

GANGA GRAM – A STEP FORWARD (Seechewal Model)

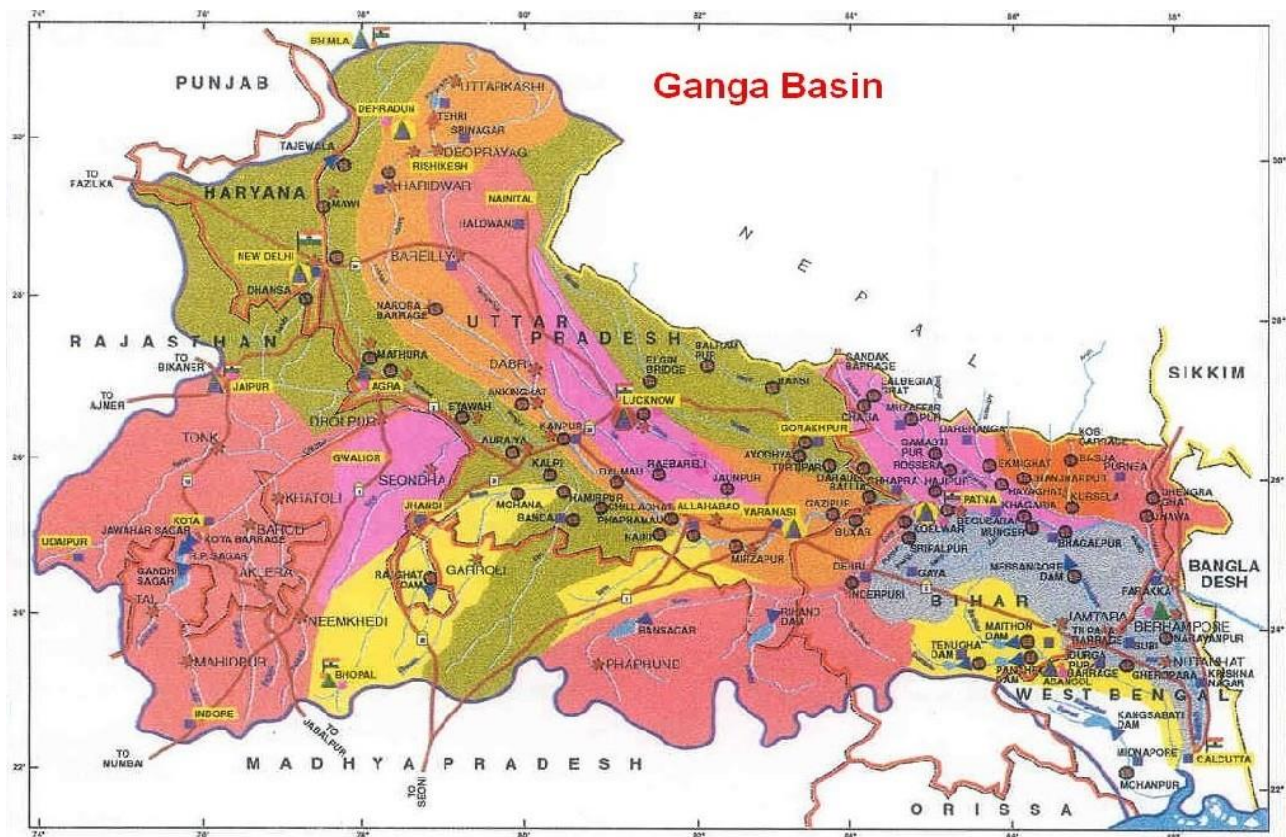
Overview

National Mission for Clean Ganga is, undoubtedly, a herculean task, but, certainly, not an unachievable one. In times of climate change, deteriorating environment, depleting water tables, dirtying rivers and destabilizing eco-systems, not only is it dire to bring Ganga, which directly sustains over 150 million people, to its original glory, but the river's rapid contamination due to release of municipal and industrial effluents, open defecation, acute gap in sewage treatment capacity and unabated sand mining merits an inclusive framework that involves commitment from all stakeholders to ensure smooth (aviral) and pollution-free (nirmal) flow of the Ganga, from its source in glacier waters of mighty Himalayas up to the Bay of Bengal where it retires into the abyss. Realizing this dream would require the unwavering participation of all tiers of governance by promoting co-operative federalism.

