

NREGA and Rural Water Management in Rajasthan



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Abstract

Water is one of the most important elements for life. It plays a vital role not only in fulfilling basic human need for life and health but in socio-Economic development also. The demand of water is increases day by day. India accounts for about 2.45% of the world's surface area, 4% of the world's water resources and about 17% of the world's population. Rajasthan is one of the largest as well as the driest state of India covering 34.3 million hectares, Over 10% of the total geographical area of India. It comprises 5% of the Country's Population. It is divided into 33 districts, which are further divided into blocks. It is among the driest states with total surface water resources only about 1% of India's total surface water. In the present study. It is found that under 793 works have been undertaken for water conservation & retreatment since the inception of the programme in the years 2006 to 2014. It will also help to on rich the ground water level. It is not only an employment guarantee program whereas it also gives a positive effort in the direction of water conservation.

Keywords: NREGA, MGNREGA, Rural Water Management.

Introduction

Water is one of the most important elements for life. It plays a vital role not only in fulfilling basic human need for life and health but in socio-Economic development also. The demand of water is increases day by day. India accounts for about 2.45% of the world's surface area, 4% of the world's water resources and about 17% of the world's population. The total water available from precipitation in the country in a year about 4,000 cubic Km. the availability from surface water and replenish able ground water is 1869 cubic Km. India has not even been able to provide safe drinking water to all. Today the water resources of India are facing a number of Challenges.

Rajasthan is one of the largest as well as the driest state of India covering 34.3 million hectares, Over 10% of the total geographical area of India. It comprises 5% of the Country's Population. It is divided into 33 districts, which are further divided into blocks. It is among the driest states with total surface water resources only about 1% of India's total surface water. Its water scarce (having per capital water availability below 1000m³ to 4 years.), 60% of its area under desert. Rainfall is the only source of water in the water in the state but it is also uncertain. Their are 14 defined and 59 sub river basin in the state but Chambal & Mahi are the only perennial rivers. The area west of Aravali, mainly forms part of the "**The Great Thar Desert**". Rajasthan receives a scant 16 inches of rainfall annually. Most of it falls during the Monsoon months from June to September leaving the soil to parch the rest of the year

The Scarce water resources are distributed UN evenly temporally as well, with most of the rainfall occurring during the **Monsoon**. Large scale infrastructure, such as dams, reservoirs and diversion canals are available to about 30% of the state population, but not without significant social and environmental costs. Groundwater mining is causing water tables to drop up to water per year in same areas.

Nearly 70% of the population of the state is dependent on agriculture, which is primarily rainfed. Despite recurrent droughts every 3-4 years & high depleting. Due to the scarcity of water and low productivity rural youth shifted from agriculture toward the secondary and tertiary activities. This create a big problem of rural poverty and unemployment in India as well as Rajasthan. In order to reverse this trend and to provide livelihood security to the rural employment Government of India enacted the National Rural Employment guarantee Act (NREGA) 2005¹. The act

provides for 100 days of guaranteed employment to every rural household in a financial year for unskilled manual work.

The key component of MGNREGA is the provision of employment by the state at a prescribed wage for those unable to find alternative employment. In schedule 1 of MGNREGA Act 2005, it is measured that

1. Enhancement of livelihood security in rural areas.
2. Water Conservation and Water Harvesting
3. Drought proofing (including afforestation and Tree plantation.)
4. Irrigation canals including micro and miner river irrigation work.
5. Renovation of traditional water bodies including drainage in water logged area.
6. Provision of irrigation facilities, horticulture, plantation, and land development facilities to land owned by houses holds belonging to the S.C and S.T. or B.P.L families or to the beneficiaries of land reforms.

Aim of the Study

The main objectives behind this study is to give focused on the water conservation work done by the villagers under MGNREGA Scheme-

1. Adoption of water conversation techniques under it.
2. Attainment of old methods of water conservation in Rural Areas.
3. "Green jobs" created as 70% works relate to water conservation, water harvesting, restoration, renovation and desalting of water bodies, drought proofing, Plantation and afforestation.
4. Give focus on the methods taken for the Improvement in ground water under is rural areas.

Methodology

This paper is primarily based on the secondary sources of information. These include the data available in various publication of the state government especially the nodal agencies of irrigation, drinking water, ground water. soil and water conservation department and policy documents etc. Extensive interviews were conducted with the officials of these departments to verify the data and validate our analysis.

Water Conservation under MGNREGA

Implementing water conservation works under MGNREGA on the scale envisaged has posed major challenges. For instance ponds have been dug in areas with scanty rainfall. Under this Scheme following impacts had been done.

