



SEWA INTERNATIONAL



APRIL 2019

# PHASE ONE: UTTAR PRADESH

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Toilet and Hygiene Project  
for the girl child  
- Supported by Google  
[www.toilets-sewausa.org](http://www.toilets-sewausa.org)

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# Need Analysis: Phase one

We initiated our project in Uttar Pradesh in the year 2016. Since then, we have built over 140 toilets in four Districts of Uttar Pradesh - Mirzapur, Varanasi, Agra, and Lucknow.

We have felt a significant change in the communities where we have built toilets over the past two years. The number of enrolment in schools has increased, the percentage of communicable diseases has reduced, we can observe a healthy and hygienic environment in the villages and much more.

This year, we have identified 13 new schools/colleges in need of sanitation facilities. (See Table 1) The schools/colleges are selected based on the Sewa criteria for identification of schools. In the second week of March, our team visited the schools to conduct the need analysis.



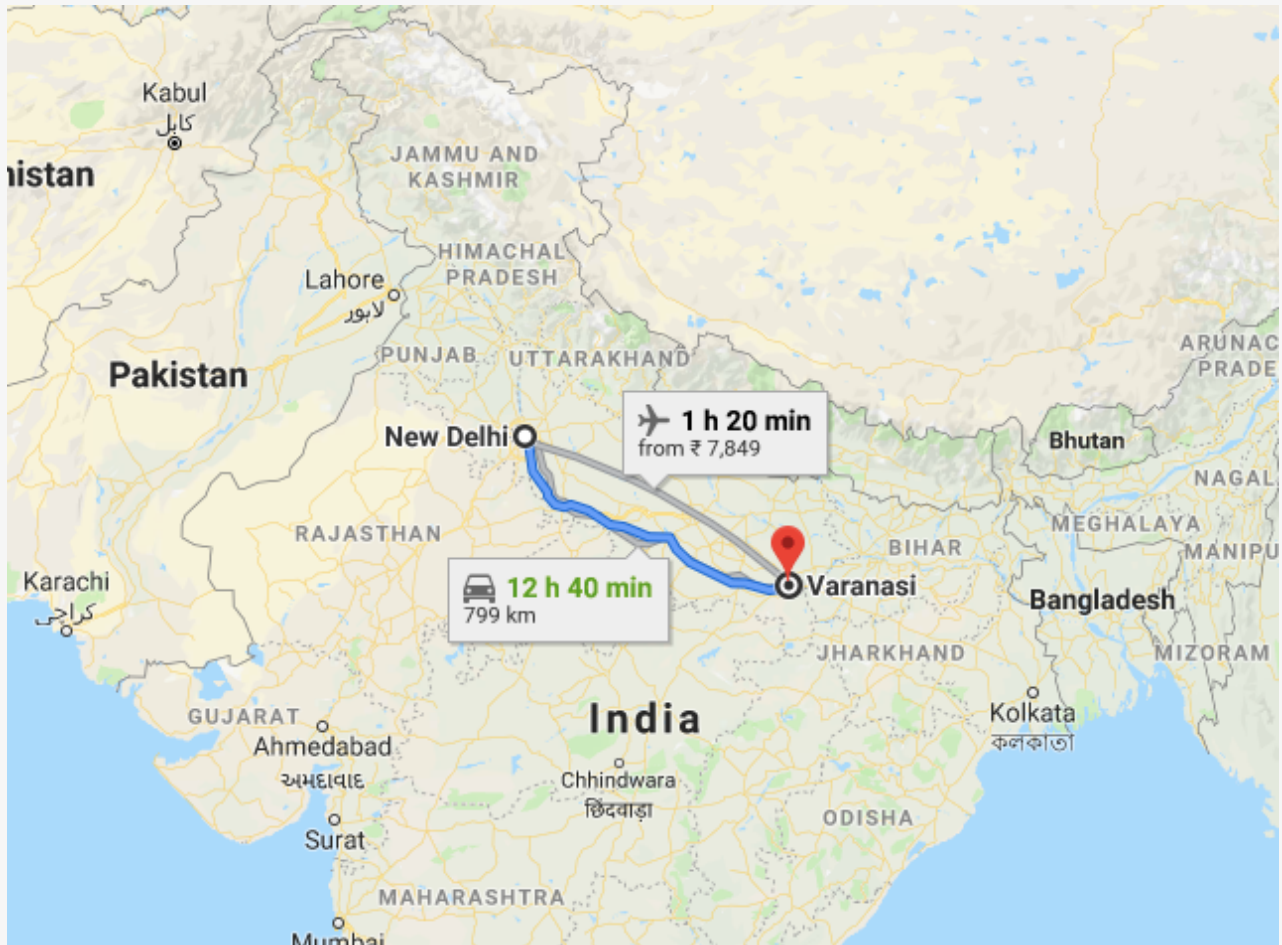
*Picture 1: Jwala Prasad Inter college, Bangla Devriya, Chunar - Mirzaput District, Uttar Pradesh*

**Table 1: List of schools/colleges in Mirzapur District with the number of beneficiaries and the bio-toilet installation progress status**

