

## Efficiency and Impact of MGNREGS in Tripura

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### Abstract

*Tripura, one of the smallest states of India is considered as better performer in implementation of MGNREGS from the perspective of employment generation for having the highest average man-days generated per household in a year for three successive years now. The rationale behind the implementation of the scheme suits the state perfectly owing to minimal industrialisation, stagnation in the agricultural sector, high poverty levels, and limited employment opportunities. The scheme, with an annual budget of about Rs. 1000 crores has been prioritised by the State government as a major tool of outreach. The paper attempts to explore - 'How is MGNREGS doing in Tripura?' on the basis of two objectives- one, to find out intra-state level of efficiency in implementation of MGNREGS using DEA efficiency analysis and two, to examine the nature and impact of benefits accruing to the participating households. The study indicates significant differences in the average man-days generated per household across the rural development blocks with the tribal majority regions having higher scores. However, there are significant increases in the income level of the participating household though their awareness about the features of the scheme is very nominal.*

### I. Introduction

Tripura, the second smallest of the north-eastern states of India has been one of the better performing states in the implementation of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) across the country exhibiting one of the highest average man-days generated per household in a year since the initiation of the scheme in 2006. Basically, the rationale behind the implementation of the scheme suits the state perfectly owing to its minimal industrialisation, stagnation in the agricultural sector, high poverty levels, and limited employment opportunities. The state is predominantly rural and is inhabited by a heterogeneous mix of tribes living in the hills and non-tribes living in the plains. A sizeable population of scheduled castes adds another dimension to the demographic aspect. The tribes of Tripura have been shifting cultivators for ages while large section of the Bengali speaking majority

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are mostly migrants or their descendents from the erstwhile East Pakistan. The altered demographical profile of the state and its consequent declining land-man ratio has been the prime cause of the ethnic disturbances witnessed by the state for more than twenty years. In this context, it should be noted that the Tripura Tribal Areas Autonomous District Council (TTAADC), set up in 1982, extends over all the districts and functions in accordance to the Sixth Schedule of the Constitution.

With limited corporate sector, large tracts of undulated highlands, and a poor transportation and communication network, developmental activities are mostly the onus of the state government and it is the major employer of the state with more than one lakh employees across all categories. The active state participation in the economic sector is also in tune with the political ideology of the ruling CPI (M) led Left- Front government. The poverty head-count ratio according to Suresh Tendulkar Committee, 40.6 per cent, is around 3 per cent higher than the national figures and government led schemes and programmes are often the most vital sources of livelihood to a major section of the people of the state. The importance of the MGNREGS in Tripura is therefore easily understood as its objectives are very close to heart of the state government. The scheme was introduced in the most backward district of the state, Dhalai, during 'Phase- I' activities involving 200 districts of the country. The two districts of West Tripura and South Tripura were part of the 130 districts of 'Phase-II', while the North Tripura district came under the purview of the scheme in the 'Phase-III' when it was made universal across the country.

Tripura's performance in the implementation of the MGNREGS has been credited particularly for higher average person-days creation per household (Dreze and Oldiges, 2007; Usami and Rawal, 2013 and The Shillong Times, 2012) in the literatures. The scheme's potential is high as it can improve the underdeveloped agriculture, poor irrigation system and poor road connectivity (Roy, 2010). Further, the equity aspect of the scheme has also been found to be in the right direction as participation of women and socially excluded groups are found to be highly encouraging (Talukdar, 2008; Bhowmik, 2013). Moreover, the scheme has been prioritised by the Left Front government of the state as a major tool of employment generation and poverty eradication. With an annual flow of about Rs. 1000 crores (approximately 5 per cent of GSDP) into the state economy it is obvious that MGNREGS have started making an impact on the rural economy more precisely on rural households in sustaining their live and livelihood opportunities. The official statistics show that more than 60 per cent of the rural households have enrolled for the programme and more than 90 per cent of the job-card holding households have been provided with employment. Moreover, accepting the positive contribution of the scheme on the people of Tripura, the Finance Minister of Tripura in course of his presentation of the Annual Budget 2014-15, called for an extension of the scheme to offer 200 days of employment per year. However, one can easily understand that the implementation of the scheme is not uniform across the state.

It is in this background that the present paper stems with the broad intention of finding

the answer to the question- 'How is MGNREGS doing in Tripura?' However, for the present context, we set up two specific objectives- a] to find out intra-state level of efficiency in implementing the scheme in 2012-13 and b] to examine the nature and impact of benefits accruing to the participating households relating to their income, financial inclusion, awareness level and other livelihood aspects.

The study uses both secondary as well as primary data. A field survey of a representative sample was undertaken in two districts of the state- Dhalai (comprising of 8 Rural Development Blocks) and West Tripura (comprising of 9 RD Blocks) for addressing the second objective. These two districts were purposively selected for being the most backward and advanced districts of the state respectively. From each district, one RD Block is selected randomly and from that selected RD Block, two Gram Panchayats (GPs) were further selected randomly. Again, from each GP, 3 per cent of the households registered for MGNREGS, with a minimum of 50 households from each GP, were selected. A structured schedule has been used to collect the necessary information. The primary data has been collected from two Gram Panchayats of Durga Chowmuhani Block- Kalachari and Dhan Chandra Para in Dhalai district, of which the former has a mixed population while the latter is a remote tribal majority village belonging to the TTAADC region. The two GPs of West Tripura district- Khas Madhupur and Suryamaninagar, had a non-tribal majority and belonged to the Dukli Block located in the vicinity of the capital city Agartala. The impact of the scheme has been studied using standard statistical, descriptive and inferential, tools.

