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# Alternative to chlorination? BWSSB pioneers new water purification system

To be installed at five chlorination plants and integrated with SCADA

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BENGALURU, DHNS

**B**WSSB is launching a pilot project for the first time in the state to move away from chlorination and towards the semi-automated injection of calcium hypochlorite to disinfect water.

Although newer methods of disinfection have become more widely used over time, the Bangalore Water Supply and Sewerage Board (BWSSB) has persevered with chlorination as its primary water purification process.

"Now, there are new techniques such as ozonation and the use of calcium hypochlorite (are available). However, since it is not widely used in India, we were not sure how it would work for Bengaluru water. Hence, we are taking up a pilot project to study the impact," said Sanath Kumar, Additional Chief Engineer (Quality Assurance), BWSSB.

An official noted that while ozonation could be expensive, the use of calcium hypochlorite might be a more financially feasible option. The current practice of pumping chlorine into the water in gas form has the potential for catastrophic consequences if there is a leak. This has necessitated the exploration of more reliable methods of disinfection, the official added.

"Over the years, we have seen at least three incidents where our staff have lost their



lives owing to such leakage. Many of our chlorination plants are in residential areas and any leakage would be disastrous," the official said.

Kumar pointed out that the potency of chlorine in purifying water decreases as the water travels over a long distance before reaching its final destination.

"We estimate the amount of chlorine to be added based on the distance the water has to travel. However, from the TK Halli pumping station, water

travels close to 110 km. Though we add chlorine at various levels, it might go down by the time it reaches the endpoint," he explained.

In the initial phase, the semi-automatic system will be installed at five chlorination plants and integrated with the Supervisory Control And Data Acquisition (SCADA) system in order to keep track of the recorded data.

The project comes at a crucial juncture when the BWSSB is taking steps to ensure water contamination does not lead to an increase in waterborne diseases, particularly during the summer months.

"In the summer, diseases such as cholera and diarrhoea could spike and it is important that we take measures to ensure the quality standards do not go down by the time water reaches the end user," an official said.

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# A liberating endeavour

**SBM-G has been roping in stakeholders at local levels, particularly women, to free the nation from clutches of drudgery and unsanitary conditions**



VINI MAHAJAN

**S**wachh Bharat Mission-Grameen has reached every nook and corner of the country in the form of a people's movement. Not only has it changed behaviours, but it has also become a household name. Such has been the impact of the Swachh Bharat Mission – a flagship programme, promoted by the Hon'ble PM.

The ongoing process has been possible with the support of all the State and District machinery, Development Partners, NGOs, Panchayat leaders and the communities that are making massive efforts to contribute to the health and well-being of their communities in the spirit of a Swachh and Swasth Bharat.

South African anti-apartheid activist and father of modern South Africa, Nelson Mandela had once said, "Freedom cannot be achieved unless women have been emancipated from all forms of oppression." One cannot but agree with this sentiment. Having been working with the Department of Drinking Water and Sanitation for over a year now, I am privileged to be working with two of the country's flagship programmes – the Swachh Bharat Mission Grameen and the National Jal Jeevan Mission – both of which are empowering women, liberating them from endless drudgery, and disease.

It is pertinent to point to the freedom from unhygienic practices and unsanitary conditions that the SBM-G Mission is working towards. While it has brought about access to sanitation to all sections of society, the 'pro-poor' and 'pro-women' campaign has also freed women from having to wait until dark to relieve themselves, while providing protection, dignity and numerous health benefits.



Sanitation workers at all levels have risen as torchbearers to transform India

The National Jal Jeevan Mission, on the other hand, has taken a step further, becoming a godsend to rural women living in water-scarce regions of the country. Thus far, through the noble missions of SBM-G and NJJM over 11 crore individual household toilets have been constructed and more than 10.90 crore household tap water connections have been provided.

Additionally, SBM-G has put India on the road to achieving the UN Sustainable Development Goal 6.2, to achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation, paying special attention to the needs of marginalised, women and girls and those in vulnerable situations, by the year 2030.

## Lighthouse initiative

The country is certainly on track with the SBM-G, although a lot more needs to be done. Recognising the role of the private sector in Swachh Bharat Mission Grameen and that 'swachhata' is everybody's business, DDWS is collaborating with the India Sanitation Coalition (ISC) at FICCI, a multi-stakeholder platform that together with corporate partners, and Development Partners, works to achieve sustainable Solid and Liquid Waste Management (SLWM) in villages of India. In the first phase, the aim is to create a model or 'lighthouse' Gram Panchayats across fifteen states that would successfully implement SLWM arrangements that could be scaled up across the country to achieve

the target of making all our villages an ODF Plus Model.

## Swachh Survekshan Grameen 2023

Also underway is the Swachh Survekshan Grameen 2023 – a survey that ranks states and districts on the basis of their performance on key quantitative and qualitative SBM-G parameters. The objectives of SSG 2023 are to generate active participation at the village, district and State levels in SBM-G Phase II; create awareness about ODF Plus model villages; to assess and learn through peer verification; create a healthy competition among GPs and to recognise winners at all levels.

