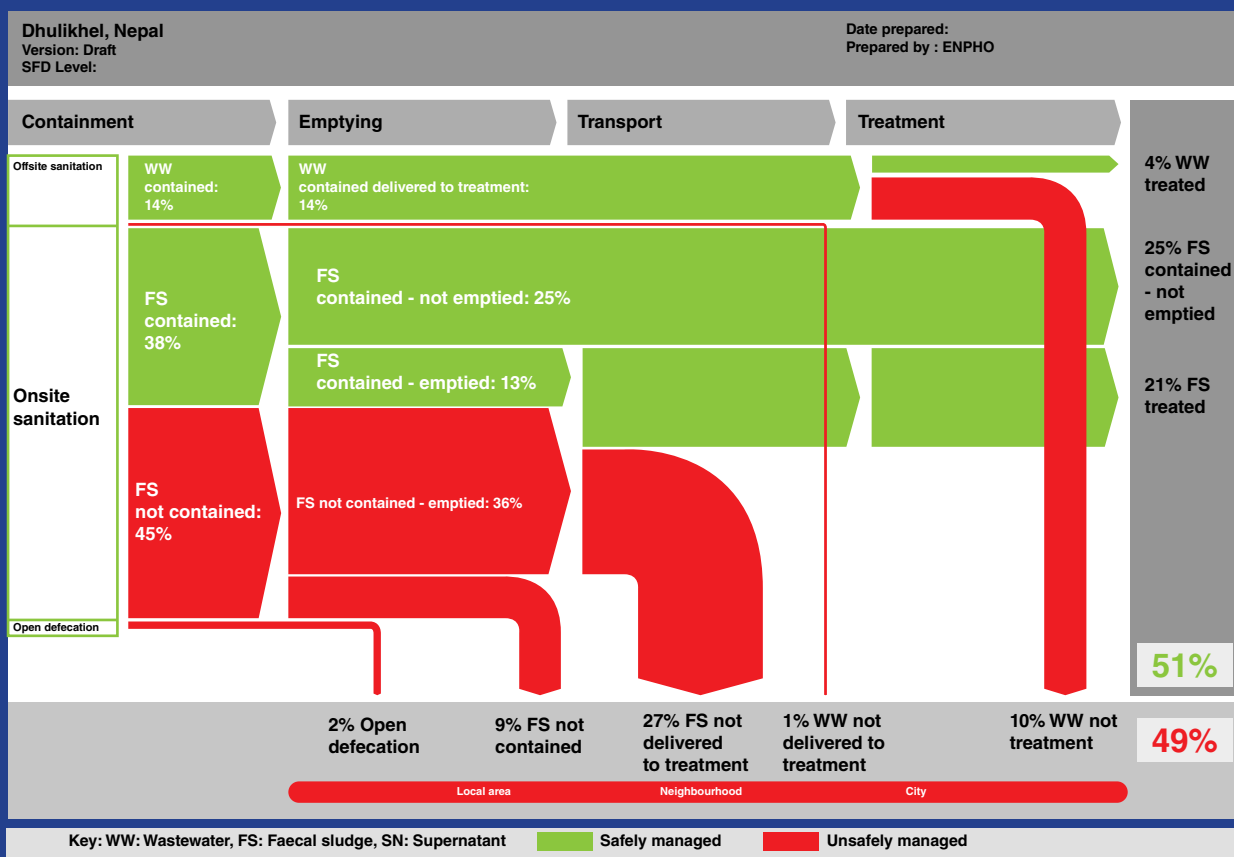
Disposal of FS into Landfill Site

Treatment and Disposal

Most often the FS collected by the municipality is disposed off in the temporary landfill site while occasionally it is disposed of in the decentralized wastewater treatment plant located in Shreekhandapur.

Overview of Faecal Sludge Flow Status

A Shit Flow Diagram shows that 4% of wastewater from offsite sanitation is being treated while others discharged without any treatment. Similarly, FS generated from an anaerobic biogas digester is being safely managed and 25% of FS is safely stored in a fully lined or lined tank with impermeable walls and open bottom without any significant risk to groundwater. Whereas, the FS emptied from other forms of the containment is haphazardly being disposed off. Thus in an overall, 51% of FS is either safely stored or managed.



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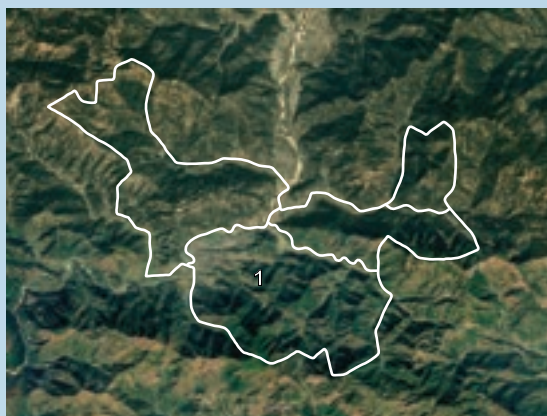
Shit Flow Diagram of Dhulikhel Municipality

Ashok Kumar Byanju Shrestha

Mayor of Dhulikhel Municipality
(NEPAL)

Mayor Speaks:

"In all growing cities in Nepal, the issue of solid waste management, reed bed treatment systems and faecal sludge management are our first priority. The priority of Dhulikhel Municipality is to make it pollution free and clean. This project is going to help us in achieving this and establishing Dhulikhel as a healthy, pollution free and organized city. It will also help us in raising public awareness."



Map of Waling Municipality with wards boundary

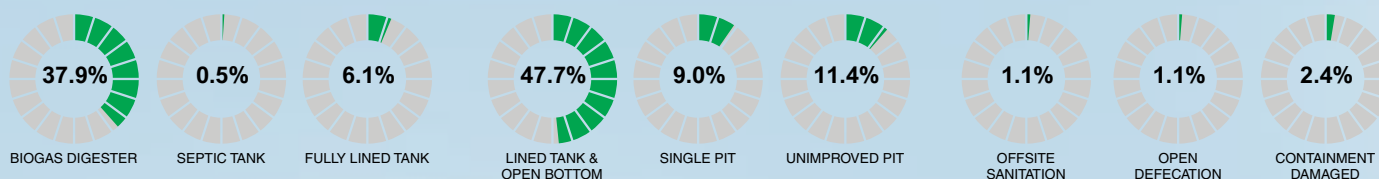
Waling lies at Syangja district in Gandaki Province. It was declared a municipality during the late 90s and was restructured on March 2017. The neighboring village development committees namely Jagat Bhanjyang, Malangkot, Kalikakot, Keware Bhanjyang, Sirsekot, Thumpokhara, Pelakot, Tindobato, Sorek, Chhangchhangdi, Majhakot and Yaladi were either totally or partially merged and divided into 14 wards. The municipality is extended into the area of 1,102 square kilometers. As per the census 2013, the total population residing in the 15,000 households were 51,243. Agriculture is the major occupation of the people in the municipality.

Sanitation Status

The municipality and merged VDCs during restructuring were declared Open Defecation Free Zone in 2014. However, approximately 1% of the households do not own toilet.

Containment

An anaerobic biogas digester, designed for the integrated treatment of human faeces, animal manure and organic waste at household have been promoted in almost all parts of the municipality. Lined tanks with impermeable walls and open bottom in an aim to reduce emptying frequency have been installed in urban areas. While single pits and unlined pits are popular among households located in rural areas.



Types of Household Containment

Emptying and Transportation

Regular emptying and transportation of FS is essential for the proper functioning of the containment and preventing contamination of groundwater through the overflow of the FS. The data revealed only 3% of households have emptied their containment since installation which indicates a higher rate of seepage. However, since only minimal households using groundwater for drinking, the immediate risk of contaminated water was not observed. Self-manual emptying and the private mechanized desludging mechanism are observed in the municipality. Currently, in an average 4 m³ and 0.5 m³ FS per day is emptied both manually and mechanically respectively.