The first objective was addressed using secondary data obtained from the official website of the scheme, [www.nrega.nic.in](http://www.nrega.nic.in). Efficiency of implementation has been examined using the non-parametric frontier approach- data envelopment analysis (DEA). We measure the Overall Technical Efficiency (OTE), Pure Technical Efficiency (PTE) and Scale Efficiency of the constituent Rural Development Blocks for the year 2012-13 using the EMS software developed by Prof. H. Scheel, University of Dortmund. The performance indicators of the scheme like Average Person-days generated per household per year, proportion of households attaining 100 days work and work completion rate has been considered as the efficiency determinants. The present paper is structured into six (6) sections including the present introduction. The second section provides a methodological note on the Data Envelopment Analysis, while the third section gives us an overview of the extent of MGNREGS in Tripura. The fourth segment provides with the empirical results of the efficiency analysis while the impact of the scheme on the participating households forms the crux of the fifth section. Finally, we surmise the issue in the conclusion.

## II. Methodological Note

The DEA is a linear (mathematical) programming based method first originated in the literature by Charnes, Cooper & Rhodes (1978) as a reformulation of the Farrell's (1957) single-output, single- input radial measure of technical efficiency to multiple-output, multiple-input case. The originators described DEA as a mathematical

programming model applied to observational data (that) provides a new way of obtaining empirical estimates of relations- such as the production functions and/or efficient production possibility surfaces- that are cornerstones of modern economics.

Formally, DEA is a methodology directed to frontiers rather than central tendencies. Instead of trying to fit a regression plane through the centre of the data as in statistical regression, for example, one ‘floats’ a piecewise linear surface to rest on top of the observations. Because of this perspective, DEA proves particularly adept at uncovering relationships that remain hidden from other methodologies.

The Extended Pareto- Koopmans definition states that full (100 per cent) efficiency is attained by any Decision Making Unit (DMU) if and only if none of its inputs or outputs can be improved without worsening some of its other inputs or outputs. However, as the theoretically possible levels of efficiency is not always known in management and social science application, a concept of Relative Efficiency has been advanced. Accordingly, a DMU is to be rated as fully (100 per cent) efficient on the basis of available evidence if and only if the performances of the other DMUs does not show that some of its inputs or outputs can be improved without worsening some of its other inputs or outputs. This definition avoids recourse to price and other assumptions of weights which are supposed to reflect the relative importance of the different inputs or outputs. This basic kind of efficiency is referred to as ‘technical efficiency’ in economics.

Under this technique for each of the n decision making units (DMU) which consume m different inputs to produce S different outputs, technical efficiency is given by the measure

$$\frac{\sum_r u_r y_{r0}}{\sum_i v_i x_{i0}}$$

where,  
 $y_{r0}$  = r<sup>th</sup> output of a particular DMU, O  
 $x_{i0}$  = i<sup>th</sup>input of that particular DMU, O  
 $u_r$  is the weight associated with each kind of output &  
 $v_i$  is the weight associated with each kind of input

The problem is to find these weights such that  $z = \sum_r u_r y_{r0} / \sum_i v_i x_{i0}$ , i.e. the ratio of the virtual output to the virtual input of each DMU is maximised. However, without additional constraints this ratio would be unbounded. To deal with this a set of normalising constraints are introduced:

$$\sum_r u_r y_{rj} / \sum_i v_i x_{ij} \leq 1 \text{ for } j = 1, 2 \dots n \text{ \& } u_r \text{ \& } v_i \geq 0 \text{ for all } i \text{ \& } r$$

which reflects the condition that the virtual output to virtual input ratio of every DMU must be less than or equal to unity for non-negative weights.

The DEA method is applicable to identify a host of efficiency parameters. The technical

efficiency score  $\theta^{CRS}$  is called the overall technical efficiency (OTE) and is calculated on the assumptions of constant returns to scale and is popularly known as CCR (Charnes, Cooper and Rhodes) model. However, if the DMUs are not operating at an optimal scale, it can be decomposed into pure technical efficiency (PTE) and scale efficiency (SE). Pure technical efficiency is calculated on the assumptions of variable returns to scale where an additional convexity constraint:  $\sum \lambda = 1$ , is added to the existing model of overall technical efficiency and is generally referred as the BCC (Banker, Charnes and Cooper) model. Symbolically,  $PTE = \theta^{VRS}$ . Further the mathematical programming ensures that pure technical efficiency scores are either greater or equal to the overall technical efficiency scores (Banker et al, 1984).

Scale Efficiency for the  $i^{th}$  DMU, on the other hand, is obtained as

$$SE_i = \theta_i^{CRS} / \theta_i^{VRS}$$

where  $SE = 1$  indicates scale efficiency or constant returns to scale and  $SE < 1$  indicates scale inefficiency.

Further, in case of scale inefficiency, we identify whether it is increasing or decreasing on the basis of computing an additional DEA model imposing an alternative restriction, substituting  $\sum \lambda = 1$  (as in VRS) by  $\sum \lambda \leq 1$ , which indicates, non-increasing returns to scale (NIRS). Thus, increasing returns to scale is said to exist when,  $\theta^{VRS} \neq \theta^{NIRS}$ ; while for  $\theta^{VRS} = \theta^{NIRS}$  the DMUs face decreasing returns to scale (Bala, 2007).

It should be further noted that in DEA, technical efficiency can be viewed from two perspectives-

- a) input oriented, where  $\theta^{input} = \text{Minimum possible input} / \text{Actual input}$  &
- b) output oriented, where  $\theta^{output} = \text{Actual Output} / \text{Maximum Possible Output}$ .

