



IMPACT OF MGNREGS ON RURAL DEVELOPMENT - A STUDY ON BOLANGIR DISTRICT OF ODISHA

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ABSTRACT

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) played a very vital role by providing wage employment for one hundred days in a year to each rural household whose adult member volunteer to do unskilled manual work. It acts as a fall back measures during these lean seasons by becoming an alternative source of income for these poor household, acting as a social safety net for them. This study analyses the impact of the program on the rural development. Rural development is the overall development of rural areas with respect to food security, economic security, habitat security, health security, nutritional security etc. So, respective index are being constructed to find the impact on rural development. Randomized selection of beneficiary and non-beneficiary communities has been done. A propensity-score matching (PSM) design was used with households eligible and Probit model of regression has been applied to find out the rural development index (RDI). It has been found that there is significant impact of the program on the rural development.

Keywords: Employment, MGNREGS, Safety net, Rural Development etc.

1. INTRODUCTION

In the history of wage employment program for the first time it gives legal rights for employment legal rights for payment of wages. In this context MGNREGS becomes the most important factor for brining change in the livelihood of people of Bolangir. MGNREGS has grossly effected the rural development in these areas by providing hundred days of wage employment every household whose adult members are willing to do unskilled manual work particularly in the underdeveloped areas like Bolangir which is always grappled with poverty, illiteracy, unemployment etc.

The purpose of this scheme NREGS is intended to “Supply for livelihood safety of the household in rural areas of the country, by giving at least one hundred days of assured wages employment in every financial year to each and every households whose adult members volunteer to do unskilled manual work”. This program ensures on demand 100 days of employment in a year to a household at the minimum wage. The present study examines mainly the impact of the program on the livelihood of the poor, secondly the impact of the program on the nutritional standard of the poor in rural area like Bolangir. The basic purpose of this program is basically to reduce poverty by providing employment to the rural youth during the lean period of income which they may suffer due to joblessness. Secondly, creation of sustainable assets in by utilizing the unskilled manual labor. Thirdly, it also acts as a social protection scheme for the rural poor.

Fourth, it gives legal to the rural poor for employment. The conditional cash transfer based on the condition that individual has to do unskilled manual work for guaranteed payment. It gives the right with the people whether they are willing to participate or not. It is prepared in such a manner it mostly discourages the non poor but encourage the poor (Imai, 2007). So, it is a universal self targeting program. MGNREGS differs from different programs as it provides legal rights to the participant for their wage entitlement. Rural development is a holistic concept which includes many things rural like infrastructure development, habitat security, economic security, nutritional security etc. Infrastructure may include physical infrastructure, educational infrastructure, commercial infrastructure, social infrastructure etc. The habitat security will include shelter, its typology and construction and the environment of living. Economic security indicates the amount of income, consumption pattern, dependency ratio, occupation, saving habit, skill level etc. Nutritional security will reflect the health condition, sanitation facility, calorie intake, type of drinking water etc.

1.1 Rationale of Programme

One of the major impediment in development of India is the low budgetary allocation towards the overall rural development and poverty mitigation which has been declined from 02.07% to 1.86% from 1993-94 (2002-03). It has also observed that there is a decline in the share of rural infrastructural growth in all social services and poverty alleviation program from 32.1% to 25.1% in this time period. (Das Keshab, 2001). There is also a decline in the investment in infrastructural growth in many developing countries (Fan et al. 2000).

So, poverty, low infrastructural growth, illiteracy low employments are infrastructural growth; illiteracy low employment is chronic problem in India. So, growth coupled by guaranteed wage employment is essential for the sustainable rural development. Mass employment programme like MGNREGA are considered as a modern instrument of general development policy which also has also tremendous potential to reduce poverty as part of mainstream economic policy (Timbergen, 1994). It works as a social safety net for the poor during the non agricultural seasons which enable them to survive & work as a fall back employment measure.

This program has been so designed that it not only provide guaranteed wage employment but also create durable asset base in the rural areas which subsequently generate more employment also simultaneously facilitate rural development. An inadequate employment opportunity leads to chronic poverty, malnutrition, ill health etc which drags them into the vicious circle of poverty MGNREGS provide them the opportunity to work though they are unskilled. This the first time any program provides the legal right of demanding employment. Particularly in Bolangir district which is one of the most poverty stricken districts in India there is huge relevance of the program. It is also important to analyse whether the program has been properly implemented or not, whether the program has achieved its objectives or not.

2. OBJECTIVE

- To find out the impact of program on rural development
- To study the impact of the program on the rural livelihood.
- To find out the impact of the program on the nutritional standard of rural poor.

