



Assessing the Role of MGNREGA in Promoting Sustainable Rural Livelihoods through Green Work Initiatives in India

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Abstract

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a pioneering social welfare initiative aimed at ensuring livelihood security for rural households in India through the provision of 100 days of guaranteed wage employment per year. A significant and progressive aspect of MGNREGA is its focus on "Green Work" — environmentally beneficial activities that promote sustainable rural development and ecological restoration. This paper explores the multifaceted role of Green Work under MGNREGA, encompassing afforestation, tree plantation, soil and water conservation, land development, and the creation of public green spaces. These initiatives not only generate employment but also contribute to the conservation of natural resources, enhancement of biodiversity, improvement of agricultural productivity, and mitigation of climate change effects. The study further highlights the active involvement of local communities, Gram Panchayats, and other stakeholders in the planning and execution of Green Work projects, supported by capacity building and awareness programs. Despite its transformative potential, the implementation of Green Work under MGNREGA faces several challenges, including financial constraints, technical limitations, administrative hurdles, and issues related to land access. The paper emphasizes the need for coordinated efforts and policy support to overcome these challenges and ensure the long-term sustainability and impact of green infrastructure development in rural India. The research underscores the importance of MGNREGA's Green Work in fostering environmental resilience, improving rural livelihoods, and advancing inclusive and sustainable development.

Key Word: Agriculture, Employment, Environment, Rural Development, MGNREGA, Sustainability

Introduction

The Mahatma Gandhi NREGA prioritises projects focused on water collection, groundwater recharge, drought resistance, and flood prevention. The program's emphasis on environmental restoration and sustainable lifestyles will result in an increase in land productivity over time. This will help workers migrate from wage employment to more sustainable kinds of employment. More than half of the articles emphasise the need of maintaining soil and water. To promote sustainable livelihoods, the Mahatma Gandhi NREGA initiative prioritises the restoration of rural ecosystems and the development of rural infrastructure. Ground water levels have risen, soil quality has improved, and agricultural systems' susceptibility to climate change has diminished as a result of well-planned and executed MGNREGA initiatives. How much of an impact MGNREGA operations have on the environment depends on a number of factors, including the number of actions performed, the quality of the assets developed, the technical design, and the ownership and usage of

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the physical buildings that are constructed. The percolation potential of the communities was raised by 1,000-28,000 cubic metres per year due to the check dams constructed under the Mahatma Gandhi NREGA, according to studies. Recharge in the studied watersheds was increased through the building of percolation tanks. (Madhukarao & Solankar, 2019).

Green Work under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in India refers to a range of environmentally focused activities aimed at promoting sustainable rural development and ecological conservation. These activities include afforestation, tree plantation, drought proofing, soil and water conservation, water harvesting, renovation of traditional water bodies, land development, and creation of public green assets such as parks and community forests. The objective is to not only provide wage employment to rural households but also to build durable assets that improve the local environment, enhance agricultural productivity, and increase resilience to climate change. Green Work contributes to long-term natural resource management and supports the goals of sustainable development while empowering communities to take part in environmental stewardship. By integrating employment with environmental conservation, MGNREGA's Green Work component plays a dual role in economic upliftment and ecological regeneration across rural India.

Implications of Green Works

Aspects of the environment, society, and economy are impacted by the green work carried out under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), both positively and negatively. The following are some important implications:

1. Environmental Benefits: By encouraging afforestation, soil conservation, watershed management, and the use of renewable energy sources, green work projects funded by MGNREGA help to save the environment. By enhancing green cover, repairing damaged ecosystems, preserving water supplies, and lessening the effects of climate change, these initiatives aid.

2. Enhancement of Livelihood: During the lean agricultural seasons, green work offers job options to rural households, especially those in marginalized groups. Rural workers can enhance their economic well-being and earn income by participating in land development, tree planting, and water harvesting projects. This can lessen their reliance on distress migration and alleviate poverty.

