I. ABSTRACT

As per Bhiwandi Nizampur City Municipal Corporation (BNCMC) information, the city's demand is 125 million liters water daily (MLD) in the year 2014, but the BNCMC supplies 115MLD, a shortfall of 10 MLD for the city's 0.796 million people. The population is projected to grow 1.5 million by 2026, therefore the water demand will expected to rise 275 MLD (BNCMC ESR 2014-16) .Rainwater Harvesting emerged as a viable alternative for sustainable development. Rain Water harvesting is a technology used to collect, convey and store rain for later use from relatively clean surfaces such as a roof, land surface or rock catchments. As per the government G.R, NOC & occupational certificate are issue to those societies who implemented rainwater harvesting system. Unfortunately Rain Water Harvesting (RWH) plan are maintain on paper and never implement it, but occupational certificate is issued despite of non compliance of norms (Shinde & Donde, 2016). As per study, implementation of RWH system in all surveyed structures is 17.5%. Thus it's clear that, there is no serious effort and body to ensure implementation of policies by officials. This study try to attempt to explore the efficacy of RWH policy implementation and conducted evaluative survey in Bhiwandi housing societies, schools, college and industries and looms. The findings of this study revealed that except for few cases the idea never rooted to any great success. The study recommends serious social and environmental assessment and strict monitoring mechanism for efficient RWH policy implementation.

II. METHODOLOGY:

On 2 August 2018, rain water harvesting survey was implemented by NSS students of Shree Halari Visa Oswal College. Schools, offices, companies, housing societies and industries were approached with the intent to find out the status of rain water harvesting implementation in Bhiwandi city. The survey tool was used to carry out the survey. The intent of this survey was to gain a general understanding of the status of precipitation collection systems in Bhiwandi and to determine the use of rain water harvesting methods by apartments, housing societies, schools, colleges, companies, offices and industries. In total 200 structures were surveyed to study the status of rain water harvest system.

III. RESULTS & FINDINGS:

NSS students carried out the survey. As per the response, following was outcome. The RWH survey had a negative outcome. It stated that how the implementation of the rain water harvesting is not undertaken in housing societies as well as schools and colleges. Industries and textile looms also shown same scenario.

 Out of 200 surveyed structures, only 35 (17.5%) have correctly implemented RWH system. The graph below denotes the status of RWH in housing societies, schools and industries. It is seen that only 16% housing societies have implemented the rainwater harvesting system. Remaining 84% residential complexes which showed lack of rain water harvesting system put forward the monetary problem, while some of these complexes had no idea about the idea of rain water harvesting Similar negligibility is seen with industries, dyeing units and textile power looms. 36% of industries and textile units show the implementation. Rest of the units said that they didn't need the system as the water collected by this system was inadequate for their needs. Therefore, they didn't install the system. Schools showed a shocking result of 0% implementation of RWH system as they don't have sufficient monetary fund to install the system. Overall implementation of RWH system in all surveyed structures is 17.5% Findings of the survey clearly state that city municipality needs to be stringent on implementation of RWH system in order to conserve water and recharge as well as rejuvenate the ground water.

Surveyed Structure	Number of surveyed structure
Residential society	105
Schools	20
Colleges	00
Industry	75
Total	**200**