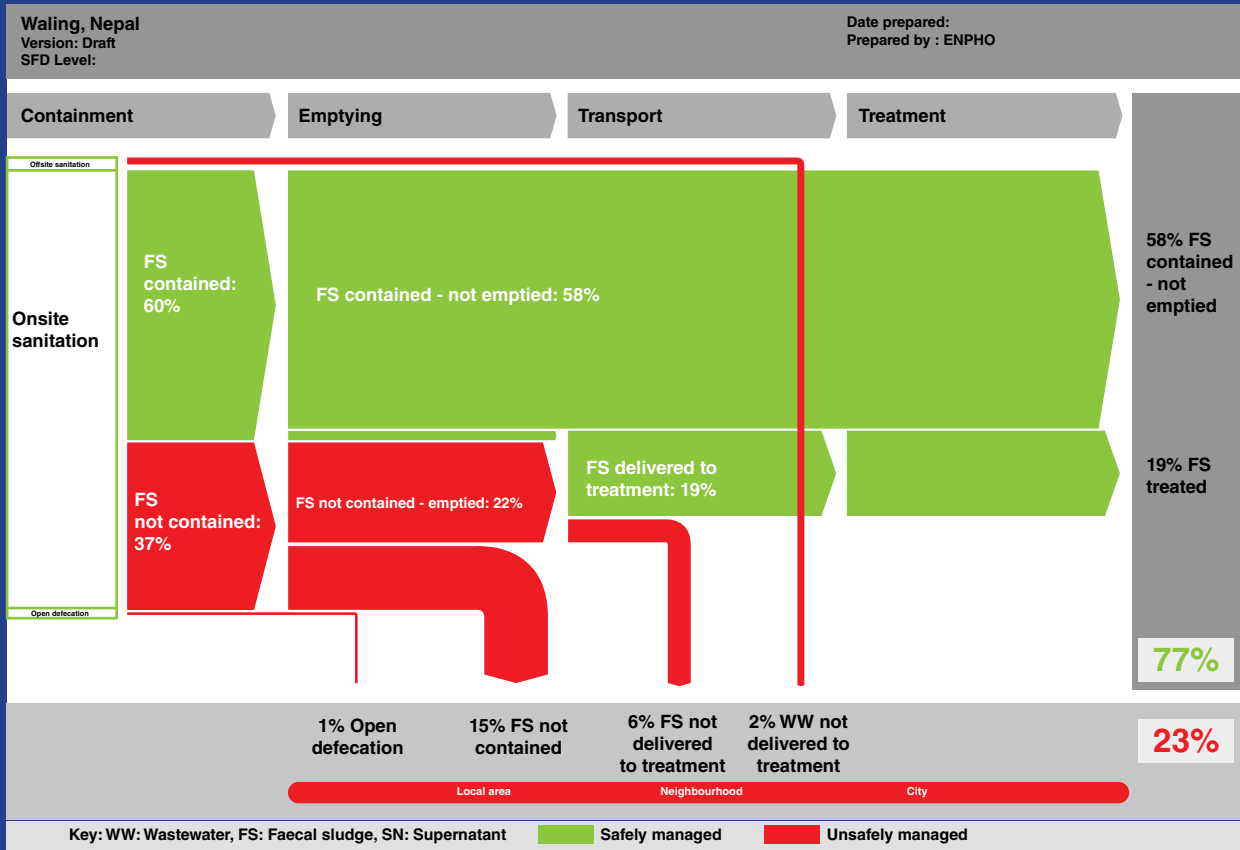
FS being disposed of in farmland

Treatment and Disposal

There is no faecal sludge treatment plant (FSTP) in the municipality. The collected FS by the private entrepreneur is disposed of in the farmland though in some cases local representatives have opposed the activity.

Overview of Faecal Sludge Flow Status

The status of faecal sludge is represented by the Shit Flow Diagram (SFD). FS collected in an anaerobic biogas digester has been treated that accounts to 19% in aggregate while 58% of FS collected in the fully lined tank or lined tank with impermeable wall and open bottom without significant risk to groundwater pollution is considered safely managed. Thus in an overall, 23% of FS is not safely managed while 58% is safely stored.



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Shit Flow Diagram of Waling Municipality



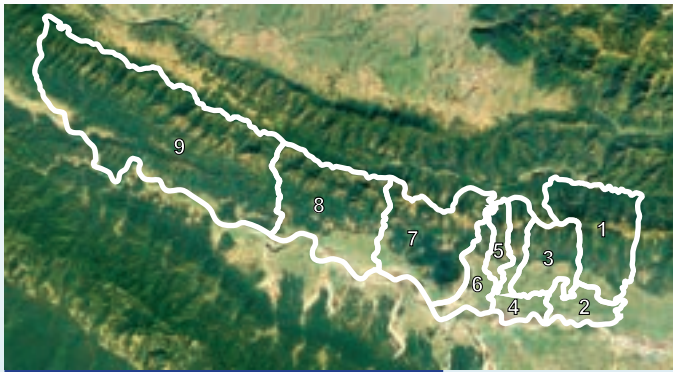
Dilip Pratap Khand

Mayor of Waling Municipality (NEPAL)

Mayor Speaks:

"Just transfer us the technology. Money will not make our projects sustainable. There is not going to be much ownership if Municipalities does not invest from one's own pockets."

Lamahi Municipality



Map of Lamahi Municipality with wards boundary

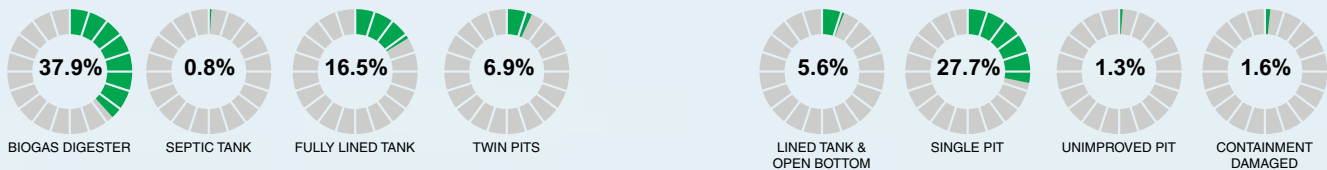
Lamahi Municipality is located in Dang District of Province Number 5, Nepal. The municipality was formed on 2 December 2014 by merging then Sonpur and Chailahi Village Development Committees. The municipality was reformed on 5 March 2017 where Satbariya VDC was merged into it. The municipality is divided into 9 wards and covers an area of 327 square kilometers along the stretch of East-West Highway. The census in 2011 reported 47,655 population resides in 9,432 households. Agriculture is a major occupation of the people in the municipality.

Sanitation Status

All three VDC-ies Sonpur, Chailahi and Satbariya were declared Open Defecation Free Zone during 2014 before they were merged to form Lamahi Municipality. Thus, all the households have access to safe sanitation.

Containment

All the household toilets in the municipality are connected to the onsite sanitation system. Anaerobic biogas digester, designed for the integrated treatment of human faeces, animal manure and organic waste at household have installed in almost all wards. In the urban cluster of the municipality basically ward number 5 and 6, the fully lined tank is installed to collect faeces. In the rural area, pit constructed out of concrete rings were prevailed along with few households with unimproved pit and damaged containments.



Types of Household Containment



A Private Desludging Vehicle



A Desludging Vehicle Operated by Municipality

Emptying and Transportation

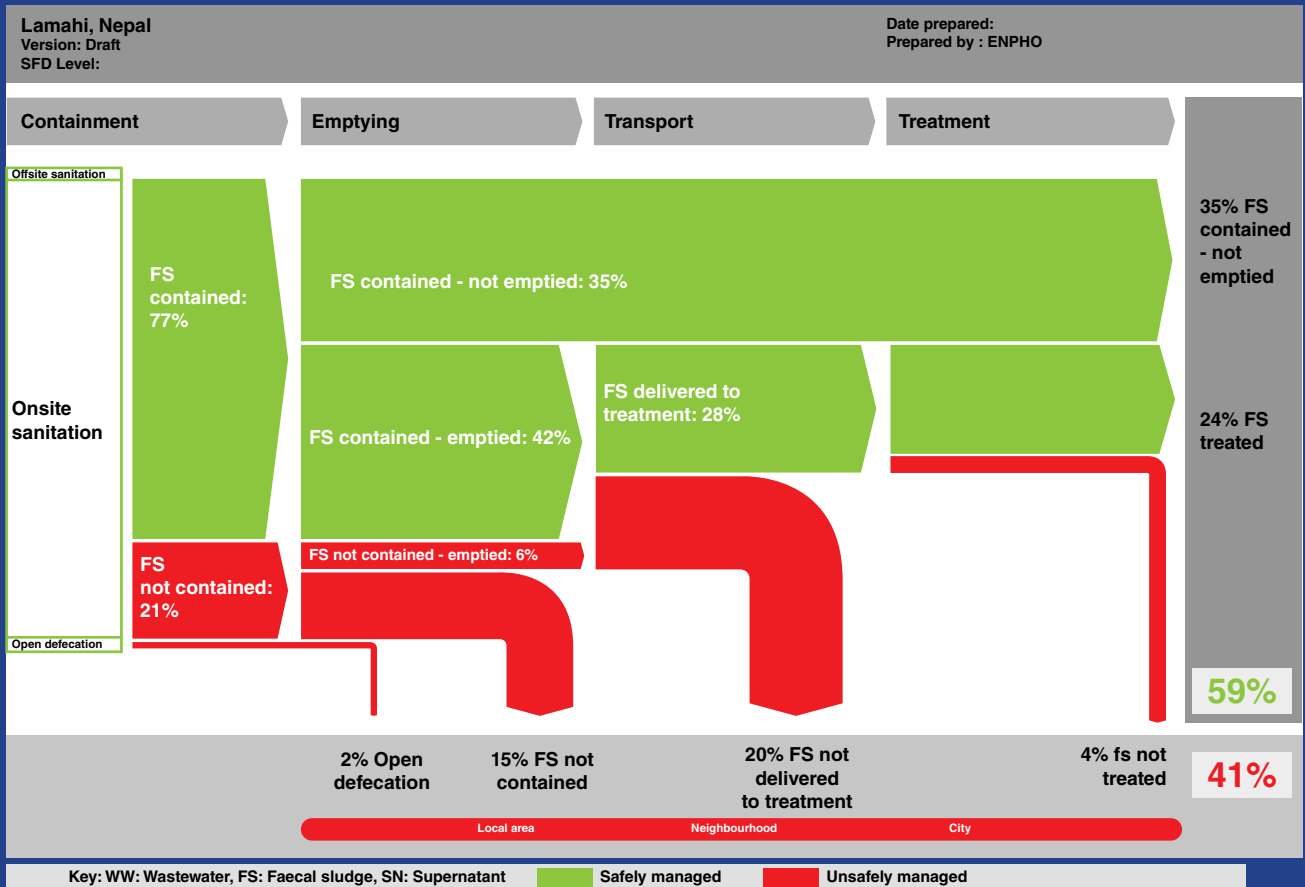
The design of anaerobic digester allows automatic discharge of slurry from the outlet in regular interval, thus it does not require emptying. While other types of containment need regular emptying for better performance and prevention of groundwater contamination from overflow or seepage of faecal sludge. The data revealed that almost 80% of the households have never emptied their containment since installation. It indicates a high rate of seepages from the containment into open environment polluting groundwater resources. A private desludging entrepreneur has been providing mechanical emptying services for two decades in the region. The municipality initiated the service since 2017 in an aim to provide affordable and effective services to all. In an average 6 m³ of FS a day is being manually emptied and dumped onsite. While approximately 20 m³ of FS a day is being emptied, collected and transported mechanically.