3. REVIEW OF LITERATURE

There are several different ways NREGS can impact poverty and help in rural development and the most direct way is by providing extra work opportunities and income to the poorest in the

rural areas (P. Dutta, R. Murgai, 2012). There is increase in household income as there is an increase in the number of working members (M. Engler and S. Ravi, 2012). According to a study (K. Banerjee and P. Saha, 2010) MGNREGS helps the rural poor to withstand economic shock and deal with inflation. Yet another study suggests that there is significant impact of MGNREGS on the nutritional food consumption (Jha, Gaiha and Pandey, 2012). The impact of NREGS scheme on (i) rural labour market, (ii) income of the poor households and (iii) overall agricultural production. It is seen that the income from NREGS alone can be a substantial part of the target income of the poor. NREGS aims to redistribute the income to the poor which will reduce inequality and poverty (Grosh et al, 2008). In such a situation, the poor may exhibit a backward bending supply curve of labour which may lead to an aggregate reduction in agricultural output. This adverse production effect can take place even when the NREGS activities lead to a moderate improvement in agricultural productivity analysed by Mukherjee, D and U B Sinha (2011). Ramachandrudu, G and Appa Rao (2011) have studied the impact of the program impact on income, consumption, agriculture, assets, quality of life and migration etc. It found out that 31% have negative impact on agriculture, the availability of employment to a worker is 30% which contributes around 38% of household income. Banerjee, K and P Saha (2010) indicated that Chhattisgarh fared relatively better in terms of number of days of employment and higher wage amount compared to Jharkhand and Orissa. During post MGNREGS, the cost of cultivation was enhanced due to use of input like chemical fertilisers and high yielding varieties (both of which were not used earlier). The crop yield also increased in the range of 50-55 per cent in Chhattisgarh and 90-100 per cent in Jharkhand and reduced the vulnerability of the small and marginal farmers and the incidence of seasonal migration came down. MGNREGS provide an upward wage pressure on agricultural wages (E. Berg, S. Bhattacharya, R. Durg and M. Ramachandra, 2012). The average daily earning from NREGS found to be around 12% higher than the average daily earning of casual workers (C. Imbert and J. Papp, 2011). Therefore MGNREGS influence casual wages and which will affect the nonparticipants (Anil Sharma, 2009). This scheme also has the potential to provide alternative jobs which will affect the rural job market (Zimarman, 2013). Further, the household income increased in the range of 23 to 160 per cent during 2008-09 as compared to 2005-06 in Chhattisgarh. In Jharkhand, it was in the range of 60-70 per cent while it was in the range of 30-49 per cent in case of Orissa. MGNREGS employment trend suggests that it is the most needy and deprived who seeks employment under the scheme (J. Dreze and R. Khera, 2011). MGNREGS also increased the food security by increasing the availability of food from six months to nine months (IIFM, IRMA and ISSR, 2012). A study by N. Pani and C. Iyer (2011) suggests that the multiplier effect of MGNREGS in rural expenditure is quite significant. Another study of gender equity and women empowerment through MGNREGS suggests that women are participating in the scheme more actively than any other form of recorded work (Dutta, Murgai, Ravallion and Dominique, 2012). But, Harsha, A (2010) argued that MGNREGA cannot be a long-term solution to the unemployment problem of rural India. A comprehensive and a more sustainable solution that creates large-scale self-employment opportunities in the secondary and tertiary sectors in the rural areas that stimulates demand and increases rural productivity is still need to be found. But these programs seldom achieve their objective as they are for short term (Subbarao et al, 2013) and rarely implemented on large scale to have a big impact to reduce rural poverty (Lal et al, 2010). This implementation of the program and issues around this has been thoroughly analyzed through the dimensions of institution, governance and innovations (Reddy et al, 2010).

In PSM method in the overall sample, continuous variables and categorical variables were compared between treatment groups using the standard *t* test. Standardized differences were also

used to compare baseline characteristics between the two groups (Austin 2009, Flury&Reidwyl, 1986). A logistic regression model was used in which treatment status was regressed on the baseline characteristic (Rosenbaum & Rubin, 1984). Earlier studies on variable selection for the propensity score proposes that it is preferable to either include those variables that affect the outcome or include those variables that affect both treatment selection and the outcome (Austin, Grootendrost, & Anderson, 2007). The propensity score matching allows one to estimate the average treatment effect for the treated (ATT) which shows the impact of the program (Imbens, 2004). The participants were matched on the logit of the propensity score, using calipers of width equal to 0.5 of the standard deviation of the logit of the estimated propensity score (Rosenbaum & Rubin, 1985). This caliper width has been found to result in optimal estimation of risk differences in a variety of settings (Austin, 2010).