Undisputedly, hence, the process of rejuvenating 2525 kilometers-long Ganga entails fuller and unceasing participation of local bodies and communities of villages along its banks. In view of such a challenge, the NMCG has set out with a Ganga Gram programme, which has village Seenchewal in Punjab's Jalandhar district, developed miraculously by Sant Balbir Singh, as the model village.

The programme envisages educating 1,657 Gram Panchayats representing 5,216 villages about new technologies to develop better sewage treatment capabilities, proper waste segregation, ground water management, promoting better sanitation practices etc., with a special focus aiming to declare these villages 100 per cent open defecation free in a time-bound manner. From every district of five major Ganga basin States (Uttarakhand, Uttar Pradesh, Jharkhand, Bihar, West Bengal), Gram Panchayats have been entrusted to identify villages to be developed as Ganga Grams under the auspices of NMCG. Initially, 100 selected villages are to be developed as Adarsh Ganga Grams. So far, more than 300 Gram Panchayats have been roped-in for development under this Yojana.

Not only did Sant Balbir Singh earn accolades domestically for transforming Seenchewal into a model village for water conservation through community participation and public mobilization, he is recognized globally, popularly known as Eco-Baba, for his invaluable contribution to one of the most formidable challenges facing the world – water scarcity. Sant Balbir Singh's role in cleaning 160 kilometer-long Kali Bein rivulet augurs well to achieve the target of rejuvenating Ganga.



Through Ganga Gram Yojana, entirely funded by the Central government, the NMCG aims to train the people's representatives of identified Gram Panchayats in a manner that they would be able to emulate Seechewal model in their own villages for better and maximum results. In order to achieve this objective, the NMCG frequently facilitates visits of Gram Pradhans along with representatives of Gram Sabhas to Seechewal to make them well-verse with the steps taken in the direction of water conservation and river rejuvenation in the village.

Till November 2016, about 400 Gram Pradhans' from Uttarakhand, Uttar Pradesh, Jharkhand and West Bengal have participated in the Ganga Gram Yojana, benefitting immensely from their trips.

Acknowledging the success of Seechewal model and the crucial role it is to play in Namami Gange programme, the Director General of National Mission for Clean Ganga, Mr U.P. Singh along with Secretary, Ministry of Drinking Water and Sanitation, Mr Parmeswaran Iyer visited Seechewal village on 27 November, 2016 to oversee the activities for further introspection.



Figure 1- DG, NMCG, Mr. UP Singh and Secretary, Ministry of Drinking Water and Sanitation, Mr Parmeswaran Iyer visited Seechewal village in November, 2016 to take stock of the situation.

Before listing the activities carried out by NMCG to take the Seechewal model to all villages along the Ganga across all five basin States, a look at what exactly is this model and how it became so effective and popular is prerequisite.

WHAT IS SEECHEWAL MODEL?

Village Seechewal in the city of Sultanpur Lodhi, which is amongst several other villages developed in the rural belt of Punjab's Jalandhar district, has been picked up as a model village by the Ministry of Water Resources, River Development and Ganga Rejuvenation for possible emulation in terms of sewage treatment capacities, waste management and public toilets, in over 1,600 locations along the Ganges.

What makes Seechewal model desirable for a cause like National Mission for Clean Ganga (NMCG) is its effectiveness in tackling one by one the issues leading to pollution in the river. Whether it is the role of communities in bringing about a mass movement to

cleaning of Kali Bein rivulet to installation of low-cost sewage water treatment structures, Seechewal model has all the ingredients suitable for the tasks envisaged under Namami Gange program. Union Minister of Water Resources, River Development and Ganga Rejuvenation, Sushri Uma Bharti had announced that 200 villages would be developed in the first phase based on this model, for which Rs 1 crore would be allocated for each village.

