

Priority of Water Conservation Projects: Study on MGNREGA from Kerala

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ABSTRACT

Water is an important resource and is a free gift of nature. Potable water for drinking and water for agriculture both maintains the life on the earth. It is available in plenty but face acute shortage and scarcity. The thinkers repeatedly remembering that the next world war is for water. The scarcity of water to be solved. The solution requires low-cost technology and increased manpower. There are many successful stories of water source restoration in the public funded, people participated employment guarantee programme. The MGNREGA giving highest priority to maintenance of natural resource restoration and conservation of water projects. The success stories of water conservation projects initiated by Mahatma Gandhi NREGA in Kerala is explained in this article.

Key words: Water conservation, Projects, success stories. Mahatma Gandhi NREGA, water scarcity, restoration, rejuvenation.

The National Rural Employment Guarantee Act 2005 (NREGA) was declared in the Parliament in September 7th 2005. It came into force in February 2nd 2006. This was really the mix of Sampoorna Gram Rozgar Yojana (SGRY) and National Food for Work Programme (NFWP). The programme started on experimental in 200 districts all over India. The final aim of the programme is to cover all districts of the country within five years. It was almost materialized in 2012. The main objective of the programme is to uplift the income security of the people living in

villages. Majority of the project suggested under NREGP conserve nature and natural resources. For attaining the objectives, the programme undertaken works like draught proofing, deforestation soil erosion and the preparation of land for cultivation. The ultimate agenda behind the works is to rejuvenate natural resources and preserve environment. The Panchayathi Raj institutions, the agency entrusted for the superintendence, provide work and reservation to the weaker section. The population, especially aged people and women in the employment guarantee programme. The provision of reservation of the scheduled caste and women are assured by the grama panchayaths. The right based programme renamed in 2009 as Mahatma Gandhi National Rural Employment Guarantee Act (MGNREA). The MGNREGA follows a set of legally enforceable laws to protect the rights of the weaker sections. The aim of the programme is to create food security, provision of work to unskilled rural employees, empower village communities, especially women and create durable assets in rural areas. The special features of the Act are:

1. By implementing the MGNREAct, that can connect all the sectors of the economy.
2. It guarantees 100 days of employment to at least one member of the BPL.
3. Wage disbursement to the employees shall be given within fourteen days of completion of the work.

4. The programme ensure transparency and it is against the corruption.
5. The programme is totally detached with other poverty alleviation programmes.
6. Speciality of MGNREGA is that the entire programme is managed by National Informatics' NREGAsoft

The selection criterion of the workers under the MGNREGA is that, the registered workers sold belongs to BPL family. The beneficiaries selected for the programme are, aged peasants, members of poor or lower middle-class family, unemployed women, seasonal farmers and physically challenged persons. The wage disbursal of the workers shall be done only through their Savings Bank Account opened in a Bank.

Objectives:

There are specific and ambitious objectives laid down under the MGNREGA. The objectives are

- To enhance the livelihood security of the unskilled people living in rural areas. This can be achieved by generating wage employment opportunities.
- The works needed for the development of the rural area is draught related, deforestation soil erosion and preparing the land for cultivation.
- Rejuvenate the natural resource and preserve natural resources. base of the area
- To stimulate the local economy by providing work and income.
- To create rural assets like protection of waterbodies, and other assets.

Sources of data

The study used secondary data for analysis and interpretation. The data from the National Informatics Centre's NREGAsoft is widely used. The data are directly received from the website. Annual report of MGNREGA is used for description.

There are many successful water conservation stories that can be unveiled under Mahatma

Gandhi NREGA. The Government of India allocates projects under the Act for the preservation of natural resources. In such projects sufficient number of financial resources are spent for creating and protecting water conservation structures. For improving the water availability and providing access to potable drinking water in rural India the government had given highest priority for water related works. The case studies given here are some success stories. This small subset which throws light on how the country addressed the issue of acute water scarcity. The success stories proved how it helped to accelerate livelihood of rural families directly and indirectly. Indirect impacts like increased vegetation, retention of soil moisture, and repel soil erosion and direct impact is the increased income from farm land.

