



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

IJIRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 11, Issue 6, June 2022

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 8.118



9940 572 462



6381 907 438



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Impact of MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) on Traditional Water Resources

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ABSTRACT: The National Rural Employment Guarantee Act (NREGA), which continues to be the largest public employment program involving Rs.34,600 crore in a period of just five years since its implementation, was enacted on August 25, 2005 and renamed as the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) on October 2, 2009. Between 1985 and 1995, the growth rate of rainfed production systems was higher than that of irrigated agriculture, which started declining gradually after 1995. Due to this, the government had to give high priority to the sustainable development of rainfed areas through the integrated watershed development approach, which had been accorded low public investments leading to its decline in the past. In this context, the MGNREGA emerged as the strongest available instrument for investments in rainfed areas despite criticisms directed towards it in terms of wastage and inefficient management of resources. Following activities were undertaken under the MGNREGA:

- Water conservation and water harvesting
- Renovation of traditional water bodies
- Drought proofing works

KEYWORDS: MGNREGA, water, resources, rainfed, rural, investments, government, sustainable

I. INTRODUCTION

The study found that:

- Water conservation and water harvesting are the two most important construction activities done under the MGNREGA with 180 districts having more than 1000 activities each under this category. Andhra Pradesh tops the list with 22 of its districts having more than 5000 activities, each being conducted under this head.
- In terms of renovation of traditional water bodies, Rajasthan shows the maximum concentration of work undertaken followed by Tamil Nadu, although the general intensity of this work is lesser than water conservation and water harvesting.
- There is a high concentration of drought proofing work that involves afforestation and tree plantation work in Andhra Pradesh with 22 of its districts in the 'above 5000 work' category and none below that. Andhra Pradesh and Maharashtra are the only two states that have undertaken a major chunk of the drought proofing work.
- Apart from water conservation and rainwater harvesting, work under the other two categories does not appear to be evenly distributed across the rainfed regions and this raises concerns about the optimum utilisation of MGNREGA for augmentation of rainfed agriculture [1,2]

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) has a strong water management component and they account for almost 40 per cent of funds spent on physical works. This includes creating water storage structures and irrigation sources, implementing watershed works, desilting village tanks, ponds and irrigation canals, carrying out land levelling and afforestation.

The rationale behind such a deliberate push to water-related interventions, planned and executed at the level of Gram Panchayats, is to improve the water security in rural areas. Yet even after 15 years, the actual outcome remains unsatisfactory.

The Centre has spent Rs 3,83,320 crore in the past seven years (2014-2020) alone (is this number only for water structures or the entire). Many of the structures, though, lie defunct.

A majority of them are poorly constructed due to the absence of sound technical specifications for planning and design of the schemes, and proper expert supervision of the works.

One major shortcoming is the inadequate attention being paid to topography, hydrology and geohydrology and climate of the localities where such interventions are planned. So, recharge structures are being built without due consideration to the storage properties of the underlying formations, with the structures functioning as evaporation ponds.[3,4]

The unavailability of data at the local level — like the catchment drainage characteristics, volume of runoff that can be harnessed without causing adverse effects downstream; the storage/ yield characteristics of the aquifers — adds to the challenge.

Even when such data are available, there is hardly any technical expertise with the implementing agencies. The result is oversized schemes, silting and over-crowding of catchments with structures, leading to poor overall efficacy and limited hydrological and economic benefits. For example, too many ponds have been created in the catchment of hot and arid regions with extremely limited runoff, leading to drying up of streams and traditional water bodies.

