BEST PRACTICES IN SBM-G HARYANA

Two Days National Conference on SBM(G) in Lucknow (UP)

Presented by:

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Pre-Planning concept of "Nehveen Grey Water Management Project"

Result of the study of soil types and their water holding capacity

Identification of Location for project

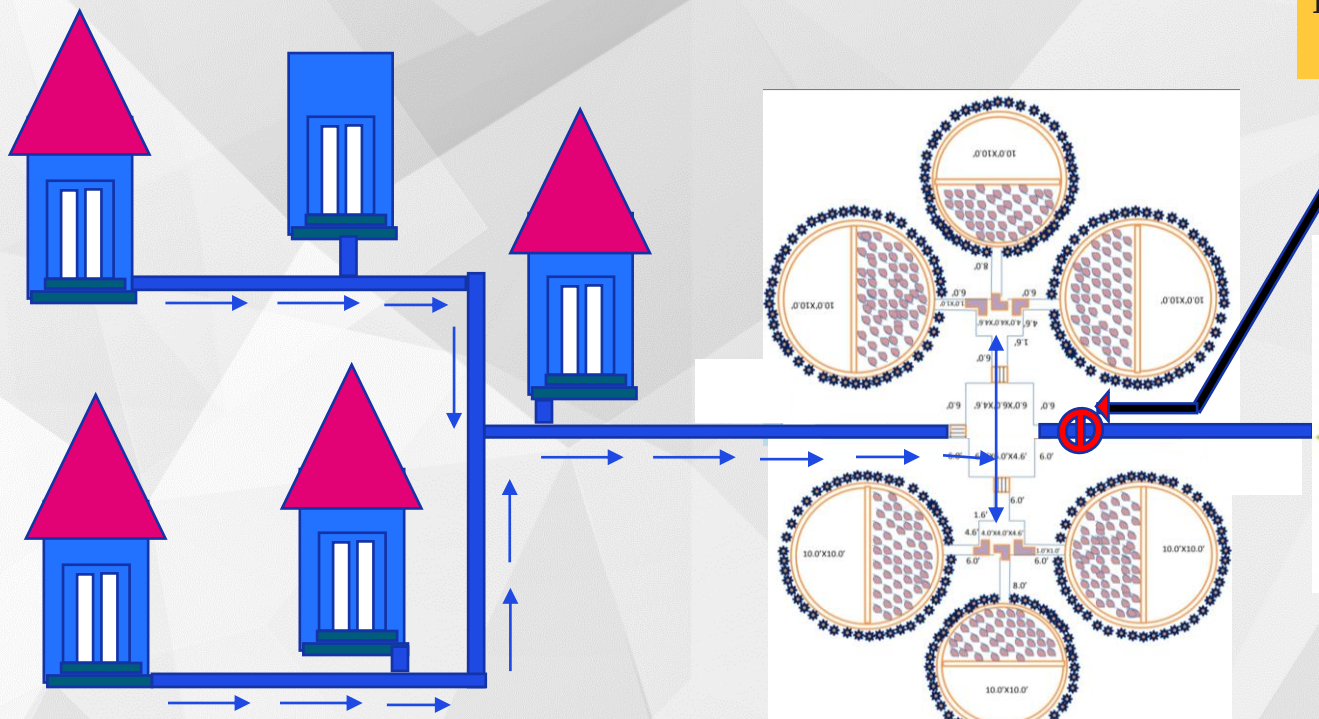
- **Type of soil**
- **Underground water level**
- **Accurate calculation of grey water generation**
- **Capacity of project as per requirement**
- **Land near to existing pond boundary**

- **Sandy soil water holding capacity is 10%**
- **Sandy loam soil water holding capacity is 20%**
- **Loam soil water holding capacity is 30%**
- **Slit loam soil 40% & clay loam soil capacity is 50%**

Abilities of Technology "Nehveen Grey Water Management Project"

Applicability	**The Technology is eco friendly & the grey water is treated and disposed of in a natural process**
Affordability	**An amount of Rs. 100 per capita need for establishment of project**
Scalability	**24K to 72K litter Grey Water Management per day and capacity can be increased as per requirement**
Rapid Deployability in Rural Areas	**Project can be installed within 10 to 30 Days as per quantity of grey water.**

Flow Chart of Technology



Barrier for diverting Grey Water to Project

Connected HHs to Drains

Treatment & Disposal of Grey Water

Clean Water Pond

Flow Chart of Technology

Actual calculation of Greywater in Existing drain

Diverting the flow of grey water towards the branch drain

A square shaped tank of 5 feet dimension with iron/ brick mesh which helps to stop the floating solid particle & sludge in the drain & collect the sludge in the pit