3. Sustainable Agriculture: MGNREGA encourages methods that increase resistance to climatic fluctuation and assist sustainable agricultural output, such as organic farming, agroforestry, and soil conservation. Farmers may increase soil fertility, diversify crop output, and implement environmentally friendly farming techniques by incorporating green labour into agricultural operations.

4. Social Inclusion: To promote social equality and empowerment, green work projects frequently provide women, Scheduled Castes (SCs), Scheduled Tribes (STs), and other underprivileged groups priority involvement. Through equitable job and skill development opportunities, MGNREGA promotes inclusive growth and lessens social inequality in rural regions.

5. Ecosystem Services: Through green work projects, ecosystems are restored and biodiversity is preserved, which helps to provide vital ecosystem services including carbon sequestration, clean air, clean water, and pollination. The public's health, ecological resilience, and human well-being all directly and indirectly benefit from these services.

6. Development of Infrastructure: Under MGNREGA, green work projects concentrate on building rural infrastructure for renewable energy, environmentally suitable housing, sanitary facilities, and communal assets. In rural communities, these expenditures raise living conditions, upgrade public facilities, and promote regional economic growth.

7. Policy Challenges: Fund allocation, capacity building, monitoring, and stakeholder coordination are some of the issues that the MGNREGA's green work implementation faces, despite its potential advantages. Optimizing the effectiveness of green work programs necessitates legislative reforms, institutional capacity building, and effective governance.

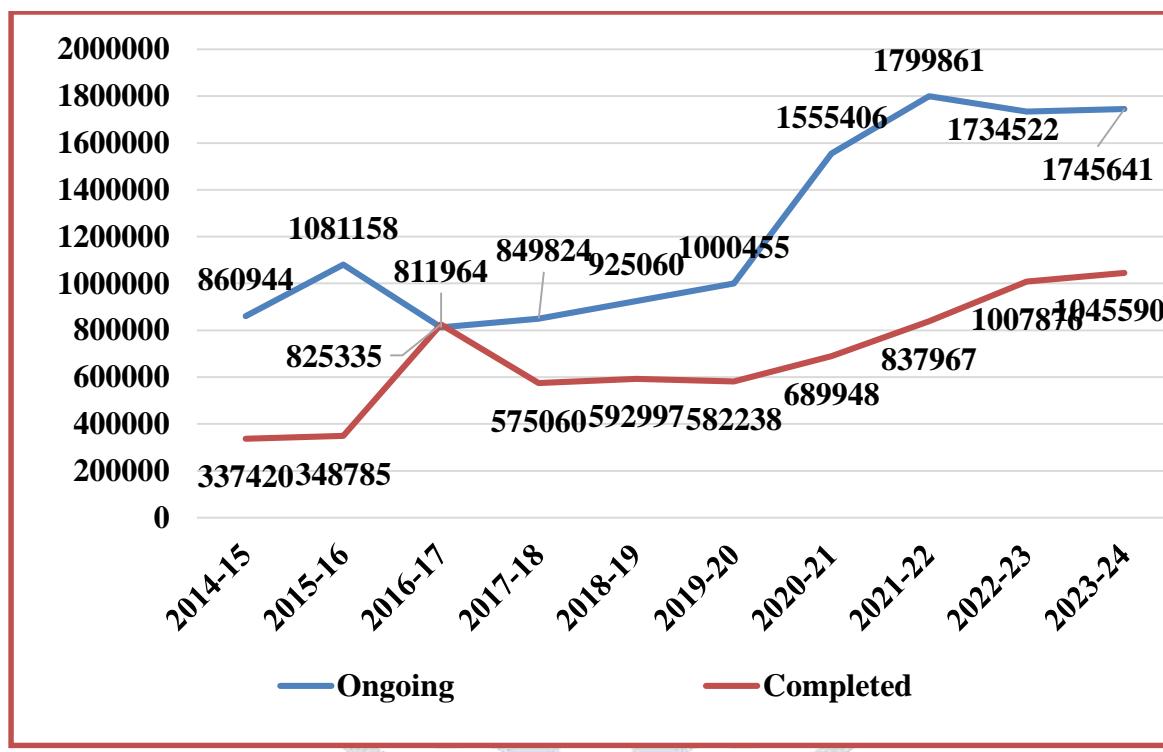
In conclusion, there are significant ramifications for environmental sustainability, rural livelihoods, social inclusion, and infrastructural development from the green work done under MGNREGA. MGNREGA is a

