

# Action Plan for Open Defecation Free Gadhadra

Prepared by Urban Management Centre Under the Performance Assessment System (PAS) Project

Until May 2015





This study has been undertaken by the Urban Management Centre under the Performance Assessment System Program (PAS)

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This study may be used for research and academic purposes. Please acknowledge the use of this study and send us a copy of the same at [info@umcasia.org](mailto:info@umcasia.org)

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# Outline

- Context of study
- City profile
- Steps of Assessment
- Observations
- Proposal
- Way forward



# Introduction to Swachh Bharat Mission (SBM)

According to Census 2011, India's urban population is 377 million or 31% of the total population. These numbers are expected to increase to 600 million by 2031. The Census 2011 also showed that in 4,041 statutory towns, close to eight million households do not have access to toilets and defecate in the open (7.90 million). Unsafe sanitation has significant health costs and untreated sewage from cities is the single biggest source of water resource pollution in India. This indicates both the scale of the challenge ahead of the Indian cities and the huge costs incurred from not addressing them.

Hence the Govt. of India launched the SBM in October 2014 to achieve the following objectives:

1. Elimination of open defecation
2. Eradication of Manual Scavenging
3. Modern and Scientific Municipal Solid Waste Management
4. To effect behavioral change regarding healthy sanitation practices
5. Generate awareness about sanitation and its linkage with public health
6. Capacity Augmentation for ULB's
7. To create an enabling environment for private sector participation in Capex (capital expenditure) and Opex (operation and maintenance)



एक कदम स्वच्छता की ओर



# Introduction to Mahatma Gandhi Swachhta Mission (MGSM)

Mahatma Gandhi Swachhta Mission (MGSM) is a state mission of Gujarat under Swachh Bharat Mission (SBM). MGSM was launched in February 2014, even before the national SBM was launched.

## Mission Objectives:

1. To bring improvement in general quality of life in Urban and Rural areas.
2. Encouraging sustainable sanitation facilities through creating awareness and health education, giving inspiration to communities and Panchayati Raj Institutions.
3. Encouraging affordable and proper technology for ecological life and sustainable sanitation.
4. The schools which are not covered under Sarva Shiksha Abhiyan be covered, to provide anganwadi centers of rural area with proper sanitation and health facilities and provide active engagement about health education and sanitation facilities to students.
5. Focusing on solid and liquid waste in Urban and Rural areas for entire cleanliness, develop environmental sanitation system being arranged by community.

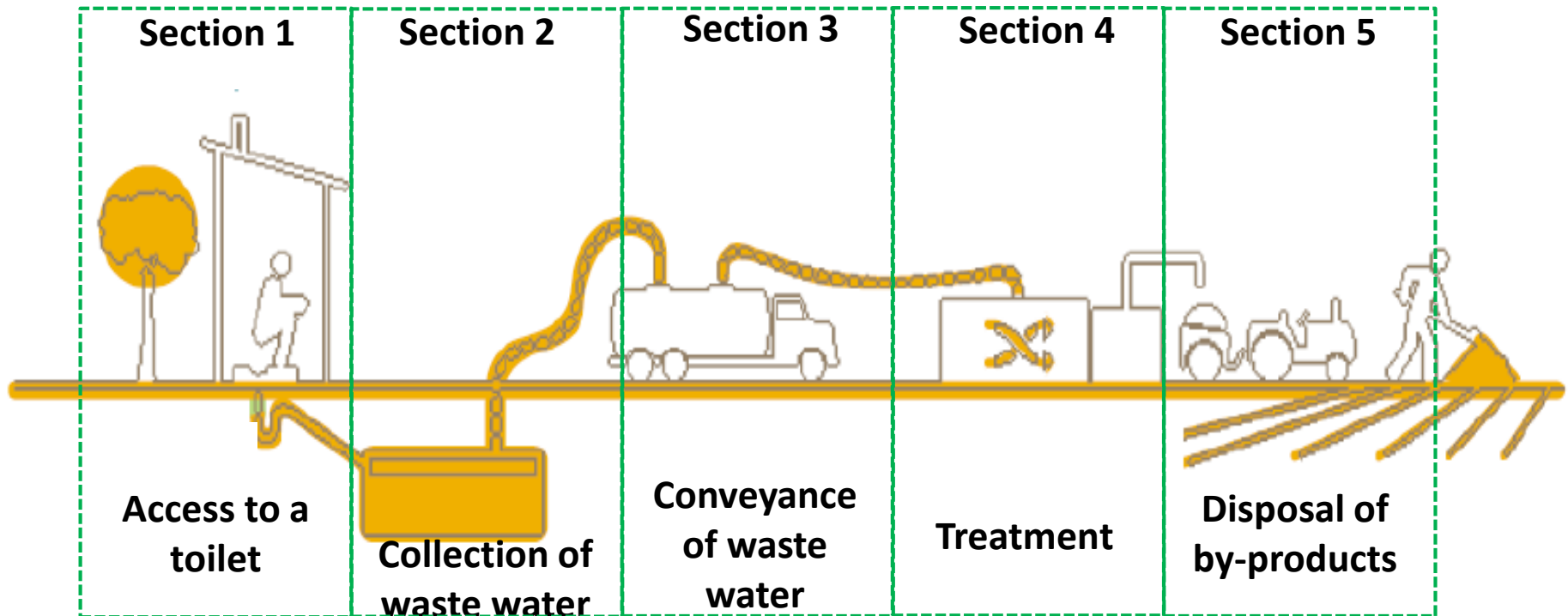


# Definition: 'Open Defecation Free (OD Free)'

According to the Ministry of Drinking Water and Sanitation (MDWS), OD Free is the termination of faecal-oral transmission, defined by:

- No visible faeces found in the environment/village; and
- Every household as well as public/community institutions using safe technology for disposal of faeces

This indicates safe sanitation system and practices along the value chain of sanitation (figure below):



# Why make our cities open defecation free?

In India:

Over 49% households defecate in the open while, 53% have a mobile phone

3.18 lacs children died of pneumonia and diarrhea – 2014

INR 1,030 crores are spent annually, for treatment of only one variant (Rotavirus) of diarrhea cases

## Prevention



- Vaccination:
  - rotavirus, hep A/B, typhoid, cholera, measles (shown to indirectly reduce risk of diarrhoea)
- HIV Prevention
- Promotion of hand washing and hygiene
- Safe water and sanitation



Using a toilet is the simplest way of prevention

Source: Diarrhoea in India, ITSU, Johns Hopkins – IVAC, Global health strategies; IVAC 2011, 2012, 2013, 2014

# Why make our cities open defecation free?

**Safety** is a growing concern, **wild animal** attacks are distressingly common

One person **defecating in the open** poses a **risk** to not only one's own household, but also the whole community

It causes: cholera, typhoid, hepatitis, polio, diarrhea, worm infestation, reduced physical growth, impaired cognitive function and under nutrition.



