

Project: ANTINOMOS
Report on Indigenous Technologies

Case No: 3

Step 1 – Description

- 1. Name of Technology to be evaluated:** Under Ground Sanitation System
- 2. Location where technology is being evaluated:** Vikaliya Village (Taluka- Gadhora, District- Bhavnagar).
- 3. Number of people approximately being served by the technology:** Approximately 5000 (with 500 houses).
- 4. Since when it is in operation?** 1989.
- 5. Who Designed / Planned and who implemented / constructed the technology?**
: Mr. Jivrajbhai Adhavbhai Singhala, Mr. Mohanbhai Yadavbhai Singhala and Mr. Kanjibhai Merambhai Der
- 6. Who is taking care of the technology now?** Village Development Committee.
- 7. Are there any standards available which need to be fulfilled by the technology? If yes which?** Sanitation.
- 8. Are operations and maintenance data records available?** Yes. Village Development Committee maintains the data.
- 9. Please provide a brief summary of the history/evolution of this technology in the selected case study:**

Vikaliya village (with a population of 5000 persons) in Gadhora Taluka lying in the Bhavnagar district of Gujarat at a distance of nearly 70 kms from Bhavnagar is a recipient of '*Nirmal Gram Puraskar*'. The majority of population is that of Patels (occupying nearly 75% households) followed by Koli Patels (17% households), Harijans (6% households), Rebari (2% households), Brahmins (2% households), etc. Muslims (1% households), Mochi (1% households), Baniya (1% households), Bhangi (1% households) etc. also reside there as minorities. Agriculture is the primary occupation followed by the diamond business factories. Due to black soil in the region which is suitable for the crop of cotton, nearly 80% of the areas are under Bt Cotton. Other crops of the region are groundnut, wheat, bajra, *til*, etc. The diamonds polishing units in the village are mainly owned by the Patel community. The units are playing an important

role in empowering the local women as they can earn more than 5000 rupees a month (depending on their skill) by cutting and polishing diamonds. Since women are not allowed to pursue careers far away from the village, this provides an excellent opportunity for economic independence to them.

Due to the rocky structure underneath one and a half feet, water could not percolate easily causing the problem of sanitation in the village. The streets used to permanently remain muddy and as a result the need of a drainage system was felt very acutely by the villagers. Finally, in 1989, three visionaries from the community, namely Mr. Jivrajbhai Adhavbhai Singhala, Mr. Mohanbhai Yadavbhai Singhala and Mr. Kanjibhai Merambhai Der decided to approach the villagers for community participation in this regard. About twenty years ago, when the concept of an underground drainage system was unheard of in most of rural Gujarat, it was commendable how these three men managed to convince the community that such an idea could be executed successfully. The villagers agreed to contribute 1250 rupees per household.

The drainage system has been functioning since 1989 without choking even once in the past years. The structure includes a three way check mechanism which prevents the drains from blocking. There are different chambers for the sewage and drain water from every house and then that meets into a final chamber at every house and finally it meets the main pipe. Thus there is a three way mechanism to stop any kind of blockage and thus preventing the main pipe from getting choked. The pipes were laid according to natural slope of land and 400 households were connected within a record time of 10 days. There are three outlets of sanitation pipes, one from the old village known as *Juna gaon* (A block), second Patel Vistar (B block) and Amethi (C& D block) and the third from *Harijan* area (E blocks). Actually, earlier the drainage water was released outside village where *Harijans* used to reside. Since it released a bad odour, the *Harijans* later collected money and extended the pipe further 200 meters beyond their hamlet. The outlet of sanitation system finally goes into a seasonal river which flows from the centre of the village.

