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A Study on Water Conservation and Irrigation Facilities in India

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Abstract: *India accounts for about 2.45% of world & surface area, 4% of the world & water resources and availability from surface water and replainishable ground water is 1869 cubic km. Out of this only 60% can be put to beneficial uses. Thus the water resources in the country is only 1.22 cubic km. about 38 percent of the next source area in India is under territarion the total irrigated area in India has increased by about four tunes today it is about 85 million hectares.*

Key Words: *Surface Area, Water resources, irrigated area, hectares.*

1. Introduction

The government has been working on water issues on a war footing. It sees management of water in a holistic manner. The Ministry of Jal Shakti, created in 2019, has integrated various departments and Ministries dealing with water resources and water supply under one roof. With the aim at assure "availability of potable water for all". India has more than 18 percent of the world population, but it only has four present of worlds renewable water resources of which farmers consume almost 90 percent of the available ground water. According to a 2018 National Institute for Training Forming India, the NITI Aayog report, India is facing the worst water crisis in its history. Which is threatening millions of lives and livelihoods? The report paints agony picture of our water crisis where in around sixty crore Indians. Face high to extreme water stress and about two lakh people die every year due to inadequate access to safe water.

Conservation and efficient management of water resources is crucial for countries with predominant agrarian economies where development of sustainable agriculture is essential for overall growth, alleviation of poverty and food security.

Rivers, lakes and ground water constitute by primary sources of water for mankind water management issues differ with rainfall terrain characteristics and socio-economic conditions of the people thus, within India these issues differ between north and south. Large areas of North India are covered by perennial rivers which carry the monsoon water during rainy season and melted grow the summer through fertile alluvial plains. Hence construction of canals fed by the rivers was carried

out, to improve water supplies – well construction was also easy because of geo-morphological conditions in the region and as such we found references to wells (or) Keypads' in this area since Vedic times.

Similarly in hill areas people have tapped water from hill streams (or) springs known as Guhip ranging in length from 1 km to 15 km with discharges of 15 to 100 lit/sec in Meghalaya, irrigation plants by tapping water from streams using bamboos till exists. In contrast, in Western, Central and South India as the rivers are seasonal and rainfall being less, harvesting rainwater against Embank waits and into tanks / lakes to create surface storages was extensively practiced. This was also partly due to truncating in developing well irrigation due to the presence of hard granite and gneisses.

This clearly suggests that Indians over centuries developed a range of techniques to harvest every possible form of water from lawn, stream, river and floods. Water harvesting has been a traditional practice based on sound principle of Engineering of Engineering in the arid regions in the form of storage structures like Nadi, Tanker Kundi, Khadin, Tanks, Anicuts and Lakes.

Roof top water harvesting has been a common practice in arid regions where ground water supply is inadequate and surface sources are either lacking as insignificant system comprises of G.I. Sheet, Aluminium Clay files, asbestos sheet (or) concrete roof as the catchment area, connected by pipes through a filtering device to a storage container. Although India has vast surface water resources, same are not evenly distributed so far times and place are concerned. While some rivers are perennial there become dry or carry small quantity of water during dry season. During Monsoon Months much of the water is wasted during floods and flows down to the sea but in dry months of the year there is scarcity of water. Also, there is flood in are part of the country and droughts and famines in another part. These problems can be minimized through inter basin linkages (or) through national water grid, under which water from one basin is transferred to another basin for utilization. This idea is not new because many such schemes are already under execution in the country.

2. Need of Study

Irrigation works in India can be classified as

a) Major Irrigation: Culturable Command Area (CCA) more than 10,000 hectares 2) Medium Irrigation: Irrigation projects with Culturable Command Area between 2,000 and 4,000 hectares. Number of Minor Irrigation Schemes in the country are 19.7 Million of which 18.5 millions are ground water schemes and 1.2 millions are surface water schemes.

b) Minor Irrigation: Irrigation Projects with CCA less than 2000 hectares.Village communities need to be integrated more closely:- With the process of Modern Development and Cooperative endeavour to ensure greater participation of the people and better implementation of programme specially in the field of water conservation and management to maintain water table and availability of drinking water.

c) As on date in all watershed development programmes drinking water supply and its protection are not considered as an important component water conservation is given importance in arable land but not in area habituated. Considerable Arugunt of water can be harvested and managed for well being of the people by harvesting rain and wasted water separately for recharge as well as domestic and productive use. Irrigation is one of the six components for Development of Rural Infrastructure Under Bharat Nirman.

Ultimate Irrigation Potential	139.9 Mha
Major & Medium	58.5 Mha
Minor	81.4 Mha
Ground Water	64.1 Mha
Surface Water	17.3 Mha

There are three major sources of irrigation in India, namely

a) Canals

b) Wells and tube wells and

c) Tanks.

Wells and Tube wells are the major source of irrigation canals rank second, while the tanks stand third, canal irrigation has its maximum development in the great plains and in the Mahanadi, Godavari, Krishna Deltas in the Eastern Coastal Plain, wells and tube wells are popular in the alluvial plains, the tank irrigation is common in the Eastern and Southern states.

3. Conclusion

UNICEF is a key technical partner to the Government of India in water and sanitation programming and is dedicated to supporting the nation's progress towards sustainable Development Goals. Universal access to safely managed water and developed irrigation trends by 2030.

It is working with every one from the Government to Local Communities to roll out initiatives and frame works that would tackle various challenges in the spectrum of the stresses on our water sources and conservation techniques to extend irrigation facilities water budgeting involves understanding a households over all water requirement based as the number of family members.

Major areas of consumption, and identifying areas for potential sense of water and uses of irrigation activities. It is a simple yet effective tool that allows house holds to concretely appreciate utilization of their resources about 80 percent of the current water use is drawn by agriculture. Irrigated area accounts for nearly 48.8 percent of the 140 million hectare (Mha) of agricultural land in India, the remaining 51.2 percent is ramped the increasing gap also impacts ramped production in the country.

Punjab leads the country's and UT's in terms of land under irrigation, with 98.8 percent of its crop land under irrigation. Mizoram is the only state in India which is least irrigated. Uttar Pradesh is the highest irrigate state (17.6 Million hectares) in India.

Increase in population and changing lifestyles has increased demand for water (largely for irrigation) in both urban and rural areas. India has 18% of world population, having 4% of world fresh water, out of

which 80% is used in agriculture. Downstream, the untreated water is used for drinking, bathing and washing this situation is typical of many rivers.

Irrigation sources are more demanded in day by day for agriculture production in India as well as Tamil Nadu. Irrigation facilities mostly used during monsoon feature, dry region areas and some crops required more water for growing activities. In the situation the irrigation facilities are well developed in our country.

The present study is related. Improved water supply and irrigation and improved water sources management boost countries economic growth and contributes greatly to poverty eradication, there is need to introduce water markets to make more production use of water and extension of irrigation for agriculture sectors. Government may consider providing water conservation methods to long term investment projects. Where it would result and that associated agricultural production returns. Those interventions have brought phenomenal changes in the overall scenario of water conservations and irrigation extending facilities in our country which have to be fulfilled in coming facture to make India a water secure and advanced irrigation skills.

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