Source: <http://www.unicef.org/statistics/>



# City Profile

Gadhada is a class C municipality, situated on the banks of the river Ghela, in Botad district in Gujarat. Gadhada is best known for its Swaminarayan temple. Pilgrims of Swaminarayan sect frequent the city every full-moon and on numerous other occasions.

There is a large influx of pilgrims during the annual festival 'Paatotsav', celebrated by followers of the Swaminarayan sect.

Population of Gadhada was 29,872, in the year 2011(Census of India, 2011). The work force of Gadhada is mainly occupied with:

Farming	10%
Agricultural labour	21%
Marginal workers	10%



Image source: <http://goo.gl/Y7LNDs> on 14th Aug 2015



Image source: <http://goo.gl/7qMJGn> on 14th Aug 2015

Close to three quarters\* of the city is covered with municipal water supply connections and 65 litres per capita per day water is supplied at the consumer end. The city has had a sewerage system since 1950s.

However, a treatment facility has been setup by the city only recently.

\* PAS checklist data of 2014 – 15

# City Profile

The census had also reported that the city had 147 slum households with a population of 1,052.

Alongside, the city administration identifies 3 slum settlements:

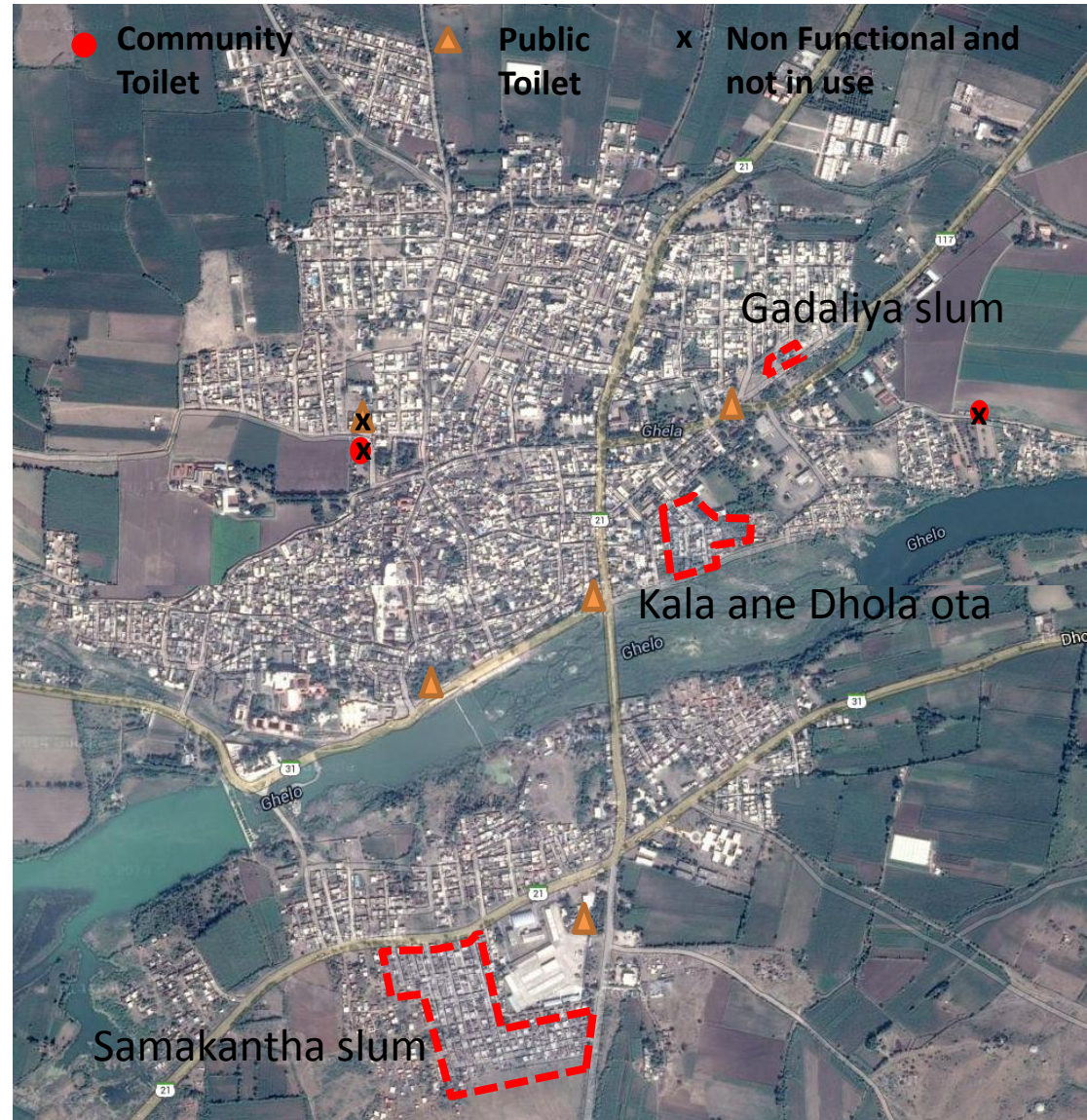
1. Kala ane dhola ota slum;
2. Samakantha slum;
3. Gadaliya slum

Of these 'Gadaliya slum' is an encroachment on the land owned by the Indian Railways.

Besides, the census had also reported that there were 963 households without a toilet. Hence, with the launch of MGSM, the Gujarat Municipal Finance Board (GMFB) had set this target for the city to provide individual toilets.

Gadhada had achieved this target in 2015 (Source: GMFB). Only five cities in Gujarat share this achievement.

Map of Gadhada showing locations of slums and public conveniences



# Objectives

Anjar, Rapar, Palitana, Patdi are the only other cities that had reported either 100% or over 95% achievement of the target of providing individual toilets.

Gadhada was chosen as a case-study of best practice, with the following objectives:

- To review the existing conditions of household toilets, and community and public toilets;
- To identify areas to work with the city and make it OD free.