Rejuvenation of Kali Bein rivulet

For nearly 15 years, Guru Nanak Sahib spent his life around Kali Bein rivulet, often meditating along its banks. The tales say that one day he dived into the river and came out after three days. He is believed to have attained enlightenment during that period as his appearance was followed by his sermons – Ik Onkar. It is this spiritual significance of Kali Beinriver, that travels a distance of about 160 kilometers before flowing into the confluence of Beas and Satluj at Harike, which inspired Sant Balbir Singh to lead a mass movement to clean the rivulet as the first step in transforming several villages along its banks.

Sant Balbir Singh, who has been serving the people from the past over 15 years, led from the front in persuading the local population to bring the rivulet to its original glory from decades of deterioration due to urbanization and industrialization. Nothing less than a mass movement would have sufficed and it was a mass movement that was conjured. After a meeting on 15 July 2000 in Jalandhar, locals in hundreds came out promising their support. “If we want to face the young generation in future, we must clean the river now,” Sant Balbir Singh said.

One of the major challenges in cleaning the river – removing the accumulated hyacinth and other weeds – was taken up first. Hundreds of volunteers (kar sewaks) joined hands with Sant Balbir Singh who led from the front. For several hours every day, people of Sultanpur Lodhi extracted hyacinth until the water, which had ceased to flow, was brought back to fluency. It remained a dangerous task as often times the kar sewaks had to deal with snakes and other life threatening species while removing the hyacinth. Some 1,000 tonnes of hyacinth and other weeds were removed in that exercise.

Proper arrangements for disposal of the extracted weeds were also made. Men, women, children, all contributed to the cause as per their capabilities.



Figure 2-Local people from Sultanpur Lodhi devotedly cleared hyacinth and other weeds from rivulet Kali Bein

Once the flow of the rivulet was ensured, kar sewaks erected walls of boulders along its banks so that the river could stay on its course. The erection of these structures also prevents seasonal flooding of some villages on the river's banks. Later, ghats were built along the bank, which are now frequented by tourists. Locals often throng these ghats on holidays. They have turned into preferred picnic spots of families. More than 3,000 volunteers worked round-the-clock everyday for three-and-a-half years to accomplish the revival of the Bein.

To accomplish these two tasks, more than three years of unceasing commitment of local communities and constant motivation of Sant Balbir Singh was offered. Sant Balbir Singh himself drove tractors and JCB machines, arranged as part of local support, for hours to flatten the grounds along the river's banks to make roads.



Figure 3- Sant Balbir Singh supervising the construction of walls upon the river's banks

Oftentimes, in his appeals, he would refer to the Guru Granth Sahib and its verses exhorting the preservation of natural resources. Water-logging problems in many areas were automatically resolved as Kali Bein flowed smoothly through Kapurthala district of Punjab. A rise in the water tables was witnessed and the hand pumps that had remained dry for several decades could be reused.

After achieving unprecedented results in Sultanpur Lodhi, Sant Balbir Singh and his team shifted the focus to clean the stretch between Dhanao, from where the rivulet springs, up to Kanjili wetland.

The social, cultural and economic dividends restoration and rejuvenation of Ganga could yield at a national level would be unimaginable. And Ganga Gram as a concept is a step forward in that direction as it espouses the federal character of the country by avowedly encouraging ground level involvement.

Total villages in India (2011 census)	Total Gram Panchayats in India	Total Block Panchayats in India	Total Gram Panchayats in five major States on Ganga river basin
6,40,867	2.39 lakh	6,405	75,706



Figure 4- After years of hard work, Kali Bein could be brought back to life again. Locals claim that the water quality has improved to the extent that it can directly be used for drinking and cooking purposes.

In April 2004, the then President of India, Mr APJ Abdul Kalam visited Seechewal to acknowledge the unprecedented movement that had taken root in the village. Applauding Sant Balbir Singh's unconditional commitment to the cause, Mr Kalam called him "a great warrior." He revisited the village in 2008 and emphasized on keeping the surroundings clean, which he also said, "makes every God happy."