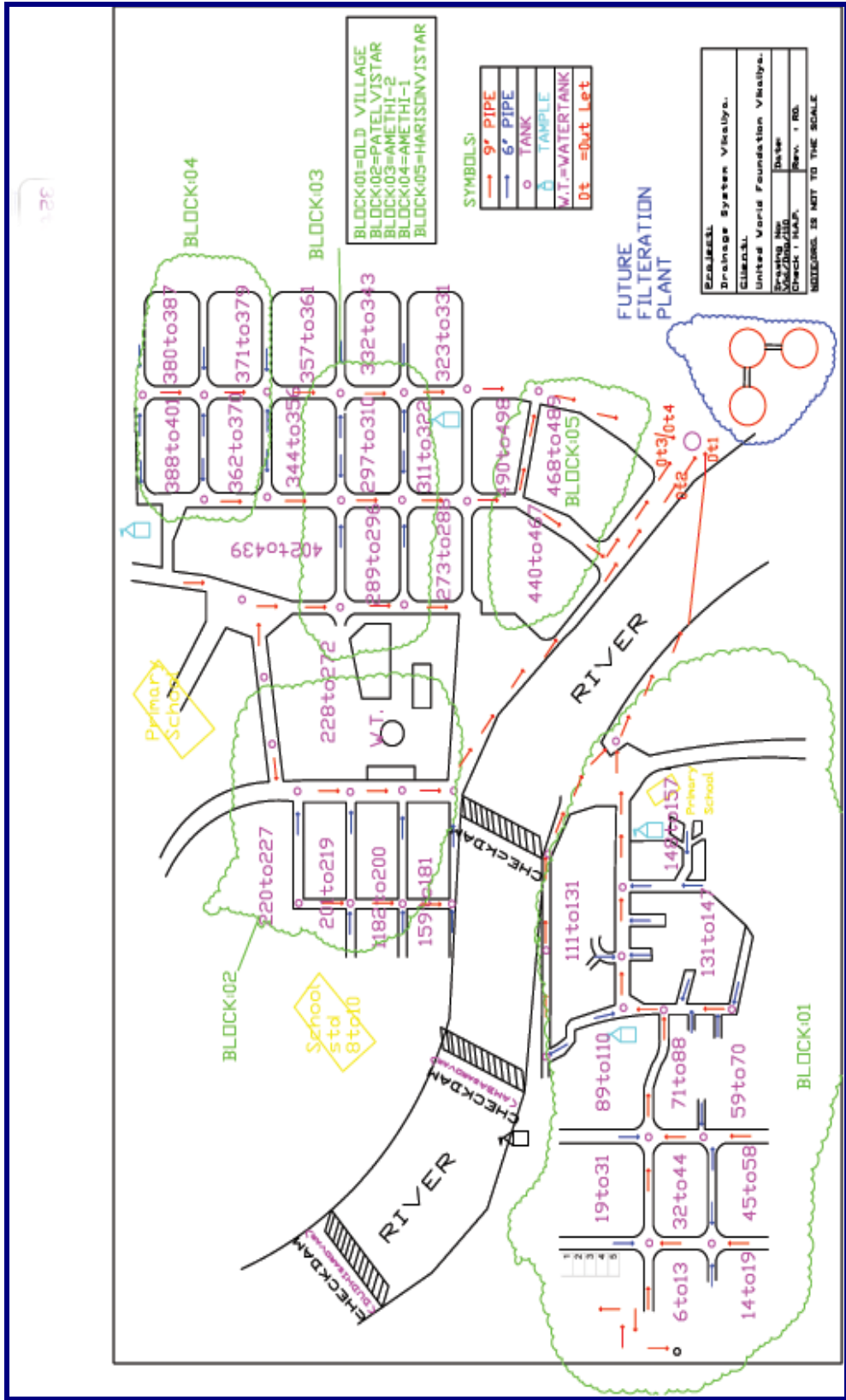


Fig. 1: Layout of sanitation system in Vikaliya village (Bhuj district).