key player in fostering sustainable development and enhancing resilience in rural areas by utilizing the synergies between job creation and environmental protection.

Number of Green Works Undertaken by MGNREGA in India

The table provides information on the number of green works undertaken by the MGNREGA in India, segmented by the year from 2014-15 to 2023-24. Each year, the table presents the number of ongoing and completed Green Works, along with the percentage of works specifically focused on all plantation works against the total works undertaken. Over the years, there has been a notable fluctuation in the number of ongoing and completed Green Works, with a general increasing trend observed. The percentage of works on all plantation works against total works initially decreases from 2014-15 to 2017-18 but then shows a gradual increase from 2018-19 onwards, reaching its highest point in 2023-24 at 44.22 percent. This indicates a shifting focus towards plantation works within the MGNREGA framework in India, potentially reflecting an increased emphasis on environmental conservation and afforestation efforts nationwide.

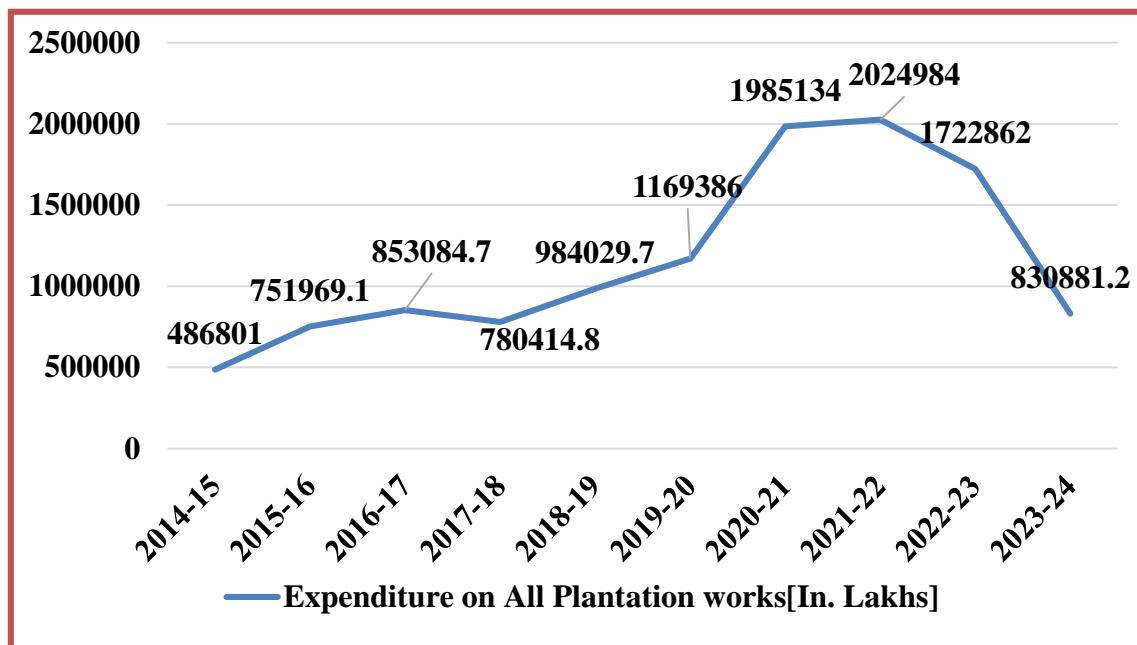
Graph-1: Number of Green Works Undertaken by MGNREGA in India



Source: <http://nrega.nic.in>.