Implementation of Water Conservation Project and its impact is unveiled here. It is meant for an eye opener as far as the society concerned. The success stories are not just the showoffs but an awareness campaign to take up similar venture, while designing a project. The Impact of the success projects also explain the stories of pain in the implementation process of the project, issues faced, and factors that inspired water conservation works, and hurdles come across during the implementation. The case studies differ across India, depending up on the agro-climatic zones identified in the country. The topographical asymmetry and characteristics of topography may affect the smooth functioning of the projects. The result is the large diversity in creating water conservation structures observed in different parts of the country. The rejuvenation of traditional water bodies and watershed works received much attention in the semi-arid part of the country. The structures for flood control and rainwater harvesting received attention in flood plain. In coastal areas the case is much different. The water conservation efforts narrated had brought both direct and indirect impact from people's responses.

In Andhra Pradesh 210 farm ponds and 54 checkdams are constructed in MGNREGA scheme. The impact is that about 580 bore wells vitalized. The ground water levels lifted up and agriculture ushered due to the water conservation strategy. In every kharif season the yield from farms increased. In Assam vegetable cultivation of 450 acres of land benefitted from the water conservation project. In Gujarat before the implementation of water conservation projects of MGNREGA, only in monsoon the agriculture works are taken place, now its agriculture season comes twice in a year. In Jharkhand same is the situation, out of the 45 ponds, 33 are recharged with the help of water conservation projects. Now water is available for agriculture and farming. The life of the villagers is drastically changed due to the water conservation projects of MGNREGA. The people saved their time of fetching water, which is about 3 km from their villages. Tribal villages in Odisha increased their vegetable production with the help water conservation project of Employment Guarantee Programme. The agriculture production and productivity of Tamil Nadu increased due to the different water conservation strategies adopted under MGNREGA. The rainwater harvesting project is an example of this kind. The collected water is filtered and used for drinking. The ground water table risen due to the water storage projects initiated. In Kerala, a water sufficient state is now in the verge of water scarcity. In Kerala, 44 rivers flowed through, but fall in to the sea. In summer, water is not sufficiently available. To solve the problem of water insufficiency, project of reviving water bodies was initiated. Eight water conservation projects in three different terrains unmasking here to prove the success story. They are:

- Palakkad- Reviving the lifeline of Alanallur.
- Alappuzha-Cherthala- Stream rejuvenated - ecological balance restored

- Trissur-Chovoorthazham-Story of how a check dam revived the paddy fields.
- Ernakulam- Asmannoor- Pond restoration
- Idukki-Peruvanthanam-Journey towards water sufficiency.
- Wayanad-Earthen Dams- Not only solved water worries but also improved the livelihood
- Thiruvananthapuram-Nemom- Unified intervention to achieve water sustainability.
- Kottayam- Meenachil River -Restored agricultural ecosystem

Palakkad District. Alanallur Gram Panchayat is in Mannarkkad block of Palakkad District. This district has three major rivers flowing through it and receives sufficient rainfall during the monsoon season. Due to the unavailability of storage structures, the area suffers from drought like situations during the summer season. During summer, the farmers depend on the Velliyar River for their water need. Across the river, they construct small bunds using sandbags to facilitate irrigation in their paddy fields. By realizing the requirement for a permanent water storage structure, Ayalkoottam (neighbourhood group) emphasized on the same and the Gram Sabha agreed to construct a check dam.

The impact of check dam has positively impacted nearly 2,000 households in overcoming the drought-like situation. Now, the farmers in the area have access to ample surface irrigation, which has increased the cultivable area to 400 hectares. The farmers had earlier changed their cropping pattern due to the scarcity of water. But now they have made planned vegetable cultivation, which needs a regular supply of water. The check dam construction has improved the biodiversity in the area and has supported the agricultural activities to a great extent. The farmers who cultivate primary crops such as paddy (25 hectares), banana (150 hectares), rubber (100 hectares), pepper (50 hectares) and

cocoa (40 hectares) have been benefited from this project. The increase in the water table will result in the silt accumulation on the banks of the river, which will enrich the fertility of the soil.

