

This briefing note summarises the preliminary case study findings for discussion and comment.

The Mahatma Gandhi National Rural Employment Guarantee Scheme to address chronic rural poverty has been effective in developing water harvesting and storage structures. However, not all farmers in the scheme can access this water because they do not have pumps.

The Opportunity

The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) guarantees employment to rural households on construction work that addresses the causes of chronic poverty. Initiated by the National Rural Employment Guarantee Act (NREGA) the scheme seeks, among other things, to provide a growth engine for sustainable development of an agricultural economy.

MGNREGS now covers the entire country with the exception of districts that have 100% urban populations. The majority of the permissible works being carried out under MGNREGS relate to building of infrastructure to enhance water security in rural areas.

During the year 2009-10, MGNREGS spent INRS380 billion (US\$ 8 billion) and made huge investments in improving rural water availability. India-wide, 70% of the expenditure goes to water security, a total of US\$6 billion per year on average. In the state of Madhya Pradesh, the highest attention has been given to the works relating to provision of irrigation facilities on farms (Figure 1).

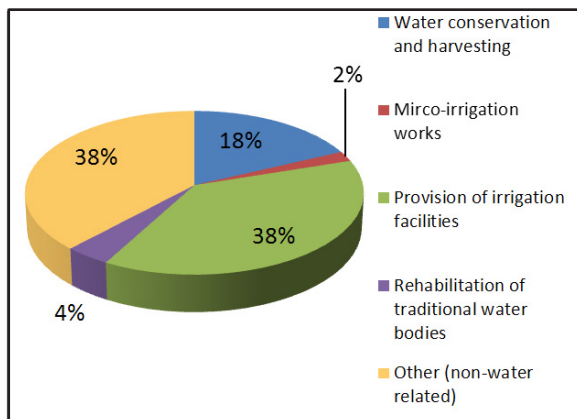


Figure 1. Distribution of MGNREGS expenditure on works in Madhya Pradesh in 2009-2010

The AgWater Solutions team reviewed MGNREGS in the state of Madhya Pradesh to understand how works are selected and whether they match farmers' preferences and satisfy their water needs. The principal finding was that although more water was available, many farmers could not benefit because they have no means of pumping the water to their

IMPROVING WATER SECURITY THROUGH MGNREGS

Based on a report and recommendations by Ravinder P. S. Malik



A pump house but no pump to install

fields. Finding ways to improve the farmer's access to water lifting devices through accessible and affordable financing will greatly enhance the success of the scheme.

The Research

To maximize the benefits of MGNREGS and its contribution to improved water security and agricultural output it is necessary to know whether the works being undertaken are appropriate, effective, of good quality and durable. However, the project found that few studies have been done to assess this.

A scoping study determined that the State of Madhya Pradesh would be an appropriate place to undertake research to fill this gap. Consultations were held with various people in the State, and a diagnostic study was initiated in four blocks: Bejjadandi and Ghuggri in Mandla District; and Petalwad and Thandla in Jhabua District. The following questions formed the basis of the research:

- What was the process for selecting the type of works?
- Does the implementer's choice of works match the preferences of the beneficiaries?

¹ MGNREGS aims to enhance the livelihood security of people in rural areas by guaranteeing 100 days of wage-employment per year to a rural household whose adult members volunteer to do unskilled manual work.



A farmer with a well built on his farm

- Can MGNREGS deliver structures that ensure sustainable water security?
- Have the water structures led to increased or more reliable water supply to farmers?
- What changes have been made to optimize the benefits from increased availability of water?
- What has been the impact on livelihoods?
- Have the MGNREGS investments encouraged private investment to enhance water security?

Main Findings

Prior to construction of assets under MGNREGS, 23% of the 155 households (HHs) sampled had access to some irrigation water. However, only 15% actually used the water for irrigation and just 9% had all their irrigation needs met. Under MGNREGS, farmers in the sampled area received structures that provide on-farm water storage (wells and ponds) or improve water management (bunds).

Table 1. Distribution and nature of water structures built on sampled fields under MGNREG.

Block	No. of HH	Number of Water Structures		
		Farm Ponds	Bunds	Wells
Bejjadandi	40	6	14	20
Ghuggri	40	13	12	15
Petalwad	35	6	0	29
Thandla	40	0	8	32
Total	155	25 16%	34 22%	96 62%

Approximately 60% of the sampled farmers felt that the structure that was built for them was the best option for providing irrigation water and satisfaction was highest among the group of farmers who had wells constructed on their land. Of the 39% who would have chosen a different structure, almost 60% would have preferred a tube well, 29%

an open well and a further 11% would have liked their existing well to have been deepened.

Almost all farmers who had bunds constructed on their land reported making full use of the available water.

Of the 121 farmers that received water storage structures, 116 (96%) reported an increase in water availability but 51 farmers (44%) were unable to make use of this water because they needed equipment, such as a motor pump, to which not all farmers had access.

Meeting the cost of pumping equipment is one of the main constraints facing smallholder farmers. Those farmers who were able to buy pumps did so by taking out loans or borrowing from money lenders, friends and family. Only 7 farmers received funding under government schemes.

Diesel pumps were chosen over electric pumps (62% versus 38%) one reason for this being that electricity is not readily available in the area.

Impact of MGNREGS

Since the construction of water-related infrastructure under MGNREGS, which began in 2006, the proportion of the area being irrigated in the research sites has risen from 13% to 52% in the kharif (wet) season and from 4% to 22% in the rabi (dry) season, leading to a 27% increase in cropping intensity. Farmers' incomes from crop production have increased by between 36% and 47%, and net income from crop production has risen by about INRS 400 to INRS 800 per acre.

The water storage options provide opportunities other than irrigation such as livestock drinking and domestic uses. Around 57% of the sampled farmers used the water for more than one purpose.

However, many of these benefits are limited to those farmers who can actually access the water that has been made available to them. Farmers need finance to buy pumps or alternatives such as pump rental in order to take full advantage of the opportunities presented by MGNREGS.

Solutions:

- Provide soft loans with long repayment periods, open to all, including farmers with existing debt.
- Offer concessionary (agricultural) rates for pump equipment.
- Give free pumps to the poorest farmers. (This requires convergence or collaboration between MGNREGS and other schemes.)
- Improve knowledge and understanding of MGNREGS amongst civil society and panchayats.
- Discuss proposed works with beneficiary farmers to ensure appropriate construction.

These findings and recommendations are preliminary and are reproduced here for the purposes of discussion. The AgWater Solutions Project welcomes all comments and suggestions. These should be directed to AWMSolutions@cgiar.org, please write "MadhyaPradesh" in the address line.