

# Digitisation

## The Problem

Digital inclusion has been the priority of Government of India and in pursuance of the same various efforts have been taken by the Government's ambitious Digital India programme like BharatNet Digi Locker, eSign Framework, National Scholarship Portal e-Hospital etc. National Optical Fibre Network (NOFN) is an important component of Digital India mission which seeks to digitally empower the citizens. A fully operational NOFN has the potential of bringing significant changes in lives of rural citizens. Another component which is crucial for the attainment of objectives of Digital India Mission is Aadhaar. Aadhaar is instrumental in empowering common man and their digital inclusion.

The tele density, which was 12.98 as on March 2006, has reached to 92.89 as on March 2018. With 252 million Internet users, India ranks third worldwide in terms of sheer total of people connected to the internet. Mobile broadband penetration is 16.8 percent. However, the fixed broadband penetration in India is 1.4 percent.

National Optical Fibre Network (NOFN), an ambitious initiative to trigger broadband revolution in rural India, is creating a robust middle network infrastructure layer to connect gram panchayats of the country through broadband connectivity. NOFN has been planned with an investment of INR 21,000 crore to connect 2,50,000-gram panchayats with a speed of 100 Mbps. It was established to enable key services like e-governance, education, health, banking and agriculture in rural regions of the country.

There are several challenges in the deployment of NOFN namely there is lack of accountability and delays in decision-making because of excessive emphasis on cost controls, resulting in poor implementation. There were delays with respect to timelines, increase in expenditure, Unavailability of affordable devices, Lack of available content, limited affordability etc.

Another ambitious program which the Government rolled out is Aadhaar program, one of its stated aims is to streamline the implementation of all current and future anti-poverty programs. One such welfare scheme where Aadhaar was mandatory from 2017 is Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). MGNREGA promises to provide 100 days of wage employment to at least one member of the estimated 150 million rural households across India. However, there are various implementation and service delivery issues since its inception. Targeted at covering 42 percent of India's total rural population living below the poverty line, the scheme has grown many folds since with government budget expenditure increasing from Rs. 35,711 crores in 2012 to Rs. 45,303 crores in 2016. Currently, the scheme has more than 2,555 lakh registered workers.

Over the years MGNREGA has failed to live up to its full potential due to alleged corruption, logistical failures and administrative faults. Numerous cases of money being siphoned off via "ghost beneficiaries" and duplicates were identified as a source of massive monetary leakage. In 2008, the government mandated the opening of bank accounts so wages could be directly transferred to the beneficiaries' accounts.

This study examines the costs and benefits of 2 interventions. First, connecting rural households to NOFN and second, linking the last group of unconnected MGNREGA workers to the Aadhaar scheme.

## Solutions

Interventions	BCR	Benefit (INR Crores)	Cost (INR Crores)
Providing the NOFN connectivity from gram panchayat (GP) to household (HH) level using wired infrastructure	10	81,552	7,780
Linking the last section of the unconnected MGNREGA population to Aadhaar	6	150	24

Total costs and benefits are discounted at 5%

The full paper by **Ritu Srivastava & Eshita Mukherjee** of Digital Empowerment Foundation is available on [www.rajasthanpriorities.com/digitisation](http://www.rajasthanpriorities.com/digitisation).

## Connecting the last section of the unconnected households via NOFN

### The Problem

Currently, 8155 Gram Panchayats (GPs) in Rajasthan are connected to NOFN via 23,912 kms of optic fibre. There are around 1745 GPs which are yet not connected with NOFN.

NOFN program has been under the scanner due to delay in timeline and the quality of its services. Various telecom analyst and social scientists have criticized the program and suggested their recommendations to improve the program.

### The Solution

The proposed intervention seeks to finalise the NOFN to connect remaining Gram Panchayats and facilitate accessibility to NOFN for rural households.

### Costs

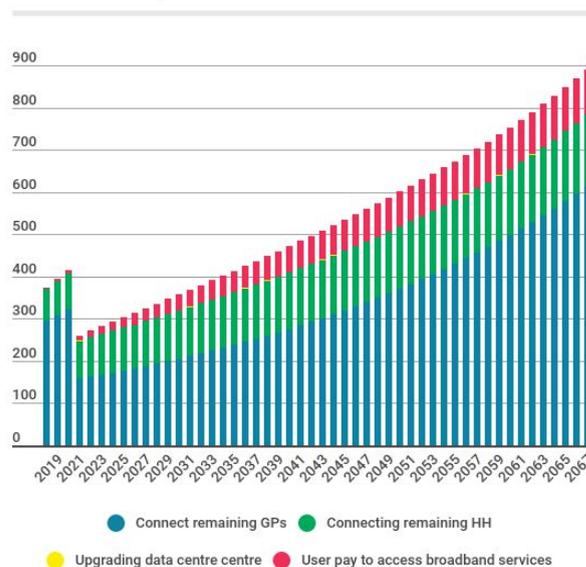
There are four categories of cost associated with this intervention 1) cost of connecting the remaining GPs and ongoing maintenance; 2) cost to connect remaining households and ongoing maintenance; 3) upgrading the data centre cost to connect institutions (such as public health centre (PHC), schools, government agencies, etc) and 4) costs of accessing broadband services.