Treatment and Disposal

The municipality dump collected FS in its landfill site. The private desludging entrepreneur has developed disposal mechanism in its own land, where liquid separated out of the FS is pumped out to irrigate land and dried sludge is applied as a soil conditioner.

Overview of Faecal Sludge Flow Status

The overall status of faecal sludge is represented by the Shit Flow Diagram (SFD). 24% of FS collected in an anaerobic biogas digester has been treated while 35% of FS collected in the fully lined tank is considered safely managed until it is emptied and rest being disposed of haphazardly to the environment. It increased threat on groundwater contamination resulting degradation of human health upon consumption of contaminated water.



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Shit Flow Diagram of Lamahi Municipality



Kul Bahadur KC

Mayor of Lamahi Municipality (NEPAL)

Mayor Speaks:

"The FSM project has been like food to the hungry. Our Municipality already has a vacuum truck but still do not know how to manage the (fecal) waste. I urge the project to go beyond policy building and knowledge transfer and help us implement the project so that we can set an example to other growing cities."



Map of Bheemdatt Municipality with wards boundary

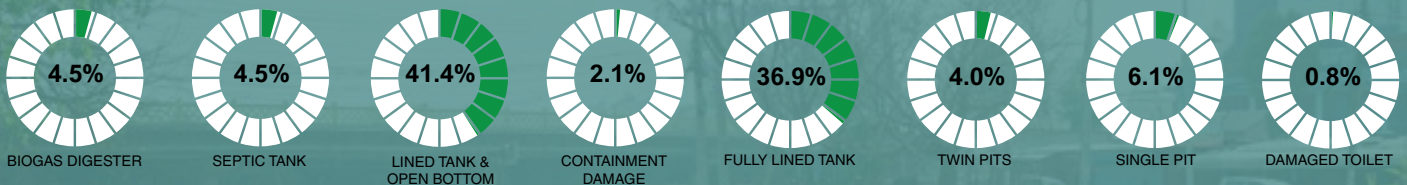
Bheemdatt municipality is located in Kanchanpur District of Sudurpashchim Pradesh, Nepal. The municipality was named Bheemdatt in the honour of the revolutionary farmer leader Bhimdatt Pant after reformation of the country as the Federal Democratic Republic of Nepal in 2008. The municipality is divided into 19 wards and cover an area of 171.63 square kilometers. The municipality is surrounded by Bedkot Municipality in the east, Dadeldhura District in the north, Shuklaphanta National Park in the south and Uttarakhand, India in the west. The census in 2011 reported 104,599 population resides in 20,684 households. The indigenous Rana-Tharus and migrated populations from districts like Baitadi, Darchula and Dadeldhura have made a unique combination of ethnic groups within diverse groups. The people in the municipality have diversified their occupation from agriculture to business and trade favored by close proximity to the border with India.

Sanitation Status

The municipality was declared Open Defecation Free Zone on November 2017 indicating all the populations has access to the toilet. However, it was observed few households do not have owned toilet.

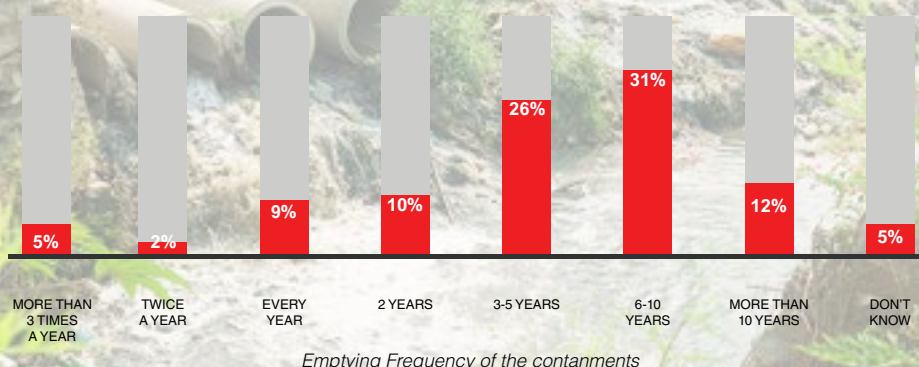
Types of Containment

Rectangular containment either fully sealed or unsealed base are mostly installed in the households to collect faeces from the toilet. Anaerobic biogas digester, designed for the integrated treatment of human faeces, animal manure and organic waste at household have been installed in ward numbers 3, 15, 16 and 19. Similarly, a septic tank which functioned as collection and primary treatment unit was installed at ward number 4 and 7. Whereas, a concrete ring pits were widely installed in a rural area of the municipality.



Emptying and Transportation

Prevention of groundwater contamination from overflow or seepage of faecal sludge requires proper installation of the containment and regular emptying. The data revealed 16.7% of the households have emptied their containment since installation. It indicates a high rate of seepages from the containment into open environment polluting groundwater resources. Also, a sole private desludging entrepreneur has been providing mechanical emptying services since 2017 while manual emptying has been traditional practices. In an average 10 m³ of Faecal Sludge (FS) a day is being manually emptied and dumped onsite and 20 m³ of FS a day is being emptied, collected and transported mechanically.