# Steps of Assessment

## Assessment of availability of sanitation services in slums and slum-like settlements

- Availability of individual toilets
- Last mile connectivity

## Identification of OD sites

- Identifying spots in the gamtal, and around slums where people defecate in the open

## Assessment of the sanitation value-chain

- All the components of the sanitation value-chain must be in place for safe sanitation

## Consulting the ULB to identify the factors affecting success

- Documenting efforts, of the city, in raising demand

## Assessment of public toilets

- Availability, accessibility, and condition

Consultation with the ULB



# Observation: Availability of Sanitation Services in Slums

## Assessment of availability of sanitation services in slums and slum-like settlements

- The city administration has provided individual toilets to households in the two slums:
  - Kala ane dhola ota slum,
  - Samakantha slum
- Since Gadaliya slum is settled on the land of the Indian Railways, the urban local body (ULB) has expressed its inability to provide individual toilets. Slum dwellers here have expressed their inability to pay for using the public toilet that is near their settlement.
- This area does not have any water supply. However, water supply for a nearby public drinking water station is shared amongst all the households of the slum.
- Besides, some households in the 'Samakantha slum' area also do not have connection to a safe system for disposal of waste water, for their toilets.



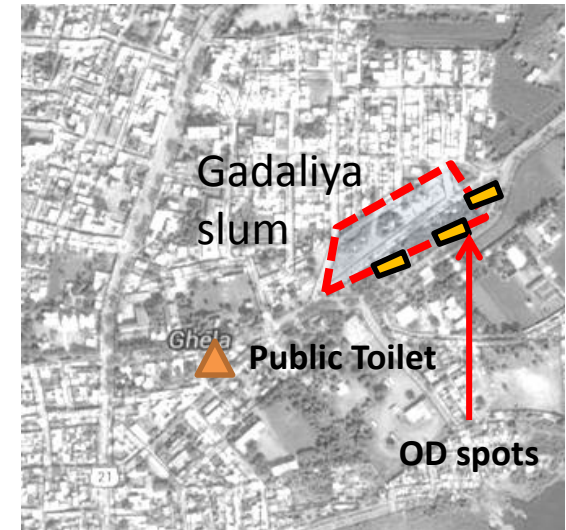
Gadaliya slum

# Observation: OD Spots

## Identification of OD spots

There are 2 spots in the city where people defecate in the open. One is located next to the 'Gadaliya slum', and the other is located near 'Samakantha slum'. There are individual toilets in all the households of 'Samakantha slum' but, a few of them were yet to be connected with the city's sewerage network that exists in the area (May 2015). On the other hand dwellers of 'Gadaliya slum' do not have any toilet facilities.

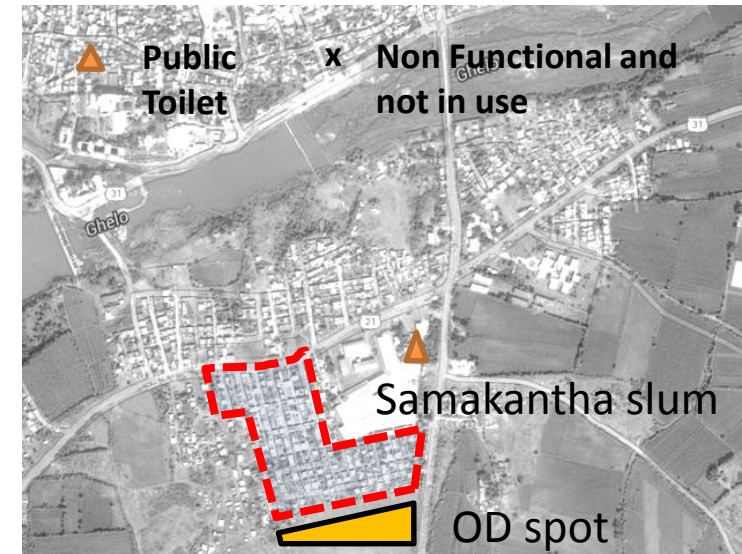
All the remaining areas have adequate facilities for sanitation barring some instances around the public toilet, near 'Fulwadi' that is dysfunctional.



Open defecation at 'Gadaliya slum'



Individual toilets in 'Samakantha slum'



# Observation: Sanitation Value-chain

## Assessment of the sanitation value-chain

Gadhada had 78% coverage of individual toilets, according the Census of India, 2011, and the city had achieved 100% of its target of individual toilets in the year 2013 – 14.

Close to three quarters of the city had an operational sewerage network in the year 2013-14. Now there are only a few instances where some households remain to be connected with the sewer lines that have been laid, eq. Some households in the 'Sama kantha slum' remain to be connected, with the new sewer lines laid there (May 2015). The city commissioned its STP in June 2015, with which it now has all the components of sanitation value-chain in place. This STP will be operated by GWSSB, for a duration of 2 years after which it will be handed over to the Gadhada municipality. The city must be in a position to operate the STP and recover its expenses through a levy of user charges.



# Observation: Providing toilets to all

Consulting the ULB to identify the factors affecting success

After achieving their target of providing individual toilets, the ULB made announcements in all the areas of the city, to raise a demand for individual toilets, consequently receiving 184 new applications. After receiving new applications, a total of 1147 Individual Toilets have been constructed and achieved its 100% target of constructing individual toilets. Also Gadhada has submitted proposal for converting 610 insanitary toilets into sanitary toilets, of which, 482 (79%) toilets have been converted into sanitary till April 2016.

This campaign sets the city apart from other municipalities and comprehensively encompassed the essence of MSGM.

## - પ્રેસ નોટ -

આથી તમામ લોકોને જણાવવામાં આવે છે કે જે ધરમાં / જે કુટુંબો માં શૌચાલય ની સુવિધા નથી તેમા સરકારશ્રીની વ્યક્તિગત શૌચાલય યોજના અન્વયે શૌચાલય બનાવી આપવાના હોય

સરકારશ્રીની વ્યક્તિગત શૌચાલય યોજના હેઠળ જે કુટુંબ / ધરમાં શૌચાલયની સુવિધા નથી તેવા લોકોએ પોતાનું નામ નગરપાલીકા કચેરીએ તા..... સુધી માં નોંધાવી જવા અપીલ છે.