Expenditure Made on the Green Works Undertaken by MGNREGA in India

The table presents the expenditure made on the Green Works undertaken by the MGNREGA in India, categorized by the year from 2014-15 to 2023-24. The first column indicates the year, followed by the expenditure on all plantation works in the subsequent column. Additionally, the table includes the percentage of expenditure on all plantation works against the total expenditure for each year. From 2014-15 to 2021-22, there was a generally increasing trend in the expenditure on plantation works, with fluctuations observed in some years. The percentage of expenditure on plantation works against the total expenditure ranged from 53.2 percent in 2017-18 to a high of 70.04 percent in 2020-21. However, there was a significant decrease in both expenditure and percentage in 2023-24, indicating a potential shift in the allocation of funds or priorities within the MGNREGA program. The downfall in expenditure on green work undertaken by MGNREGA in India, particularly evident in 2023-24, could be attributed to a potential shift in fund allocation or program priorities. Despite a generally increasing trend from 2014-15 to 2021-22, with occasional fluctuations, the sudden decrease in expenditure and percentage allocation in 2023-24 suggests a reevaluation of resource distribution within the program. This shift may reflect changing government policies, economic considerations, or a reassessment of project effectiveness, leading to a redirection of funds away from plantation works towards other MGNREGA initiatives.

Graph-2: Expenditure Made on the Green Works Undertaken by MGNREGA in India

Source: <http://nrega.nic.in>.

Jal Shakthi Abhiyan: A Paradigm Shift in Water Conservation through MGNREGA

The elixir of life, water, has always been extremely important to human society. Nonetheless, in the modern era, the problems of water shortage, pollution, and unequal distribution have grown more urgent. The Government of India created the Jal Shakthi Abhiyan (JSA) as a comprehensive project to promote sustainable water management practices and revitalize water resources, realizing the urgency of addressing these concerns. The MGNREGA incorporates this ambitious initiative, which marks a paradigm shift in India's approach to water management and conservation.

Fundamentally, the goal of the Jal Shakthi Abhiyan is to enhance rural communities' standard of living by utilizing the ability of MGNREGA, one of the biggest employment guarantee programs in the world, to secure water. The initiative intends to widely implement water conservation and recharge techniques throughout the nation by utilizing the vast infrastructure and people made available by MGNREGA. The initiative's comprehensive approach is highlighted by the cooperative strategy that involves many stakeholders, such as government agencies, local communities, and non-governmental organizations.

The Jal Shakthi Abhiyan aims to increase the storage capacity of water bodies using restoration and desilting initiatives. The initiative boosts the water-holding capacity of reservoirs, ponds, and tanks while also enhancing groundwater recharge and reviving ecosystems through the removal of silt and debris. In addition, rainwater gathering is made easier by the MGNREGA's building of check dams, percolation tanks, and farm ponds. This increases the amount of water available for home and agricultural use, particularly during dry spells.

In addition, the Jal Shakthi Abhiyan places a strong emphasis on encouraging the use of sustainable irrigation methods and water-efficient farming practices. Farmers are urged to use precision farming techniques, drip irrigation, and sprinkler systems to maximize water efficiency and boost crop yields. This is accomplished through awareness campaigns, training programs, and demonstration plots. The initiative not only improves rural incomes and livelihoods but also builds agricultural resilience by incorporating these techniques with MGNREGA's employment-generating operations.

To reduce the negative effects of climate change, enhance soil health, and minimize soil erosion, the Jal Shakthi Abhiyan also strongly emphasizes watershed management and soil conservation techniques. The program's objectives are to increase ecosystem resilience and advance sustainable land use practices by

putting soil moisture conservation strategies including contour trenches, bunding, and afforestation into practice. These initiatives assist the preservation of biodiversity and ecosystem services, which are essential for rural livelihoods, in addition to the protection of water.

