

## MGNREGA's Effect on Household Level Consumption Expenditure: An Analysis

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**Abstract:** Using a difference-in-difference approach, this study aims to measure the effect of the Mahatma Gandhi National Rural Employment Guarantee Act program on the amount and pattern of rural families' consumption expenditures at the national level. The results show that participant households' monthly per capita consumption spending has increased, and their consumption patterns have changed, with a greater proportion of high-value and nutrient-rich foods in their consumption basket. Additionally, by making investments in assets like durable items, the participating households have smoothed their consumption.

**Keywords:** Consumption, Expenditure, MGNREGA, Employment, Livelihood

**JEL Classification Code:** E21, D12, J21, I32, H53

### Introduction:

For many years, the Government of India has made enhancing the skills, resources, and activities that rural people need to improve their lives and sustenance a top priority. The nation's continued high rates of poverty are a major contributing factor to this. This was highlighted even in the most current expert panel on measuring poverty, led by C Rangarajan, which calculated that 363 million people were impoverished in 2011–12 (GOI 2014). Over the last few decades, numerous programs aimed at reducing poverty have been introduced by successive governments due to the high rates of poverty. Among these initiatives are the Pradhan Mantri Rojgar Yojana (PMRY), the Employment Assurance Scheme (EAS), the Integrated Rural Development Programme (IRDP), the Pradhan Mantri Gramodaya Yojana (PMGY) and the Swarnajayanti Gram Swarajgar Yojana (SGSY).

Following the passage of the National Rural Employment Guarantee Act, 2005—later renamed the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in 2009 the most current initiative to reduce poverty was initiated. The largest, most ambitious projects and social security program is MGNREGA. The legislation was first put into effect in February 2006 in the 200 most underdeveloped districts of the nation, and it was then expanded to all districts in two stages. The program's primary goal is to improve the livelihood stability of rural poor people by giving

every household whose adult members volunteer to perform unskilled manual labor at least 100 days of guaranteed paid employment each year. The legislation aims to improve the rural poor's livelihood resource base and generate lasting assets in addition to employment.

Although the MGNREGA program's primary goal is to address the two issues of rural poverty and unemployment, it also addresses a number of aspects of the lives of the rural poor. This is because, in addition to generating income and increasing the purchasing power of participating households, the program also focuses on creating assets in villages and eliminating discrimination based on gender and caste. With the launch of the MGNREGA program, rural households will have the opportunity to look for work and expand rural prosperity, mostly through higher demand for consumption. The impoverished would also be encouraged to modify their consumption throughout lean and non-lean times due to the expected permanent gain in income.

### Problem of the study:

We will quickly go over some of the most recent of the many studies that have been done on the effects of the MGNREGA program. Azam (2012) demonstrated how the approach improved farm earnings. Additionally, the program has significantly improved calorie intake, asset accumulation, and consumer expenditure (Liu and Deininger 2010; Ravi and Engler 2015). According

to Afridi et al. (2016), children's educational results have improved as a result of women's engagement in the MGNREGA program. According to further research, the MGNREGA program's effects on social protection, livelihood security, and democratic governance have made it a potent tool for inclusive growth in rural India (GOI 2012).

In their study, Sharma et al. (2016) asserted that the MGNREGA program had an impact not just on employment in rural regions but also on employment in other sectors, family income distribution, commodity output, and government revenue flows. The program had a major effect on yearly income, the amount of consumer spending, the ownership of livestock, and the acquisition of family assets, according to another study that examined 20 districts nationwide (IAMR 2008).

There are a few research on how the MGNREGA program affects overall consumption, but there aren't many on how it affects consumption patterns (Kumar and Joshi 2013; Reddy et al., 2016). However these studies have either used a primary survey of a comparatively very small region, which cannot be representative data for the nation as a whole or used the National Sample Survey Office (NSSO) survey rounds to allow a comparative study.

Therefore, using panel data from the India Human Development Survey (IHDS), which includes variables related to household participation in the MGNREGA program, consumption expenditure, and other covariates necessary for the study, the current study attempts to quantify the effect of the MGNREGA program on the consumption level and its. Before proceeding to the objectives of the study it would be worthwhile to briefly define some consumption concepts used in the study. For instance, the level of consumption expenditure is different from that of pattern of consumption expenditure. While the level of consumption expenditure refers to the amount and share of spending towards consumption, the pattern of

consumption refers to spending on various types of consumption. Similarly, type of consumption mainly refers to two components, namely food consumption, that is, consumption of cereals, pulses, fruits, vegetables, egg, meat, milk and so on and non food consumption which includes of both goods and services.

### **Objectives of the study:**

- 1) To access how the MGNREGA program affects family consumption spending levels.
- 2) To determine if household consumption expenditure patterns have altered as a result of MGNREGA program participation.

This study is based on a two year panel data for 2004-05 and 2023-24 of the IHDS which is a collaborative effort of researchers. Around 83% of the people who were surveyed in the first round of IHDS in 2004-05 have been reinterviewed in the second- round survey in 2023-24 making it a good panel data. The total number of sample households reinterviewed in the second round was 42,152 which was 83% of the households interviewed in the first round.