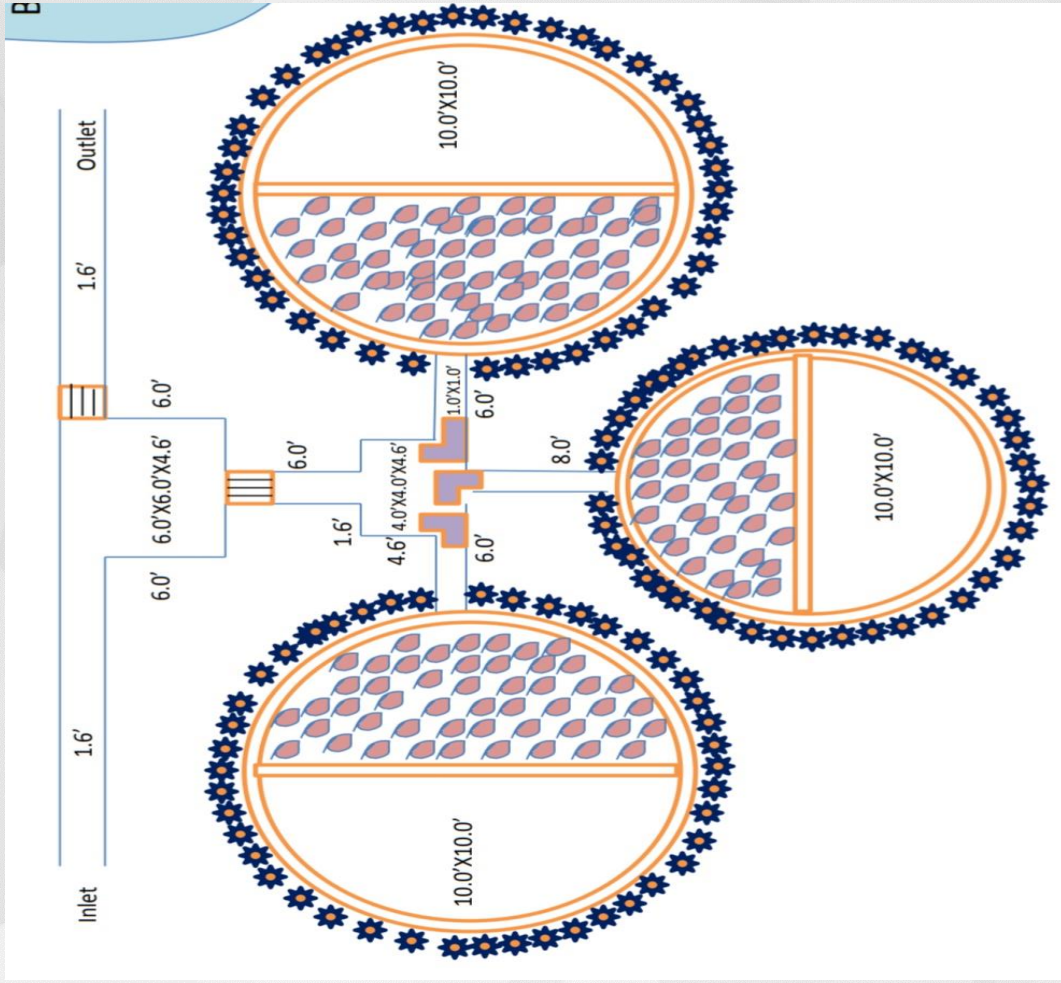
Other big size tank of 5 ft depth, 7 ft in length & width is connected with first tank & L-shaped plastic pipes are installed in the tank, This tank helps in collecting the fine particles of the first tank. Oil particles float on the surface of the water. L-shaped pipes help prevent oily particles from passing through. Apart from this, if the quantity of sludge is more than 3 ft, it helps to stop the flow of grey water from further flowing

The L-shaped pipe of 2nd tank is connected to a cylindrical shaped pit of 10 ft diameter & depth through drains. The pit is made of lattice bricks. Which is divided into two parts by masonry of lattice bricks. Big size stones/ gravel are put in one part. Which helps to clean the grey water. The excess cleaned grey water goes to the empty part of the pit. Stone/ gravel of lesser thickness are put in one foot around the pit also.

Grey water is cleaned naturally and properly disposed

Project Planning for Establishment & Work Process of the Project

- In the first phase that main drain is selected from which the grey water of the houses directly pours into the dirty pond.
- The amount of grey water in the drain is calculated for three consecutive days and three different time for which information about quantity of grey water is obtained.
- According to the quantity of grey water and availability of space, a project of 24K to 72K per day litres capacity is planned at a identified location.
- A drain branch is constructed from the main drain and a block as hight as the flow of grey water in the main drain is put, which diverts the flow of grey water towards the branch drain.



Impact of technology on Environmental, Social and Economic systems

Because the technology is eco-friendly and cleans the grey water through natural process and disposes it properly, so there is no harmful effect on the environment.

Technology helps in increasing the level of ground water through easy means.