City-wide announcements asking households to apply for individual toilets

Note published by the Municipality urging the residents to apply for individual toilets

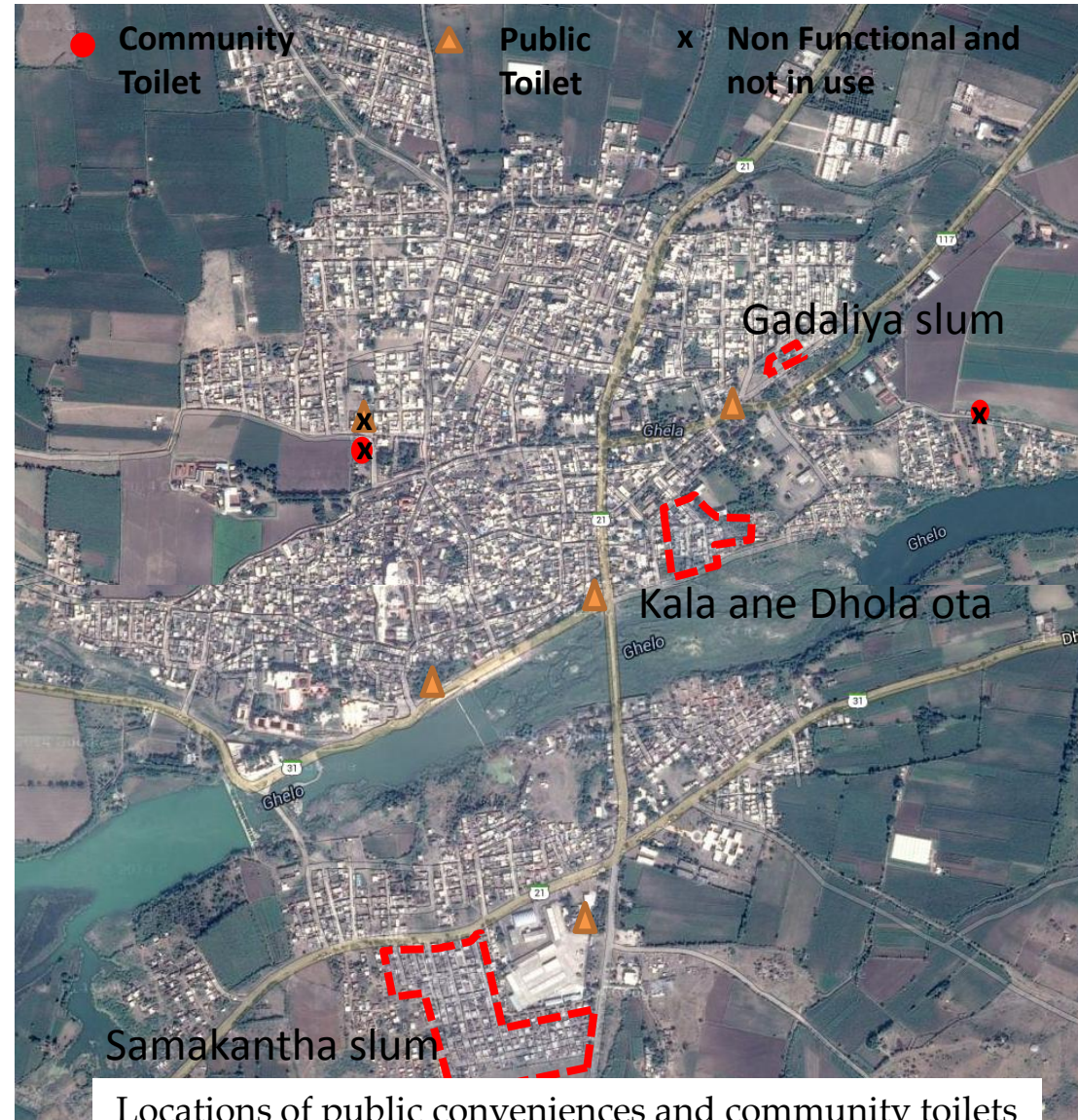


# Observation: Condition of Public Toilets

## Assessment of public toilets

### Public toilets and community toilets

- There are 5 public toilets and 2 community toilets in the city. One of the public toilets is dysfunctional for the lack of having an agency for operations, while both the community toilets are in dilapidated condition.
- GMFB has allocated funds for construction of 2 new public toilets; for which the city is facing difficulties in acquiring land.
- Given the influx of floating population such as pilgrims, management of temples makes temporary arrangements for public convenience.