For the present purpose, we consider the rural development blocks as the decision making unit as the major responsibility of implementation falls on them. The average person-days generated per household, the proportion of households attaining 100 days of work and the work completion rate are considered as the output; whereas, the availability of fund, the number of works undertaken and the total number of households demanding job are considered as inputs. The efficiency analysis has been undertaken for 2012-13 considering 45 Rural Development Blocks for an output oriented model since better efficiency means higher man-days generation per household, greater coverage of households with 100 days of work and a higher completion rate.

### III. An Overview of MGNREGS in Tripura

Tripura is a miniscule in the Indian context in terms of volume of MGNREGS as is evident from Table 1. The state accounts only for about 0.5 per cent of the total job-cards issued in the country under the scheme. The share of Tripura with 641,136 card holders in 2012-13 against 12.84 crores card holders in the country has actually come down marginally from that of 2008-09. However, the state's share in terms of the

employment demanded is much higher and has been varying consistently in the range of 1.2 per cent of the national pie. The share of the state in terms person-days generated is even higher. The state had a share of 1.62 per cent of the total person-days created in the country in 2008-09. The number of person-days created in the country has consistently increased over the years, but the rate of growth of Tripura has been higher as is seen in its share rising to 2.67 per cent of the total employment generation in 2012-13. In other words, Table 1 attests the greater outreach and acceptance of MGNREGS in the state as is evident from the higher share in the national pie for person-days generated and employment demand in proportion to enrolment.

**Table 1: MGNREGS in Tripura**

	2008-09	2009-10	2010-11	2011-12	2012-13
Job-cards (HHs)	600615 (0.59)	607010 (0.54)	624133 (0.51)	602131 (0.50)	641136 (0.50)
Employment Demand (HHs)	549145 (1.22)	577540 (1.10)	557413 (1.02)	567101 (1.12)	597434 (1.20)
Person-days (Nos. In Lakhs)	351.12 (1.62)	460.23 (1.62)	374.51 (1.46)	487.71 (2.25)	518.51 (2.67)

Source: www.nrega.nic.in

Notes: Figures in parenthesis indicate share within India

On the other hand, considering the performance indicators, we find that Tripura has consistently created higher average person-days per household than the national average for all years after the scheme was extended all over the country. For the last two years, 2011-12 and 2012-13, the state has been the best performer in the country. However, in terms of providing 100 days of work to participating households, the state was behind the national average in 2008-09 and has been ahead since then. But, in terms of women participation the state lags. The proportion of female workers in Tripura is lesser than the national average for all years.

**Table 2: Performance Indicators of MGNREGS in Tripura**

	2008-09	2009-10	2010-11	2011-12	2012-13
Average Person days (Nos./HH)	63.95 (47.95)	79.83 (53.99)	67.23 (46.79)	86.43 (43.0)	86.78 (39.0)
HHs with 100 days (%)	10.37 (14.33)	37.09 (13.40)	14.61 (9.97)	35.72 (7.80)	37.93 (10.37)
Women Person-days(%)	41.09 (48.10)	38.45 (47.73)	38.21 (50.59)	33.42 (49.03)	37.93 (41.84)
Work Completion Rate	91.92 (43.75)	98.41 (48.93)	97.98 (49.21)	87.75 (70.10)	96.09 (35.87)
Utilisation of Funds	94.48 (72.87)	75.82 (76.45)	99.04 (72.69)	93.78 (77.89)	96.46 (86.25)

Source: www.nrega.nic.in

Notes: Figures in parenthesis indicate the all India figures

From Table 2, we also find that the work completion rate in the state is way above the national average across time. The only year where completion rate was less than 90 per cent was in 2011-12. Tripura's performance in terms of utilisation of funds has also been credit worthy for being ahead of the national average for all years except 2009-10. The state government often claims that activities under the scheme often suffer roadblocks due to late flow of funds from the centre. Further, from Table 2, we can easily understand that the performance of the state in the implementation of MGNREGS has been much better than most of the other parts of the country. However, there have been wide variations in the performance of the constituent districts in the past in terms of average person-days generation per household and the proportion of households provided 100 days of work (Bhowmik, 2013) in 2009-10 and 2010-11. In this context, we may note that the existing state administrative setup (4 districts, 17 sub-divisions, and 40 RD Blocks) was reorganised in early 2012 and the new set up of 8 districts, 23 sub-divisions and 45 RD Blocks became functional since the financial year 2012-13. The 45 RD Blocks have further been subdivided into 58 RD Blocks in 2013-14. The intra-state variation of MGNREGS for 2012-13 is therefore undertaken considering 8 districts and 45 RD Blocks.

#### IV. Intra-State Level Efficiency

The intra-state efficiency in the implementation of the scheme are addressed on the basis of the three major desired objectives of the scheme- average person-days generated per household, the proportion of households completing 100 days of work and the work completion rate, with the idea that if these three achievements are made then the life and livelihood of the participating poor households would have a facelift.

**Table 3: District Level Performance in Average Person-days, HH with 100 days and Work Completion Rate in 2012-13**

Districts	Av. Person-days	HH 100 days	WCR
Dhalai	92.76	58.88	98.58
South Tripura	86.79	30.61	98.36
West Tripura	80.25	17.09	98.77
North Tripura	77.82	31.46	94.72
Gomati	96.31	66.72	91.88
Khowai	86.17	33.5	99.2
Sepahijala	82.16	25.85	89.18
Unakoti	97.26	73.11	91.17

Source: [www.nrega.nic.in](http://www.nrega.nic.in)

The table 3 shows that the average person-days generated in the state had been highest in the newly created Unakoti district with Gomati district following closely as second. On the other hand, the average person-days generated per household has been the least for the West Tripura district. Again, in terms of the proportion of households completing 100 days of work also we find it is the same Unakoti district, curved from the erstwhile North Tripura, emerges at the top with 73.11 per cent achievement. The West Tripura

district, alike for average work days lags in this aspect also. The lagging of West Tripura in terms of employment indicators is expected as it is the most urbanised and developed districts. Employment opportunities in other sectors are high and naturally demand for job is less. The third important criteria for performance, Work Completion rate, appears to be pretty high for Tripura as a whole and Khowai district formed from the erstwhile West Tripura district has been the top performer in 2012-13, with Sepahijala district being placed at the nadir.