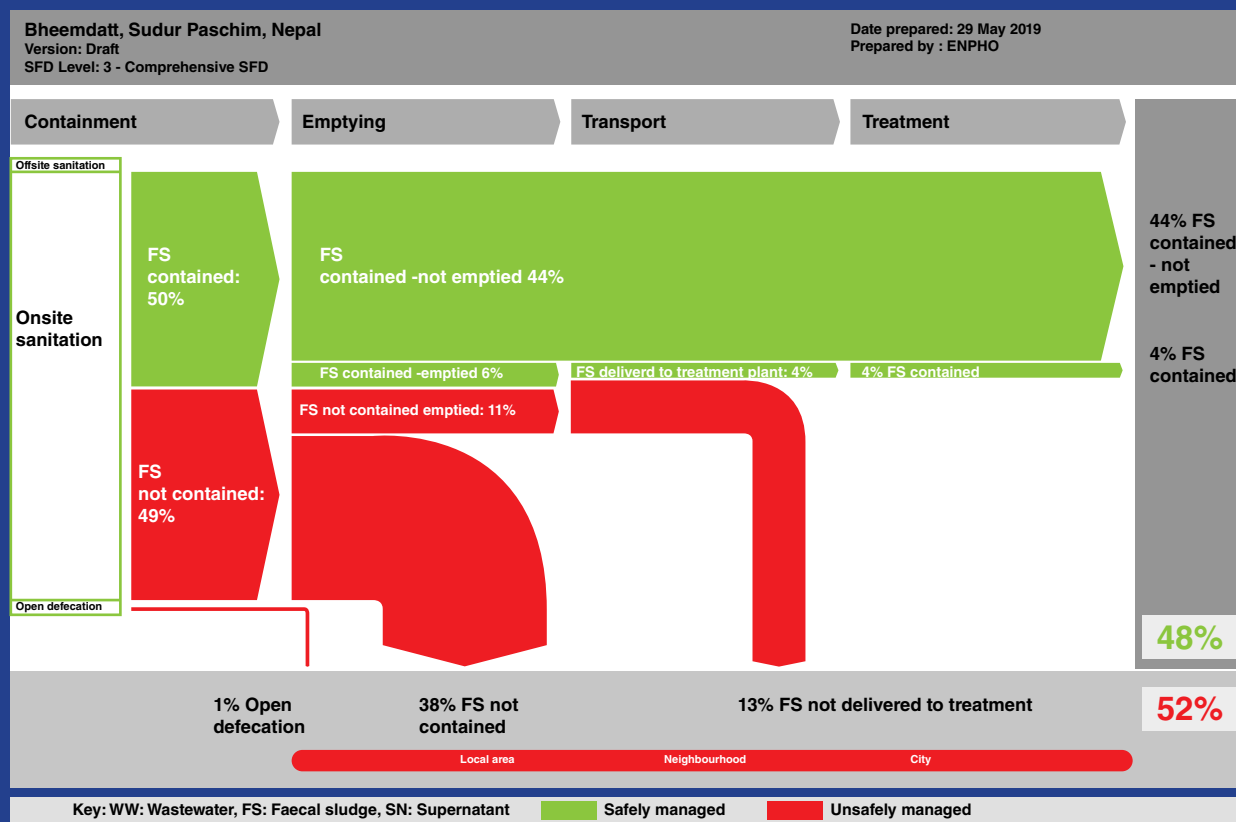
Emptying Frequency of the containments

Treatment and Disposal

The municipality does not have any forms of FS treatment plant. The FS transported by the private firm is being disposed into a pit located approximately 6 km from the city center. The pit is covered with soil after disposing. Occasionally, FS is disposed into farm land as fertilizer upon the request of land owner.

Overview of Faecal Sludge Flow Status

The overall status of faecal sludge is represented by the Shit Flow Diagram (SFD). Only 4% of FS collected in an anaerobic biogas digester has been treated while 44% of FS collected in the fully lined tank is considered safely managed until it is emptied and rest being disposed of haphazardly to the environment. It increased threat on groundwater contamination resulting degradation of human health upon consumption of contaminated water.



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Shit Flow Diagram of Bheemdatt Municipality

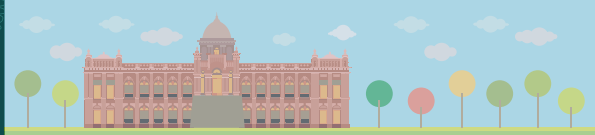
Surendra Bahadur Bista
Mayor of Bheemdatt Municipality
(NEPAL)

Mayor Speaks:

"Municipalities Network Policy Advocacy on Sanitation in South Asia Project could help develop some kind of sister-relationship between cities as the issue of faecal sludge management itself is the problem faced by all developing cities. There is urgent need to collaborate and be more cost effective in our joint efforts on waste management."

MUNICIPALITIES NETWORK POLICY ADVOCACY ON SANITATION IN BANGLADESH - SOUTH ASIA





Map of Shariatpur Municipality
with wards boundary

Surrounded by four rivers (all major rivers in Bangladesh), Shariatpur is a riverine city which was named after an eminent Islamic reformer. The municipality was founded in 1985 and is part of Dhaka Administrative Division. The city gives home to 56,356 people in 12,867 households. The male-female ratio in this city is 52:48. The major proportion of the population depends on agrarian activities. As the city is surrounded by four rivers (Padma, Meghna, Palong and Jayanti), it is one of the most disaster-prone cities in Bangladesh. The city has an area of 24.75 square kilometers. It was promoted as 'A' class municipality in 2005.

Even prior to the inception of SDG, the municipality used to provide financial and hardware assistance to poor people to establish basic sanitation service in the city. Many of the poor people have been benefited from the municipality by receiving hardware materials for constructing toilets and financial assistance who need it. The municipality is also part of the "Municipalities

Network Policy Advocacy on Sanitation in South Asia" project executed by United Cities and Local Governments Asia Pacific (UCLG ASPAC) and implemented by Municipal Association of Bangladesh (MAB), whose mandate is to enhance the institutional capacity of the municipality in safe sanitation, with focus to provide Fecal Sludge Management (FSM) services. The municipal authority is also approaching different development partners and the government for infrastructure support to ensure safe sanitation.

Sanitation Status

Like every other city in Bangladesh, Shariatpur is also open defecation free with about 96.43% of households having access to household toilet facilities. Though the city has already made adequate efforts to improve the overall coverage of toilet access, most of the fecal waste is being dumped by informal means, i.e. without involvement of the municipality, to water bodies, storm water drains and open fields with use of manual scavenging. Mass public awareness as well as municipal capacity development is required to stop the illegal sewage connection with the environment and ensure sustainable solution for achieving safe sanitation services. The annual public financial commitments for fecal sludge management (FSM) is insufficient to meet the service levels and needs of the city.

Containment

Though the city has already taken adequate efforts to improve the overall coverage of toilet access, the city of Shariatpur still does not have adequate toilet seats for men and women in public areas of the city. Of all the existing properties in the city with toilet facilities (including public and community toilets), all the toilets are connected to the onsite sanitation systems. However, none of the onsite sanitation systems in properties in the city have been emptied even once. Hence, this is leading to higher risk of seepage over years and holds a huge risk in polluting the ground water table of the city.

Emptying and Transportation

The municipality owns one desludging vehicle but none of the onsite sanitation systems have been emptied. Informal collection of Fecal Sludge is taking place, mostly through manual scavenging and then yielded in drains, nearby water bodies or open spaces. Many of households connect their septic tank to the nearby drains and, in case of pit latrines, new pits are dug when the old ones are full. The city should make efforts to encourage existing desludging operators or increase the number of desludging vehicles available in the city. The city should make efforts to encourage existing desludging operators or increase the number of desludging vehicles available in the city. The focus should be on the following options:

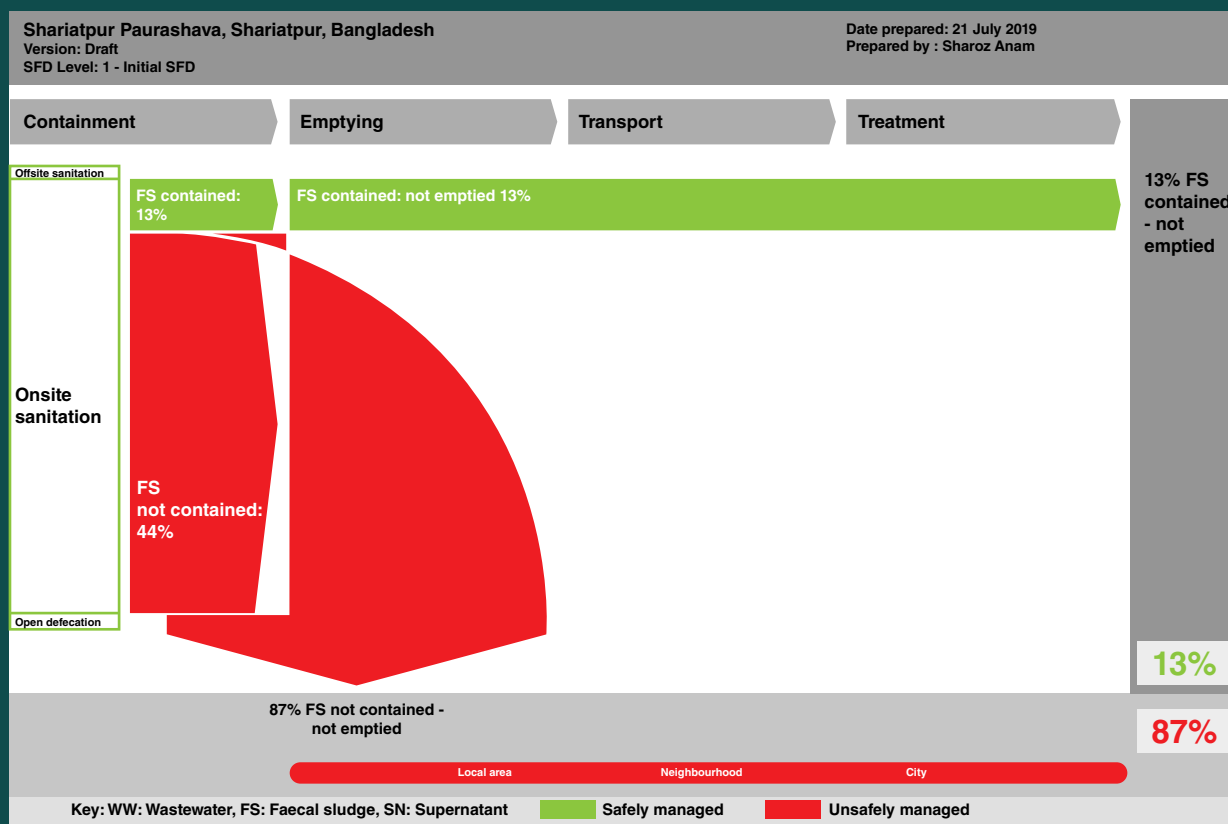
- a) Building with pits.
- b) Building with septic tanks.
- c) Building with type open sanitations systems.
- d) Building with poor road access.