The aspect of community participation needs to be particularly highlighted in this case. Most development projects are implemented with community participation as an integral component. Participation usually occurs at the implementation level where in the idea or the need is felt by the government or an NGO and then the plan comes to the village where everyone participates in its implementation.

Here we have gone a step ahead in terms of participation where the need came from the community and was so strongly felt that a development plan, technology and the resources were created from within the village. The participation occurred at the cognitive level contrary to the current practice in micro level development projects.

The villagers devised a unique way of ensuring participation by making “visits” to the dissenting households and thus creating a societal pressure for ensuring due participation and cooperation.

Today this drainage system connects approximately 500 households and is functioning without any problems.

The spirit of initiative and participation that started with the drainage system saw a reinforcement and revival with the initiation of a new development activity of check dams in the village.

The construction of check dams by the villager’s spelled prosperity for the entire village as cultivation practices moved to BT cotton. BT cotton has been successful in the village. Even the *Harijan* community supported the project since they are mainly engaged in the construction work or as farm laborers and in their own words “*Jo kheduta ne fasal saari thay toh aapanne pann dhando saaro mali shake chhe*” (If farmers get good crops then we too would gain from that as farm labourers or construction workers).

The interesting fact to note here is that the *Harijan* community not just supported the effort in idea but also did part of the construction free of cost and made some cash contribution as well. The *Harijans* had already received the tap connection at their residence before the check dam work started, so they were not benefiting from the check dams in any way.

The villagers explained that if there were some households which did not want to participate in the development activity going on in the village; the community elders get together and “sit” at the dissenting person’s house. This technique worked by creating a

social pressure and instilling sense of shame in the mind of the person and concerned household. Thus, societal pressure was also a reason for everyone to cooperate in the programme wherein the idea of common good is merited over personal choice.

The work of check dams was only completed after exemplary personal level contribution from the people of the village. An unprecedented example of such an act is when a man stood up in the village meeting and said that the money he had kept aside for his parents' "*kriya*"; he would put in the check dam fund. This act prompted other people to follow suit.

Another highly inspiring example is that of Mrs. Ambaben who had saved up a sum of 1, 00,011/- rupees to be used for her after death rituals, since she didn't have a son. But she decided to give the entire amount to for the check dam construction activity. And the first check dam near the village was named after her.

Another noble soul, Mrs. Doodiben widowed at the age of 23 after which she returned to her paternal home to live with her brother's family, also contributed her life's savings for this cause. Throughout her life she worked hard and managed to save 61,000/- rupees. When the check dams were being built in the village, people voluntarily contributed whatever they had for the "noble cause". Mrs. Doodhiben also decided to fulfill her responsibility as a member of the community and had decided to give 10,000/- rupees but by the time she had to hand over the cheque she felt that the best way to spend her hard earned money would be to spend it on a cause for common good. She gave away all that she had, 61000 rupees. She passed away at the age of 65, two months after giving away all her life savings. She did not live to see the fruit of her sacrifice. '*Doodhi sarovar*' is a part of the village and stands as a hallmark of her sacrifice and service to society.

There are a total of **121 check dams** in the village out of which some were built by '*Saurashtra Jal Dhara*'.

The check dams were constructed according to the ground water level which was fathomed by using traditional methods. One of the methods was keeping a coconut on the palm of a person who has a "certain blood type". If there is underground water the coconut stands up vertically on the person's hand. This method had been extensively used in the village to construct bore wells and select locations for check dams. The

villagers studied the land lineaments and the soil lithography which was primarily black soil with rocky and stone base.

There were three factors which were kept in mind while finalizing the location of check dams

- Minimum length and maximum water
- Land strong from the sides
- Rocky base

The check dams get recharged during the monsoon and have water in them for about 6 months. When the tanks dry up, the silt from the base is used as organic fertilizer for the crops in the village.

The biggest benefit from the check dams has been recharging of the ground water level. During discussions it was revealed by villagers that there was no groundwater till 500 feet before the check dams came into existence.

