



## **SDG 6: Ensure Availability and Sustainable Management of Water and Sanitation for all**

### **India's performance in terms of SDG 6**

SDG 6 is an SDG which is highly connected to all the other SDGs. Water problem and lack of access to water and sanitation has an adverse impact on economic growth and job creation. Even in case of India, it is seen that water and sanitation accounts for a potential growth that India is not achieving because it has large issues in this sector. India needs to look at water in two ways: What is already done with water in India and what needs to be done for future better supply of water are important issues. Many scientists estimate that Himalayas have lost 15% of their glaciers.

As per a report on the MDGs, India's efforts on the MDG were on track for water. It is said that coverage of drinking water supply in India is 93%. India nearly has 18% of the world's population but only 4% of the average global annual runoff in rivers. Over 600 million people in India depend on agriculture for their living and nearly 2/3<sup>rd</sup> of land under cultivation has no assisted irrigation and thus relies on rain and underground water sources. Subsidised electricity has also led to excessive pumping of ground water by drilling more annually than China and America combined.

It is said that water table in India is falling on an average by 0.3 metre and as much as 4 metres in some places. And water starved regions often cultivate water hungry crops like sugarcane, cotton, grains and paddy. If we compare water consumption of India to China with a slightly larger population and double the size of the economy latter uses 28% less water than India.

As per a categorisation, there are two types of water we consume: the actual one and the virtual one. The virtual water consumption is the water we consume in the products, agricultural and industrial. That we produce and then we either consume or we export. India counter-intuitively is a net exporter of virtual water. It is in the same company with countries that are actually net exporters of both virtual and real water such as Canada, United States, Argentina and Russia. The countries which are net importers of virtual water are such neighbours as China, Republic of Korea, Japan and even Netherlands which is not rich in water.

### **India's Performance in Sanitation**

#### *Open Defecation Free*

Sikkim and Himachal Pradesh have been declared open defecation free. 17 districts in India have been declared ODF, Fatehgarh Sahib in Punjab being the most recent one. Number of villages which are open defecation free is over 72000.

#### *Coverage between 66% and 99%*

These are states with relatively high coverage, Utrakhand, Punjab, Haryana, West Bengal and Gujarat. Even Kerala has around 95% coverage, and most of these states are on the verge of becoming ODF. In fact, Nadia, a district in West Bengal was the first district in the country to be declared ODF. All north east states except Assam also come in this category.

In Punajb, the coverage is 77%. They also have a peculiar feature of bath cum latrines. In fact, nearly 30% of the latrines are like that. In Fatehgarh sahib it is more than 40% because all the ladies prefer to have the bathroom also. Added advantage is that 91% population covered by the piped water supply, so they are able to keep it clean as well.

#### *Less than 33%*

Two states, Odisha and Bihar have coverage of less than 33% in the country and are making progress

## Why is Sanitation important?

- An account estimates that sanitation saves about 200000 lives a year of children below the age of 5 who die of illnesses related to diarrhoea.
- Lack of sanitation impacts physical and cognitive stunting of children.
- It is essential for women security and dignity.
- A study done by World Bank<sup>1</sup> shows that GDP impact of lack of sanitation was 7%. Thus there is a huge economic cost to the lack of sanitation.



Prime Minister has made Swach Bharat Mission a flagship programme of the country. This has been a very big game changer. It happened in Korea 25 years ago, when President of Korea decided to have a clean Korea. Malaysia, Singapore also decided so as signal from the top can make a big difference. India is the only country in the world to have a massive government funded sanitation programme.

- Swach Bharat is providing flexibility and autonomy to each state to apply the programme in its own way. Chhatisgarh is following a community based approach. The incentive of Rs. 12,000 provided by the Government is being given to the panchayat and the panchayat decides how they want to spend that money. So they have the flexibility to decide that if there is a household which is extremely poor, it get the full Rs. 12,000. If there is a household which is sort of medium income in a rural context, they can get half of it. And richer, although eligible families need not get anything.
- Recently, World Bank provided a loan for \$1.5 billion called 'Programme for Results'. It is a result based loan and goes to states which have delivered on some agreed upon indicators. This approach incentivises competition among states.
- Solid and liquid waste management is becoming an issue and there is an attempt to evolve an index to measure what is a clean village. It is an index of village Swachta and comprises of following indicators:
  - Open Defecation Free (ODF)
  - Have effective solid and liquid waste management (SLWM).
  - Visually Clean.