4. METHODOLOGY

In this study both qualitative and quantitative tools are used in the study. A sample space 720 respondents are being surveyed which includes 360 beneficiaries and 360 non beneficiaries from two blocks of Bolangir districts which covers 4 panchayats which include 4 villages of each blocks through stratified random sampling. The data are being collected through stratification of district, panchayat and village, beneficiaries and non-beneficiaries. The bases for selection of districts, block and panchayat are the amount of fund allocated and the percentage of work done. Accordingly we have selected eight panchayat out of which four are intensive (more percentage of work done) and four non intensive (less percentage of work done) panchayat. A counterfactual has been chosen through PSM who are non-beneficiaries for the study include poor who do not participate in the programme with equal characteristics with beneficiaries in terms of age, income and total asset holding etc.

Bolangir has been chosen as the sample space as people in these regions especially Balangir are hugely deprived from their basic necessities like food, cloth, shelter, medical facilities, education facilities, water, electricity etc. There is a significantly large disparity in regional development from coastal area to western parts of odisha. This paper discusses how rural development could achieve through the proper implementation of public policy like MGNREGS.

The study makes economic impact estimation of the program on the people. It also analyse the impact of the program on the livelihood of the people. Randomized selection of beneficiary communities has been done. A propensity-score matching (PSM) design was used with households eligible. Formal surveys combined with structured interviews through structured questionnaire. In order to estimate the nutritional standard consumption of the necessary commodities are considered which has been collected from both treatment and control group and to estimate the change in economic condition information on asset acquired of the treatment and control group are been analyzed. Probit model of regression has been applied to find out the rural development index (RDI).

Rural development index (RDI) has been constructed by taking specific indicators of rural development like food security, economic security, habitat security, health security, nutritional security and their respective sub indicators as food security can be gauged by calorie consumed, income security can be measured through total asset and annual income, habitat security through type of dwelling, construction material of house (roof and wall), electricity facility, road facility, health security can be assessed by source of drinking water, distance of primary health centre, sanitation facility and water purification facility and nutritional security can be measured by

height weight and body mass index. According to Katar Sing (1999) rural development is multi-disciplinary in nature which is an intersection of agriculture, social, behavioural, engineering and management sciences.

Econometric model are being established in the present study which analyse the factors determining the participation in the programme in Bolangirdistrict of Odisha where the socio economic condition is significantly adverse for rural development. For this purpose a binary probit model with maximum likelihood estimate has been carried out. The estimable regression equation is:

$$Y_i = 0 + 1x_{i1} + 2x_{i2} + 3x_{i3} + 4x_{i4} + 5x_{i5} + 1x_{i1} + 6x_{i6} + 7x_{i7} + 8x_{i8} + 9x_{i9} + 10x_{i10} + \mu_i$$

Where, Y is the binary variable which takes the value 1 if the individual “I is a participant otherwise “0”, μ is the error term and assumed to follow a normal distribution.

5. FINDINGS AND ANALYSIS

5.1 Socio-Economic Profile of Respondents

AGE WISE SEGRIGATION OF BENEFICIARIES IN BOLANGIR (VILLAGE LEVEL)									
BOLANGIR SADAR BLOCK					PUINTALA BLOCK				
	DHUM AMAR A	KHUJENP ALI	BAIDIP ALI	BIDIG HAT	KURUL	VALER	SAUNT PUR	LUK APA DA	TO TA L
0-20	02	00	01	00	01	00	00	00	04
21-40	23	13	22	11	27	24	21	18	159
41-60	16	28	20	30	16	18	20	26	174
60 above	04	04	02	04	01	03	04	01	23

Age wise segregation of Beneficiaries in Bolangir

It is found that in BolangirSadar Block mostly 41-60 age group people prefer to work as MGNRES beneficiaries as compared to rest age group followed by the age group 21-40 years. If we consider the panchayat wise segregation pattern Dhumamara has more beneficiaries in the 21-40 age group than 41-60 age group and very less in the 0-20 and 60 above age group. In Khujenpali 41-60 age group has maximum beneficiaries followed by 21-40 age group. The Baidipali panchayat the number of beneficiaries in the 21-40 and 41-60 age groups is almost equal and in the rest age group and which is very negligible. In case of Bidighat Panchayat Maximum percentage of beneficiaries are in the age group of 41-60 age mostly other are dependent upon them, which is followed by the age group 21-40 (11 nos.) and rest age group has negligible contribution.

Age wise Segregation of beneficiaries in Bolangir Puintala Block

The age wise segregation of puintala Block described that the sample panchayat consists of Kural, Valer, Sauntpur and Lukapada. Where in Kural, Valer and sauntpur we found a similar trend of high participation from the age group 21-40 and rest to that in the age group 41-60 but in case of lukapada the beneficiaries are mostly from the age group 41-60 and followed by 21-40

age group. The age group of 60 above and 0-20 are last but one and least in numbers respectively. It may not necessarily conclude that the age group of 21-40 is the most preferred age group.