Alappuzha District. Karippechal is a stream that flows through Cherthala South, Kadakkarappally and Kanjikuzhi Gram Panchayats of Kanjikuzhi block panchayath in Alappuzha District. Over the years, the deposits from the shoreline and river pollution silted the flow of the stream, causing flood during the rainy season. This affected the lives coastal area. The flood also led to unhealthy living conditions such as contamination of drinking water, improper sanitation facilities, waterborne diseases, etc., during the monsoon season. Three local self-government bodies of the district, namely, Kanjikuzhi Block Panchayat (BP), Kadakkarappally GP and Cherthala South GP worked together for revival of the stream. The major work done by them is desilting.

As a result of rejuvenation of the stream, the coastal ecological balance was regained. Along with this the ecosystem has been re-established in the nearby area. In addition to this, the cropping area has been increased by 20 hectares. The water holding capacity of the stream has been increased. Approximately, 50 families have been benefited in terms of increase in agriculture produce. During the rainy season, the authorities had to shift 100–150 Scheduled Caste families residing on both sides of the stream. They have to camp to for about 4–5 months during this season. No flood is reported during the previous monsoon. So the residents of the area are now happy that they are staying in their own houses during the monsoon. Many residents have installed the Chinese fishing nets and are getting a fish worth around Rs. 700 per day. The farmers are now engaged in their seasonal vegetable cultivation in the paddy fields, which they had

given up during previous years with the onset of monsoon.

Thrissur District A check dam revived the paddy fields of Chovoorthazham. Cherpu block Panchayath, which consists of Cherpu, Avinissery, Paralam and Valachira GPs, is located in Thrissur District. As groundwater being the main source of irrigation, the water becomes scarce during the summer season. Chovoorthazham, an area formed by portions of Avinissery, Cherpu and Paralam, is a boundary of the Chanam paddy field. Earlier, paddy cultivation was done with the support of temporary bunds. However, the water level began to rise in the main canals due to lack of permanent bunds, and farming activity in the area stopped. In the gram sabha meeting, the paddy farmers proposed the construction of a check dam. Then the Gram Sabha approved the same. The irrigation department identified the spot for the construction of check dam so that the water is made accessible to three grama panchayaths.

After the construction of the check dam, farming activities have been revived in nearly 80 acres of fallow land belonging to 60 households, which has resulted in the production of 50 tonnes of paddy. The combined effort of BP, GPs, paddy farming groups and other departments paved the way for the cultivation of agricultural fields, which remained unused for the past 25 years. The harvested paddy is marketed at the rate of Rs. 25 per kg. Thus, they have generated a total income of Rs. 12.5 lakhs. This implies that from a small fund of Rs. 16,342 allocated for a check dam construction, the farmers were able to make an income of Rs. 1.2 crores as returns.

Ernakulum District Asamannoor Gram Panchayat is located in Koovappady block of Ernakulam District, and the villagers depend on agriculture for their livelihoods. The hilly areas in the panchayat faced water scarcity. In addition, there was also a problem of land

encroachment in one of the low-lying areas where water would accumulate in the rainy season and dry up in summer. To address these issues, the Gram Panchayath decided to restore the pond “Kuttikattu Chira” with the help of water from the Periyar River to meet the needs of the water-stressed areas of the Asamannoor Gram Panchayath.

After the restoration of the pond, more than 250 acres of land belonging to 300 households is cultivated with crops like paddy, tapioca, banana and other vegetables. An additional 8,000 kg of paddy is being produced. Fish farming is also being promoted in this pond in convergence with the fisheries department. This pond is the first of its kind in the district to do fish farming through a fish farming club in association with ‘Kudumbasree’, which provides an additional income of Rs. 300–500 per day. The farmers are able to provide adequate water and fodder to their cattle in all the seasons. The water level in the wells of the area has also increased. The development of the pond has helped in arresting the problem of soil erosion, thereby increasing the productivity of the land.

Idukki District. Peruvanthanam’s. Peruvanthanam gram panchayat is located in Azhutha block of Idukki District, and it has a hill topography, receives abundant rainfall during the monsoon season. However, the rainwater drained off entirely due to the upside down nature of the land. Percolation of water is also limited. This resulted in a severe shortage of water during summer. So the villagers had to depend on water tankers for their drinking and household needs. Hence, the Gram Sabha has approved the construction of three check dams at Manikkal, Paloorkavu and Kadamangulam to solve the water scarcity problem of this GP.