Impact of Nrega on Water Resources

Implementation of MGNREGA work such as water conservation & harvesting works, drought proofing, irrigation provisioning and improvement works, renovation of traditional work bodies have contributed to improved ground water level in creased water availability for affixation, increased area irrigated by ground and surface water sources and finally improved drinking water availability for humans and live stock in such a driest region of Rajasthan.

Impact on Ground Water Levels

MGNREGA works such as check dams, percolation tanks and desalting of tanks have had positive impacts on ground water depth in the study villages where ground water level was measured during 2012. It is in the range of depth recorded by central ground water level was measured during 2012. It is in the (CGWB) for the pre-MGNREGA period (2006-07)

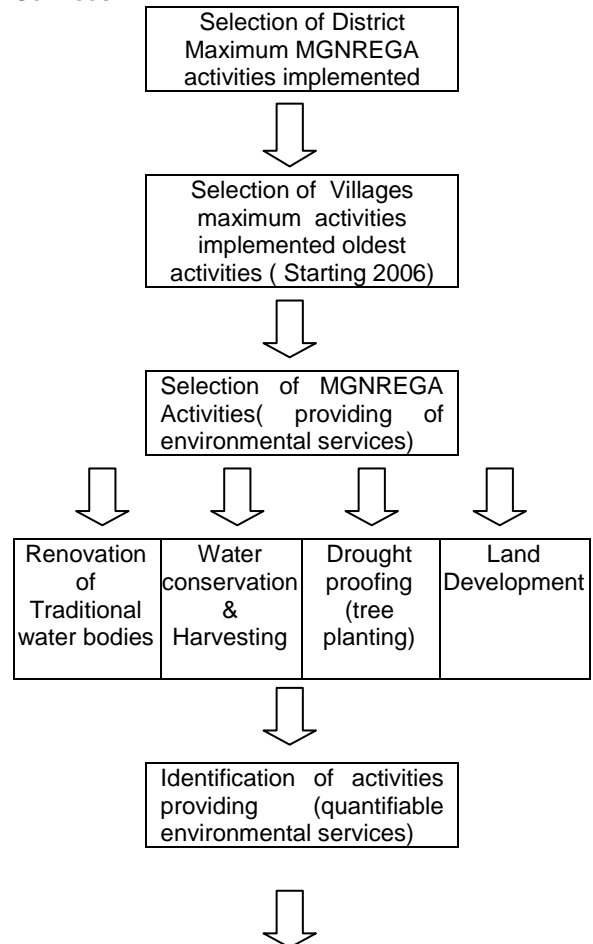
Impact on Availability and Area Irrigated Using Ground Water Sources

MGNREGA works such as check dams, per collation tanks and desalting of water bodies have contributed to an increase in are irrigated by bore walls and open wells potentially leading to increased and sustained crop yield in some areas of Bhilwara, Ajmer, Dausa, Banswara, Dungarpur districts of Rajasthan.

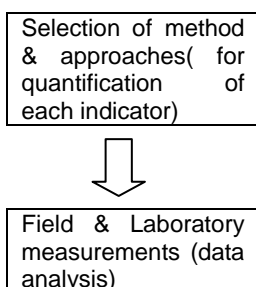
Drinking Water Availability

The survey of beneficiary households in 4 districts reported in increase in the quality of water utilized by each household, due to increase in the number of water bodies, increased ground water levels and increased number of days of water harvesting structures such as check dams, stop dams, percolation tanks, ponds etc have not only increased ground water levels, but also improved drinking water availability for livestock.

Approach for assessment of Environmental Services.



Innovation The Research Concept



Water Management Measures Taken Under MGNREGA in Rajasthan

Works related to water and soil conservation, afforestation and land development were given top priority under the MGNREGA. The water management (W.M) works specifically includes:

1. Water Conservation & Water harvesting.
2. Drought Proofing.
3. Irrigation Canals.
4. Provision of irrigational facilities to land owned by household belonging to S.C., S.T. & B.P.L families.
5. Renovation of traditional water bodies.
6. Land development (GOI 2004)

Table-1: Water Management Works under MGNREGA (from 2009-10 to 2013-14)

Category of water Management Works	Types of work undertaken under each category	Complied /Suspended	On Going
Water Conservation & water proofing	Digging of new tanks	1962	33566
Draught Proofing	Afforestation & tree plantation	461	20547
Micro irrigation canals	Minor irrigation canals	670	11308
Provision of irrigation facilities to land owned by of S.C.&S.T or B.P.L	Digging of form Pond	9043	81577
Renovation of Traditional water bodies	De-silting of tanks/ desilting of old canals, traditional open well	993	13113
Flood Control and protection works embankment	Drainage of water logged areas, construction & repair of	168	3605

In the year 2014, 20651 total work had been completed and total No. of house hold which are beneficiary of land reforms year 2884 under this scheme having the 24.8% work is done only in Rajasthan out of whole the country with a total expenditure of 117.02 Crores. (Table 1)

Of this maximum member of works was undertaken on water conservation and water harvesting. The statistics provided in table I do not include the money, time table spent on uncompleted works.