Locations of public conveniences and community toilets



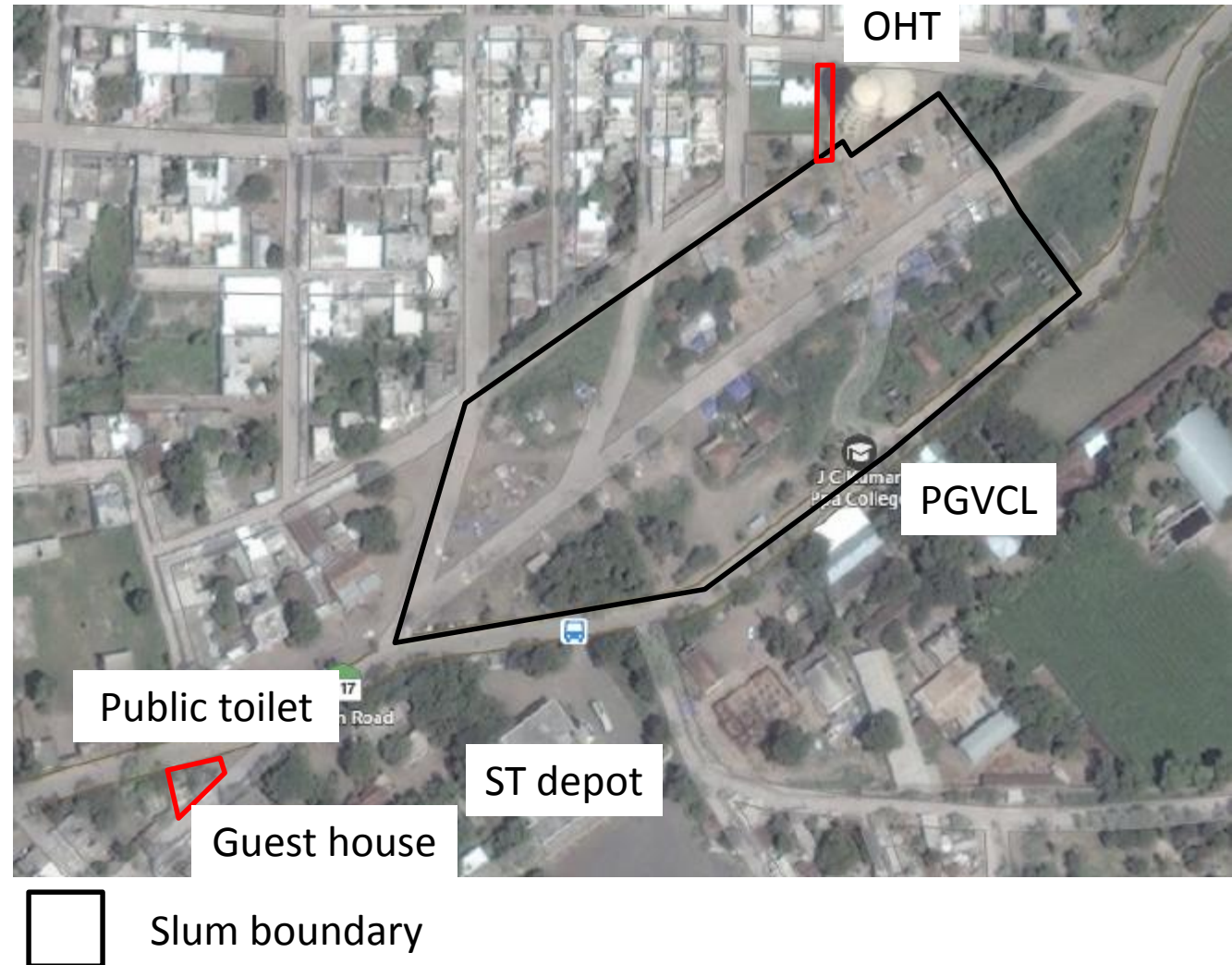
# Gadaliya Slum Survey

Gadaliya slum has 55 HH which belong to 4 different communities, namely Gadaliyas, Godhariyas, Vaghris, and Devipujaks.

This settlement houses an estimated population 250. Most of these residents spend most part of the year in Gadhada, while occasionally travelling for a couple of months, for work or festivals.

Out of all the HH, 45 were surveyed and the remaining were not available. Thus, about 218 people were covered in the surveys and their opinion was sought regarding use of community shared toilets. About, 190 expressed their willingness to use shared toilets, while 6 were not willing to use shared toilets.

In the second round of surveys to find out about who those HH will share their toilets amongst each other, all the communities were willing to use the proposed toilets, and contribute for adequate maintenance.



# Gadaliya Slum Survey

Gadaliya Slum



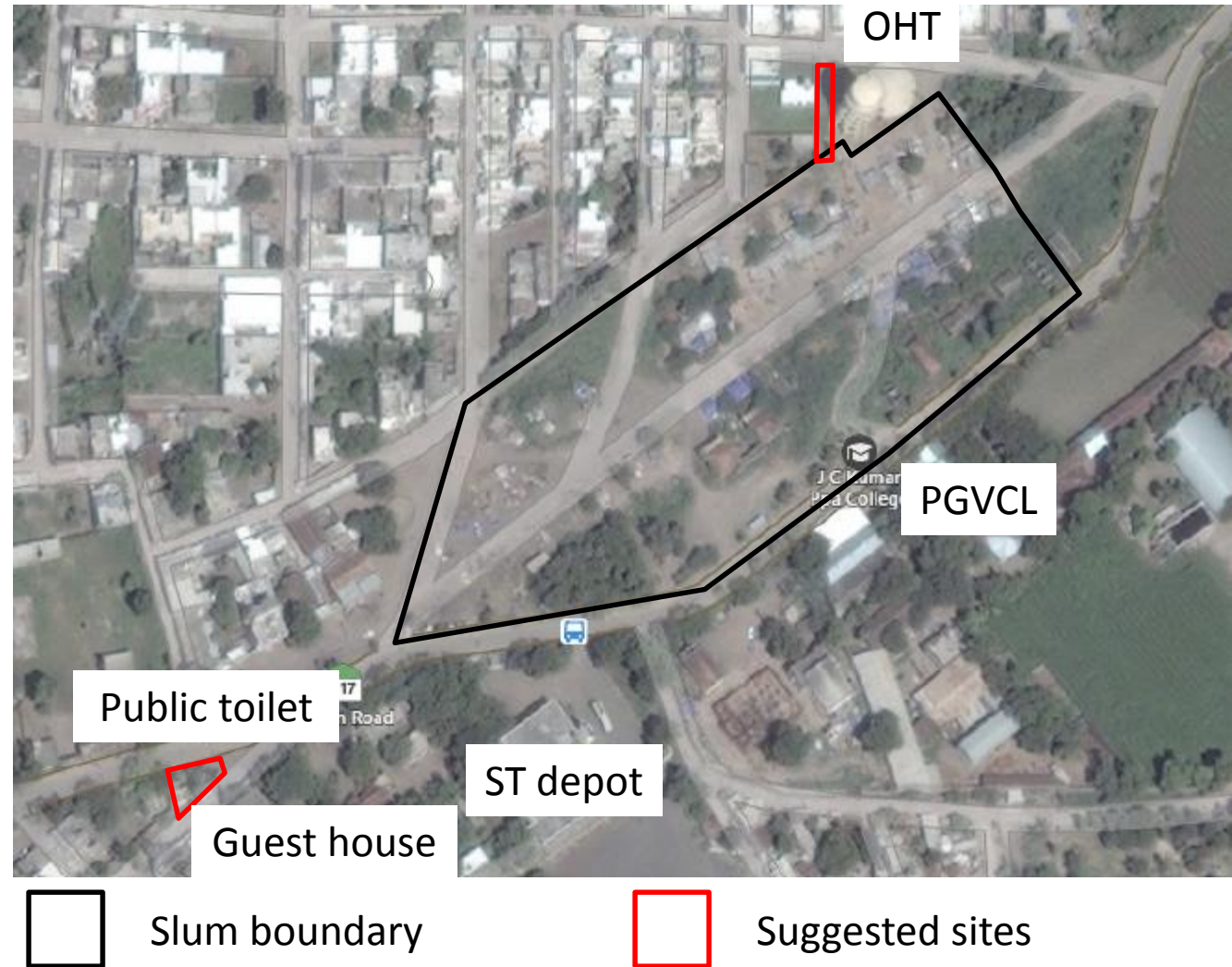
Features of the slum



OD Spot

# Proposals for Gadaliya Slum

- As mentioned earlier providing individual toilets to the households of 'Gadaliya slum' is not possible.
- However, taxonomy of other sanitation infrastructure suggests that a public toilet in the vicinity could be re-purposed as a community shared toilet.
- Facilities of this toilet block could be assigned to groups of three households each.
- Alternatively, new community shared toilets must be constructed in the proximity of the slum area.
- One of the sites that is feasible for construction of toilets is inside the premises of the OHT, which has adequate space, and water supply and sewer lines in its vicinity.



# Proposals for Gadaliya Slum

- Yet another alternative is to provide the slum with an interim solution such as modular FRP toilets with on-site waste water treatment solutions.
- These could be installed as removable structures in the settlement.
- Such an installation shall be in contravention to the Public Premises Eviction Act of 1971. However, in the interest of public health it is imperative that this community be provided with toilets.
- Given the size of this community 16 such toilets will be required for the households (Annexure).
- Besides, toilets it is also important to educate the community on the importance of using them, and washing hands.