There are certain norms which have been laid down for the village for the use of the check dams. Firstly, no one is allowed to drill a bore well deeper than 200 feet. This was decided after an incident in which all the water from some check dams disappeared and upon enquiry it was realized that the water had disappeared in a bore well which was deeper than 500 feet. Secondly no one is allowed to attach a pump directly into the check dam.

For the maintenance and desilting for the check dams, '*Saurashtra Jal Dhara*' has provided the equipment which is used by the '*Panchayat*' to clean the tanks.

Future vision: Now the villagers want to built a separate dam for sewerage water and install a sewerage treatment plant so that the treated water could be used for irrigation purposes.

Step 2 – Evaluation

Date of visit: September 26th to September 29th, 2008.

Name of the expert(s) making the visit: Dr Suboodh Kumar Bishnoi

1. Preliminary performance indicators for accessing whether the intended direct benefits have been fulfilled:


Intended Benefit	Indicator	Method of Verification
Sanitation	Cleanliness of the street.	
Water born disease control	Less cases of malaria, <i>chikungunya</i> etc. disease.	





Unintended Benefit	Indicator	Method of verification
Family health improvement	Less water borne diseases due to water not spread in the street.	
Lesser disputes among villagers leading to a more cordial environment.		
Ecologically beneficial as ground water level has come up	Better management water	




2. Results of Assessment:




Intended Benefit	Indicator	Fulfilled Yes/no	Comments (with reference to the used indicators)
Sanitation		Yes	Each household having latrine facilities
Technical functioning	Yes		System is working extremely well since last 20 years, irrespective of minor cases of pipe brocase, etc.
Acceptance by the local community	Yes		Users are mainly satisfied with the system and consider it a success.
Water conservation		Yes	
		Yes	
Less mosquito breeding		Yes	





Comments from the local peoples:




User Group	Results/ Comments
<p>1. Mr. Manjibhai Narshibhai Patel (Sarpanch)</p> <p>(9428709442)</p> 	<ul style="list-style-type: none"> ➤ Due to toilets being constructed we are relieved of the unwanted waste now. ➤ As a result, our village is now clean and hygienic, so that we were even awarded by the president of India for it. ➤ Cleanliness of our village also assures us the safety from the contagious diseases of which initially there were chances to widespread. ➤ Our ladies would now not face any inconvenience that was there due to unavailability of toilets.
<p>2. Mr. Deepakbhai Pandit (H. No. 25)</p>	<ul style="list-style-type: none"> ➤ Due to availability of the drainage system, in 2006-07 the percentage of cases of <i>chikungunya</i> in Vikaliya was only 5% as compared to the 95% in other nearby villages. ➤ The sewage water is finally drained into river and that water could then be treated in a separate water-treatment plant for its further utilization into agricultural purposes. In order not to let the sewage-water be drained into the river, a

	<p>technical and the financial support is required, which if provided we are ready to pay the 10% of the total charge.</p> <p>In order to turn our village into a modern one, there are certain things still required to be done...like construction of proper roads for commutation, medical and educational facilities, etc.</p>
<p>3. Mr. Mohanbhai Makwana (60 Years)</p> 	<ul style="list-style-type: none"> ➤ Chances of contracting malaria disease due to excess water spread on the streets have minimized.
<p>4. Mr. Amarsinghbhai Kanjibhai (50 Years, 09428709478) (Amethi Vistar)</p> 	<ul style="list-style-type: none"> ➤ Initially when there were no gutter-lines, women were required to go out; also there was collection of a lot of waste material in the village. ➤ After the gutter line connections were done, all the problems are solved; there is no more waste deposition; our village women will not face anymore problems now.
<p>5. Mr. Vishrambhai Divania (47 Years) (Harijanvistar)</p> 	<ul style="list-style-type: none"> ➤ Initially there were no water lines and gutter lines in our village, so we used to face a lot many problems. Due to cleanliness in our village now, there are hardly any chances of contracting the diseases caused due to water and waste deposition.
<p>6. Mr. Vidharambhai Dayarambhai (Amethi Vistar, 9725583561)</p>	<ul style="list-style-type: none"> ➤ Advantages of having sewage drain system: <ol style="list-style-type: none"> 1. Cleanliness is maintained 2. No waste deposition 3. Reduction in the amount of mosquitoes and