Treatment and Disposal

The municipality does not have any forms of Fecal Sludge Treatment Plant in or around Shariatpur. The fecal sludge transported is emptied by manual emptier and then yielded in drains, nearby water bodies or open place. Many of the houses also connect their septic tanks to the nearby drains. In case of pit latrines, new pits are dug when the old ones are full. The desludging operators do not have any dedicated treatment unit in the neighborhood for safe disposal of the collected fecal waste. None of the wastewater nor the fecal waste is reused with remaining treated products being mixed with natural sources without being reused in the city.

Overview of Faecal Sludge Flow Status

The overall status of fecal sludge is represented by the Shit Flow Diagram (SFD). Only 13% of fecal sludge collected is contained but never emptied while 87% of fecal sludge is neither contained or emptied which is considered unsafe and unmanaged and disposed of haphazardly to the environment, particularly in the existing sewage system. It increases threat on groundwater contamination resulting degradation of human health upon consumption of contaminated water.



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Shit Flow Diagram of Shariatpur Municipality

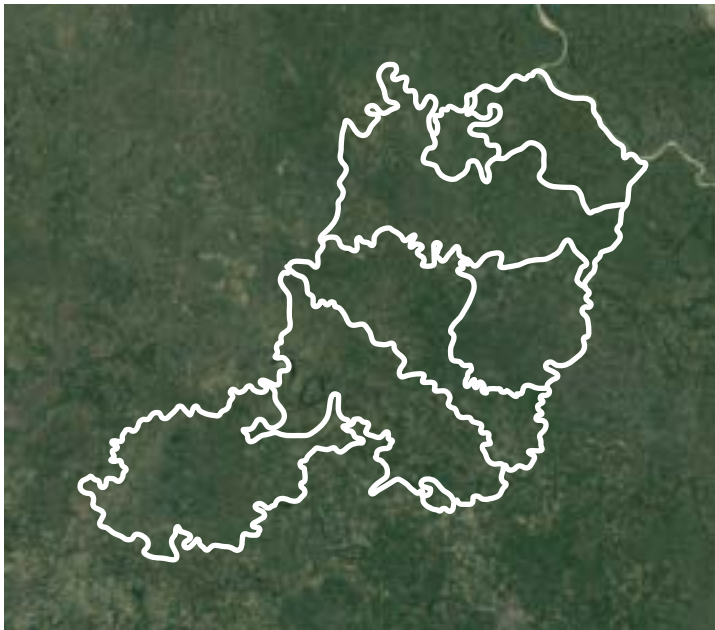
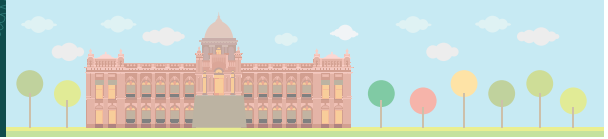


Md Rafiqul Islam

Mayor of Shariatpur Municipality
(BANGLADESH)

Mayor Speaks:

"I believe that, to tackle emerging urban challenges, leadership and strong capacity of the municipalities is the key. This project can help our municipality for enhanced capacity on fecal sludge management (FSM) and also help us to engage the mass population with whom together we can tackle the challenges, in conjunction with other environmental problems we are facing."



Map of Jhenaidah Municipality
with wards boundary

The city is known as the gateway of the south-west region of Bangladesh which was established in 1958 and is under the Khulna Division. The municipality was promoted as class 'A' municipality in 1991. Geographically, the city is situated on the high land and is risk free from any flood. Due to geographic and topographic reasons, banana is highly produced here and the city is sometimes called as the 'city of banana.' As there is less natural calamity in the city, the urban population is growing at a high pace. Around 157,822 people live in this city where the male-female ratio is 51:49. The number of household is 13,530. Total area of the municipality is 32.42 square kilometers.

Jhenaidah is recognized as a pioneering city in Bangladesh in establishing City Wide Inclusive Sanitation services. With the funding from the government, one Fecal Sludge Treatment Plant (FSTP) was established in the city. Later, with

the help from SNV Netherlands Development Organization, the city started to operationalize the city wide inclusive sanitation services. The municipal authority now has sub-contracted the fecal sludge collection activity to a third party vendor who receives requests from the city dwellers to empty their fecal waste containments. The dynamic mayor of the municipality, Mr. Saidul Karim Mintu, with his vibrant leadership, is continuously motivating the city dwellers to support his activity and stop illegal sewage connection. The city is part of several government and development partner projects to support their continuing good work on environmental sustainability.

Sanitation Status

Like every other city in Bangladesh, Jhenaidah is also open defecation free. SNV has been implementing fecal sludge management (FSM) interventions in Jhenaidah since 2014. Jhenaidah, with the assistance of SNV and BMGF, has installed fecal sludge treatment plant (FSTP) and has improved emptying and transportation system of fecal sludge using Vaccum truck. The FSTP has two types of fecal treatment beds namely, constructed wet bed (36m³/day) and drying bed (capacity 5m³/day). Considering the CAPEX, OPEX and sustainability, Jhenaidah Municipality has imposed FSM tax following Paurashava Model Tax Schedule 2014 and service tariff for emptying the containment and sludge transport safely and treatment. The FSM tax is 5% rate for private holdings and 12% rate for government and public holdings.

Containment

Though the FSM interventions was started in 2014, the safe emptying of containment, transporting and treatment of sludge started in earlier of 2017. After introducing the improved FSM services the manual emptying decreasing and safe emptying through Vaccum truck increasing day by day. In the meantime, the municipality imposes penalty for illegal connection of containment with drain or waterbodies, and has enforced BNBC during installation of the containments. The municipality and the local NGO is working together to reduce/stop manual emptying in the city.

Emptying and Transportation

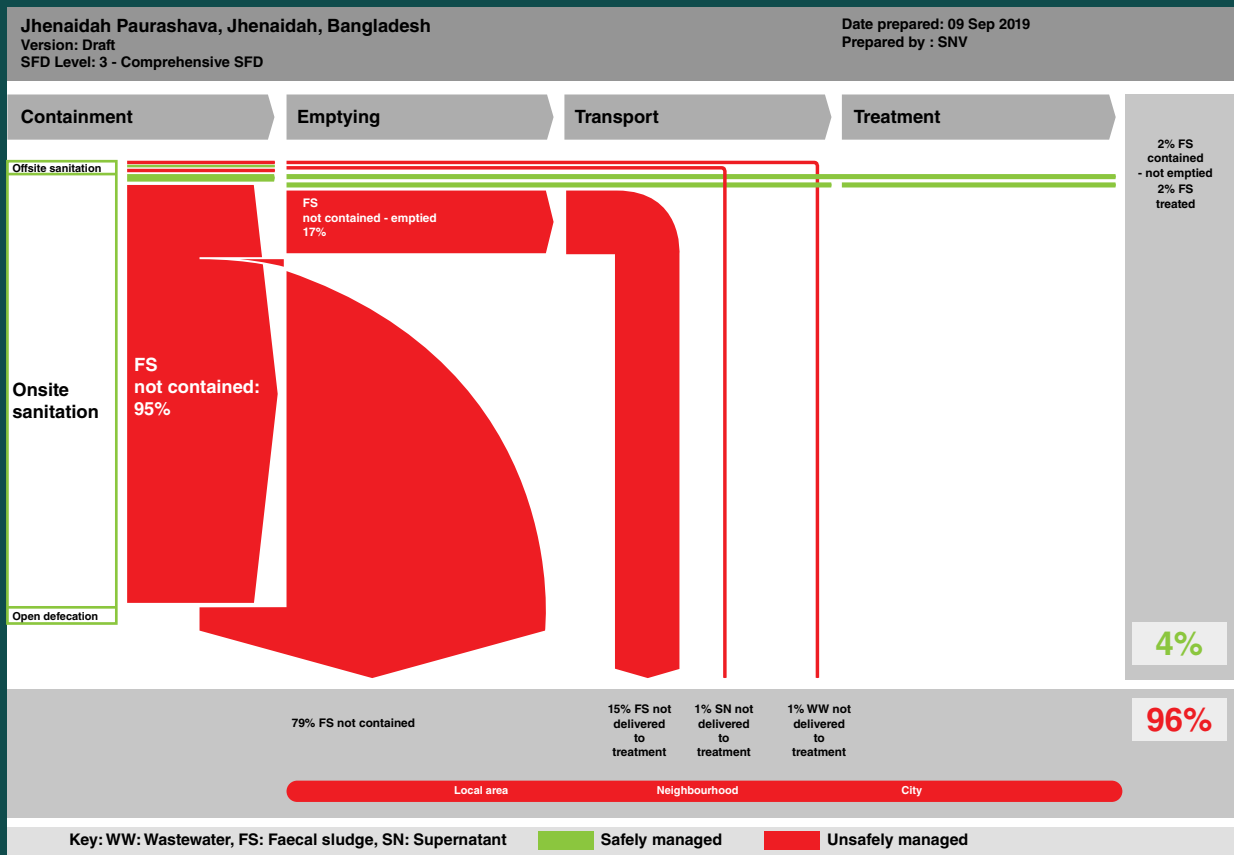
The fecal sludge management (FSM) related interventions had been implemented by Jhenaidah Municipality for one year. After one year, the municipality outsourced the FSM related activities to a local NGO which is working for demand creation and providing FSM related services around the city since December 2017 through two Vaccum truck (2,000 liters and 1,000 liters capacity).