The social movement in Seechewal not only motivated people in the adjoining villages, but also brought them face-to-face with the inevitable challenge of polluting rivers. The next step to achieve complete success was not only to stop the untreated sewage water flowing into the river, but also make it usable for irrigation and other purposes.

BOX ON KALI BEIN

The Kali Bein rises from a spring in the Dhanoa village of Dasuya tehsil Hoshiarpur district of Punjab. Odhra rivulet and Mukerian hydel canal are its main sources of water. After traversing for about 160 km, it merges at the confluence of the Beas and the Satluj at Harike Pattan. The Kali Bein is also called the western Bein in Hoshiarpur and its course lies parallel to the Beas in the Hoshiarpur and Kapurthala districts. It flows through the districts of Hoshiarpur, Kapurthala and Jalandhar and there are several towns on its banks including Sultanpur Lodhi and Kapurthala. Kali Bein has a catchment area of about 945 square kilometers.

The rivulet plays a key role in recharging the water table and in flood management in its watershed. It is also a key source of irrigation for the agricultural fields. The use of industrial and agricultural chemicals and the exploitation of groundwater led to the drying up of the Kali Bein along parts of its course and the contamination of groundwater leading to diseases and the drying up of farmlands.

Low-Cost Sewage Treatment Networks

To stop the untreated sewage water flowing directly into the river and other water bodies, low-cost sewage treatment networks and plants were envisaged, which are maintained and are functional till date.

The untreated water flowing in drains (nallahs) is diverted through pipes to a cemented channel, from where it jettisons into an open well on whose mouth iron grills are installed to filter polythene and other solid material. This waste is then pulled out using a hand shovel to ensure uninterrupted flow into a 13-meter deep open well with a diameter of about 20 feet. The open well is made fully cemented to avoid underground water pollution.

Two centrifugal pumps of 7.5 horse power each then lift this water from the well and take it into an open tank built at a height of 13 feet from the ground level. The water is taken to a heightened platform so that it can get more oxygen and aeration process could take place. The water then flows marginally down through pipes into a 12-feet long adjoining well of about 30 feet diameter.

While gyrating into this V-shaped well the water loses its thick slurry at the bottom. After that the water moves to open beds through pre-laid pipes in open fields. The slurry, when dried, is used as a fertilizer in kitchen gardens, flower pots and nurseries. The water then traverses from first tank to the second and to the third, all constructed in a row. From here, water flows into the first pond of about 100 feet. Six such ponds are built subsequently in front of the STP.



Figure 5- A pond where waste water is collected before going through processes of purification

As the water is extremely dirty and stinky at this level, the water makes its way to the second pond automatically through underground interconnected pipes using the gravitational pull. The water gets slightly cleaner in the second pond. From there, the water gradually flows to the third and the fourth pond getting cleaner and cleaner due to its natural property of losing its impurity when flowing uninterrupted. It is in the fourth pond that the water becomes greenish in colour and gets cleaner. It is at this stage some water-borne species like fishes, frogs etc. comes to life, again. The food chain becomes active as birds fly about to prey.

In the sixth and final tank, the water becomes very clean and transparent. Though it is not fit for human consumption, it is suitable for irrigation and, therefore, is supplied to farmers through a 3-kilometer long underground pipeline, which irrigates about 300 hectares of land. Ever since this water has been put to use, the yield has gone up by 20-30 per cent. The farmers are now less dependent on chemical fertilizers. The water tables

have significantly gone up in the vicinity. In Sultanpur Lodhi, more than 10 kilometer-long pipeline is installed that supplies treated water to about 22 villages.