	<p>freedom from the spread of diseases like Chikungunya</p> <p>4. Due to toilets being constructed, women now won't face any difficulty</p>
<p>7. Mr. Dharubhai Haribhai Rajodia, Deputy <i>Sarpanch</i> (45 Years)</p> 	<ul style="list-style-type: none"> ➤ Initially a lot of waste deposition used to be there in our village and occurrence of diseases due to it was widespread. ➤ But after the gutter-lines were laid, toilets were constructed and this in turn could help us restore the cleanliness in our village, which in turn has caused the prevention of diseases. ➤ In the year 2007, there was an epidemic in the villages nearby, only two our people suffered and that due to their having gone to some other village nearby. <p>Even though our village has population of 5000 we don't find any need to have a doctor. All the credit again goes to the cleanliness in our village.</p>
<p>8. Mr. Jivrajbhai Madhabhai (H. No. 345)</p> 	<ul style="list-style-type: none"> ➤ We had to face a lot many problems; we used to manage with a temporary toilet constructed in our house. ➤ But after the proper toilets having been constructed all our problems are sorted out now

<p>9. Pandit Vasudev Kaniyalal (H. No. 141)</p> 	<ul style="list-style-type: none"> ➤ We used to have a lot of trash-deposited in our village, in our houses; disease spread was stringent. ➤ We had to go outside the village for disposal of bodily wastes, due to which there was waste deposition even outside the village. ➤ All problems got solved after the construction of proper toilets.
<p>10. Mr. Paroshottambhai Hirabhai (H. No. 99)</p> 	<ul style="list-style-type: none"> ➤ Now that toilets are constructed, there is a cut short in the disease spread in our village; Cleanliness is maintained.
<p>10. Mr. Rashikbhai Nardbhai (H. No. 245)</p> 	<ul style="list-style-type: none"> ➤ There used to be swamps/potholes all over the streets; we were supposed to go over far-far distances to answer the nature's call; in order to have a toilet in-house, a separate well was to be constructed and this was quite uneconomical. Such was the condition in our village some 20yrs back. ➤ Finally all the village people sat together and discussed the matter in hand and came to the conclusion that if the toilet is constructed after laying the sewage lines, complete problem would be sorted out and the total expense would be cut short too. The final cost came out to be around Rs 12001. Now we have toilets in our village and there is no waste deposition now. All this is due to the cooperation given by our village people.
<p>11. Mr. Parjibhai Velgibhai (H. No. 102)</p>	<p>Cleanliness is maintained in the village with proper gutter lines. This is my opinion.</p>

	
<p>12. Mr. Ramjibhai Gopabhai (H. No. 322)</p> 	<p>Cleanliness is maintained in our village with the sewage lines. There is no trash deposition now</p>
<p>14. Mr. Raviji Narshi Singala (H. No. 26)</p> 	<p>The presence of sewage lines has added to the glory of our village. We are not required to go over distances for excretion, hence there is time saving as well.</p>
<p>15. Mr. Bhimji Mada (H. No. 263)</p> 	<ul style="list-style-type: none"> ➤ Everyone in our village is well satisfied now with the toilets that have been constructed. Now women won't be required to go out for the nature's call.
<p>16. Mr. Babria Kalyan Sambhu (H. No. 97)</p>	<ul style="list-style-type: none"> ➤ We no more want to be just a village; in fact we are willing to keep our village as clean as any city would be. "Our Village, a Clean Village" this is what we believe in.