AGE WISE SEGRIGATION OF NONBENEFICIARIES IN BOLANGIR (VILLAGE LEVEL)									
BOLANGIR SADAR BLOCK					PUINTALA BLOCK				
	DHUM AMAR A	KHUJENP ALI	BAIDI PALI	BIDIG HAT	KURUL	VALER	SAUN TPUR	LUK APA DA	TO TA L
0-20	00	01	01	00	01	00	00	01	04
21-40	33	21	20	16	25	25	26	20	186
41-60	09	21	23	25	17	19	16	23	153
60 ABOV E	03	02	01	04	02	01	03	01	17

Age wise Segregation of non-beneficiaries in Bolangir (BolangirSadar)

In BolangirSadar Block when we examined taken the respondents we found that in Dhumamara maximum respondents (33 out of 45) are from the age group of 21-40 and seconded by the age group 41-60 (09 nos.) and 60 above group (03 nos.). There are no respondents from 0-20 group. In case of Khujenpali we found that there are equal number of respondents (21 nos.) from both 21-40 and 41-60 age group and very negligible number of respondents (02 and 01 nos.) is from 60 above and 0-20 age group respectively. In BaidipaliPanchayat highest representation (23 nos.) are from the age group (41-60) and followed by 21-40 age group (20 nos.) The minimum number of representation is from the age group 0-20 and 60 above with 01 numbers of respondents. The case of Bidighat is somewhat different with highest numbers of respondent came from the age group 41-60 with 25 nos. And followed by the age group 21-40 with 16 nos. and followed by the age group 21-40 with 16 nos. The age group 60 and above has 04 number of respondents and there are no respondents from the age group 0-20. In overall age group wise analysis we found that the maximum number of respondents is in the age a group 21-40 (90 numbers), Second highest representation by the age group 41-60 (78 numbers). Age group 60 and above only 10 numbers of respondents and 0-20 age group has only 02 numbers of respondents.

Age wise segregation of non-beneficiaries in (Puintala Block)

The four Panchayat of Puintala Block Kural, Valer, Sauntpur and Lakapada have 180 respondents with 45 respondents chosen from each panchayat. Kural Panchayat has maximum representation 25 nos. From the age group 21-40, which is followed by 19 numbers of respondents from the age group 41-60, the age group 60 above and 0-20 has least numbers of representation i.e., 01 numbers and nil respondents respectively. In case of valer & Sauntpur Panchayat the same trend has been observed with maximum representation from the age group of 21-40 and followed by 41-60 and least respondents are from the age group of 60 above and 0-20 respectively. In the case of lukapada panchayat there are almost similar representation from the age group 21-40 (20 & 23 nos.) and same representation from the age group 0-20 and 60 above (01 nos.) In over all age group wise analysis we found that there is highest representation from the age group 21-40 (96 numbers) of respondents, followed by the age group 41-60 (75 nos.) of

respondents and 60 above (07 nos.) of respondent. The least numbers of respondents are from the age group 0-20 i.e., only 02 numbers.

SEX WISE SEGRIGATION OF BENEFICIARIES IN BOLANGIR (VILLAGE LEVEL)									
BOLANGIR SADAR BLOCK					PUINTALA BLOCK				
	DHUMA MARA	KHUJENPA LI	BAIDIP ALI	BIDIGH AT	KURUL	VALER	SAUNTP UR	LUK APA DA	TO TA L
MALE	36	35	33	38	28	31	35	36	272
FEMALE	09	10	12	07	17	14	10	09	88

Sex wise segregation of beneficiaries in Balangirsadar block

In all the panchayats of Bolangirsadar Block the number of male participants are significantly high than the female participants. In particular Bidighat Panchayat has highest numbers of male participants and lowest female participants Baidipali Panchayat have highest female and lowest male participants among all the panchayats in the block.

Sex wise segregation of beneficiaries puintala block

In puintala block also the majority participants are male and the number of female participants in the program is very low. The Lukapada Panchayat has highest male and lowest female participants where as Kurul Panchayat there are highest female and lowest male participants among all the Panchayats in the Block.

SEX WISE SEGRIGATION OF NONBENEFICIARIES IN BOLANGIR (VILLAGE LEVEL)									
BOLANGIR SADAR BLOCK					PUINTALA BLOCK				
	DHUM AMAR A	KHUJEN PALI	BAIDI PALI	BIDIG HAT	KURUL	VALER	SAUN TPUR	LUK APA DA	TO TA L
MALE	32	29	28	33	30	34	34	35	255
FEMALE	13	16	17	12	15	11	11	10	105

Sex wise segregation of non-beneficiaries in Bolangirsadar block

When we analyse the gender wise segregation of non-beneficiaries in BolangirSadar Block we found that among all the Panchayat in the Block Bidighat Panchayat has highest male respondents and Baidipali Panchayat has highest female respondents. While Bidighat Panchayat has lowest female respondents and Baidipali has lowest male respondents.