These actions have, undoubtedly, opened new vistas for economic development. In Kapurthala district alone 1, 35,000 hectare land has been saved from depleting water levels. Whereas in Hoshiarpur district, about 6,000 acres area that remained water logged has been reclaimed. As per an estimate, ground water rose by about 1.5 meters in days that followed the successful application of the Seechewal model in its entirety. The B.O.D. and C.O.D. levels in water samples plummeted drastically. Interviews of local dwellers show that the area was rid-off several diseases that often ailed the population, especially children. A lot of credit in this regard goes to hundreds of toilets that were built in the village through local support. Activities like boating have been started in several water bodies in the vicinity like Morgan Lake to instigate tourism. Sant Balbir Singh plans to replicate this easy and economical model in at least 70 more villages around Seechewal.

In August, 2015, Union Minister for Water Resources, River Development and Ganga Rejuvenation Sushri Uma Bharti visited village Seechewal and called the place a “Guru Sthan”. “This village and Seechewal model fulfills all mandates – Water Resources, River Development and Ganga Rejuvenation – that our ministry has and we must learn from here.” Her visit followed painstaking exercise by National Mission for Clean Ganga to identify Gram Panchayats along the river. Visits of their representatives to Seechewal were facilitated in the ensuing months.

Exposure visits of Gram Panchayats’ representatives to Seechewal

From November 2015, National Mission for Clean Ganga began facilitating visits of Gram Pradhans of villages along five Ganga basin states to Seechewal. Aimed at making the representatives of Gram Panchayats well aware of the coveted model, they are shown the entire sewage treatment system that has been put in place. Sant Balbir Singh and his team of caretakers of the sewage treatment network would take the visitors to every installation (wells, ponds and tanks) and explain in detail the matrix of this unprecedented and highly effective system. The Seechewal team would also provide some crucial tips to design the sewage networks and how to appropriately connect them with water storing structures.

So far, about 400 representatives from almost as many Gram Panchayats have visited Seechewal to know the model, out of which nearly 200 were from Uttar Pradesh alone. Visits of representatives from Gram Panchayats in Bihar have been scheduled in the coming months.

The feedback from the visitors continues to be motivating. Not only do they express their gratitude towards Sant Balbir Singh and his team, they also acknowledge the possibility of emulation of this model in their own jurisdictions to manage the mounting challenges of solid waste management, sewage treatment and water scarcity.

Swami Nath Yadav, who was in the first batch from Uttar Pradesh's Balia district said: "Babaji and his team have worked really hard to make this village a miracle. We have learned a lot from here and will try to adopt some of the measures like solid waste management and sewage treatment techniques to make our villages better."



Figure 6- Gram Panchayats representatives from Uttar Pradesh made aware of Seechewal model through Namami Gange programme

Echoing his voice, a villager from Gram Panchayat Hridaypur in district Balia, Ajay Kumar said: "First time we have learnt something. From this knowledge, we can beautify our own villages. Babaji showed us how waste water from every household was being successfully used for irrigation." Daya Shankar from Gram Panchayat Murarpatti added: "Babaji's work is different from government as he has achieved wonderful results in very less investment. He has developed techniques of his own. This model is beyond appreciation and we will try to espouse it in our villages."

Besides being engaged in a day-long tour around Seechewal village, the participants are also given literary training on possible ways to achieve the target of cleaning their

surroundings and managing waste. Reading material on Seechewal model is provided as well. A Performa to conduct a basic survey on feasibility of their respective villages to be developed as Ganga Grams is shared with them. The participants are also asked to keep NMCG apprised of the follow-up actions taken by them while assessing the Seechewal model as per the requirements of their respective blocks. They are also urged to share with NMCG, unhesitatingly, any challenge they encounter during their attempts to make Ganga *aviral* and *nirmal*. A dedicated team of NMCG remains in constant touch with the informed Gram Pradhans who are mulling to replicate Seechewal model in their villages either in entirety or in parts. *Chopals* (gatherings) are being envisioned to be organized in these villages to deliberate on follow-up of Gram Panchayats visits and to make Ganga Grams a reality.

Some other important parameters of Ganga Gram include Afforestation, River Front Development, Ghat Beautification and environment-friendly Crematoriums. Swift completion of pending schemes/programmes by States and Urban Local Bodies in Ganga Grams is being sought.