	
<p>17. Mr. Devrajbhai Purosotambhai Sambhu (H. No. 75)</p> 	<p>“<i>Jalshuddhikaran</i>”, “Waste water-treatment plant”, to plant trees and prevent greenhouse effect, proper care for cattle, to prevent pollution, create general awareness among people, to solve the problems like illiteracy and unemployment, etc is what we wish for.</p>
<p>18. Mr. Tavtiya Thakarbhau Shambhu (H. No. 63)</p> 	<p>The construction of toilets and gutter lines has added to the cleanliness of our village. There used to be a lot of waste deposition and the dominance of mosquitoes used to be prevalent. But now these problems are solved.</p>



(A). Latrine in the house.



(B). Diamond workshop in the village.



(C). Women are working in diamond factory in the village.



(D). Amba Sarowar, first check dam build near the Vikaliya village after Mrs. Ambaben donated 1, 00,011/- rupees for construction activity.



(E). Outlet of the sewage pipe lines.

Summary of User Perceptions

Both Individual Interviews and group Discussions

Questions (Q):

S. No.	User Name	Questions	Results/ Comments
1.	Mr. Manjibhai Narshibhai Patel (Sarpanch) (9428709442)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	Yes, it is a good thing for this village. <ul style="list-style-type: none">➤ Due to toilets being constructed we are relieved of the unwanted waste now.➤ As a result, our village is now clean and hygienic, so that we were even awarded by the president of India for it.➤ Cleanliness of our village also assures us the safety from the contagious diseases of which initially there were chances to widespread.➤ Our ladies would now not face any inconvenience that was there due to unavailability of toilets.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	No, it is quite OK.

		Q5: Do you have equal access and pay a fair price?	Contribution sum is only collected in case a problem (e.g. choking) arises which has taken place just once or twice in the last 20 years. So you could call it a free access to everybody to this facility.
		Q6: Are you aware of any misuse of the service?	No
2.	Mr. Deepakbhai Pandit (H. No. 25)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	Yes, I am quite happy. Due to availability of the drainage system, in 2006-07 the percentage of cases of <i>chikungunya</i> in Vikaliya was only 5% as compared to the 95% in other nearby villages.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	The sewage water is finally drained into river and that water could then be treated in a separate water-treatment plant for its further utilization into agricultural purposes. In order not to let the sewage-water be drained into the river, a technical and the financial support is required, which if provided we are ready to pay the 10% of the total charge. In order to turn our village into a modern one, there are certain things still required to be done like construction of proper roads for commutation, medical and educational facilities, etc.
		Q5: Do you have equal access and pay a fair price?	Yes, but I think not everybody thinks it is a fair price.

		price?	
		Q6: Are you aware of any misuse of the service?	No
3.	Mr. Mohanbhai Makwana (60 Years)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	Yes, it has made our village a better place and safer to live in. Chances of contracting malaria disease due to excess water spread on the streets have minimized.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	No
		Q5: Do you have equal access and pay a fair price?	Yes. No amount is charged in the normal functioning.
		Q6: Are you aware of any misuse of the service?	No
4.	Mr. Amarsinghbhai Kanjibhai (50 Years, 09428709478) (Amethi Vistar)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	Yes, it is an excellent example of community participation. <ul style="list-style-type: none"> ➤ Initially when there were no gutter-lines, women were required to go out; also there was collection of a lot of waste material in the village. ➤ After the gutter line connections were done, all the problems are solved; there is no more waste deposition; our village women will not face anymore problems now.