The country can be divided into three broad typologies based on agro-climatic, hydrological and geological factors, which can help in determining the appropriate interventions under the scheme.[5,6]

1. Naturally and physically water-abundant region found in the Gangetic plains region of Bihar, Uttar Pradesh and West Bengal; eastern plateau region and east coast plains region of Orissa. Flood control and protection works will be highly effective in such regions with high to moderate rainfall. Focus should also be given to afforestation to stop soil erosion and silting up of reservoirs. Forest cover improves the hydrological regime, by reducing the peak runoff rates, and increasing the evaporation from the shallow groundwater, thereby increasing flood cushioning.
2. Naturally water-abundant but physically water scarce region found in the western and eastern Himalayan region; west coast plains and hills region of Maharashtra, Karnataka and Kerala. Works related to runoff water harvesting and provision of irrigation facilities for economically weak classes are best suited for such regions. They are also perfect for surface water harvesting or creating impoundments. Soil and water management interventions including contour-bunding, drainage control and gully plugging are equally effective in these regions. Small on-farm storages can also be constructed in these hilly areas to provide irrigation facilities on the farmers' agricultural field.
3. Naturally and physically water-scarce region, found in Punjab, Haryana and Rajasthan; central, western and southern Plateau region; Gujarat plains and western dry regions. Renovation of traditional water bodies and on-farm water management can be an important intervention in such areas that experience physical water scarcity, owing to water demands far exceeding the total renewable water resources in the region. They also have highly variable monsoon rainfall and high evaporation rates. So management of agricultural water demand is extremely important for mitigating water scarcity in these regions. Keeping this in mind, investments should be on land-leveling for on-farm water management, de-silting & lining of canals, and renovation of traditional water bodies.

This means the employment guarantee scheme can create sustainable assets through careful regional planning and efficient implementation of water management works. It is imperative that when public funds are spent on creating assets in a decentralised manner in villages, a small fraction is spent on providing proper scientific and technical inputs for planning and execution.[7,8]

II. DISCUSSION

The Prime Minister of India Manmohan Singh released an anthology of research studies on the MGNREGA called "MGNREGA Sameeksha" in New Delhi on 14 July 2012, about a year before the CAG report. Aruna Roy and Nikhil Dey said that "the MGNREGA Sameeksha is a significant innovation to evaluate policy and delivery". The anthology draws on independent assessments of MGNREGA conducted by Indian Institutes of Management (IIMs), Indian Institutes of Technology (IITs) and others in collaboration with United Nations Development Programme (UNDP) published from 2008 to 2012.

The Prime Minister said, "The Mahatma Gandhi NREGA story in numbers is a story worth telling... (but) statistics do not tell the whole truth": Minister of Rural Development Jairam Ramesh says in the 'MGNREGA Sameeksha':

MGNREGA's other quantitative achievements:

1. Since its inception in 2006, around ₹1,10,000 crore (about USD\$25 billion) has gone directly as wage payment to rural households and 1200 crore (12 billion) person-days of employment has been generated. On an average, 5 crore (50 million) households have been provided employment every year since 2008.
2. Eighty per cent of households are being paid directly through bank/post office accounts, and 10 crore (100 million) new bank/post office accounts have been opened.
3. The average wage per person-day has gone up by 81 per cent since the Scheme's inception, with state-level variations. The notified wage today varies from a minimum of ₹122 (USD\$1.76) in Bihar, Jharkhand to ₹191 (USD\$2.76) in Haryana.
4. Scheduled Castes (SCs) and Scheduled Tribes (STs) have accounted for 51 per cent of the total person-days generated and women for 47 per cent, well above the mandatory 33 per cent as required by the Act.[9,10]
5. 146 lakh (14.6 million) works have been taken up since the beginning of the programme, of which about 60 per cent have been completed.
6. 12 crore (120 million) Job Cards (JCs) have been given and these along with the 9 crore (90 million) muster rolls have been uploaded on the Management Information System (MIS), available for public scrutiny. Since 2010–11, all details with regard to the expenditure of the MGNREGA are available on the MIS in the public domain.

Proponents of the scheme enumerate number of benefits. For example, Rejaul Karim Laskar, an ideologue of the Congress party- the largest constituent of the UPA Government which introduced the scheme, claims that the scheme has multifarious benefits including "reduction in poverty, reduction in migration, women empowerment, improvement of productivity of agricultural land and regeneration of water resources".