Table1: Showing number of surveyed structure in Bhiwandi
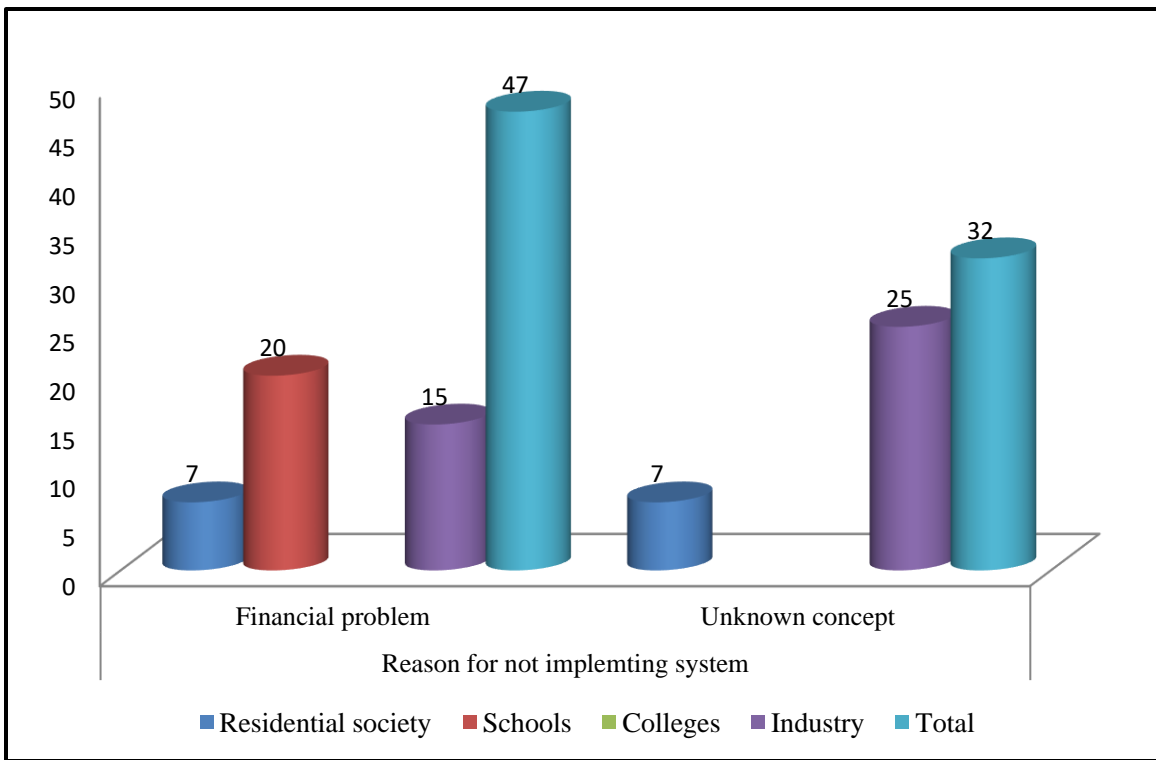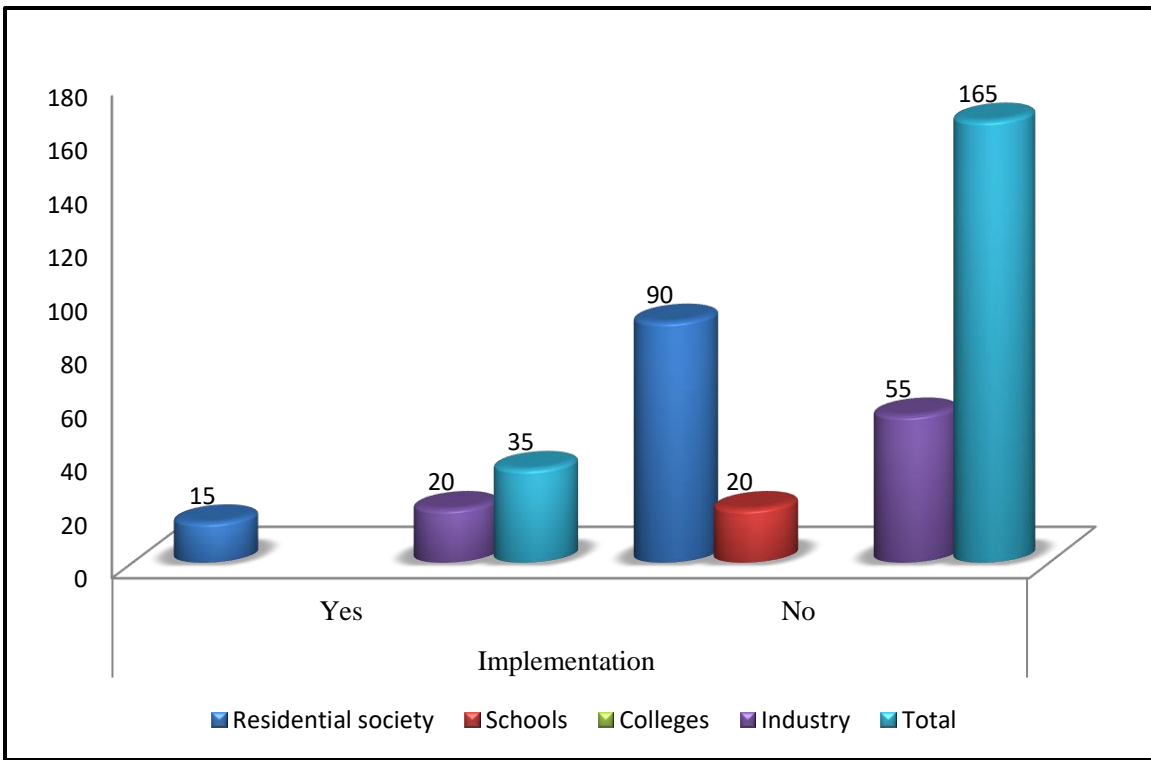
IV. **CONCLUSIONS**:

The end of the era of massive expansion in groundwater use is going to demand greater reliability on surface water stores. Rainwater that falls on the rooftop, flat or slanting, can be made to run through a pipe to a storage facility like a sump or a tank. This water can be filtered to purify the larger particles before being stored in rainwater harvest (RWH) tanks. By using stored rainwater for washing cars and watering gardens, the use of underground water can be minimized. A win-win system for economy and environment, this also helps in saving energy and keeps the energy bill to a minimum. The area of Bhiwandi city is 24.61 km^2. the average rainfall in Bhiwandi is 3224 mm. Thus there is huge potential for collection of rain water. Almost 163,73,10,193 litres of water can be collected for usage and can be allowed to percolate in underground water stores, replenishing the ground water levels. Implementation of the government resolution (G.R.) has not been carried out in government office buildings, schools, colleges, housing societies and industrial sector. Only a small percent has implemented RWH system. Government bodies should make regular check-ups under the guidance of expert supervision to see functionality of the RWH system with their existing norms for housing societies and other structures.

As NITI Aayog 2018 report states that 'The crisis is going to get worse. By 2030, the country's water demand is projected to be twice the available supply, implying severe water scarcity for hundreds of millions and an eventual loss of around 6% of the country's GDP.' Looking at the average use of water in major cities, we can conclude that Rain water Harvest system will provide much relief on traditional water sources and also help with recharging and rejuvenating the ground water levels (depending on which type of system is being used). One of the easiest ways to recharge ground water is by implementing Rain Water Harvesting (RWH) in all Residences with any type of roof, Shopping complex, railway stations, bus terminals, government buildings, schools, flyovers including temples, churches, mosques etc.