Assignment Series- 60

Name: Annamalai R E

Roll No: 201CE105

Groundwater recharge: Delhi revenue dept wrapping up work to get 460 acres land along Yamuna

In order to evaluate the effect of floodwater collection on groundwater recharge during the monsoon, a 26-acre pond was built next to Sangarpur in Palla in 2019. An official from the government claims that since the project was started, groundwater has been recharged at a rate of 812 million gallons year on average. The Palla project, according to deputy chief minister Manish Sisodia, was designed to store flood water so that the accumulated water can be used all year to raise the level of the groundwater. Sisodia reviewed the project with representatives of the irrigation and flood control department on 11th August.

As the revenue department completes work to acquire 460 acres of land in the Yamuna floodplains in northeast Delhi's Jagatpur and Wazirabad, the next phase of the Delhi government's groundwater recharge project is anticipated to begin soon. The project's goal is to capture Yamuna floodwaters during the monsoon and store them in sizable ponds along the floodplains to raise the water table and supply the city with water. The water table rose to two meters as a result of the project's pilot in Palla over the course of three years. The city was being approached by the groundwater as well.

Delhi Jal Board (DJB) has written to the Revenue division asking for assistance in leasing 460 acres of property alongside the Yamuna River. According to a senior revenue department official, the DJB requested permission to store Yamuna floodwater on 460 acres of land in the villages of Jagatpur and Wazirabad. Nearly 100 acres of it are owned by the Gram Sabha, and the remaining are private estates. To forward the task, a committee led by the district magistrate (central) was formed.

To persuade people to lease the land, camps were held in the villages of Wazirabad and Jagatpur. In order to hold the monsoon runoff water, Chief Minister Arvind Kejriwal had authorized the construction of two catchment reservoirs in February. According to officials, a large reservoir will be built on 460 acres, and a smaller, deeper reservoir will be built on 20 acres of land in the river's catchment basin. According to them, the reservoir on the 460 acres of land will have a capacity of almost 220 million gallons, while the larger one would hold 1735 million gallons of floodwater. The reservoirs are intended to increase water availability in the national capital, which is anticipated to have a daily water requirement of 1,236 million gallons based on government data.

The prototype project raised the groundwater table in the Palla floodplains by 2 metres, and the government will shortly boost the project's recharge capacity from 812 million gallons to 20,300 million gallons. The study's three main conclusions are as follows: (1) Groundwater is moving from the river towards Alipur; (2) The groundwater level improvement in the pond area over three years is greater than that in areas away from the pilot site; and (3) The project shows a higher level of groundwater recharge than extraction, with the groundwater table being recharged by 2.9MCM in 2020 and 4.6MCM in 2021. The Upper Yamuna River Board and Central Ground Water Commission have both received the Palla Pilot's final report for approval. Before increasing the recharge pond's size to 1,000 acres, we will also consult with NGT, a DJB official said. According to officials, DJB augmented the city's water supply by extracting groundwater from the area using a variety of tubewells and rannery wells. "The analysis has indicated that the excavation has

increased groundwater by 3.75 MCM whereas the average cumulative yearly withdrawal of water from Palla is around 3.6 MCM. More groundwater is recharged each year than is extracted annually.

The government claims that data from the last ten years indicates that every season when water levels rise beyond 208m, there are typically 18 flooding cycles in the Yamuna floodplains. It was initially projected that more than 37,800MG of water would be stored in the Palla project, with each cycle producing 2,100 MG of water. Delhi has a 300MGD demand-supply mismatch, and DJB officials stated the extra water would be used in June during the days when demand is at its highest during the summer. Subsurface storage in sand beds in Alipur is comparable to putting sand in a glass tumbler to hold water briefly before extracting it later. The project won't interfere with the ecosystem of the river, according to Manoj Misra, convener of the Yamuna Jiye Abhiyan, a group of NGOs and individuals that has been fighting for the Yamuna's rebirth for more than ten years. They ought to start a test project outside the embankment right away. Even greater advantages and a north-south trend of groundwater recharge will result from that area outside the channel.

Jal Jeevan Mission: Drinking Water For All In India

The Jal Jeevan Mission (JJM) - Har Ghar Jal, which was launched in August 2019, is being carried out by the Indian government in collaboration with the states with the goal of providing potable tap water to every rural family in the nation by 2024.The Jal Jeevan Mission was announced at a period when 3.23 crore families were estimated to have access to tap water. 6.69 Crore rural homes have received tap water connections during the past 35 months. As a result, as of August 2, 2022, 9.94 crore (52%) of the country's 19.11 crore rural families were reported to have access to tap water in their houses, while 9.17 crore (48%) still did not.

Furthermore, according to state reports, 16.71 lakh (98.5%) of the 16.97 lakh rural habitations in villages across the nation have access to potable drinking water from sources that are within a reasonable distance. There are problems with the water quality in 0.26 (1.5%) of the habitations. To quickly plan and implement JJM across the entire nation, a number of measures have been taken, such as joint State/UT discussion and finalisation of the annual action plan (AAP), regular review of implementation, capacity building and knowledge sharing through workshops, conferences, and webinars, as well as field visits by a multidisciplinary team to provide technical support. To assist States/UTs in the planning and execution of the Jal Jeevan Mission, a comprehensive Operational Guideline for the implementation of JJM, Margdarshika for Gram Panchayats & VWSCs to provide safe drinking water in rural households, and Guidelines on a special campaign to provide piped water supply in anganwadi centres, ashramshalas, and schools have been shared. JJM-Integrated Management Information System (IMIS) and JJM-Dashboard have been implemented for online monitoring. Through the Public Financial Management System, provisions have also been provided for open online financial management (PFMS).

Since August 2019, the Government of India has been implementing Jal Jeevan Mission (JJM) - Har Ghar Jal in collaboration with states in an effort to provide potable tap water supply in sufficient quantity, of the required quality, as well as on a regular and long-term basis to every rural household by the year 2024. According to current regulations, the government's Jal Jeevan Mission is to adopt IS 10500 to ensure the supply of safe drinking water, and the centre has also advised states and union territories to conduct testing of drinking water sources once a year for chemical and physical parameters as well as twice a year for bacteriological parameters.

According to the minister, the central government has advised states and union territories to open water quality testing laboratories to the general public at a nominal rate for testing of their water samples in order to encourage water quality testing and ensure the supply of potable drinking water to people. States and union territories have also been urged to select and train five people, preferably women, in each village, including teachers, ASHA workers, health care providers, and members of the village water and sanitation committee (VWSC), to conduct tests on water quality using FTKs or bacteriological vials at the village level and to report the results on the portal.

The Central Ground Water Board (CGWB), which conducts regional-scale scientific investigations and a national ground water monitoring programme, produces statistics on ground water quality, according to the ministry. Data on ground water quality has been distributed to the affected states so they can monitor drinking water usage, take corrective action, and raise awareness. According to Patel, updated standards for controlling ground water withdrawal by mining, infrastructural, and industrial projects were released on September 24, 2020. The updated standards include clauses that address groundwater contamination and pollution prevention.

By 2024, it is the goal of the Jal Jeevan Mission to give every home in rural India with access to safe and sufficient drinking water via individual household tap connections. The programme will also incorporate source sustainability measures as requirements, such as water saving, rainwater collection, and recharge and reuse through grey water management. A crucial element of the Jal Jeevan Mission would be substantial information, education, and communication. It will be focused on a community-based approach to water.