Assets created include rural connectivity assets such as pucca roads and brick soling, land development assets which improve productivity of land such as the creation of new plantations, unskilled construction such as poultry shelters, cattle shelters and fish drying yard platform. Water-related assets include village tanks and ponds, check dams, water harvesting tanks, bunding, irrigation channels, renovation of existing water assets. Infrastructure construction also includes sanitation works and grain storage facilities. The act also provides for maintenance of created assets. Asset creation varies widely between states with five states accounting for a majority of the assets. The focus of MNREGA has also shifted to quality of assets and skilling workers to map assets[11]

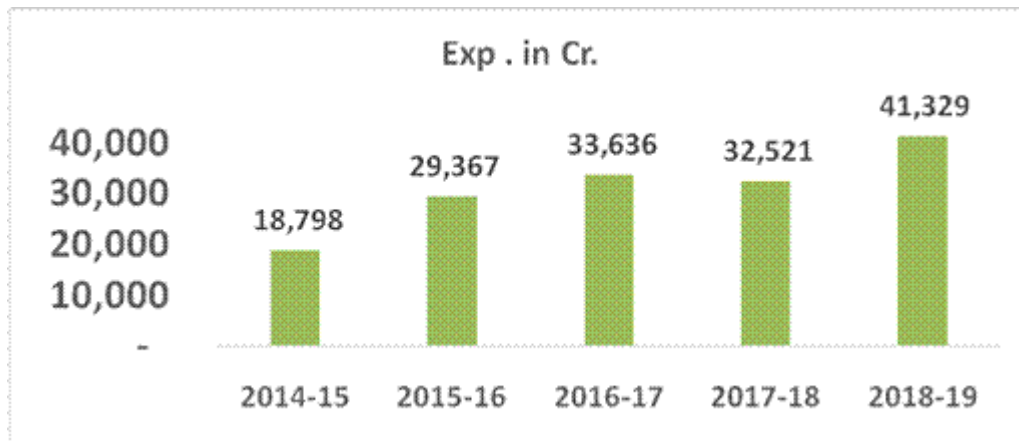
In September 2014 'Save MGNREGA' is a set of demands proposed during the joint meeting of the national leadership of Centre of Indian Trade Unions (CITU), All India Agricultural Workers Union (AIAWU), All India Democratic Women's Association (AIDWA) and All India Kisan Sabha (AIKS) in New Delhi. The agenda was to discuss the dilution of MGNREGA scheme by the new government. Following demands were proposed:

1. Government of India should increase the Central allocation for the scheme so that number of workdays can be increased to 200 and per day wage can be increased to Rs. 300.
2. Job card^[147] to be issued for everyone who demands job, failing which, after 15 days employment benefits should be given.
3. Minimum 150 days of work should be ensured to all card holders
4. Minimum wage act should be strictly implemented. Delay in wage payment should be resolved.
5. MGNREGA should be extended to urban areas.
6. Gram Sabhas should be strengthened to monitor proper implementation of the scheme and also to check corruption.

III. RESULTS

Over the last five years, MGNREGA has become the main force that is driving water conservation efforts all across rural India. The scheme has now evolved from being merely a mitigator of rural distress into focused campaign to raise rural incomes through Natural Resource Management (NRM) works. In 2014, the amendment to MGNREGA Schedule-I was done which mandates that at least 60% expenditure will be on agriculture and allied activities was done. Consequently, a list of permissible works under the Act now has nearly 75% activities that directly improve the water security and water conservation efforts.[12]

The expenditure on NRM work expenditure has been rising in a sustained manner over the last five years. The NRM Expenditure under MGNREGS over the 5 years (FY 2014-2019) is as under:-



Approximately 60% of the resources are spent on Natural Resource Management (NRM). The NRM works are focused on ensuring higher incomes to farmers by improving both the area under cultivation and yield of crops. This is done by improving the productivity of land and increasing the water availability. The major works taken up under NRM include check dam, ponds, renovation of traditional water bodies, land development, embankment, field bunds, field channels, plantations, contour trenches etc. During the last 5 years 143 lakh hectares of land benefitted through these interventions.

