

## **Water Resources need Efficient Usage for Long-Term Sustainability**

### **Preservation of water resources requires efficient micro-irrigation systems such as drip irrigation, rainwater harvesting and treatment of faecal sludge**

Over 70% of the world's surface is covered with water. However, only 2.5% of it is fresh water, with about two-third of this fresh water being in the form of ice caps and glaciers. Only about 1% of the earth's water resources is fit for human use. Thus, fresh clean water is a scarce and costly resource, and needs to be used efficiently.

As population, households and affluence grow in developing countries like India, the demand for fresh and potable water increases. As the NITI Aayog suggests, "Nearly 600 mn Indians face "high to extreme" water stress. What is worse, water paucity is projected to exacerbate as India's overall water demand is anticipated to double by 2030. This could potentially dent the country's GDP by 6% by 2050. Situation is particularly worrisome in the groundwater sector. Water table in many areas is receding at an alarming pace despite restrictions on installing water extraction systems in over-exploited zones. India is world's largest extractor of groundwater. Its annual water withdrawals are more than those of the US and China put together. Such indiscriminate exploitation of groundwater is unsustainable. Adequate recharging of subsurface aquifers through rainwater harvesting is, therefore, indispensable."

While India receives enough rainfall to meet its genuine water needs, a significant proportion of this rainfall is allowed to run wastefully. This further leads to soil erosion, especially in agricultural areas. PM Modi has launched the Jal Shakti Abhiyan "Catch the Rain Where It Falls, When It Falls" on 22nd March 2021 (World Water Day) across the country's 734 districts covering over 600,000 villages. The campaign will be implemented from 22nd March 2021 to 30th November 2021 - the pre-monsoon and monsoon period in the country. It aims to take water conservation at grass-root level through people's participation, and intends to nudge all stakeholders to create rainwater harvesting structures suitable to the climatic conditions and subsoil strata, to ensure proper storage of rainwater.

However, the success of the campaign lies in the efficient use of the available water in the agricultural and industrial sectors. This calls for appropriate water pricing and judicious use of subsidized power supply for groundwater pumping. Further, there is a need to promote micro-irrigation systems such as drip irrigation that minimize water evaporation. While states such as Sikkim, Andhra Pradesh, Karnataka and Maharashtra lead in the usage of drip irrigation, about 27 states and Union Territories in India have less than 30% of their farmland watered by micro-irrigation.

An impact evaluation study of the micro-irrigation scheme, carried out by the Department of Agriculture, Cooperation and Farmers Welfare, has found that irrigation cost is reduced by 20-50 per cent with an average of 32.3 per cent in micro-irrigation schemes. Electricity consumption is reduced by about 31 per cent and the saving of fertilizers is in the range of 7 to 42 per cent.

Recent media reports suggest that drip irrigation is transforming the lives of the farmers in Jharkhand, helping them to grow two to three crops in a year. The state government has been trying to expand the drip irrigation system in the state as through this method better crop yield can be ensured with less water.

The government has also announced implementation of Jal Jeevan Mission (Urban), in the Union Budget 2021-22, to bring safe water to 2.86 crore households through tap connection, as well as liquid waste management in 500 AMRUT cities. It will be implemented over 5 years, with an outlay of Rs 2,87,000 crores.

However, availability of clean water requires safe treatment of faecal sludge so that sludge does not contaminate our drinking water sources, as also speedy implementation of the government programmes, in order to minimize water wastage and build a happy and healthy society.

## **Notifications**

### **PIB**

Cabinet approves MoC signed between India and Japan

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