		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	If Govt. could provide 100 % funding for treatment plant then we could begin some new developmental schemes.
		Q5: Do you have equal access and pay a fair price?	Yes. It has been a long time when we were charged.
		Q6: Are you aware of any misuse of the service?	No misuse.
5.	Mr. Vishrambhai Divania (47 Years) (<i>Harijanvistar</i>)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	➤ Yes, it is definitely something to be happy about. Initially there were no water lines and gutter lines in our village, so we used to face a lot many problems. Due to cleanliness in our village now, there are hardly any chances of contracting the diseases caused due to water and waste deposition.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No
		Q4: Is there anything which you may not like with the technology or	It has made people believe in their ability as a community together and this force

		which could be improved (if yes, what and how)?	can lead to many other good changes for the better in the village.
		Q5: Do you have equal access and pay a fair price?	Yes
		Q6: Are you aware of any misuse of the service?	No
6.	Mr. Vidharambhai Dayarambhai (Amethi Vistar, 9725583561)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	Yes. Its advantages of having sewage drain system are too many: <ul style="list-style-type: none"> ○ Cleanliness is maintained ○ No waste deposition ○ Reduction in the amount of mosquitoes and freedom from the spread of diseases like <i>Chikungunya</i> ○ Due to toilets being constructed, women now won't face any difficulty
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No.
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	Now people's participation should be geared up improving the situation of education in village.
		Q5: Do you have equal access and pay a fair price?	Yes, all avail this facility equally.
		Q6: Are you aware of any misuse of the service?	No

7.	Mr. Dharubhai Haribhai Rajodia 'Deputy Sarpanch' (45 Years)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	Yes, because it has almost change the picture of the whole village. ➤ Initially a lot of waste deposition used to be there in our village and occurrence of diseases due to it was widespread. ➤ But after the gutter-lines were laid, toilets were constructed and this in turn could help us restore the cleanliness in our village, which in turn has caused the prevention of diseases. ➤ In the year 2007, there was an epidemic in the villages nearby, only two our people suffered and that due to their having gone to some other village nearby. ➤ Even though our village has population of 5000 we don't find any need to have a doctor. All the credit again goes to the cleanliness in our village.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	It has motivated the people to set up a treatment plant and make the village better economically, socially and aesthetically.
		Q5: Do you have equal access and pay a fair price?	Yes, this is for all.
		Q6: Are you aware of any misuse of the service?	No

8.	Mr. Jivrajbhai Madhabhai (H. No. 345)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	Yes, because earlier we used to manage with a temporary toilet constructed in our house. But after the proper toilets having been constructed all our problems are sorted out now.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	We are working to get the treatment plant installed now.
		Q5: Do you have equal access and pay a fair price?	Now no charges are collected.
		Q6: Are you aware of any misuse of the service?	No.
9.	Pandit Vasudev Kaniyalal (H. No. 141)	Q1: Are You Happy with the technology? If Yes why, if no why not?	We got ' <i>Nirmal Gram Puraskar</i> ' due to this only. Earlier we used to have a lot of trash-deposited in our village, in our houses; disease spread was stringent. We had to go outside the village for disposal of bodily wastes, due to which there was waste deposition even outside the village. All problems got solved after the construction of proper toilets.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you	No, infact this should be taken up by other

		from using the technology (regularly), if yes what?	villages also.
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	Now we should concentrate on improving the irrigation water, educational and medical scenario of the village.
		Q5: Do you have equal access and pay a fair price?	Yes, we were charged only initially.
		Q6: Are you aware of any misuse of the service?	No idea
10.	Mr. Paroshottambhai Hirabhai (H. No. 99)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	Our village has become very clean and a more hygienic place. Now that toilets are constructed, there is a cut short in the disease spread in our village.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	It would be more meaningful if it could lead to many other such programmes like the treatment plant.
		Q5: Do you have equal access and pay a fair price?	Yes
		Q6: Are you aware of any misuse of the service?	No.