The following table shows the progress of major NRM works over the last five years:

Major NRM Assets created under MGNREGA		
SL. No.	Asset Type	Completed since 1st April 2014
1	Ponds	20,03,744
2	Dug Well	5,14,284
3	Check Dam	5,22,645
4	Embankment	2,02,125
5	Farm Pond	18,10,754
6	Vermi/ NADEP Compost Pit**	10,53,227
7	Soak Pit**	4,84,020

**Community/ Individual Assets

On the technical side, while money was being spent on Water Conservation works, the technical training of the staff was inadequate and often many structures were created which did not give the expected outcomes. It is for this reason that the Mission Water Conservation Guideline were drawn up in partnership with the Ministry of Water Resources, River Development & Ganga Rejuvenation and Department of Land Resources to focus on the dark and grey blocks where the ground water level was falling rapidly. This partnership allowed us to avail the technical knowledge of engineers, scientists from Central Ground Water Board to build a robust technical manual and implement capacity development programme for the frontline workers.

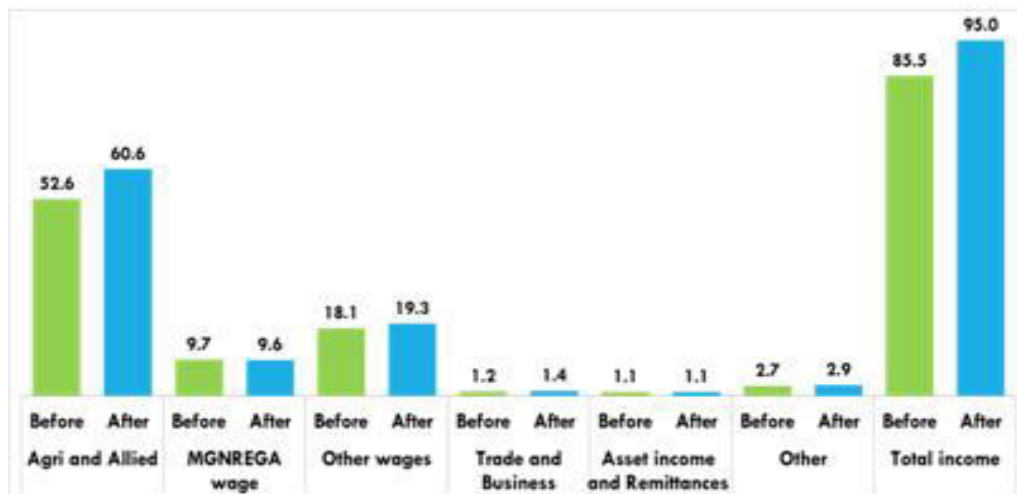
The MGNREGA has been working in convergence with various States in implementing schemes tailor made for the area. The NRM works comprise of a complete tool kit to tackle the problem of water conservation. The list of activities are so designed that it suits the varying requirements of the States according to their topography. This has resulted in many of the States pooling their own resources along with MGNREGA funds to take up water conservation works with a lot of enthusiasm. The effort has been to involve the community in planning and implementation efforts. However, the individual beneficiaries have also been roped in to meet their requirements. The community is responsible for selection of works, selection of beneficiaries and the maintenance of assets. [12,13]

The funds of MGNREGA, dovetailed with State funds have led to the following very successful state level schemes:

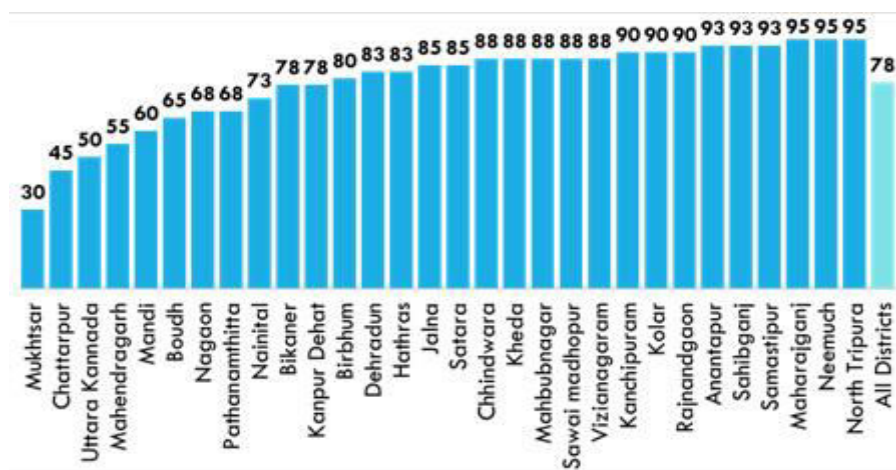
SL.No	SCHEME NAME	STATE
1.	Mukhyamantri Jal Swavalamban Abhiyan	Rajasthan
2.	Jalyukta Shivar Abiyaan	Maharashtra
3.	Dobha or Farm Ponds construction	Jharkhand
4.	Neeru Chettu	Andhra Pradesh
5.	Kapil Dhara	Madhya Pradesh
6.	Bore Well Recharge	Karnataka
7.	Usar Mukti	West Bengal