The total cost at a 5% discount rate is Rs. 7,780 crores.

### Benefits

It is estimated that due to this intervention broadband would reach 17% of rural households by 2035, and 33% by 2067. Due to the falling share of rural

Costs by year for proposal to finalise the National Optical Fibre Network



Costs in crore rupees per year. Source: Authors calculations.

population in the state, this will contribute to a state-wide increase in penetration of 22 per 100 households.

It is estimated that there will be an annual boost to GSDP arising from the pathway of fixed broadband growth across the entire state attributable to the NOFN. After three years the boost to GSDP is small, measured at only 0.02%. By 2035 the boost is 0.1%, by 2050 the boost is 0.2%, and by 2067 it is 0.3%.

The incremental boost to GSDP is Rs. 135 crores by 2020, Rs. 3,233 crores by 2035 and Rs. 27,299 crores by 2067. In GDSP per capita terms, the corresponding values are Rs. 8, 345 and 2,769. Total benefits until 2067 equal 81,552 crore at a 5% discount rate.

## Linking the last section of the unconnected MGNREGA population to Aadhaar

### The Problem

Rajasthan has been one of the top performers in implementing MGNREGA among the larger states in terms of total number of active workers (92.55 lakh as against an all-India average of 31.84 lakh in 2017–18) and also have an above-average participation rate of women (53.91 lakh as against 15.67 lakh for India in 2017–18).

Currently, there are 92 lakh active workers employed under MGNREGA and 86 lakh of them have Aadhaar numbers. Thus, the total numbers of workers to be enrolled in Aadhaar are 6 lakh. According to official statistics, all of the 86 lakh active workers with Aadhaar have enabled DBT, resulting in direct credit of wages to their Aadhaar-linked bank or post office accounts.

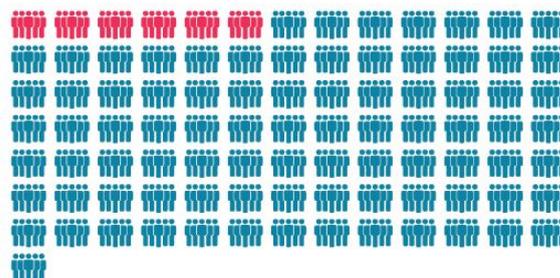
### The Solution

Although 93 percent of all active MGNREGA beneficiaries have Aadhaar numbers and receive payments in their respective bank accounts, the remaining beneficiaries need to be allotted an Aadhaar number and have their accounts linked to the DBT scheme.

This intervention targets the last seven percent of the population who are not linked to Aadhaar and DBT for year 2017-18. A multi-year projection model is built on the basis of recurring benefits for the next 15 years.

According to the Government, the Aadhaar scheme has potential to enhance the effectiveness of India's social protection programs in three ways. First, it will help curb cases of fraud and improve the delivery of Government welfare programs. Second, it will help in plugging leakages in the system by removing duplicate transactions and middlemen. Finally, it will also reduce the delay in payment by integrating DBT with the beneficiaries' account.

## Last section of the unconnected MGNREGA population to Aadhaar



- 6 lakh MGNREGA workers without Aadhaar number
- 86 lakh MGNREGA workers with Aadhaar number

Source: Authors paper

### Costs

There are three categories of costs associated with this intervention. The first is bringing the remaining one percent of workers or approximately one lakh beneficiaries, under the Aadhaar scheme. The second component of costs is linking new Aadhaar account-holders to DBT, so they receive payments directly in their bank accounts. Further there is a recurring cost towards procuring biometric devices, its maintenance and connectivity etc.

The total cost of the intervention is Rs. 24 crores over a period of 15 years at a 5 percent discount rate.

### Benefits

By bringing all MGNREGA workers under the fold of a formal institution via Aadhaar and MGNREGA seeding, it is estimated that the leakages in the scheme will be reduced by 41 percent. The primary benefit of this intervention will be in reduced leakages caused by the incidences of ghost beneficiaries and deception. Benefit works out to be about Rs. 17 crores in the first year.

The total savings accrued from reduced leakages through this intervention are estimated at an average of Rs. 14 crores per year over 15 years. Total benefit over 15 years amounts to Rs. 150 crores at a 5 percent discount rate.