Manikkal check dam project has met the water needs of nearly 1,200 villagers in the upstream tea plantation area. Similarly, Paloorkavu and Kadamangulam check dams have benefitted

nearly 450 households providing adequate water supply throughout the year. With better irrigation, the cultivable land area has increased by approximately 150–200 acres. Farmers are getting higher yields, and families have stopped purchasing water from private suppliers.

Wayanad District Earthen dams, or natural dams solved water shortage and elevated the livelihoods of the people in Wayanad. Puthanchira region in Noolpuzha Panchayath is located in the valley between two hills on the fringes of the Sulthan Bathery forest range in the eastern part of the Wayanad District. The valley comprises farmlands and houses. The surface run-off water from the slopes of the hills is the primary source of water for farming. Climate change and destruction of forests have adversely affected the supply of water for paddy fields. Many villagers migrated from this region due to the shortage of water. The Gram Sabha proposed to construct 21 earthen dams in the valley under Mahatma Gandhi NREGA to solve the problem of water scarcity.

The earthen dams in Puthanchira have ensured that water is available for irrigation of 500 hectares of land throughout the year. With increased soil moisture content, an additional 300 hectares of land belonging to 150 tribal farmers has been brought under cultivation. The farmers are cultivating paddy as the major crop along with banana, ginger, turmeric and tapioca.

Thiruvananthapuram District The combined effort and the strong intervention to achieve water sustainability Nemom Block Panchayat, in Thiruvananthapuram District. During the summer season, this region faces acute shortage of water. Traditional water bodies, including drinking water sources, used to dry up mid of summer. While drinking water requirements were met by purchasing water from suppliers, there was no water for

agricultural activities. The difficulties faced by the people forced the authorities to think about feasible and cost-effective water conservation and groundwater recharge methods. The water conservation activities were initiated under the program Jala Samrudhi in seven-gram panchayats of Nemom Block in convergence with other line departments of the state government. A wide range of activities including constructing boulder checks, farm ponds, land development and rejuvenation of traditional water bodies were carried out to ensure water security.

The impact of the works taken up has brought in a remarkable change in the groundwater level, benefitting 20,000 families within the block. More than 1,000 hectares of land is now under cultivation. The villagers are shifting to paddy cultivation after witnessing the increased water availability. At present, 750 families have access to drinking water throughout the year.

Kottayam District The success story of restored agricultural ecosystem of Meenachil river is an eye opener for all conservation projects. Meenanthara and Kodoor tributaries of the Meenachil River flow through 30 grama panchayaths and four municipalities in Kottayam District. These were earlier interlinked with several natural or man-made streams. Of late, these streams hitched due to pollution and dumping of waste, leading to their disassociation from the main river. The polluted water was causing several waterborne diseases. Furthermore, thousands of acres of paddy field turned fallow due to clogging of these streams. The aquatic diversity was also vanished. Therefore, the restoration and relinking of river and its tributaries were carried out under Mahatma Gandhi NREGS in convergence with many line departments of the state government by desilting, deepening and reinforcing of riverbanks with coir geotextiles. A local NGO also played a role in rejuvenation of these three rivers.

The Impact of rejuvenation activity has benefitted paddy cultivation in 30 grama panchayaths that have approximately 50,000 households. Nearly 3,500 acres of cultivable land has improved due to this work. The deepening of rivers has resulted in increased water availability and water table in the canals, streams, wells and ponds during the summer season. In terms of quality and quantity, drinking water had improved significantly. The water biodiversity has also improved after deepening of the streams and canals. The use of coir geotextiles to strengthened the banks of the streams. The end result is a positive impact on the ecosystem of the rejuvenated water bodies.

The water conservation strategies of the eight projects in different terrains show the same result. They are reduced water shortage, improvement in agriculture, enhanced livelihood and the ecosystem maintenance. The interesting thing is that, the strong areas of the environment are maintained with unskilled labour and cost-effective technology. The sustainable development in real sense can be achieved by undertaking projects in MGNREGA.

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