**Table 4: Descriptive Statistics of Average Person-days, HH with 100 days and Work Completion Rate in 2012-13 at the Block Level in Tripura**

	Av. Person days/HH	HH with 100 days of work	Work Completion Rate
Mean	86.65	37.14	94.43
Standard Deviation	8.76	22.16	8.42
Minimum	67	2	53
Maximum	99	88	100
	25	81.99	23.50
	50	91.68	44.00
Percentiles	75	96.19	59.00

Source: [www.nrega.nic.in](http://www.nrega.nic.in)

We however observe that at the Block level, there are wide variations in terms of performance of the MGNREGS (Table 4). The deviations are highest in terms of providing 100 days work. The maximum achievement has been 88 in AmarpurBlock while the minimum was only 2 at Mohanpur Block in West Tripura district. In terms of average person-days per households, Killa Block in Gomati district leads, while Kadamtala in North Tripura is at the bottom. Two Blocks, Salema in Dhalai and Padmabil in Khowai stand at the top with 100percent completion of work, while Shilachari in Gomati has the least work completion rate.

Considering the data of the constituent Blocks, we find that the performance level of the districts of the state vary significantly for the employment indicators. The average person-days generated per household in the districts of Tripura vary significantly ( $F=3.47$ ,  $p=.006$ ;  $Df=7, 37$ ). Similarly, we find that the mean level of proportion of households provided with 100 days of work in the districts of Tripura are also statistically different at significant levels ( $F=5.05$ ,  $p=.000$ ;  $Df=7, 37$ ). Therefore, we may say that the variation in the average person-days remained significant even though the administrative setup underwent a change.

Further, it seen that the tribal majority Blocks had higher levels of achievement in both the employment indicators (Bhowmik, 2013). The administrative reorganisation indicate similar situation in 2012-13 also. The average performance of the TTAADC Blocks is better than the non-TTAADC Blocks. The average person-days generated per household in the TTAADC Blocks is 95.02, while that of non-TTAADC Blocks is 84.51, suggesting a statistically significant variation between the two regions ( $p=$

.000). Similar is the case for 100 days employment. The TTAADC Blocks with an average of 52.4 per cent coverage lead significantly ( $p=.007$ ) over the non-TTAADC Blocks having a coverage of 34.9 per cent. It should be also noted that the achievements of the districts in the context of work completion rate is pretty similar and no significant variations are observed among the districts as well as between the tribal majority and non-tribal majority areas.

**Table 5: Frequency Distribution and Descriptive Statistics of OTE, PTE & SE of RD Blocks in Tripura**

Efficiency Scores	OTE	PTE	SE
$E < 0.5$	0 (0.0)	0 (0.0)	0 (0.0)
$0.5 \leq E < 0.6$	16 (35.56)	9 (20.00)	0 (0.0)
$0.6 \leq E < 0.7$	23 (51.11)	11 (24.44)	7 (15.56)
$0.7 \leq E < 0.8$	4 (8.89)	10 (22.22)	7 (15.56)
$0.8 \leq E < 0.9$	0 (0.00)	1 (2.22)	9 (20.00)
$0.9 \leq E < 1.0$	0 (0.00)	2 (4.44)	18 (40.00)
$E = 1.0$	2 (4.44)	12 (26.67)	4 (8.89)
Descriptive Statistics			
No. of Blocks	45	45	45
Mean	0.6478	0.7647	0.8673
Median	0.6294	0.7151	0.8863
Standard Deviation	0.0963	0.1651	0.1235
Q1	0.5903	0.6292	0.7757
Q3	0.672	1	0.988
Minimum	0.5453	0.5542	0.6284
Maximum	1	1	1

Source: Computed by authors

The scores obtained as indicator of efficiency in implementation of the scheme are analysed in Table 5. As mentioned earlier, the efficiency scores are obtained considering the three indicators as output from the scheme, while the inputs are total fund available, number of job demand and the number of works taken up. From Table 5, we see that for the measure of overall technical efficiency (OTE) only two DMUs (RD Blocks), Shilachari in Gomati and Jampui Hill in North Tripura, are found to be having the score of 1, suggesting 100 per cent efficiency. The least efficient DMU in terms of OTE, Mohanpur in West Tripura has a score of 0.5453 and is one of the largest Blocks in the state and has the lowest coverage of provisioning 100 days work. Majority of the Blocks (51 per cent) has an OTE score in the range of 0.6 to 0.7 suggesting a technical efficiency level of 60 to 70 per cent when working with constant returns to scale. More than 35 per cent of the Blocks lie in the range of 0.5 to 0.6. However, relaxing the condition of constant returns, we find the efficiency level of most of the DMUs increase. Altogether 12 Blocks (26.7 per cent) functions with 100 per cent pure technical efficiency (PTE), measured under variable returns to scale. The number of DMUs working with less than 60 per cent PTE also decreases. Further on the basis of the Scale Efficiency, we see that only 4 DMUs obtain the 100 per cent score. Altogether 40 per cent of the Blocks have a score above 0.9 under SE; while there are no DMUs

with score less than 0.6 under SE and the minimum is 0.6284 from Salema in Dhalai district.