These schemes have been successfully implemented in nearly 50,000 villages across the states. The Jalyukta Shivar Abiyaan in Maharashtra has impacted 22,590 villages, while Mukhyamantri Jal Swavlamban Yojana has been very successful across 12,056 villages in Rajasthan. Independent evaluation in Rajasthan and Maharashtra have shown increase in ground water level by 1.5 meters to 2 meters, increase in water storage capacity, increase in cropping intensity by 1.25 to 1.5 times, a dramatic reduction in expenditure on water tankers and a rejuvenation of defunct hand pumps, tube wells and open wells. These villages will also be visited by NIRD team to assess the quality of water conservation works. The Ministry is putting up the complete list of such villages with documentation and write-up on the website and requests the citizens to visit and see the ground situation. The Ministry is planning to award civil society and community leaders, who have made this possible on 2nd October, 2019.

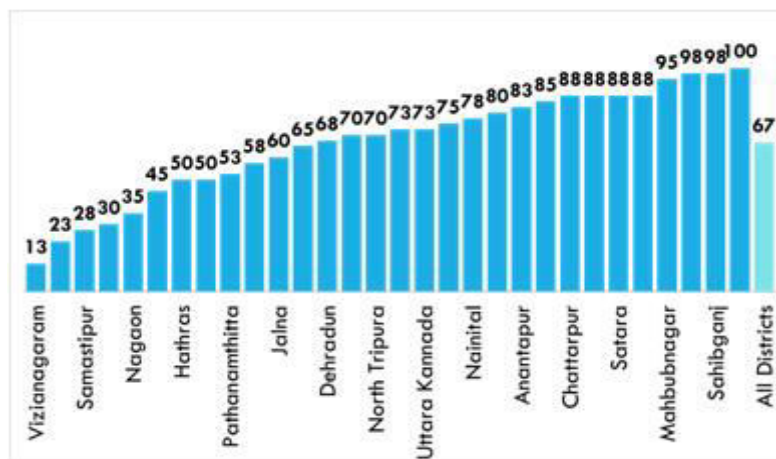
The Institute of Economic Growth (IEG), Delhi in January, 2018 conducted a national evaluation of Natural Resource Management (NRM) works under MGNREGS and its impact on sustainable livelihoods. While carrying out national evaluation, the study found increase in productivity, incomes fodder availability, acreage, and even rise in water table on account of the NRM works. [14]



Income of HH from different sources before and after assets creation (Rs '000)



IEG Study % of HH benefiting from increase in water table



Change in Agricultural Productivity (%) of Surveyed HH due to the creation of asset



IV. CONCLUSIONS

Various other studies reported that MGNREGA works have helped built the resilience of rural communities through its water related works. MGNREGA continues to be agile in adopting the latest available technology to improve the planning, implementation, monitoring and reporting on the public expenditure it incurs every year, and in the process, support government's efforts towards a water secure India.

The Government of India (GoI) has created a new Ministry of Jal Shakti to allow faster decision making on all subjects related to water. On 1st July, 2019 the GoI has launched the ambitious Jal Shakti Abhiyan (JSA) across 256 districts covering 1593 water stress blocks with a focus on water conservation and rain water harvesting. The effort will be to make water conservation a "mass movement" like Swachhata Abhiyan in the country MGNREGA is a key partner in the JSA and is committed to make it a success [14]

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