Apart from its eco-friendly advantages, the MGNREGA's Jal Shakthi Abhiyan has enormous potential to improve rural regions' socio-economic conditions. The initiative tackles the dual goals of inclusive growth and poverty reduction by creating job opportunities for millions of rural households, particularly women and vulnerable populations. MGNREGA earnings allow households to invest in healthcare, education, and other necessities, which promotes human development and lessens susceptibility to shocks connected to water.

Even though the Jal Shakthi Abhiyan is a big step in the direction of sustainable water management, there are still several obstacles and chances to overcome. For the effort to be successful in the long run and scalable, institutional procedures must be strengthened, community engagement be increased, and effective convergence with other government initiatives be ensured. Furthermore, to guarantee that the advantages of water conservation are realized by those who require them the most, concerns of equality, gender inclusion, and social justice must be addressed.

To sum up, the MGNREGA-enabled Jal Shakthi Abhiyan marks a turning point in India's progress toward equitable growth, environmental sustainability, and water security. The initiative not only tackles the immediate issues of water shortage but also establishes the groundwork for a more resilient and prosperous future for rural communities by utilizing the synergies between job creation and water conservation. The Jal Shakthi Abhiyan can trigger a radical transformation in India's water environment with sustained dedication, creativity, and group effort, guaranteeing that water remains a source of prosperity and life for future generations.

Categories of Work Undertaken Under Jal Shakthi Abhiyan in MGNREGA

The MGNREGA includes the Jal Shakthi Abhiyan (JSA), a set of programs designed to improve rural water management and conservation. The program's main elements include extensive afforestation, tank and other water body renovations, building reuse and recharge, rainfall gathering, water conservation, and watershed development. To revitalize water resources, increase water availability, and support sustainable lives in rural areas, each of these elements is essential.

Intensive Afforestation: To improve green cover and repair damaged ecosystems, a large-scale tree planting program is implemented. Afforestation projects are carried out under JSA in regions that are susceptible to deforestation, desertification, and soil erosion. The program's objectives are to increase biodiversity, stop soil erosion, and promote water infiltration by planting a wide variety of natural plants. Additionally, reforestation helps to sequester carbon, which lessens the negative consequences of climate change and promotes ecological resilience in rural areas.

Restoration of Tanks and other Water Bodies: Jal Shakthi Abhiyan's attempts to increase groundwater recharge and increase water storage capacity are largely dependent on the restoration of tanks, ponds, reservoirs, and other water bodies. The program rejuvenates pre-existing water infrastructure using desilting, dredging, and repair activities, which eliminate accumulated sediment and debris and reinstate their functionality. Renovated water bodies serve as leisure areas, aquatic life habitats, and agricultural irrigation supplies in addition to providing essential water storage during times of scarcity.

Water Conservation and Rainwater Harvesting: Jal Shakthi Abhiyan's approach to collecting rainwater and optimizing its use for a variety of uses is based on these two key principles. The initiative collects precipitation runoff and directs it into groundwater aquifers by building rainwater harvesting structures such as recharge pits, percolation tanks, and rooftop rainwater harvesting systems. This decentralized method of water collecting not only replenishes depleted aquifers but also lessens soil erosion, floods, and surface runoff while encouraging community self-sufficiency in water management.

Watershed Development: This term refers to a set of actions taken to improve the resilience and productivity of water and land resources inside a hydrological unit. Agroforestry techniques, contour trenching, contour bunding, afforestation, and soil and moisture conservation are all considered watershed development activities under JSA. The initiative tackles the underlying causes of water shortages, soil degradation, and biodiversity loss by addressing entire watersheds as linked ecosystems, hence encouraging

sustainable land use practices and lifestyles. In addition to encouraging community involvement and teamwork, watershed development gives rural communities the tools they need to successfully manage their natural resources.