From Table 5, we can also infer that the average OTE in the RD Blocks of Tripura is 0.6478, while the average PTE is 0.7647 and the average SE is 0.8673. Apart from the two efficient DMUs under OTE, two more Blocks- Lefunga in West Tripura and Gournagar in North Tripura are found to be scale efficient. We should also note that the standard deviation for OTE is lower than the other two scores. Moreover, on the basis of the scores seen in Table 6, we can say that there are other factors apart from scale of operation which causes the inefficiency in implementation of the scheme.

In this context, we may take note of the fact that in terms of efficiency of implementation also, the TTAADC Blocks are performing better. Table 6 gives us the list of the Efficient Blocks in terms of implementation of the scheme. Both the efficient DMUs in terms of constant returns to scale are from the tribal majority areas. Moreover, in terms of PTE also we find 9 of the 12 Blocks belonging to the TTAADC region, while the same scenario is visible in the context of scale efficiency. Thus, we find that the tribal majority areas (RD Blocks) have not just scored heavily in terms of the employment, but also in terms of efficiency in implementation of the MGNREGS.

**Table 6: Efficient DMUs**

Nature of Efficiency	Number of DMUs	Number of TTAADC DMUs	Name of the DMUs
OTE	2	2	<i>Jampui Hill &amp; Shilachari</i>
PTE	12	9	<i>Damcherra, Jampui Hill, Pecharthal, Chawmanu, Padmabil, Karbook, Killa, Shilachari, Rupaichari, Kumarghat, Salema &amp; Amarpur</i>
SE	4	3	<i>Jampui Hill, Shilachari, Lefunga &amp; Gournagar</i>

Source: Computed by authors

Notes: TTAADC Blocks in Italics

Further, from Table 7, we can see that in terms of average OTE, Gomati district leads. Gomati district, with a score of 0.7121, also boasts of one of the most efficient RD Blocks/DMU, Shilachari as a constituent. The second highest average efficiency score, 0.7086, is in the North Tripura district, which is the home for the other most efficient RD Block- Jampui Hills. The lowest average efficiency, 0.6055, is in Sepahijala district. In terms of PTE, also Gomati district leads followed closely by the Unakoti district. Sepahijala, the least efficient district with constant returns to scale restriction, has the highest score for SE indicating that its inefficiency is more due to operational reasons and not due to scale of returns. Nevertheless, from the table 7, we find that the districts of Tripura there are variations in the implementation of the scheme and Unakoti district that lead in terms of the employment indicators fall back a bit on the efficiency scores.

**Table 7: District wise average efficiency in Tripura for 2012-13**

District	Number of RD Blocks (DMUs)	Average OTE	Average PTE	Average SE
Dhalai	6	0.6207	0.7807	0.8213
Gomati	7	<b>0.7121</b>	<b>0.8789</b>	0.8243
Khowai	6	0.6387	0.7790	0.8333
North Tripura	6	0.7086	0.7562	0.9460
Sepahijala	5	0.6055	0.6155	<b>0.9840</b>
South Tripura	6	0.6169	0.7636	0.8210
Unakoti	3	0.6296	0.854	0.8219
West Tripura	6	0.6232	0.6910	0.7760

Source: Calculated from secondary sources

#### V. Impact on the Households

As stated in Section I, the second objective of the present study is to understand how the MGNREGS affect the life and livelihood of the rural poor. The present section therefore attempts to find out what are the impacts of the scheme particularly in the income generation, financial inclusion and livelihood. Further, we also attempt to examine the awareness level of the participants about the scheme.

#### Sample Profile

The sample respondents were truly representative of the heterogeneous mix that Tripura exhibits. Most of the respondents belonged to the socially excluded class (26.5 per cent STs and 38 per cent SCs) and were from the BPL households (75.5 per cent). Hinduism was the prominent religion among the sample, while 18 per cent respondents from Kalachari (9 in number) followed Islam. However, among the tribal respondents of Dhan Chandra Para, we observed a large proportion of Christians in the sample.

**Table 8: Basic Profile of Sample MGNREGS Workers**

		Kalachari	DC Para	Khas Madhupur	Suryamani Nagar	Total
1	Sample Size (Nos.)	50	50	50	50	200
2	Community (Nos.)					
2a	ST	3	50	0	0	53
2b	SC	35	0	8	33	76
2c	OBC	3	0	42	8	62
2d	Others	9			9	9
3	Ration Card (Nos.)					
3a	APL	0	0	29	9	38
3b	BPL*	50	39	21	41	151
3c	Antyodaya	0	11	0	0	11
4	Religion (Nos.)					
4a	Hinduism	41	11	50	50	152

		Kalachari	DC Para	Khas Madhupur	Suryamani Nagar	Total
4b	Islam	9	0	0	0	9
	Christian	0	39	0	0	39
5	Age (Years)					
5a	Max	53	54	48	52	54
5b	Min	39	27	26	32	26
6	Family Size (Nos.)					
6a	Mean	4.6	4.78	4.38	4.18	4.49
6b	Max	7	7	6	6	6
6c	Min	4	3	3	2	2
7	Occupation (Nos.)					
7a	Cultivators	6	4	3	3	16
7b	Day Labourers	42	46	42	30	160
7c	Traders	2	0	5	12	19
7d	Private Service	0	0	0	5	5

Notes: \*- BPL Cards issued by the state government

Source: Field Survey, 2013-14

Further from Table 8, we find that the age of the respondents ranged between 26 to 54 years, with the youngest member coming from the KhasMadhupurpanchayat, while the oldest respondent hailed from Dhan Chandra Para. The average family size of the respondents were 4.49, with the highest again being Dhan Chandra Para. The smallest average family size was in Suryamaninagar, which also had the smallest family. It is also interesting to find that the largest family size was 7 and was common to both the GPs of the Dhalai district. From the table, we also find that the primary occupation of the majority of the respondents was as day labourers. These people worked for wage in both farm activities as well as in non-farm activities, as and when available.