A comparison made between India and Bangladesh indicates:

India	Bangladesh
Toilets which are being constructed look good, but used mostly like store rooms. As subsidy, India spends Rs. 12,000 on toilet construction. The target here is simply to construct toilets.	Bangladesh spends much less on a toilet construction. The toilet construct has a pan, seat and two small pits at the back of 50 cubic feet which need to be cleaned after about 6-8 hours. The target is to see that disposal is an environmentally safe manner.

### *Sanitation Infrastructure*

More than 50% of the toilets are to be constructed in 5 states, i.e. UP, Bihar, Madhya Pradesh, Odisha and Rajasthan. To be able to concentrate in the five states would in itself be a great achievement.

Major policy decision taken by the Government:

- Mandatory purchase of power by the discoms produced out of the waste.
- Ministry of fertiliser has taken a decision to give about 1500 rupees per tonne of the city compost as market development assistance. This is to encourage the compost and reduce the usage of chemical fertiliser.
- Bureau of Indian Standard has come out with the standards on C&D waste for which the gazette notification has taken place. One of the objectives is to stop the depletion or the plundering of natural resources and to also reduce the problem of C&D waste.
- Counselling of the adolescent girls, menstrual hygiene management and particularly the production of the low cost sanitary napkins.
- Focus on sanitation has to be at an institutional level. It needs to go beyond the ambit of household to schools, anganwadi. It needs to have a lifecycle approach based on awareness. Workplace is also an important area which needs focus.
- Village and sanitation committees shall be constituted as a part of sub-committee of gram - panchayat and 50% women participation. The money should be routed either through gram panchayats or through the water sanitation committees.



## **Chhatisgarh**

- Chhatisgarh has slowly moved away from IHHL to blocks, villages and ODF communities. An intervention called community approaches to total sanitation with partner organization as UNICEF has been a successful one. Chhatisgarh was one of the first states to enshrine that a person without toilet cannot contest elections and as on date, no longer a member of Panchayati Raj Institutions. This has also been extended to anyone and everyone who reaps benefits from the Government.
- GOI has incentivised toilet building by providing Rs. 12,000. Chhatisgarh government has in addition put a clause that the sum will be provided for using the toilets and not just for building them. There are three modes to incentivise ODF communities. Toilets have to be used for a certain period which will be verified after three months by the state level and then district level and then after six months it will be verified by a state level team. Thus, notion of building and construction has been replaced by use of its practice and that is the requisite habit formation.
- The state has moved away from the classic community led total sanitation model and prefers a low cost eco-friendly twin leach pit technology.
- The state has a concept 'Nau' Ratna. 'Nau' Ratna means important people leading the movement and the core of this is to have people as central to everything.
- Gram Sabhas have 'ratri' chaupals which has become mandatory. There are certain activities assigned in these 'ratri' chaupals like vigilance committees which are exclusively done through community members mainly women, children. They are called Swachta Commnadoes who go around early morning before dawn and after dusk just to monitor how communities are facilitating to the status of being ODF.
- There is also a concept of Swachhta 'Panji'. It is a file which indicates what the discussion on cleanliness in Gram Panchyat entails.
- This is yet again an initiative from Mahasamund district, that after the seven vows of marriage, the eighth one is for a safe and secure toilet. This another initiative came from a sarpanch. The families of ODF communities would also have their ration cards stamped as they are ODF communities. It is a privileged status which is being given to the community.



## **Water**

76% habitations have full coverage, i.e. these habitations get more than 40 litres per capita per day. However, 70,000 habitations in India have water quality issues and the two most critical water quality issues are arsenic and fluoride as we have arsenic and fluoride contaminations today in about 24-25000 habitations.

Piped water supply coverage in India is over 50% and in public spots. Objective is to have piped water supply in 90% of habitations by 2022 including 80% household coverage. Today household connections are only 15% so it is ambitious target to attain. Major issues which confront here are ground water and source sustainability.

Steps which can be taken to conserve water and to be able to meet future demands:

- Involving local communities
- Financial sustainability.
- Water Education, i.e. an integrated water management approach in education.
- Mainstreaming traditional innovations on water management particularly at the local level. For instance, Dug wells, which were used earlier, are a better solution to mitigate arsenic than several sophisticated technologies.
- Lifeline plus drinking water as a concept needs to be incorporated to create sustainable drinking water. It is water not just for luxury but water for drinking and livelihood purposes. Smart cities need to have this principle embedded in their very conceptualization.
- Creating data and inter linking data set from different government departments is essential if the SDG goals need to be attained.
- Community management of water supply is an effective parameter to ensure the water is available and functional when needed.