The technology helps to prevent untreated grey water from entering the ponds. This helps in improving the water quality of the ponds.

The technology is low cost, strong & sustainable structure and community acceptable & safe for disposal of grey water management.

This technology helps in reducing waterborne diseases, this help in increasing the work days (Mandays) of the community and increasing the economical saving.

Impact Evaluated Report of the Technology

Under Ground Water Level Impact report evaluated & certified by "WATER CELL, BHIWANI" an government institute

Total 22 Project evaluation conducted by Govt. Agency in District Bhiwani rural area

These Projects are taken in Dark Zone Area of District Bhiwani

Total Under Ground Water Level of 22 Projects of GPs are 1794.71 ft in 2018-2019

Total Under Ground Water Level of 22 Projects of GPs are 1773.64 ft in 2019-2020

Total 21.07 ft ground water level increased after installation of the project in 22 GPs

"Bhiwani Nehveen Project- Grey Water Management System"

(Water Conservation Impact/ outcome)

Report of underground water level in 23 no. of Gram Panchyats of District Bhiwani is found satisfactory where the project is constructed during the F.Y. 2019-20 in as under:-

Sr.No	Block	Name of Gram Panchayat	Under ground water level status in ft. during the F.Y.		underground Water Level increase in ft.
			2018-19	2019-20	
1	Behal	Budheri	227.96	228.58	-0.62
2	Behal	Surpura Khurd	(Approx.) 189.64	(Approx.) 184.91	4.73
3	Bhiwani	Dhani Bharahman	(Approx.) 9.38	(Approx.) 7.83	1.55
4	Bhiwani	Dhani Janga	(Approx.) 9.70	(Approx.) 8.16	1.54
5	Kairu	Mansarwas	43.78	(Approx.) 42.27	1.51
6	Kairu	Jui Khurd	109.06	109.22	-0.16
7	Kairu	Khairpura	(Approx.) 30.99	(Approx.) 24.89	6.1
8	Kairu	Golagarh	93.40	92.43	0.97
9	Kairu	Chandawas	226.48	226.71	-0.23
10	Kairu	Jitwanwas	32.14	30.11	2.03
11	Kairu	Kairu-1st	49.69	47.88	1.81
12	Siwani	Barwa	(Approx.) 56.41	(Approx.) 60.18	-3.77
13	Siwani	Bakhtawarpura	(Approx.) 65.99	(Approx.) 68.02	-2.03
14	Siwani	Bidhwan	119.55	111.19	8.36
15	Siwani	Budhseli	71.66	70.02	1.64
16	Siwani	Dhani Bhakhra	(Approx.) 92.00	(Approx.) 92.92	-0.92
17	Siwani	Devsar	14.76	9.77	4.99
18	Siwani	Mohila	66.84	68.35	-1.51
19	Siwani	Siwach	132.28	133.26	-0.98
20	Siwani	Rupana	(Approx.) 57..23	(Approx.) 59.53	-2.3
21	Siwani	Kalod	83.64	86.59	-2.95
22	Siwani	Talwani	75.27	76.26	-0.99
23	Siwani	Gurera	(Approx.) 45.92	(Approx.)43.78	2.14
		Total	1846.54	1882.86	**20.91**

Total **20.91 ft.** underground water level increase & satisfactory Water Conservation activities found during the F.Y. report 2019-20.

(Signature with Stemp)
Water Cell, Bhiwani

Impact Evaluated Report of the Technology

Waterborne disease Impact report evaluated certified by "Civil Surgeon, BHIWANI" an government institute

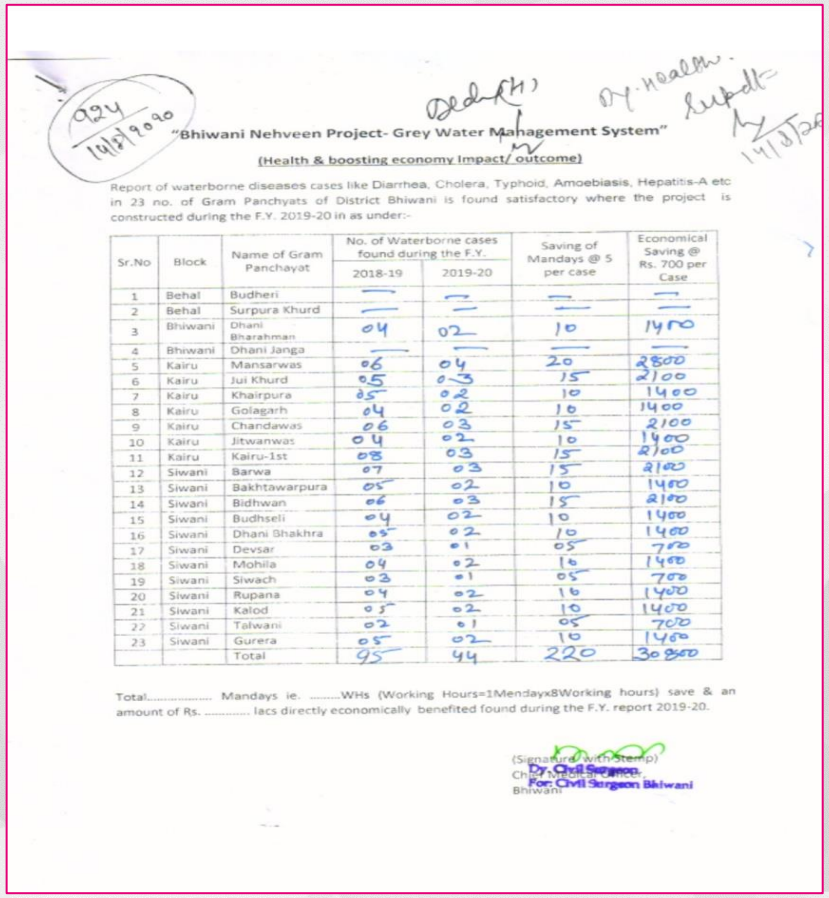
Total 90 waterborne disease cases found during 2018-2019 in 22 GPs