### *Experiences in the scheme*

Table 9 suggests that the respondents (95.5 per cent) are well informed about the provision of unemployment allowance in the scheme but regarding the provision of compensation for moving more than a 5 km distance only 31.3 per cent of the sample, mostly from Suryamaninagar, are aware. Basically, the knowledge regarding this feature is hardly known to the respondents of the two GPs of Dhalai district. The awareness regarding the provision to receive payments within 15 days of completion of work is much better (56 per cent) known to the respondents, but the system of holding meetings in advance to fix/decide the work is not known to any respondents.

**Table 9: Awareness about the features of MGNREGS (in %)**

	Kalachari	DC Para	Khas Madhupur	Suryamani nagar	Total
Unemployment Allowance	100	82	100	100	95.5
Compensation	0	10	18	76	31.33
15 days time limit	78	52	30	60	56
Meetings in Advance	0	0	0	0	0

Source: Field Survey, 2013-14

The Ward Member of the Gram Panchayat/ Village Committee is the most important source of information regarding scheme activities and the opportunities of work. Neighbours, relatives and villagers are also important source of information for 42.5 per cent of the respondents and the most popular source in KhasMadhupur. However, for the respondents of Dhan Chandra Para, the officials of the GP (52 per cent) are the most common source as is seen in Table 10 below.

**Table 10: Source of Information about MGNREGS (%)**

	Kalachari	DC Para	Khas Madhupur	Suryamani Nagar	Total
Neighbours, relatives and Villagers	32	34	62	42	42.5
Ward members	68	14	38	58	44.5
GP Officials	0	52	0	0	13

Source: Field Survey, 2013-14

The respondents opined that though they are aware of the various features of the scheme, these are not practised. None of them have received any unemployment allowances because they apply for work, i.e., they fill up the demand for work form only when asked by the panchayat authorities, who do so only after the receipt of the fund.

Most of the respondents, 74.7 per cent have received their job-cards within 7 days of application and the performance of the two GPs of Dhalai is better than that of the GPs of West Tripura (Table 11). Similarly the time gap between the application and allotment of works is also better in the remote district as compared to the advanced district. Altogether 61 per cent of the respondents have been assigned with works within 7 days of application, while for the rest; the work was assigned within 14 days.

**Table 11: Experiences in the Scheme Enrolment and Allotment of Work (%)**

	TGBRAIJC		WPBAAOW	
	Less than 7days	Between 7 to 14 days	Less than 7days	Between 7 to 14 days
Kalachari	90	10	80	20
DC Para	92	8	60	40
KhasMadhupur	42	58	30	70
Suryamaninagar	32	68	74	26
<b>Total</b>	<b>74.67</b>	<b>25.33</b>	<b>61</b>	<b>39</b>

Notes: TGBRAIOJC- Time Gap between registration and issue of job card

WPBAAOW- Waiting period between application and allotment of works

Source: Field Survey, 2013-14

The Job cards are generally in possession of the respondents themselves; however, in Suryamaninagar we find that only 8 per cent of the respondents had the job-cards in their possession as it was mostly with the head of the household. In Kalachari and

KhasMadhupur we also found job-cards being with the ward member. Interestingly, we found the unanimous answer of Muster Roll not being read out from the respondents across all the GPs as shown in Table 12. However, willing workers can check their individual names in the Muster Roll. Altogether 56 per cent of the respondents from Kalachari opined to have checked it at least once, while none of the respondents in Dhan Chandra Para had ever verified their names in it. The situation is not impressive in the two villages of West Tripura also as only around 20 per cent of the households have checked the muster roll ever.

**Table 12: Access to Muster Roll (%)**

	Read Out	Verification
Kalachari	0	56
DC Para	0	0
KhasMadhupur	0	20
Suryamaninagar	0	24
<b>Total</b>	<b>0</b>	<b>38</b>

Source: Field Survey, 2013-14

### ***Impact on Income***

The sample respondents are mostly from labourer households and seek to avail any income opportunities that come their way. The annual income earned by the sample NREGS workers from four villages varied from a low of Rs. 30000 to a high of Rs. 96000. From Table 13, we find that maximum number of NREGS workers (60 per cent) at Kalachari earn between Rs. 48000 to Rs. 60000 per year, while at Dhan Chandra Para, the maximum concentration lies in the level of less than Rs. 36001 annually (70 per cent). Basically, in no other GPs do we find such an income level. The situation in KhasMadhupur is better with the major concentration being in the range of Rs. 72000 to Rs. 84000 per annum (52 per cent), but for Suryamaninagar the concentration is in the income range of Rs. 60000 to Rs. 72000 per annum (40 per cent). Altogether 9 respondents from KhasMadhupur report an income above Rs. 84000 per annum. No respondents from any other GPs falls into that category. In all, 29.5 per cent of the sample reports an annual household income between Rs. 60000 to Rs. 72000. Nonetheless, the average income of the workers across the four sample villages is Rs. 59130 per annum. The mean annual income for KhasMadhupur workers, Rs. 79488 is the highest, while the least mean occurs at Dhan Chandra Para, understandably. Moreover, the mean income of all the four GPs are significantly different ( $F = 451.18$ ,  $df = 3, 199$ ;  $p = 0.00$ ).