Sex wise segregation of non beneficiaries in puintala block:

If we consider the representation of response in Puintala Block Lukapada Panchayat has highest number of respondents from male among all the Panchayat While.

EDUCATION WISE SEGRIGATION OF BENEFICIARIES IN BOLANGIR (VILLAGE LEVEL)									
BOLANGIR SADAR BLOCK					PUINTALA BLOCK				
	DHUM AMAR A	KHUJENP ALI	BAIDIP ALI	BIDIGH AT	KURUL	VALER	SAUNT PUR	LUK APA DA	TO TA L
ILLITE RATE	22	26	25	27	22	20	25	26	193
BELO W SSC	18	15	14	13	19	20	19	15	133
SSC/H SC	07	05	06	03	05	07	04	07	44
COLLE GE NOT GRAD UATE	00	01	01	01	01	01	02	01	08
GRAD UATE OR ABOV E	00	01	00	00	00	00	00	00	01

Education wise segregation of beneficiaries in BolangirSadar Block

When we segregate the population according to their level of educational qualification we found that in Dhamamara Panchayat of Bolangir Block highest percentage of beneficiaries are illiterate and followed by beneficiaries who are below SSC standard, the third place of Percentage of Population from high school level and under graduate and graduate are very few among the population. The same trend continues with the Khujenpali, Bidipali and Bidighat Panchayat. If we compare among the Panchayats we found that Bidighat Panchayat has highest illiterate beneficiaries than others and Dhumamara has the lowest percentage. In case of below SSC standard Dhumamara has highest and Bidighat has lowest number of beneficiaries. In the case of undergraduate and graduate the percentage of beneficiaries are very negligible among all the panchayats.

Education wise segregation of beneficiaries in Puintala Block

A comparison across different panchayats shows that in Puintala Block and Kurul has lowest and Lukapada has highest numbers of illiterate beneficiaries. When we compare the below SSC Standard beneficiaries valerPanchayat has highest and Lukapada Panchayat has lowest numbers of beneficiaries. Thus, the HSC / SSC level beneficiary are very small in number but we found that valer and lukapada (07 nos.) has highest and Sauntpur (04 nos.) has lowest numbers of beneficiaries in this category. The percentage of Population across all the panchayats is negligible. If we take kurul panchayat individually we will found that the number of

beneficiaries increases gradually from lower – education level to higher educational level and the same trend persist across all the panchayats in puintala block.

EDUCATION WISE SEGRIGATION OF NONBENEFICIARIES IN BOLANGIR (VILLAGE LEVEL)									
BOLANGIR SADAR BLOCK					PUINTALA BLOCK				
	DHUM AMAR A	KHUJEN PALI	BAIDI PALI	BIDIG HAT	KURUL	VALER	SAUN TPUR	LUK APA DA	TO TA L
ILLIT ERAT E	21	23	28	29	24	21	23	24	193
BELO W SSC	16	13	10	14	15	17	12	12	109
SSC/H SC	05	06	05	03	04	03	04	05	35
COLL EGE NOT GRAD UATE	01	00	01	00	00	01	01	00	04
GRAD UATE OR ABOV E	00	00	00	00	00	00	00	00	00

Education wise segregation of non beneficiaries in BalangirSadar Block

The comparison of level of education across the Panchayat of BalangirSadar block shows that Bidighat and Dhumamara Panchayat has highest and lowest percentage of illiterate beneficiaries respectively Dhumamara and Baidipali Panchayat has highest and lowest Percentage of below SSC beneficiaries respectively. In case of SSC / HSC level the highest Percentage is from KhujenpaliPanchayat and lowest percentage is from Bidighat Panchayat rest of higher educational level contribution to number of beneficiaries are very negligible across all the Panchayats. If we consider Dhumamara Panchayat individually highest percentage of non-beneficiaries and from illiterate section, second highest from below SSC segment, next from SSC / HSC Category and the percentage of contribution from undergraduates graduate level is very negligible and this trend has been across all the Panchayat of BalangirSadar Block.

Education wise segregation of non-beneficiaries in Puintala Block

In cross sectional analysis of non-beneficiaries respondents of Puintala Block shows that Kurul and Lukapada Panchayat has highest percentage of illiterates and Valer Panchayat has lowest percentage of illiterates. In case of below SSC level Valer panchayat is highest among all and Sauntpur and Lukapada panchayat are lowest percentage of non-beneficiaries. The high School level respondent are highest in Lukapada panchayat and lowest in Valer. In the higher level of education only one respondents from sauntpur and valer in the undergraduate level. There is a

decline number of respondents as the educational qualification increases among all the panchayat.