Activities Which Can be Carried out under Different Type of Works Permitted under Mgnrega for Water Conservation

S.No	Works Permitted Under MGNREGA	Activities Which Can be Carried out under the Works Permitted under MGNREGA
1	water conservation and water harvesting:	<ol style="list-style-type: none"> 1. Water Conservation- In situ water conversation- measures like bunding, bench terracing countour trenches/furrows, staggered trenches, box trenches, and vegetative barriers etc. 2. Water Harvesting- Water harvesting structures- including ponds, tanks, anicut, small dam, khet talab, tank cum well, Artificial recharge of well through sand filter.
2	Drought proofing (including afforestation and tree plantation)	<ol style="list-style-type: none"> 1. Eco-restoration of forest, Reforestation & Tree plantation Eco restoration of forest, road/ rail canal plantation, block plantation & avenue plantation 2. Aforestation – to cover degraded forest & barren land under afforestation 3. Grass land development & silvipasture 4. Watershed development works on watershed approach
3	irrigation canals including micro and minor irrigation works;	<ol style="list-style-type: none"> 1. Irrigation Canals <ol style="list-style-type: none"> a. Construction of canal, distributor & minor b. Lining of Canals c. Correction of water conveyance system, system deficiencies above outlet up to distributaries 2. Minor Irrigation Works <ol style="list-style-type: none"> a. Community well irrigation/lift irrigation b. Community well irrigation under conjunctive use 3. Community Micro Irrigation System
4.	Provision of irrigation facility, horticulture plantation and land development facilities to land owned by households belonging to the SC and ST or Below	<ol style="list-style-type: none"> 1. Irrigation Facility: Construction/ lining of water courses/ Field channel, Dug well, Tank cum dug well, Farm pond, Diggi, Tanka, Check dam, Lift irrigation, micro irrigation and other works of irrigation facility measurable and popular in the area irrigation facility 2. Horticulture Plantation: all activities related to horticulture including

	Poverty Line families or to beneficiaries of land reforms or to the beneficiaries under the IAY of the GOI or that of the SF or MF as defined in the Agriculture Debt Waiver and Debt Relief Scheme,2008	sericulture (land development and mulberry plantation), floriculture, horticulture plantation and nursery raising, 3. Land Development - Construction of contour/graded bund land leveling & shaping, reclamation of saline/alkaline land, construction of drainage channels, full package of On Farm Development (OFD), Soil cover on waste land by transporting silt from nearby tank, development of waste/fallow land.
5.	Renovation of traditional water bodies including desilting of tanks;	1. Desilting of tanks, talab and ponds and other traditional water bodies 2. Repair, Renovation and Restoration of traditional water bodies, existing irrigation tanks, talab, ponds, check dam, escape weirs and control structures.
6.	Land Development	1. Reclamation of salt affected common land for production measures like tree plantation / Silviculture 2. Land leveling of common land for production measures. 3. Full package of OFD works on common land. 4. d) Development of common waste land
7.	Flood control and protection works including drainage in water logged areas.	1. Diversion channel, 2. Peripheral bunding, 3. Drainage in water logged areas 4. Construction of intermediate and link drains 5. e) Spurs and torrent control measures 6. d) Bio- drainage.

Conclusion

Under this study we conclude that MGNREGA is one of the largest social protection initiatives in the Rajasthan, promised a lot on water management front. Water conservation, ground water recharge, rain water harvesting both through roof top on village level ponds or community takas works had been properly under this scheme. Difficult area being treated under the watershed development programmer under it. Renovation of traditional water bodies including desalting of tanks as well as tank development were conducted affectively in Rajasthan and we sure that it play a leading role in water management programmer and also play a effective role to solve the water crises of Rajasthan without give any adverse effect over environment.

In short we can say that MGNREGA is a rights based, demand driven, bottom-up and decentralized program aimed at generating employment as well as enhance the water conservation.

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Footnotes

1. Rechristened as Mahatma Gandhi National Rural Employment Guarantee Act form October, 2009 on words.