**Table 13: Income of the Sample respondents from Four Villages  
(in Rs. /annum)**

Rs/Annum	Kalachari	DC Para	Khas Madhupur	Suryamani nagar	Total
Less than 36001		35(70)			35(17.5)
36001-48000	16(32)	15(30)		1(2)	32(16)
48001-60000	30(60)				30(15)
60001-72000	4(8)		15(30)	40(80)	59(29.5)
72001-84000			26(52)	9(18)	35(17.5)
Above 84000			9(18)		9(4.5)
Mean 52992	36048	79488	67992	59130	
Max. 72000	45600	96000	84000	74400	
Min. 42000	30000	66000	45600	45900	

Source: Field Survey, 2013-14

Notes: Figures in parentheses indicate percentage

Getting employment through MGNREGS has certainly eased their livelihood efforts. Further, we may note from Table 14 that on an average the participating households earn more than Rs. 8500 per annum from the scheme. Intervention of MGNREGS has certainly had an impact on the rural workforce and their income levels, and these sample respondents are no exception. In terms of the average household income from the scheme as well as in terms of proportionate contribution to the annual household income it is Dhan Chandra Para leading over other three villages. The average household income from NREGS at Dhan Chandra Para is Rs. 10020 and average share of NREGS income in aggregate income of sample households is 28.0 per cent, which is much higher in comparison to the other sample GPs. On the flip side, with an annual average income of Rs. 8572.8 per annum, the relative importance of the scheme is less in KhasMadhupur, as it captures only about 11 per cent of the average annual household income. The contribution of the scheme is higher in Kalachari as compared to Suryamaninagar, which is pretty similar to that in KhasMadhupur. Another important observation in this regard is the significant difference in the average income from MGNREGS among the considered GPs ( $F= 438.368$ ,  $df.- 3, 199$ ;  $p =0.00$ ).

**Table 14: MGNREGS intervention to sample Households**

	Kalachari	DC Para	Khas Madhupur	Suryamani nagar
Average Household Income from MGNREGS (in Rs. per annum)	9374.40	10020.00	8572.80	8678.40
Average Share of MGNREGS Income in Aggregate Income of participating Households (%)	17.90	28.01	10.89	12.90

Source: Field Survey, 2013-14

The income earned through MGNREGS work has certainly boosted the economic status of the respondents, as is evident from the Table 15. The differential in the income level is highly significant in across the sample GPs. The mean income of the

sample households have increased the most in KhasMadhupur (by almost 80 per cent), where contribution of MGNREGS income is the least.

**Table 15: Results of Paired sample t-test for pre and post MGNREGS income of the respondents**

GPs	Mean Income		T-stat	Df	sig.
	(Pre -NREGS)	(Post -NREGS)			
Kalachari	3700	4416	-7.40	49	0.00
Dhan Chandra Para	2530	3004	-15.38	49	0.00
KhashMadhupur	3702	6624	-12.10	49	0.00
Suryamaninagar	4639	5666	-26.33	49	0.00

Source: Computed from Primary Data

### *Impact on the Quality of Life*

There are no doubts about the positive impact of the scheme on the participating households. Higher employment opportunities have been the most prominent outcome of the MGNREGS. All the households from Kalachari, KhasMadhupur and Dhan Chandra Para have vouched for their increased employment opportunities, while almost three-fourths of the households from Suryamaninagar have the same opinion. Improved health care facilities have been an impact of MGNREGS for 82.5 per cent households, of which the GPs from Dhalai are more vocal about it. Fall in School Dropouts are another positive outcome from MGNREGS, which have been supported by 68.5 per cent households. Reduction of Migration has been one of the objectives of the scheme and the participating households indicate of such an occurrence across the villages. Altogether 83 per cent of the total households believe that migration in search of work has declined and the belief is strongest in Kalachari and weakest in the tribal majority village of Dhan Chandra Para.

**Table 16: Impact of NREGS on the participating households (%)**

	Kalachari	DC Para	Khas Madhupur	Suryamani Nagar	Total
NREGS Responsible for reduction in School Dropouts	60	100	78	36	68.5
Contribution of NREGS to improved Health Care Facilities	88	100	74	68	82.5
Higher employment opportunities	100	100	100	74	93.5
Reduce Migration	100	64	84	84	83

Source: Field Survey, 2013-14

It is certainly very interesting to note that the respondents from this village were unanimous in identifying the positives of all the other three factors considered and it is only in case of migration that there is a fractured opinion among the respondents. The positive contribution of MGNREGS appear to be acknowledged in greater proportion by the distant respondents, while the respondents from the West Tripura

district having greater access to better facilities find the intensity of impact a bit less (Table 16).

Another positive impact of MGNREGS has been in the context of financial inclusion. All the respondents have their bank accounts where the payments from MGNREGS reach. However, we find that most of these accounts are no-frills account, opened with the specific purpose of receiving the wages from the scheme. From the Table 17, we find that 70 per cent of the respondents have had their savings accounts operational only since the last four years, while for another 26.5 per cent, the ages of the accounts are less than 7 years. Only 6 per cent and 8 per cent of the respondents have accounts for more than 7 years (basically 10 years) in Khas Madhupur and Suryamaninagar GP of West Tripura respectively. In other words, MGNREGS can claim the credit for financial inclusion of all the respondents from Dhalai district.