In conclusion, the MGNREGA-funded Jal Shakthi Abhiyan uses a multifaceted strategy for managing and conserving water. It includes extensive afforestation, restoration of water bodies, repurposing and recharging of infrastructure, rainfall gathering, and watershed development. The initiative boosts livelihoods, supports environmental sustainability, and encourages inclusive development in addition to improving water security and resilience in rural regions through the integration of these interventions with employment-generating activities.

Jal Jeevan Hariyali Program under MGNREGA

A key project aiming at encouraging water conservation, revitalizing traditional water bodies, and sustainable natural resource management in rural India is the Jal Jeevan Hariyali program, which is carried out under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). This program emphasizes how important water is as a resource for rural life, agricultural production, and general socio-economic development. The Jal Jeevan Hariyali initiative aims to tackle the dual issues of rural unemployment and water shortage by combining job creation with conservation efforts. This approach also promotes environmental sustainability and community resilience.

Water shortage has always been a problem in India's rural communities, particularly during seasons when drought is likely. These issues have been made worse by the disappearance of traditional water collection systems, the lowering of groundwater levels, and the deterioration of soil health. These issues pose serious risks to rural livelihoods and agricultural output. The Jal Jeevan Hariyali program was introduced as part of MGNREGA in recognition of the need for comprehensive solutions to address these problems. It made use of the scheme's wide reach and infrastructure to execute water conservation measures throughout rural India.

Through the execution of different water conservation efforts, the Jal Jeevan Hariyali program seeks to improve rural lives, encourage sustainable agriculture, and increase water security. Revival of Traditional Water Bodies: To increase irrigation capabilities for agriculture and restore groundwater supplies, the initiative focuses on revitalizing traditional water gathering structures including ponds, tanks, and check dams. Development of Watersheds: By reducing soil erosion, preserving soil moisture, and improving groundwater aquifer recharge, watershed management programs support resilient ecosystems and sustainable land use. Rainwater Harvesting: Promoting the use of rainwater harvesting methods in homes and communities to collect and keep rainwater for use in irrigation, domestic usage, and groundwater replenishment. Promoting afforestation and agroforestry techniques will expand green space, lessen the consequences of climate change, improve soil fertility, and increase the ability of the soil to retain water. An array of stakeholders, including non-governmental organizations, government agencies, rural communities, and local self-government bodies, actively participate in and collaborate on the Jal Jeevan Hariyali program's execution. The program enhances its impact and effectiveness on the ground by combining MGNREGA money with other schemes and initiatives linked to natural resource management and the conservation of water.

In terms of agricultural output, rural livelihoods, and water availability, the initiative has had notable positive results. The initiative increases the income of rural families and strengthens their ability to manage risks associated with climate change by providing jobs in water conservation activities. In addition, the resuscitation of historic water bodies and the use of sustainable agricultural methods support the protection of biodiversity and ecological restoration in rural areas.

A ray of hope for millions of rural people struggling with issues of livelihood and water shortage is the Jal Jeevan Hariyali initiative. Through the integration of employment guarantee principles with the critical needs of water conservation and natural resource management, the program demonstrates an all-encompassing and comprehensive strategy for accomplishing the dual goals of rural development and environmental sustainability. The Jal Jeevan Hariyali program is a monument to the ability of community-driven initiatives and collective action to shape a more egalitarian and sustainable society as India moves closer to its goal of a future resilient to water scarcity.

Conclusion

In conclusion, the data presented highlights the complex interplay between policy, funding, and local dynamics in shaping green work initiatives under MGNREGA. While there have been notable achievements in water conservation and afforestation efforts, challenges such as fluctuating expenditure and unequal distribution of projects remain. Moving forward, addressing these challenges will require concerted efforts from policymakers, local authorities, and communities to ensure the sustainability and effectiveness of environmental initiatives under MGNREGA. Ultimately, the integration of employment generation with environmental conservation presents an opportunity to foster inclusive and sustainable development in rural India, laying the groundwork for a more resilient and prosperous future.

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