## Sintex's Pre-fabricated Modules



Image source: <http://goo.gl/DTfGKB> accessed on 10th Oct 2015

# Proposals for Gadaliya Slum

Technology	No. of users	Cost of toilet	Cost of treatment unit	Incentive for toilets	Gap
FRP toilet block with biodigester	15	2.25 lacs	45,000	30,000	2.4 lacs
FRP toilet block with septic tank	15	2.25 lacs	25,000	30,000	2.2 lacs

An estimated expenditure of INR 38.4 lacs will be incurred for providing toilets under alternative 1, while that for alternative 2 would be INR 35.2 lacs, according to the guidelines for ODF cities under the MGSM. These units shall have a bathing facility also.

Technology	No. of Users	Cost of toilet	Cost of treatment unit	Incentive for toilets	Gap
FRP toilet block with biodigester	15	33,000	45,000	12,000	66,000
FRP toilet block with septic tank	15	33,000	25,000	12,000	46,000

In case funds are available for individual toilet units only, these alternatives could be considered. The first alternative here will incur a total expenditure of INR 10.56 lacs, while the second alternative will incur a cost of INR 7.36 lacs.

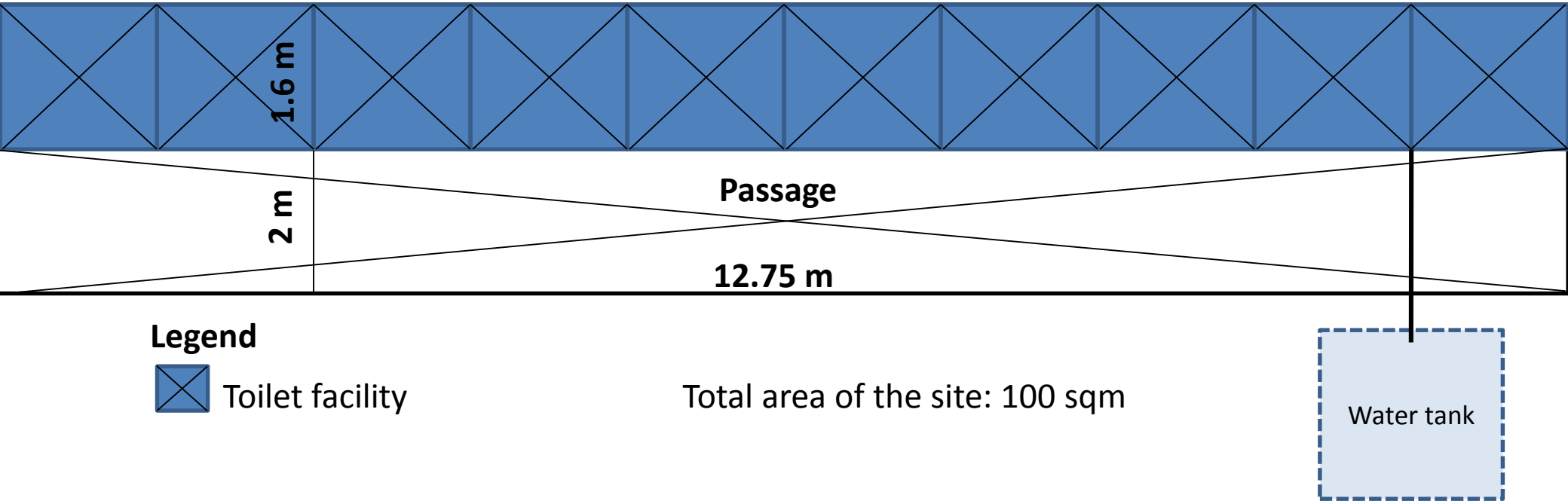
# Configurations of shared toilets for Gadaliya slum

In case the toilets are provided under MGSM program, in the premises of the OHT, the following configurations could be adopted to meet with the requirements of the community. Options 4 and 5 conform to the 'Guidelines for Open Defecation Free Gujarat', laid down by the GR under MGSM.

## Gadaliya Community Shared Toilet Configurations

Unit dimensions (metres)			
Breadth	1.5		
Length	1.35 x n + 0.25 (n = no. of toilet seats)		
Serial	Configuration no. of units x no. of rows	Site area required sqm	Total area required sqm
1	10 x 1 (Option 1)	48.1	96.3
2	5 x 1 (Option 2)	24.5	98.0
3	5 x 2 (Option 3)	46.5	93.0
4	10 x 1 + 6 x 1 + 2 x 1 (Option 4)	68.8	137.5
5	5 x 1 + 3 x 1 + 1 x 1 (Option 5)	35.0	140.0

# Option 1: 10 x 1 Layout of Toilet Units



## Features:

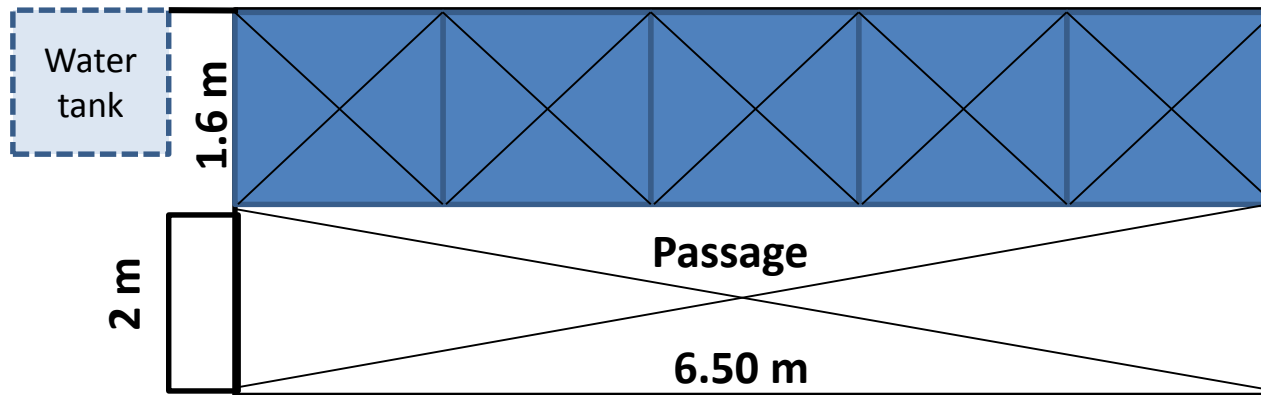
1. 10 toilet units,
2. Passage way of width 2 meters,
3. Water tank (additional area of 3 sqm will be required),
4. Water supply, power supply, electrical fixtures, etc. are other features that have been envisaged.