11.	Mr. Rashikbhai Nardbhai (H. No. 245)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	There used to be swamps/potholes all over the streets; we were supposed to go over far-far distances to answer the nature's call; in order to have a toilet in-house, a separate well was to be constructed and this was quite uneconomical. Such was the condition in our village some 20yrs back. Now we have toilets in our village and there is no waste deposition now. All this is due to the cooperation given by our village people.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No, it has led to well being of all.
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	No
		Q5: Do you have equal access and pay a fair price?	Yes
		Q6: Are you aware of any misuse of the service?	No
12.	Mr. Parjibhai Velgibhai (H. No. 102)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	Yes, now cleanliness is maintained in the village with proper gutter lines.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology	No

		(regularly), if yes what?	
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	It has made us believe in the power of unity and change. We are now committed to change this village for the better.
		Q5: Do you have equal access and pay a fair price?	Yes.
		Q6: Are you aware of any misuse of the service?	No.
13.	Mr. Ramjibhai Gopabhai (H. No. 322)	Q1: Are You Happy with the technology? If Yes why, if no why not?	Yes. Cleanliness is maintained in our village with the sewage lines. There is no trash deposition now.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	No.
		Q5: Do you have equal access and pay a fair price?	Yes
		Q6: Are you aware of any misuse of the service?	No idea

14.	Mr. Raviji Narshi Singala (H. No. 26)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	The presence of sewage lines has added to the glory of our village. We are not required to go over distances for excretion, hence there is time saving as well.
		Q2: Are you using the technology (regularly)?	Yes, and I advocate it to all the villages in India
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	No.
		Q5: Do you have equal access and pay a fair price?	Yes, although no amount is collected at present on monthly basis
		Q6: Are you aware of any misuse of the service?	NA
		15.	Mr. Bhimjimada (H. No. 263)
Q2: Are you using the technology (regularly)?	Yes		
Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No, not at all.		
Q4: Is there anything	No		

		which you may not like with the technology or which could be improved (if yes, what and how)?	
		Q5: Do you have equal access and pay a fair price?	Yes
		Q6: Are you aware of any misuse of the service?	No
16.	Mr. Babria Kalyan Sambhu (H. No. 97)	Q1: Are You Happy with the technology? If Yes why, if no why not?	Yes and we no more want to be just a village, in fact we are willing to keep our village as clean as any city would be. "Our Village, a Clean Village" this is what we believe in.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	None
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	It looks like it is a blessing that all people came together and contributed their share.
		Q5: Do you have equal access and pay a fair price?	Yes
		Q6: Are you aware of any misuse of the service?	Not aware.
17.	Mr. Devrajbhai Purosotambhai Sambhu	Q1: Are You Happy with the technology? If Yes why, if no why not?	Yes, we all made possible what seemed like impossible. This system not only improved our living standard but also our

	(H. No. 75)		thought towards cooperatively management of village problems.
		Q2: Are you using the technology (regularly)?	Yes.
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No way.
		Q4: Is there anything which you may not like with the technology or which could be improved (if yes, what and how)?	“Jalshuddhikaran”, “Waste water-treatment plant”, to plant trees and prevent greenhouse effect, proper care for cattle, to prevent pollution, create general awareness among people, to solve the problems like illiteracy and unemployment, etc is what we wish for.
		Q5: Do you have equal access and pay a fair price?	Yes
		Q6: Are you aware of any misuse of the service?	No idea. It has never choked.
18.	Mr. Tavtiya Thakarbhai Shambhu (H. No. 63)	Q1: Are You Happy with the technology? IF Yes why, if no why not?	Yes. The construction of toilets and gutter lines has added to the cleanliness of our village. There used to be a lot of waste deposition and the dominance of mosquitoes used to be prevalent. But now these problems are solved.
		Q2: Are you using the technology (regularly)?	Yes
		Q3: Is there anything which may prevent you from using the technology (regularly), if yes what?	No
		Q4: Is there anything	No. we are looking forward to improving

	which you may not like with the technology or which could be improved (if yes, what and how)?	our village in many more ways now.
	Q5: Do you have equal access and pay a fair price?	Yes
	Q6: Are you aware of any misuse of the service?	No.