Treatment and Disposal

There was no fecal sludge treatment plant (FSTP) in Jhenaidah before 2014 but it had sludge dumping points/stations in operation during that time which was 7-8 kilometers away from the city. Now, the city has improved FSTP which has been running well. The FSTP has two types of fecal treatment beds namely, constructed wet bed (36m³/day) and drying bed (capacity 5m³/day).

Overview of Faecal Sludge Flow Status

The overall status of faecal sludge is represented by the Shit Flow Diagram (SFD). Only 4% of faecal sludge collected is contained while 96% of faecal sludge is neither contained or emptied which is considered unsafe and unmanaged and disposed of haphazardly to the environment, particularly in the existing sewage system. It increases threat on groundwater contamination resulting degradation of human health upon consumption of contaminated water.



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Shit Flow Diagram of Jhenaidah Municipality



Saidul Karim Mintu

Mayor of Jhenaidah Municipality
(BANGLADESH)

Mayor Speaks:

"Jhenaidah welcomes all Mayors from other Municipalities abroad for partnership and exchange successful practices and make growing cities more habitable in terms of good urban planning, service provisions or opportunities for development funding."



Map of Bera Municipality
with wards boundary

Bera Municipality is an “A” class municipality, situated at the north-western side of Bangladesh. The municipality is under Pabna District which falls in the Rajshahi Division. The city is strategically important as there are several important industries surrounding the city. The total area of the municipality is 20.5 square kilometers. Around 52,596 people reside here where 49% of them are female. The municipality was established in 1988.

Sanitation Status

Like any other city in Bangladesh, Bera is also open defecation free with over 97% of households having access to household toilet facilities. Currently, the municipality is constructing a Fecal Sludge Treatment Plant to ensure safe sanitation services in the city. A large portion of the people still dump their fecal waste in the water bodies and open spaces. The municipality is also part of the “Municipalities Network Policy Advocacy on Sanitation in South Asia” project executed by United Cities and Local Governments Asia Pacific (UCLG ASPAC) and implemented by Municipal Association of Bangladesh (MAB), whose mandate is to enhance the institutional capacity of the municipality to provide Fecal

Sludge Management (FSM) services. The municipality regularly provides urban services to the urban poor in a hassle free manner. If the safe sanitation service is in place, the urban poor as well as the citizens will be benefited greatly in terms of environmental sustainability.

Types of Containment

Though the city has already taken adequate efforts to improve the overall coverage of toilet access, the city of Bera still does not have adequate toilet seats for men and women in public areas of the city. Of all the existing properties in the city with toilet facilities (including public and community toilets), all the toilets are connected to the onsite sanitation systems. However, none of the onsite sanitation systems in the city have been emptied even once. Hence, this is leading to higher risk of seepage over years and holds a huge risk in polluting the ground water table of the city. Informal collection of fecal sludge is taking place with rampant manual scavenging with the non-involvement of the municipality in the process

Emptying and Transportation

The municipality owns one desludging vehicle but none of the onsite sanitation systems have been emptied. Informal collection of Fecal Sludge is taking place, mostly through manual scavenging and then yielded in drains, nearby water bodies or open spaces. Many of households connect their septic tank to the nearby drains and, in case of pit latrines, new pits are dug when the old ones are full. The city should make efforts to encourage existing desludging operators or increase the number of desludging vehicles available in the city. The focus should be on the following options:

- a) Building with pits.
- b) Building with septic tanks.
- c) Building with open type sanitation systems.
- d) Building with poor road access.

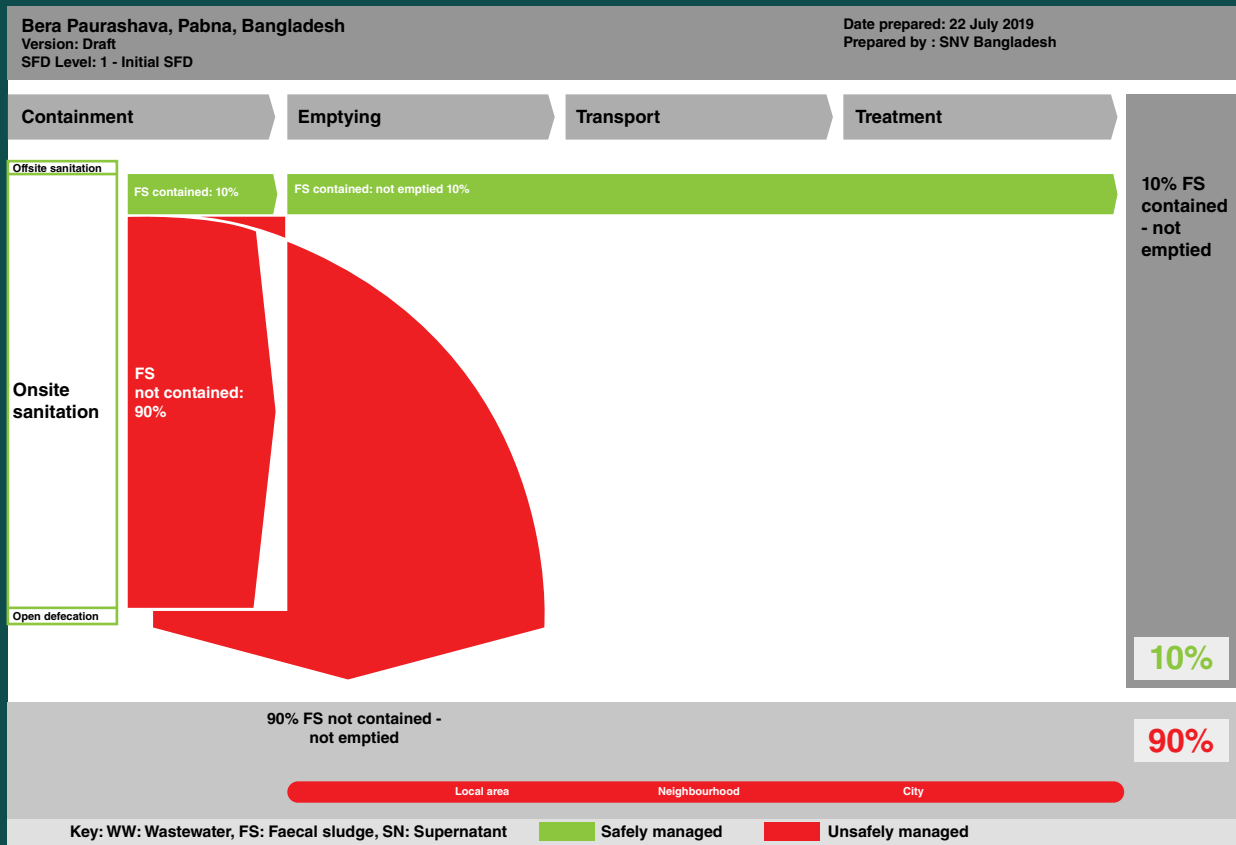
Treatment and Disposal

The municipality does not have any forms of Fecal Sludge Treatment Plant in or around Bera. The fecal sludge transported by the private firm is possibly dumped into the open environment. The desludging operators do not have any dedicated treatment unit in the neighborhood for safe disposal of the collected fecal waste. None of the wastewater nor the fecal waste is reused with remaining treated products being mixed with natural sources without being reused in the city.



Overview of Faecal Sludge Flow Status

The overall status of faecal sludge is represented by the Shit Flow Diagram (SFD). Only 10% of faecal sludge collected is contained but never emptied while 90% of faecal sludge is neither contained or emptied which is considered unsafe and unmanaged and disposed of haphazardly to the environment, particularly in the existing sewage system. It increases threat on groundwater contamination resulting degradation of human health upon consumption of contaminated water.



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Shit Flow Diagram of Bera Municipality

Md Abdul Baten

Mayor of Bera Municipality
(BANGLADESH)

Mayor Speaks:

"Municipal Association of Bangladesh (MAB) has been working since 2003 in advocating creation of policies which will also support the central government as well as be the voice of municipalities and adopt projects and policies to ensure citizen rights. Hence, MAB is not only working within the countries but also connecting internationally as member of global organizations such as UCLG ASPAC to share and gain knowledge and international practices to advocate both nationally and globally."