*Drinking Water*

Punjab: Some innovative practices

In Punjab, village level leadership is involved in working of various schemes in water and sanitation. Officials at state and district level personally coordinate with the Sarpanch. In fact, the revenue collection vis-à-vis the government control scheme, the revenue collection in some of the panchayat controlled scheme is better than the government mechanism.

For treatment of water, both short and long term solutions are being carried out. As a short term solution, RO systems are being installed. For the permanent solution, canal system is being implemented in areas where water needs to be treated. Tie ups for these solutions are being made with other agencies like the World Bank, other government resources and money.

Learning

In a Basti in Delhi, a company has installed RO filter for the community to access water. These people are aware of technicalities of TDH count, because the receipt of bill generations provides information on the TDH count.

## *Efficient Water Use for Agriculture and Industry*



Water usage in agriculture takes up about 70% of the total water used in India. Our water efficiency is half of Thailand and China's. The National Commission for integrated water resources development and management has projected that by 2050 India would need about 1180 billion cubic metres of water whereas the water available for utilisation is 1123 billion cubic metres. Some major reasons for low rate of efficiencies are: problem of silting of reservoirs, excessive seepage losses in canals among others. Following are the reasons which lead to seepage: Lack of measuring devices. Inequitable and untimely delivery of water to fields, lack of on farm Development works not being upto the mark, lack of participatory irrigation management (PIM), inefficient water application methods, lack of drainage, lack of capacity buildings efforts etc. Irrigation sector is the key area because it consumes 72% and even by 2015 it was consuming 68%. The objective is to have 'Har Khet Ko Pani'.

There is a need for strategies to better the situation:

- Aim is to increase the water use efficiency by 20%. There is a need for research in the area of water use efficiency.
- To promote water efficient techniques and technologies. The micro irrigation sprinkler and drip is coming. Promote Water Resources Regulatory Authorities (WRRRA) for equitable water distribution.
- Promote water audit and incentivise water conservation. Farmers should be incentivised.
- Improve both the conveyance as well as the distribution efficiency.
- Levelling is another important aspect, better levelled fields lead to more efficiency.
- Conjunctive use of both surface and ground water is very essential.
- Crop diversification is another important aspect.

- Need to incentivise projects which bring irrigation efficiency in terms of water use efficiency
- Recycle and treat water from sewers and use it for agricultural purposes. Increased research on this as this is possible if there exist decentralised systems.
- Price mechanism needs to change, there is a need to think of demand management through pricing mechanism.
- Some crops should be relocated to ensure water and irrigation efficiency. For instance, Maharashtra should not produce so much sugarcane as it is a water intensive crop and it should perhaps be shifted to more Brahmaputra valley.

#### Important Government Initiatives:

- Pradhan Mantri Krishi Sinchai Yojana which is a convergence scheme and its main focus is on AIBP, i.e. accelerated irrigation benefit programme. Its objective is to create irrigation potential. And we have to create irrigation potential of more than 75 lakh hectares.
- ‘Har Khet Ko Pani’, which is the real application, has 4 components: the CAD&WM, command area development and water management which is basically for utilisation of created potential. Then is, ERM i.e. Extension, Innovation and Modernisation of that. RRR, i.e. repair, renovation and rejuvenation of water bodies and finally per drop more crop.

#### **Gujarat**

Gujarat is a water scarce state. However, paradigm shifts have been made to change the water supply scenario in the state.

- Inter-basin water transfer by transferring the Narmada project waters to the scarce parts of Gujarat especially Kutch and Saurashtra and north Gujarat.
- Changing the supply that was ground water based, to surface water based
- A network of pipelines along the state and with that we have been able to bring in the dual security of the sources, the local sources, the sources based on the regional

water supply schemes based on the dams nearby and thirdly the connectivity of the Narmada pipeline.

- The community participation through the WASMO model, water and sanitation management organisation wherein the local paani samitis, they manage the water supply, door to door water supply within the village.

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<sup>i</sup> This Report is based on the deliberations during National Consultation on SDGs on 9<sup>th</sup> August, 2016. They do not represent the views of either the Government of India or NITI Aayog.