To accelerate momentum, DDWS has also organised various iconic campaigns that have made a considerable impact. Among them is the Retrofit to Twinpit Abhiyan which promotes simple "on-site" technologies by retrofitting the existing single-pit toilets into twin-pit toilets and connecting septic tank toilets to air vents and soak pits. The campaign also aims to generate awareness about the safe disposal of faecal sludge in rural households.

Under Sujlam 1.0 and 2.0 campaigns, individual and community soak pits were constructed in households and establishments for the effective treatment of greywater generated. The campaign ensured minimal stagnation of wastewater and checked its discharge into the village ponds. More than 23 million soak pits were constructed during both campaigns.

As far as GOBARdhan is concerned, it supports villages to safely manage their cattle, agricultural and organic waste, converting the same into clean fuel and organic manure to improve environmental sani-

tation and curb vector-borne diseases. In this regard, the Government of India provides technical assistance to every district and financial support of up to Rs. 50 lakhs per district to achieve safe disposal of cattle dung and organic waste. So far, there are more than 500 GOBARdhan plants around the country.

Information, Education & Communication has played a pivotal role in spreading awareness and promoting SBM-G activities and from the outset most of the activities have led to community participation that has led to communities taking ownership of the projects to ensure sustainability. Swachhata Hi Sewa, Swachhata Runs, Swachh Bharat Diwas, and United India for Swachhata, are examples of such involvement. Much focus is also being given to strengthening capacities, given that SBM-G Phase II requires cost-effective and cost-viable technological interventions, requiring specialised skills in the construction of assets.

In order to encourage GPs to showcase ground-level initiatives in Menstrual Hygiene Management and to promote cross-learning among states, a National Film Competition for GPs on MHM was organised recently.

Menstrual hygiene has continued to be a cause of concern due to a lack of knowledge, persisting taboos, stigma, limited access to menstrual products and safe disposal mechanisms of used sanitary pads. Sensitising women and girls on MHM would go a long way in reducing the school dropout rate among girl students while improving their health and dignity.

*The writer is Secretary, Dept of Drinking Water and Sanitation, Ministry of Jal Shakti. Views expressed are personal*

Alongside significant economic, environmental and health impacts, and empowerment of women, toilet usage has increased to 93.4 per cent owing to SBM-G



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# घुल रहा जहर, राजस्थान की 14 नदियों की हालत चिंताजनक

पत्रिका न्यूज़ नेटवर्क  
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पाली. केन्द्रीय प्रदूषण नियंत्रण बोर्ड की ओर से नदियों और अन्य जल स्रोत के जल की गुणवत्ता की निगरानी की जा रही है। गत नवम्बर, 2022 में बोर्ड ने इसको लेकर रिपोर्ट तैयार की है। रिपोर्ट में जैविक प्रदूषण के संकेतक जैव-रासायनिक ऑक्सीजन मांग (बीओडी) के संदर्भ में परिणाम जारी किए हैं।

रिपोर्ट के अनुसार देश की 279 नदियों में 311 प्रदूषित खंडों की पहचान की गई है। इनमें राजस्थान की बनास, बांडी, जवाई, चम्बल, कोठारी, लूनी, गंभीरी, बांदी, खारी, माही और पीपलाद नदी के खंड भी शामिल हैं। राजस्थान से बहने वाली 14 नदियों और मध्यप्रदेश से बहने वाली 18 नदियों में कई खंड



पाली. शहर में बांडी नदी के हालात। पत्रिका

औद्योगिक और अन्य कारणों से प्रदूषित हैं।

यह जानकारी हाल ही में केन्द्रीय जल शक्ति मंत्री गजेन्द्र सिंह शेखावत ने लोकसभा में दी है।

एक सवाल के जवाब में उन्होंने बताया कि राजस्थान के अलावा मध्यप्रदेश में चम्बल, बेतवा, खान, काशीपुरा, हिरान सहित कई नदियों में प्रदूषण है।

## अभी तक ये प्रयास हुए

बोर्ड ने अब तक देश के 16 राज्यों की 80 नदियों में से 36 नदियों के प्रदूषित खंडों में 6248.16 करोड़

## कहां कितनी नदियों में प्रदूषण

आंध्रप्रदेश	03	कर्नाटक	17
असम	10	महाराष्ट्र	54
बिहार	18	तमिलनाडु	10
छत्तीसगढ़	06	तेलंगाना	10
दिल्ली	05	यूपी	17
गोवा	06	उत्तराखंड	09
गुजरात	13	प. बंगाल	13
हरियाणा	03	ओडिशा	06
हिमाचल	09	पंजाब	05
जे एण्ड के	08	मेघालय	07
झारखंड	09	केरल	18

रुपए की लागत की परियोजना स्वीकृत करके कार्रवाई किया है। 2745.7 मिलियन लीटर प्रतिदिन ट्रीटमेंट क्षमता सृजित की गई है।