INCOME WISE SEGRIGATION OF BENEFICIARIES IN BOLANGIR (VILLAGE LEVEL)									
BOLANGIR SADAR BLOCK					PUINTALA BLOCK				
(Rs.in 000)p.a	DHUM AMAR A	KHUJENP ALI	BAIDIP ALI	BIDIGH AT	KURUL	VALER	SAUNT PUR	LUK APA DA	TO TAL
15-20	11	03	03	06	18	10	18	05	74
21-25	31	37	40	37	25	34	26	36	266
25 ABOVE	03	05	02	02	02	01	01	04	20

INCOME WISE SEGRIGATION OF NONBENEFICIARIES IN BOLANGIR (VILLAGE LEVEL)									
BOLANGIR SADAR BLOCK					PUINTALA BLOCK				
(Rs.in 000)p.a	DHUM AMAR A	KHUJEN PALI	BAIDI PALI	BIDIG HAT	KURUL	VALER	SAUN TPUR	LU KA PA DA	TOTAL
15-20	17	03	12	09	04	12	19	04	80
21-25	27	40	31	33	38	31	24	36	260
25 ABOVE	01	02	02	03	03	02	02	05	20

Income wise segregation of beneficiaries in Bolangirsadar

The income of beneficiaries within the range Rs. 15000 to 20000 p.a. across different panchayats of BolangirSadar Block shows that Dhumamara Panchayat has highest (11 nos.) and Baidipali and Khujenpali Panchayat has lowest (03 nos.) numbers of beneficiaries. In the income bracket of Rs. 21,000 to 25,000 p.a. the highest number of (40 nos.) beneficiaries is from Khujenpali and lowest (31 nos.) from Baidipali Panchayat. This category has contributed highest overall number of beneficiaries in total. Above Rs. 25,000 p.a. has very less numbers of beneficiaries which is highest in Bidighat & lowest in Dhumamara Panchayat. If we consider panchayat wise number of beneficiaries in Dhumamara Panchayat highest number of beneficiaries in Rs. 21000 to 25000 p.a. income group (27 nos.) followed by number of beneficiaries in Rs. 15000 to 20000 p.a. income group and the lowest number of beneficiaries (01 nos.) in Rs. 25,000 above income group. The same trend follows across all the panchayats of BolangirSadar Block.

Income wise segregation of beneficiaries in puintala block

A cross sectional analysis of puintala block, Shows that in the income group of Rs. 15,000 to 20,000 p.a. Kurul & Sauntpur block ha highest numbers (18 nos.) of beneficiaries and lukapada has lowest number (05 nos.) of beneficiaries. In the income group Rs. 21000 to 25000 p.a. the highest and lowest number of beneficiaries are in Lukapada (36 nos.) and Kurul (25 nos.) respectively. Thus, the number of beneficiaries in Rs. 25000 p.a. above category is very low in all the Panchayats but highest among them is Lukapada (04 nos.) and lowest among them is in valer and sauntpur (01 nos.) Panchayat respectively. If we consider overall figure in all income category in the Rs. 21000 to 25000 category has highest numbers of non-beneficiaries and in the Rs. 25000 and above income group lowest number of beneficiaries. When we consider Panchayat wise category most numbers of beneficiaries are from Rs. 21000 to 25000 p.a. income category and lowest in Rs. 25000 above income group across all the panchayats in puintala block.

TOTAL ASSETS WISE SEGRIGATION OF BENEFICIARIES IN BOLANGIR (VILLAGE LEVEL)									
BOLANGIR SADAR BLOCK					PUINTALA BLOCK				
	DHUM AMAR A	KHUJENP ALI	BAIDIP ALI	BIDIG HAT	KURUL	VALER	SAUNT PUR	LUK APA DA	TO TA L
BELO W 50000	17	17	14	11	16	16	15	18	124
50000- 100000	25	24	28	32	23	27	25	26	210
100000 ABOV E	03	04	03	02	06	02	05	01	26

Total Asset wise segregation of beneficiaries in BolangirSadar and Puintala Block

An over view of the total asset wise segregation of beneficiaries in BolangirSadar shows that in all the panchayat there are more number of beneficiaries in the range of Rs.50000 to Rs.1,00,000 in the total asset possession and least number of beneficiaries in the above Rs.1,00,000 category. The similar trend has been observed in the Puintala block.