Map of Natore Municipality with wards boundary

Established in 1869, Natore is one of the oldest municipalities of Bangladesh and under the Rajshahi Division in northern part of the country. The city served as the capital of a king before, and often treated as the capital of northern Bangladesh. The city has an area of 14.80 square Kilometers and is classified as an 'A' class municipality. There is one large water body that surrounds the city which produces the major proportion of garlic for the entire country during the dry season. Around 86,566 people live in this city. The male-female ratio is 51:49.

Sanitation Status

In terms of drainage services, Natore Municipality has made significant progress over last couple of years through different government funded projects. With help from Department of Public Health and Engineering (DPHE) of Government of Bangladesh, construction of a fecal sludge treatment plant has already been initiated. However, the process was hindered due to some unavoidable circumstances. The city is now in the priority list of municipalities who will receive support for fecal sludge treatment plant construction. Like any other city of the country, most of

the household has connected their sewage line to the storm water drains. With the support from an ongoing "Municipalities Network Policy Advocacy on Sanitation in South Asia" project executed by United Cities Local Governments Asia Pacific (UCLG ASPAC) and implemented by Municipalities Association of Bangladesh (MAB) and from the government, the municipality is hopeful to ensure safe sanitation in the city.

Types of Containment

Though the city has already taken adequate efforts to improve the overall coverage of toilet access ranging currently at 96.63%, the city of Natore still does not have adequate toilet seats for men and women in public areas of the city. Of all the existing properties in the city with toilet facilities (including public and community toilets), all the toilets are connected to the onsite sanitation systems. However, none of the onsite sanitation systems in properties in the city have been emptied even once. Hence, this is leading to higher risk of seepage over years and holds a huge risk in polluting the ground water table of the city.

Emptying and Transportation

The municipality owns two desludging vehicles but none of the onsite sanitation systems have been emptied. Informal collection of Fecal Sludge is taking place, mostly through manual scavenging and then yielded in drains, nearby water bodies or open spaces. Many of households connect their septic tank to the nearby drains and, in case of pit latrines, new pits are dug when the old ones are full. The Municipality also assigns manual emptier if any request is placed in the municipality. The city should make efforts to encourage existing desludging operators or increase the number of desludging vehicles available in the city. The focus should be on the following options:

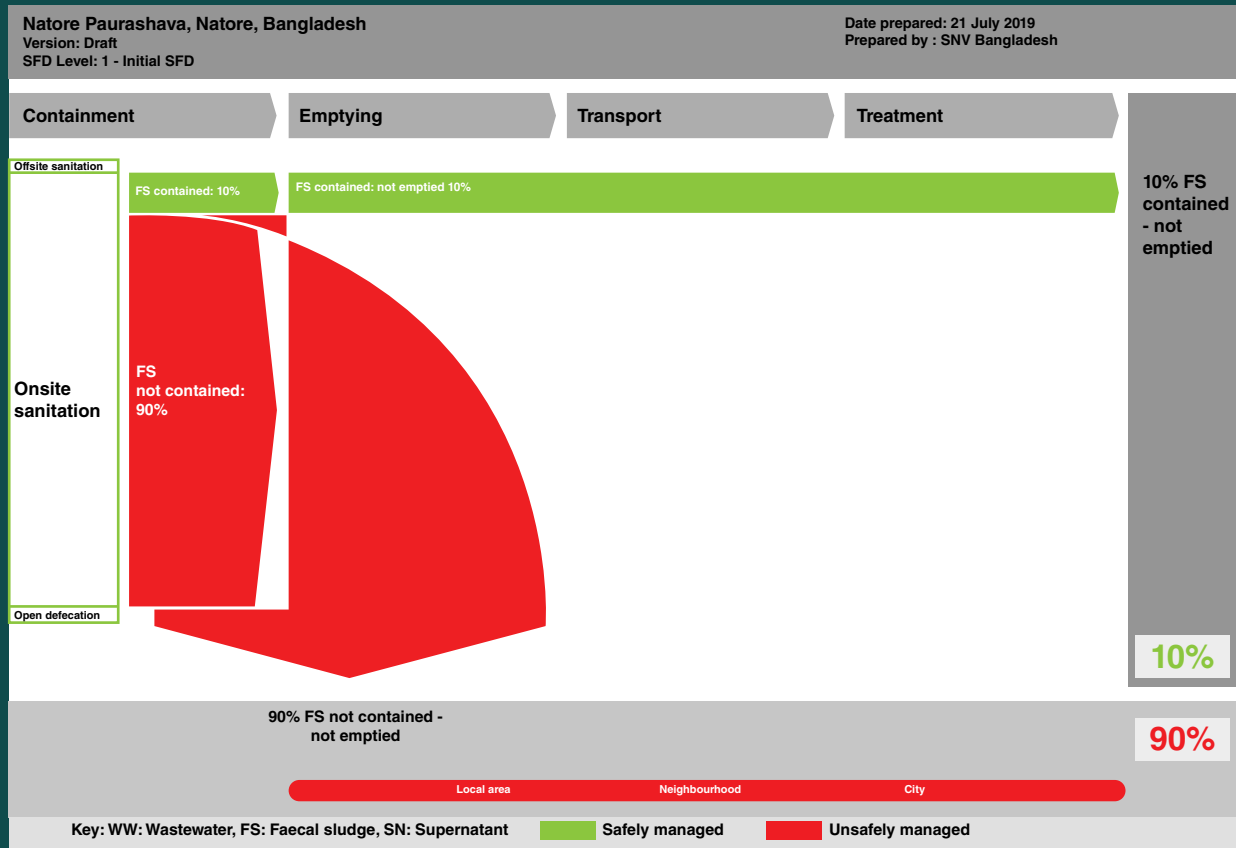
- a) Building with pits.
- b) Building with septic tanks.
- c) Building with open type sanitation systems.
- d) Building with poor road access.

Treatment and Disposal

The municipality does not have any forms of Fecal Sludge Treatment Plant in or around Natore. The fecal sludge transported by the private firm is possibly dumped into the open environment. The desludging operators do not have any dedicated treatment unit in the neighborhood for safe disposal of the collected fecal waste. None of the wastewater nor the fecal waste is reused with remaining treated products being mixed with natural sources without being reused in the city.

Overview of Faecal Sludge Flow Status

The overall status of faecal sludge is represented by the Shit Flow Diagram (SFD). Only 10% of faecal sludge collected is contained but never emptied while 90% of faecal sludge is neither contained or emptied which is considered unsafe and unmanaged and disposed of haphazardly to the environment, particularly in the existing sewage system. It increases threat on groundwater contamination resulting degradation of human health upon consumption of contaminated water.



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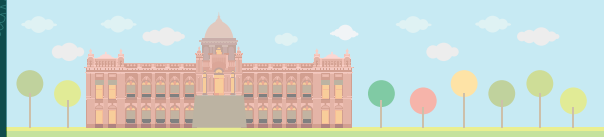
Shit Flow Diagram of Natore Municipality

Uma Chowdhury

Mayor of Natore Municipality
(BANGLADESH)

Mayor Speaks:

"We are enthusiastic about exploring financial options for establishing faecal sludge management (FSM) infrastructure in our municipality. We believe that, through this project, we will be able to ensure adequate finances not only for the infrastructure but also for proper management of faecal waste."



Map of Lalmonirhat Municipality with wards boundary

The municipality was established in 1972 and is a class 'A' municipality. The city is located at the northern part of Bangladesh under the Rangpur Division bordering India in the North-West top end. The total area of the municipality is 17.40 kilometers which gives home to about 62,467 people. The city is divided into 9 wards. As the city is situated at the border with India, the major proportion of the economic activity of the city is related to import-export with India.

Sanitation Status

The municipality used to provide financing and instrumental support to the urban poor to construct toilet during the MDG period. The support continued after 2015 as well and it stopped when all the people of the city had access to at least basic sanitation service. However, most of the city dwellers connect their sewage line with the drainage network or dump in the open environment. Recently, the municipality is constructing a fecal sludge treatment plant in the city with the support from the government and the

ongoing “Municipalities Network Policy Advocacy on Sanitation in South Asia” project executed by United Cities Local Governments Asia Pacific (UCLG ASPAC) and implemented by Municipalities Association of Bangladesh (MAB) is helping the municipality to increase the institutional capacity to safely manage the fecal sludge. The city authority is proactive in ensuring safe sanitation service to its citizens.

Types of Containment

Though the city has already taken adequate efforts to improve the overall coverage of toilet access ranging currently at 99.88%, the city of Lalmonirhat still does not have adequate toilet seats for men and women in public areas of the city. Of all the existing properties in the city with toilet facilities (including public and community toilets), all the toilets are connected to the onsite sanitation systems. However, none of the onsite sanitation systems in properties in the city have been emptied even once. Hence, this is leading to higher risk of seepage over years and holds a huge risk in polluting the ground water table of the city.