## Note:

Additional features such as bathrooms, wash areas, etc. would require proportionally more area.



# Option 2: 5 x 1 Layout of Toilet Units



## Legend



Toilet facility

Total area of the site: 105 sqm

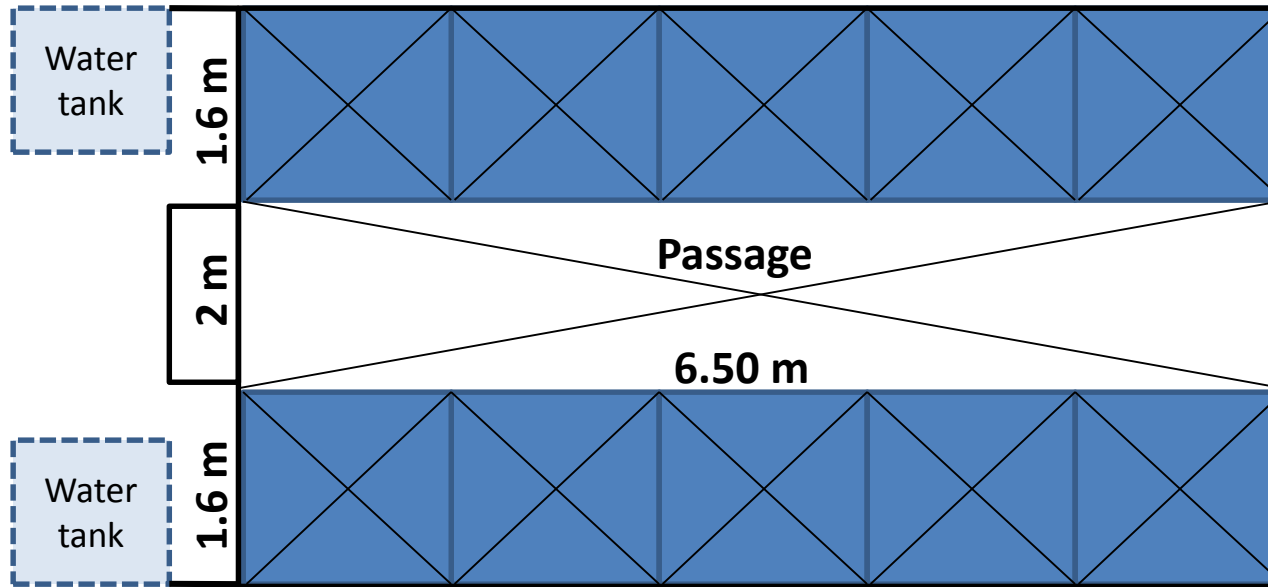
## Features:

1. 5 toilet units,
2. Passage way of width 2 meters,
3. Water tank (additional area of 2 sqm will be required),
4. Water supply, power supply, electrical fixtures, etc. are other features that have been envisaged.

## Note:

Additional features such as bathrooms, wash areas, etc. would require proportionally more area.

# Option 3: 5 x 2 Layout of Toilet Units



Legend

Total area of the site: 100 sqm



Toilet facility

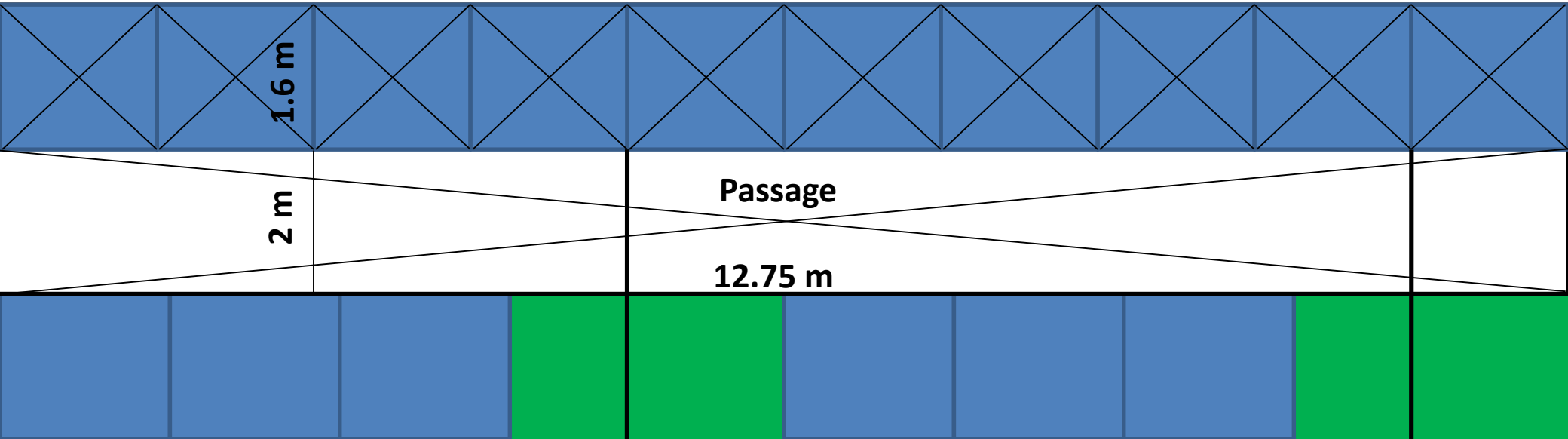
Features:

1. 10 toilet units,
2. Passage way of width 2 meters,
3. 2 Water tanks (additional area of 4 sqm will be required),
4. Water supply, power supply, electrical fixtures, etc. are other features that have been envisaged.

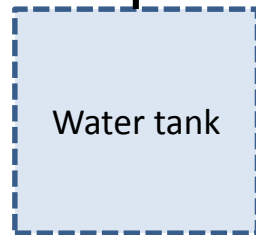
Note:

Additional features such as bathrooms, wash areas, etc. would require proportionally more area.