TOTAL ASSETS WISE SEGRIGATION OF NONBENEFICIARIES IN BOLANGIR (VILLAGE LEVEL)									
BOLANGIR SADAR BLOCK					PUNTALA BLOCK				
	DHUM AMAR A	KHUJENP ALI	BAIDI PALI	BIDIG HAT	KURUL	VALER	SAUN TPUR	LUK APADA	TOTAL
BELOW 50000	16	14	18	16	15	19	18	17	133
50000-100000	28	27	24	25	27	22	24	25	202
100000 ABOVE	01	04	03	04	03	04	03	03	25

Total Asset wise segregation of non-beneficiaries in Bolangirsadar and Puntala Block

A cross sectional analysis of the total asset wise segregation of non-beneficiaries in BolangirSadar shows that in all the panchayat there are more number of non-beneficiaries in the range of Rs.50000 to Rs.1,00,000 in the total asset possession which is followed by the below Rs. 50000 category and least number of non-beneficiaries in the above Rs.1,00,000 category. The similar trend has been observed in the Puntala block.

5.2. Impact Analysis

Descriptive Statistics of RDI

Treatment	N	Mean	S.D	S.E
RDI 1.0	360	.4877	.1088	.005735
0	360	.4844	.1160	.0061142

Balance Between Treatment and Comparison Group at the Baseline

Household Characteristics	Treatment Group	Control Group	Difference	t-stat
Age	42.581	40.567	2.0139	2.431
Dependency Ratio	.4776	.5314	-.05375	-2.149
Primary Occupation	1.019	1.008	.0111	1.273
D1	.5976	.6115	-.0138	.667
D2	.4038	.4041	-.000308	-.012
D3	.5807	.5486	.03210	2.892
D4	.3436	.3527	-.0090	-.761
D5	.5129	.5052	.0077	.404
RDI	.4877	.4844	.0033	.395

Descriptive Statistics and pearson correlation among Studied Variables

Household Characteristics	1	2	3	4
Age	1			
Sex	-0.398**	1		
Total Income	0.053	-0.028	1	
RDI	0.085*	-0.084*	0.475**	1

*and** indicate significance level at 5% and 1% respectively

Probit Regression

Number of Observations = 720

LRChi2 (5) = 13.16

Log Likelihood = -492.487

Prob> Chi2 = .0220

Psedo R2 = 0.043

Explanatory Variables	Coefficient	Robust Standard Error
Age	.008383	.0046 (1.81)
Sex	-.08858	.1157(-0.77)
DR	-.26403	.1412(-1.87)
Electricity	.5693	.4990(1.14)
PO	.35179	.4365(0.81)
Constant	-.46513	.5375(-0.87)

(Source: Author’s Calculation)

Note: Absolute Z values are in the Parenthesis.

Impact Estimation Using Kernel Estimator

Bandwidth	ATT	S.E
0.05	0.10*	0.008(0.577)

Treatment	Psedo R2	LRChi2	PChi2
Before Matching	0.043	13.16	0.022
After Matching	0.021	11.22	0.04

5.3. Models :

$$Y_i = .4877 + 42.581 (\text{Age}) + .4776 (\text{dr}) + 1.019 (\text{PO}) + .5976 (9_1) + .4038 (d_2) + .5807 (d_3) + 3436(d_4) + .5129 (d_5) \text{-----}(M1)$$

$$Y_j = .4844 + 40.56 (\text{Age}) + .5314 (\text{dr}) + 1.008 (\text{PO}) + .6115 (d_1) + .4041 (d_2) + .5486 (d_3) + .3527 (d_4) + .5052 (d_5) \text{-----}(M2)$$

If we analyse the estimated regression line (M1) & (M2) the unstandardized Coefficient (Age) are positive and significant both in the treatment and control group under the study but the coefficient for NREGA beneficiaries (treatment group) is quite higher (42.581) & significant to the non-beneficiaries (Control group) i.e, (40.56), which suggested that every unit of increase of age it is more likelihood that they will participate in the program. It is further observed that thus there is Positive and significant coefficient (dependency ratio) in both treatment and control group but the coefficient of NREGA beneficiary is lower to that of non-beneficiary suggesting that as the dependency ratio decreases there is more likelihood of participation in the program. Likewise the