**Table 17: Time of opening of bank accounts**

	Age of Bank Accounts		
	0-4 years	4- 7 years	Above 7 years
Kalachari	58	42	0
DC Para	78	22	0
KhasMadhupur	64	30	6
Suryamaninagar	80	12	8
<b>Total</b>	<b>70</b>	<b>26.5</b>	<b>3.5</b>

Source: Field Survey, 2013-14

## VI. Summary and Conclusion

The analysis of the secondary data and the efficiency analysis allow inferring that even after the reorganisation of the administrative setup in the state, there are significant differences in the average person-days generated per household and in the proportion of households provided with 100 days of work in a year among the districts of Tripura in 2012-13. The tribal majority areas in the state i.e., the TTAADC Blocks have higher levels of achievement in both the employment indicators. It is also observed that in terms of the efficiency scores also the RD Blocks belonging to the Tripura Tribal Autonomous District Council leads. Only 2 DMUs (RD Blocks) attain 100 per cent OTE, while in terms of PTE 12 DMUs achieve the target. Moreover, most of the RD Blocks are scale inefficient as SE is obtained by only 4 DMUs.

The primary data collected from household survey indicates significant increases in the income level of the participating households as well as they opine about greater employment opportunities, reduction in school dropouts, improved health care facilities and reduced migration for work after the introduction of MGNREGS in their locality. Moreover, the Panchayat and village council functionaries play an active role in disseminating information about the scheme and its activities.

On the basis of the above sections, one may say that rural people in Tripura have benefitted from the MGNREGS particularly because of the better implementation of the scheme. The tribal majority areas which are remote and have limited economic opportunities seem to have benefitted more as compared to the plains where alternatives are available in greater number. The state government has been successful in implementing the scheme in a manner which is better than most of the other parts of the country. People in rural areas are having greater employment and income opportunities, which are reflected in their improved living. Financial inclusion has occurred for a large section of rural people in the state. The commercial banks have also come forward with their business correspondent models, which has improved their outreach. The quality of life of the rural people of Tripura has also improved as is recorded by the reduction in school dropouts, migration and better health care facilities. Last but not the least, the significant cash flow to the participating households through the scheme is possibly a big reason for the ruling Left Front to win the Legislative Assembly elections of 2013 with a thumping majority. Nevertheless, we conclude raising two questions about the overall rural economy of Tripura and the excessive dependence on the scheme by the state government- a) Is the scheme popular due to lack of other opportunities or b) Is the scheme a tool for consolidation of rural votes?

### References

- Bala Neetu (2007) *Economic Reforms and Growth of Small Scale Industries*, Deep & Deep Publications Pvt. Ltd, New Delhi
- Banker R D, A Charnes, W W Cooper (1984) Some Models for Estimating Technical and Scale Inefficiencies in Data Envelopment Analysis, *Management Science*, 30 (9), pp. 1078-92
- Bhowmik I (2013) 'MGNREGS in Tripura: A Study on Efficiency and Equity', *NLI Research Studies Series*, No. 102/2013
- Charnes A, W W Cooper, A Y Lewin, LM Seiford (eds) (1994) *Data Envelopment Analysis: Theory, Methodology and Applications*, Kluwer Academic Publishers, Boston
- Charnes A, W W Cooper, E Rhodes (1978) Measuring the Efficiency of Decision Making Units, *European Journal of Operations Research*, Vol.2, No.6, pp. 429-44
- Datta S K, Krishna Singh (Undated), '*Participatory Job Demand and Efficiency of Performance of NREGS in Rural Asset Creation: An Analysis in the Context of West Bengal*', [http://www.eap-journal.com/archive/forthcoming/forthcoming\\_Datta\\_and\\_Singh.pdf](http://www.eap-journal.com/archive/forthcoming/forthcoming_Datta_and_Singh.pdf), last accessed on 07/04/2013.
- Drèze J (2007) 'NREGA: Dismantling the Contractor Raj', *The Hindu*, 20 November, available at [www.hindu.com](http://www.hindu.com), last accessed on 12/08/2013
- Drèze J, C Oldiges (2007) '*How is NREGA Doing?*', available at [www.knowledge.nrega.net](http://www.knowledge.nrega.net), last accessed on 27/01/2012
- Drèze J, Reetika Khera (2009) 'The Battle for Employment Guarantee', *Frontline*, 26(01), January 03-16
- Farrell M J (1957) The Measurement of Productive Efficiency, *Journal of the Royal Statistical Society*, Series A, Vol. 120 (3), pp. 253-90

Jha R, R Gaiha ( 2012 ) 'NREGS: Interpreting the Official Statistics', *Economic and Political Weekly*, Vol. 47, No. 40, October 6, 2012, pp. 18-22

Ray S (2010) 'Implementation of NREGS in Tripura: An Evaluation', *The NEHU Journal*, Volume VIII, NO 1, January

Roy Chowdhury J (2010) 'Right to Information And national Rural Employment Guarantee Acts: An Attempt Towards More Accountable and Transparent Governance', *Global Media Journal-Indian Edition*, Winter Issue, last accessed on 07/04/2013

Shariff A (2009) 'Assessment of Outreach and Benefits of National Rural Employment Guarantee Scheme of India', in *The Journal of Labour Economics*, Vol. 52, No.2

Talukdar R B (2008) 'NREGA Shines for Tripura Women', *India Together*, June 30, available at [www.thehindu.com](http://www.thehindu.com), last accessed on 04/12/2013

The Shillong Times (2012) 'Tripura Tops in NREGA implementation', available at [www.theshillongtimes.com](http://www.theshillongtimes.com), last accessed on 23/08/2013

Usami Yoshifumi, V Rawal (2012) 'Some Aspects of the Implementation of India's Employment Guarantee,' *Review of Agrarian Studies*, Vol. 2, No. 2, July-Dec, 2012