Sr. No.	School Name	Address	No. of Boys	No. of Girls	Total	No. of Toilets
01	Aditi Convent School	Babhani, Adalihat Mirzapur (28 kms from Varanasi)	101	49	150	02
02	Dukhairam Singh Inter Collage	Udit Nagar, Chunar Mirzapur (35 kms from Varanasi)	485	454	939	02
03	Jwala Prasad Inter College	Bangla Devriya Chunar Mirzapur (22 kms from Varanasi)	460	685	1145	02
04	Litil Star Public School	Sultanpur, Adalpur, Mirzapur (25 kms from Varanasi)	175	139	314	02
05	Pt. Jwala Prasad Inter Collage	Khoradih, Rajgarh, Mirzapur (60 kms from Varanasi)	339	343	682	02
06	Ravi Gyan Deep Academy	Rajupur, Narayanpur, Mirzapur (15 kms from Varanasi)	126	114	240	02
07	Shree Devaki U.M.V.	Karahat, Chunar, Mirzapur (18 kms from Varanasi)	132	114	246	02
08	Shree Parshuram Model School	Gogahara, Jamalpur, Mirzapur (18 kms from Varanasi)	236	152	388	02
09	Shree Ramnaresh Singh Shishu Mandir	Purushottampur, Chunar, Mirzapur (15 kms from Varanasi)	116	96	212	01
10	Tapeshwari Bal Mandir	Kolana, Chunar, Mirzapur (20 kms from Varanasi)	117	73	190	02
11	Vashnavi Convent School	Khemaiwari, Hariharpur, Mirzapur (10 kms from Varanasi)	184	124	308	02
12	Vijay Pal U.M.V.	Gogodara, Lahaura, Rajgarh, Mirzapur (50 kms from Varanasi)	292	229	521	02
13	Vijay Narayan Public School	Jalalpur, Chunar, Mirzapur (22 kms from Varanasi)	127	86	213	02

## Project Location

\*The aerial distance from New Delhi to Varanasi is 676 km while the road distance between New Delhi to Varanasi is 803 km.



\*Varanasi to Mirzapur - Road Distance



**1 h 50 min** (64.1 km) via Varanasi - Allahabad Rd, NH19 and SH 5

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## Bio-toilet Model

Before opting for this model, in the past, we have tried FRP, Galvanised aluminum, and Galvanised steel portable toilet models.

After several trial and errors, we felt this is the most economical and best solution for open defecation. Once it is built, it needs only once a year inspection.

Bio-toilet features:

Zero Underground water pollution  
Pathogen-free water output  
Minimum usage of Water  
Low Maintenance Portable unit.  
Cost-effective model



These bio-toilets can be installed anywhere without needing a big septic tank or a sewage facility.

The dimension of the toilet unit: 4ft breadth, 6ft height, and 3.5ft length.  
The dimensions of the pit: 6ft depth, 4ft length, and 5ft breadth  
(It takes about 2 days to construct a bio-digester pit)

At first, a 1.5-meter triangular pit is dug which has a depth of 1 meter. At the bottom of the pit, a radius of 1 meter in cauldron shape which is 37 cm in depth and 2 meters of a platform is constructed with concrete materials of 7 cm. Again, over the radius, construction is done with a brick in a dome shape. Over the cauldron shape radius after the construction of 62 cm, an outlet is made. According to the outlet, the inlet (main pipeline of the toilet) is set. At the end of the dome (in the upper part) 0.75 inch the gateway for gas pipeline is attached.

In the construction of Bio Toilet, gas is produced in the gas chamber once the outlet is filled and exit through the outlet of purified water. During this process, due to rotten stool, only methane gas and water remains. This gas is released into the atmosphere and the water is left in the fields so that it can be used in irrigation. The methane gas can be stored to use in the Kitchen stove or used in the methane generator to produce the electricity.



**Picture 2: Aditi Convent school (left), Dukhai Ram Singh Inter college (right) - Mirzapur, Uttar Pradesh**



**Picture 3: Little star public school - Mirzapur, Uttar Pradesh**



**Picture 4: Vaishnavi convent school (left), Shree Ram Naresh singh Shishu Mandir (right) - Mirzapur, Uttar Pradesh**



**Picture 5: Shree Devaki U.M.V - Mirzapur, Uttar Pradesh**

## Sewa Criteria for Identification of Schools:

1. Schools constructed on government legal land and the school authorities should provide up to date school construction documents.
2. No objection certificate issued by the governing authorities for toilet installations.
3. Unavailability of functional toilets in the school premises.
4. A higher ratio of girl students in the school.
5. Total strength of the school to be a minimum of 50.
6. Support from school authorities and local government/municipal bodies during construction and long term maintenance of the toilets.
7. Provision for water supply for the newly installed toilets or support from school/government/local bodies/individuals for making such a provision.
8. Provision for the sewage system.
9. Availability of space within the school campus for the installation of toilets.



Picture 6: Vijay Pal U.M.V (left), Vijay Narayan Public school (right) - Mirzapur, Uttar Pradesh

Region-specific Consultants will be hired part-time for the project execution. The consultant will coordinate with the local authorities for survey and licensing. The consultant will work with the vendors for material procurement and installation. Sewa field supervisors will closely work with these consultants for supervision and monitoring.

Project execution updates will be shared in our next report.

Thank You for supporting us,  
Sewa T&H Team