coefficient (Primary Occupation) also significant and positive for both treatment and control group which suggest primary occupation is positively correlated to rural development but the coefficient for NREGA beneficiaries higher than the non-beneficiaries suggest that there is more likelihood of participation in the program if there will be more number of different primary occupation with the respondents. The coefficient d1 represent the habitat security which will include the landholding, life stock possession, type of dwelling, year of living and construction material of outside wall and the roof. Which is positive and significant that means a positive correlation between the habitat security and rural development but the coefficient for NREGA beneficiaries is lower than the no beneficiaries which shows that those whose habitat are not secured are more likely to join the program than others. Coefficient d2 represent the health security which include source of drinking water, Distance of primary health center and sanitation facility which is also positive and significant reflect that health security has positive correlation with the rural development but as the coefficient for non-beneficiaries is higher than beneficiaries it implies those are having low health security are more inclined to join the program than others. The coefficient d3 reflect nutritional security which is represented by the BMI of the respondents which is also positive and significant and positive correlation to rural development but the coefficient for NREGA beneficiaries (.5807) is higher than the coefficient of non-beneficiaries (.5486) which suggest that the higher the nutritional security the more likelihood of participation in the program. The coefficient “d4” represents food security which includes the calorie intake. The model (m1) & (m2) suggest that coefficient for d4 of NREGA beneficiaries (.3436) is lower than the coefficient for d4 of NREGA non-beneficiaries (.3527) which implied that the lower the calorie intake of the people the more likely-hood that they will participate in the program. The unstandardized co-efficient d5 reflect the economic condition of the beneficiaries and non-beneficiaries which will include their Total annual Income and total asset. The model (m1) and (m2) reflect that co-efficient d5 of NREGA beneficiaries (.5129) is higher than the coefficient d5 of NREGA non-beneficiaries (.5052) which suggest that the annual income of NREGA beneficiaries are higher than the non beneficiaries and total annual income and total asset has a positive correlation with rural development.

$$Y = - .46513 + .00838 (\text{Age}) - .0885 (\text{Sex}) - .26403 (\text{dr}) + .5693 (\text{Electricity}) + .35179 (\text{Primary Occupation}) \text{-----} (\text{M3})$$

Analysis : Model M3 represent that as the co-efficient of age suggest each unit increase in age there will be .00838 increase in rural development the negative sign of sex coefficient reflect that there is an inverse relationship of rural development with Sex. So, the more the number of female participation the more likelihood (.0885) of rural development. The negative coefficient of dependency ratio suggest that each unit increase in dependency ratio there will be .26403 decrease in rural development. The co-efficient of electricity (.5693) represent that each unit increase in electricity there will be .5693 increase in rural development. The co-efficient of primary occupation (.35179) reflect that each unit increase in primary occupation there will be .35179 increases in rural development.

RESULT

The result shows that there is 10% increase in rural development due to MGNREGA Participation at 5% level of Significance.

6. DISCUSSION

It has been derived from the regression equation that there is significant impact of the program on rural development that there is 10 percentage increase in rural development due to MGNREGS participation at 5% level of significance. The compare of average outcomes for enrolled household and their matched comparison of non-enrolled household to estimate the impact using matched method we found that impact of the program on the beneficiaries are higher than to the non-beneficiaries and also the beneficiaries of intensive blocks have more effected than the non-intensive blocks.

This study also shown that the likelihood that a household will participate in the program is smaller if the dependency ratio is high, habitat and health security is high which is in line with the practical condition. But it states that the likelihood that a participation of the household in the program is higher if the age of the respondent is high, he has a primary occupation as labour and nutritional, food and economic security is high which again in line with the real situation. This study analyses the effect of the program in the rural development and found that the effect is significant and positive.

7. CONCLUSION

This study investigates three important issues what is the impact of the program on the rural livelihood, impact of rural livelihood on the nutritional standard of rural poor first and the impact of program on overall rural development. The data are collected from both primary and secondary in nature. There are 720 respondents are being surveyed which includes 360 beneficiaries and 360 non beneficiaries from two blocks of Bolangir districts which covers 4 panchayats which include 4 villages of each panchayats through stratified random sampling. Through analysis of these primary data we examine these issues relating to rural development through this program. We arrive at the finding through econometric modelling and probit analysis made on the objectives. Through econometric modelling we deduced that the nutritional standard is found to be positive and significant and positive correlation to rural development but the coefficient for NREGA beneficiaries (.5807) is higher than the coefficient of non-beneficiaries (.5486) for the nutritional standard which suggest that the higher the nutritional security the more likelihood of participation in the program. The kernel estimator of propensity score matching shows that there is a 10 percent increase in rural development due to MGNREGS participation at 5% level of significance. The positive regression result shows that there is significant effect of implementation of the program towards meeting rural livelihood. It is also found that most of the MGNREGS beneficiaries are illiterate or semiliterate. Therefore they are willing to do unskilled manual work. This finding is in line with the practical prevailing conditions. It has been studied from the socio economic profile that the primary occupations for most of the beneficiaries are casual labour and followed by agriculture. It is also observed that most of the beneficiaries are from backward class (SC/ST) and also from economically backward class of the society whose average annual income vary around Rs.23000 to 26000. There are few limitations of the study first of all the sample space is very small i.e confined to Bolangir districts only therefore it is very difficult to generalise the result secondly the data given by the respondents regarding their monthly expenditure and food consumption are on recall basis which may be inaccurate at times.

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