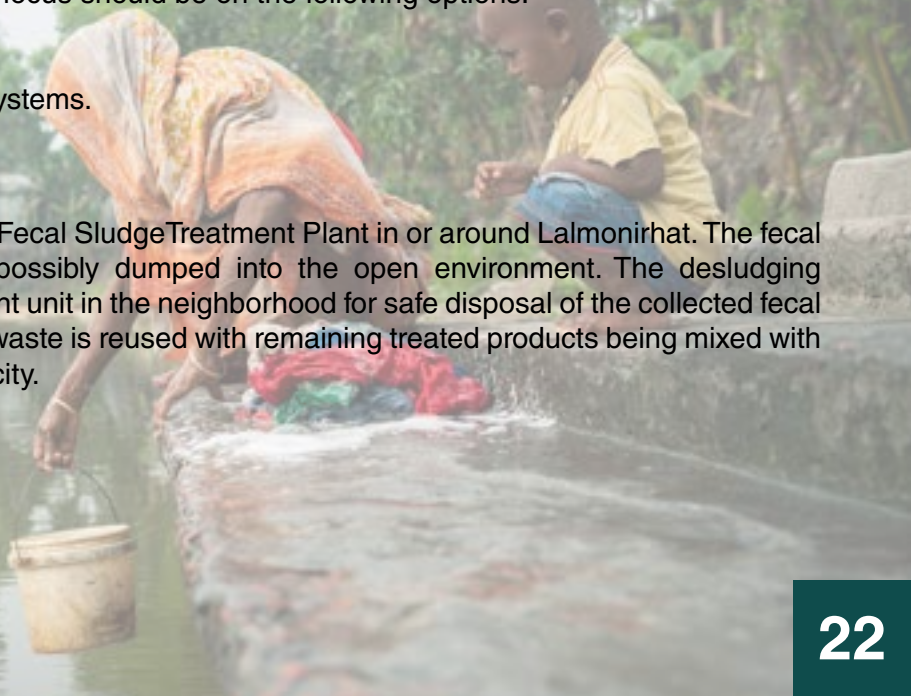
Emptying and Transportation

The municipality owns one desludging vehicle but none of the onsite sanitation systems have been emptied. Informal collection of Fecal Sludge is taking place, mostly through manual scavenging and then yielded in drains, nearby water bodies or open spaces. Many of households connect their septic tank to the nearby drains and, in case of pit latrines, new pits are dug when the old ones are full. None of the onsite sanitation systems have been emptied. Furthermore, it is apparent that there are inadequate desludging vehicles in the city. The city should make efforts to encourage existing desludging operators or increase the number of desludging vehicles available in the city. The focus should be on the following options:

- a) Building with pits.
- b) Building with septic tanks.
- c) Building with type open sanitations systems.
- d) Building with poor road access.

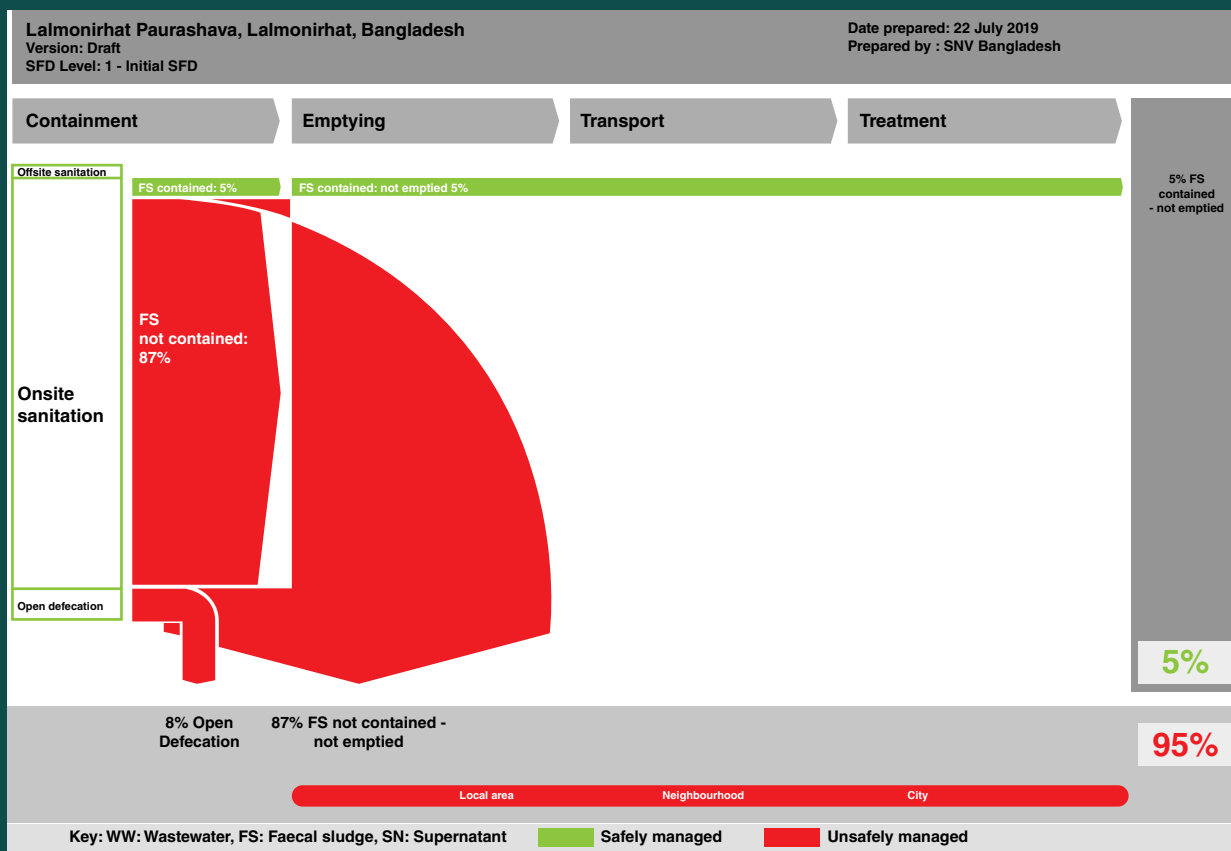
Treatment and Disposal

The municipality does not have any forms of Fecal Sludge Treatment Plant in or around Lalmonirhat. The fecal sludge transported by the private firm is possibly dumped into the open environment. The desludging operators do not have any dedicated treatment unit in the neighborhood for safe disposal of the collected fecal waste. None of the wastewater nor the fecal waste is reused with remaining treated products being mixed with natural sources without being reused in the city.



Overview of Faecal Sludge Flow Status

The overall status of faecal sludge is represented by the Shit Flow Diagram (SFD). Only 5% of faecal sludge collected is contained but never emptied while 95% of faecal sludge is neither contained or emptied which is considered unsafe and unmanaged and disposed of haphazardly to the environment, particularly in the existing sewage system. It increases threat on groundwater contamination resulting degradation of human health upon consumption of contaminated water.



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Shit Flow Diagram of Lalmonirhat Municipality

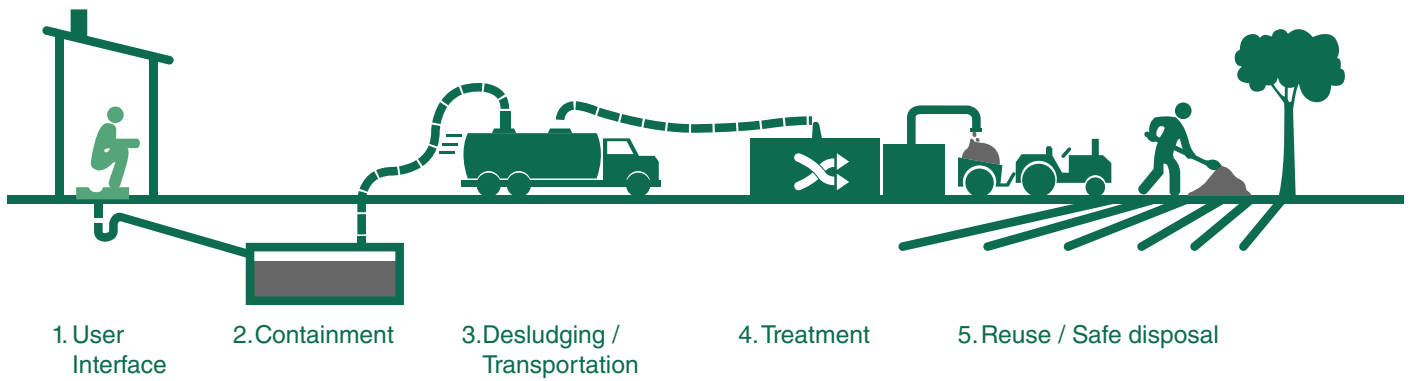


MdRiazul Islam Rintu
 Mayor of Lalmonirhat Municipality
 (BANGLADESH)

Mayor Speaks:

“Capacity building is very important component for any development initiative. From this project, we are looking forward to build capacity of our municipality so that we can tackle the challenges of managing faecal sludge. We can also work together to develop a model in our municipality which can help us to tackle other urban challenges as well.”

Sanitation Value Chain



Executing Agency



Implementing Agency



Technical Partner