Total 41 waterborne disease cases found during 2019-2020 in 22 GPs

Total 49 (54.44%) Cases decreasing after installation of the project in 22 GPs

Total 245 Mandays save due to waterborne disease cases decreased

Total Rs. 34300 is economical saving due to waterborne disease cases decreased



"Bhiwani Nehveen Project- Grey Water Management System"

(Health & boosting economy Impact/ outcome)

Report of waterborne diseases cases like Diarrhea, Cholera, Typhoid, Amoebiasis, Hepatitis-A etc in 23 no. of Gram Panchyats of District Bhiwani is found satisfactory where the project is constructed during the F.Y. 2019-20 in as under:-

Sr.No	Block	Name of Gram Panchayat	No. of Waterborne cases found during the F.Y.		Saving of Mandays @ 5 per case	Economical Saving @ Rs. 700 per Case
			2018-19	2019-20		
1	Behal	Budheri	—	—	—	—
2	Behal	Surpura Khurd	—	—	—	—
3	Bhiwani	Dhani Bharahman	04	02	10	1400
4	Bhiwani	Dhani Janga	—	—	—	—
5	Kairu	Mansarwas	06	04	20	2800
6	Kairu	Jui Khurd	05	03	15	2100
7	Kairu	Khairpura	05	02	10	1400
8	Kairu	Golagarh	04	02	10	1400
9	Kairu	Chandawas	06	03	15	2100
10	Kairu	Jitwanwas	04	02	10	1400
11	Kairu	Kairu-1st	08	03	15	2100
12	Siwani	Barwa	07	03	15	2100
13	Siwani	Bakhtawarpura	05	02	10	1400
14	Siwani	Bidhwan	06	03	15	2100
15	Siwani	Budhseli	04	02	10	1400
16	Siwani	Dhani Bhakhra	05	02	10	1400
17	Siwani	Devsar	03	01	05	700
18	Siwani	Mohila	04	02	10	1400
19	Siwani	Siwach	03	01	05	700
20	Siwani	Rupana	04	02	10	1400
21	Siwani	Kalod	05	02	10	1400
22	Siwani	Talwani	02	01	05	700
23	Siwani	Gurera	05	02	10	1400
		Total	95	44	220	30800

Total..... Mandays ie. .....WHs (Working Hours=1Mendayx8Working hours) save & an amount of Rs. ..... lacs directly economically benefited found during the F.Y. report 2019-20.

(Signature with Stamp)
Dy. Civil Surgeon,
Chief Medical Officer,
For Civil Surgeon Bhiwani

Project Demo

During Construction of Project	Functional Project

Bhiwani Nehveen Project

- The GP in Bhiwani were identified with ground water level more than 20 ft.
- Chamber Tank were constructed having iron grill which collects all big solid waste particles.
- After that a small size tank chamber tank is installed with bend pipe so that small dust/ solid particles can be collected and can be collected & segregated.
- After segregation of above solid & floating particles, the waste water is connected to honey comb pits with half fielded with stone and half part of Pits being empty.
- This half part of stone pits again filter the small solid particles. In this way the waste water be treated with 5 step filter system & disposed off safely.
- Removal of sludge from both chamber tanks takes place within 7 to 14 days.

Video Link for demo of the project:-

स्वच्छ भारत
एक कदम स्वच्छता की ओर

ग्रामीण विकास विभाग
हरियाणा सरकार
Rural Development Department
Govt. Of Haryana

Swachhata Hi Seva
15 September - 2 October 2023
Garbage Free India

Azadi Ka Amrit Mahotsav