# Option 4: 10 x 1 + 6 x 1 + 2 x 1 Layout of Toilet Units

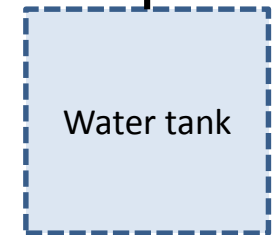


Total area of the site: 145 sqm



## Legend

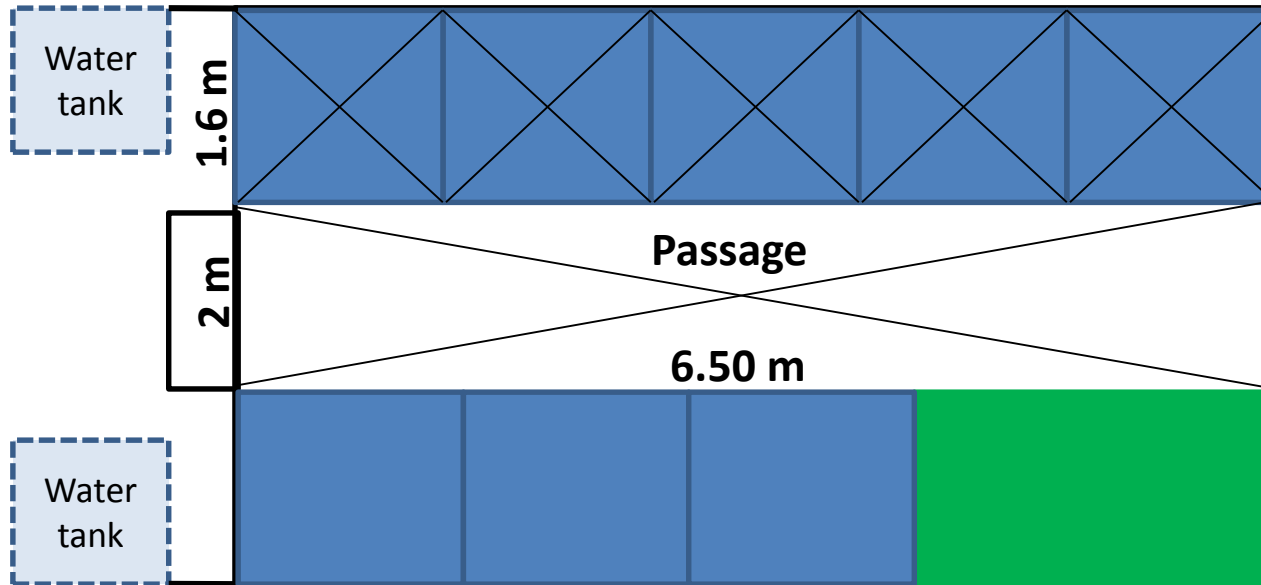
-  Toilet facility
-  Bathroom





## Features:

1. 10 toilet units, 6 washing areas, 2 bathrooms,
2. Passage way of width 2 meters,
3. 2 Water tanks (additional area of 6 sqm will be required),
4. Water supply, power supply, electrical fixtures, etc. are other features that have been envisaged.

# Option 5: 5 x 1 + 3 x 1 + 1 x 1 Layout of Toilet Units



## Legend

-  Toilet facility
-  Bathroom

Total area of the site: 150 sqm

## Features:

1. 5 toilet units, 3 washing areas, 1 bathroom,
2. Passage way of width 2 meters,
3. 2 Water tanks (additional area of 4 sqm will be required),
4. Water supply, power supply, electrical fixtures, etc. are other features that have been envisaged.

# System for disposal of waste water

- Connection to sewerage network is desired for disposal of waste water
- Size of septic tank for Options 1, 3, and 4:
  - 10m x 3m x 1m (200 users)
- Size of septic tank for Options 2, and 5
  - 7.5m x 2.65m x 1m (100 users)

# Steps to 'OD Free Gadhada'

Changing behaviour of citizens is also essential to prevent them from defecating in the open, and using toilets instead.

- Engage NGOs such as BAPS for wider and effective dissemination of information
  - UMC team met with BAPS to discuss possibilities to mobilise their volunteers for dissemination of information in the city.
- Education regarding use of toilets, its importance, and limitations of technology
- Public health by-laws must be adapted for Gadhada for effective enforcement
- Focused group discussion with members of the community to explain importance of using toilets, and safe disposal of faeces
- Campaign to sensitise people about washing hands

# Administrative Process for ODF Declaration

According to the guidelines of Mahatma Gandhi Swachhata Mission, following is the administrative process which has to be followed for declaring any ULB as Open Defecation Free.

Administrative Process	Status
1. Assurance from schools that all students are using toilets in schools and at their homes as well	
2. Assurance from SHG that all HHs have Individual toilets and they all are using it	
3. Ward wise meetings to be done for explaining people about use of toilet	No
4. Advertisement for declaring ODF and inviting suggestions and objections within 15 days	April 16, 2016
5. After doing all above activities, pass the resolution in general board meeting for declaring ODF	Pending
6. Intimating to the collector about completion of target	Pending
7. TPI is to be done by the agency appointed by MGSM	Pending

# Annexure

Advertisement for declaring ODF and inviting suggestions and objections within 15 days

**ગઢડા નગરપાલિકા**

ગઢડા નગરને ખુલ્લામાં થતી શૌચક્રિયામાંથી મુક્ત નગરપાલિકા જાહેર કરવા જોગવાંધા સુચનો મંગાવવા બાબત

ગઢડા નગરની જાહેર જનતાને આથી સુચિત કરવામાં આવે છે કે ગઢડા નગરપાલિકા દ્વારા શૌચાલય સુવિધાથી કોઈપણ કુટુંબ રહી ના જાય તે માટે ડોર ડુ ડોર સર્વે વખતોવખત કરવામાં આવેલ છે. સમગ્ર નગરપાલિકા વિસ્તારમાં રહેતા કુટુંબોને વ્યક્તિગત શૌચાલય જાહેર શૌચાલયની સુવિધાથી આવરી લેવામાં આવેલ છે. ગઢડા નગરપાલિકા દ્વારા તમામ વોર્ડમાં રૂબરૂ મીટીંગ કરી શૌચાલયના ઉપયોગ અંગે જરૂરી સમજ પણ આપવામાં આવેલ છે. નગરપાલિકા દ્વારા નગરનો કોઈપણ વ્યક્તિ શૌચાલય સુવિધાથી વંચિત નથી. ગઢડા નગરપાલિકાને O.D.F. જાહેર કરવામાં આવશે.

આ નોટીસથી આ બાબતે કોઈને પણ વાંધો હોય તો આ જાહેરાત પ્રસિધ્ધ થયેથી દિન-૧૫ (પંદર)માં ગઢડા નગરપાલિકા કચેરીએ લેખિત રજૂઆત કરવા વિનંતી છે.

જા.નં. ૧૨/૨૦૧૬  
તા. ૧૬-૦૪-૨૦૧૬

(એ. આર. પાઠક) (શ્રીમતી રચનાબેન એચ. સોટાતર)  
ચીફ ઓફિસર પ્રમુખ  
ગઢડા નગરપાલિકા ગઢડા નગરપાલિકા

Advertisement given in a local newspaper on April 16, 2016