These two surveys are particularly pertinent to our study because, at the time of the first round of IHDS in 2004–05, there was no MGNREGA program. However, by the time of the second round survey in 2023–2024, the MGNREGA program had been implemented in nearly every district, making the data set ideal for examining how the MGNREGA program affected the households' consumption patterns. The IHDS is a multi-topic, nationally representative panel survey of families in 971 urban neighborhoods and 1503 villages throughout India. The variables of importance to this study, such as consumer expenditure and other demographic and socioeconomic characteristics, are included in the survey because it is a multi-topic survey. Table 1 provides a breakdown of the sample observations from the IHDS data set utilized in this investigation.

**Table 1:** Sample study IHDS data set included household observations categorized by survey round, participation status, and poverty status.

IHDS Survey Rounds	Round I (2004-06)			Round II (2023-24)			Round I + Round II		
	Poor	Non Poor	Total	Poor	Non Poor	Total	Total Poor	Total Non Poor	Grand Total
<b>MGNREGA Participant</b>	2560	6208	8733	2883	8194	11078	5443	14402	19851
<b>MGNREGA Non Participant</b>	1808	10240	12058	2353	13203	15567	4161	23443	27625
<b>Total</b>	4368	16448	20831	5236	21397	26645	9604	37845	47476

For the purposes of this study, only observations related to rural families that were reinterviewed during the IHDS second round were taken into account.

The share of poor and non-poor household observations do not add up to the total as there are a few missing values.

**Source:** Tabulated from IHDS unit-level data.

The IHDS data set and the NSSO data are comparable. However, we believed that the IHDS data set was more suited for our investigation since, in contrast to NSSO data, it includes panel data characteristics. A panel data provides a better understanding of the changes and is more appropriate for studies investigating the impact of government policies/ programmes on households as they provide a better explanation why policies/ programmes allow some individuals/households to improve incomes and gain upward mobility and leave behind others who make no such gains. In contrast, the NSSO data is less likely to interview the same set of households in two different survey rounds thus making it difficult to make any comparative study of the impact of a policy/ programme on the households. As the IHDS is a household level study our sample includes only those households which have been reinterviewed in the 2023-24

## Methodology

Most public welfare programme need to be evaluated for their performance and impact to ensure that government funds reach the intended beneficiaries and that they also generate a positive impact on the targeted groups. The difference-in-differences (DID) method is one of the most effective tools used for applied research in economics to evaluate the impact of any programme (Gertler et al 2016). Following the seminal work of Ashenfelter and Card (1985), the

DID approach became widely used. In this study, the influence of the MGNREGA program on the amount and pattern of consumer spending is evaluated using the DID methodology. The study also looks at how the MGNREGA program affects individuals who are disadvantaged and those who are not. The results are seen for two groups during two time periods in the DID method. In his class notes, Albuoy (no date) provides a thorough explanation of how DID parameters are derived. Assume that we wish to investigate how the MGNREGA program affects an outcome  $Y$  over a population of people. Assume that two groups are distinguished by their treatment status (participation in the MGNREGA program).  $T = 0, 1$ , where 0 represents the members of the treatment group who do not get therapy.

Furthermore, let's say that we watch people at two different intervals of time,  $t=0,1$ , where 0 denotes (pre-treatment) the time interval before the treatment group receives therapy and 1 denotes (post-treatment) the time interval after the treatment group receives treatment. Each person typically receives pre-treatment and post-treatment observations. The description may be expressed using the following mathematical symbols: The following equation represents outcome  $Y_{it}$ ...

where  $\alpha$ ,  $\beta$ ,  $\gamma$ , and  $\delta$  are the coefficients and all unknown parameters, and  $\epsilon_{it}$  is a random and unobserved "error" factor that includes all of the determinants of  $Y_{it}$  that our model omits.

In the model given by outcome equation above, “Y” is the outcome variable, “T” is treatment dummy variable, and “t” is dummy variable to account for the time period. By analysing the equation, we understand that, the respective coefficients have the following interpretations;

$\alpha$  = constant term

$\beta$  = effect unique to a treatment group (to account for average long-term disparities between treatment and control)

$\gamma$  = temporal trend shared by the treatment and control groups

$\delta$  = treatment's unique impact

The intention of the evaluation of the programme is to find a “good” estimate of  $\delta$ , given the data. The outcome equation is used to find the expected values of the average outcomes as shown below;

$$E[Y_0^T] = \alpha + \beta$$

$$E[Y_1^T] = \alpha + \beta + \gamma + \delta$$

$$E[Y_0^C] = \alpha$$

$$E[Y_1^C] = \gamma$$

A "difference in differences" that we would obtain from the estimate of the regression equation of the form provided by the "Outcome Eqn.," the DID, or "double difference" estimator, is defined as the difference between average outcome in the treatment group before and after treatment minus the difference between average outcome in the control group before and after treatment.

that is,

$$Y_{it} = \alpha + \beta t_1 + \gamma t_i + \delta (T_i \times t_i) + \epsilon_{it}$$

(Difference of two Differences)

Taking Expectations

$$= E[Y_1^T] - E[Y_0^T] - E[Y_1^C] - E[Y_0^C]$$

$$= \alpha + \beta + \gamma + \delta - (\alpha + \beta) - (\alpha + \beta - \gamma)$$

$$= (\gamma + \delta) - \gamma$$

$$= \delta$$

The permanent difference  $\beta$  is estimated using the difference estimator for the pre-period and subtracted from the post-period estimator to obtain  $\delta$ . This is one way to think of this estimator as the difference between pre and post estimators.

## Estimation, Results and Findings

The empirical estimation of the impact of MGNREGA programme participation on the pattern of consumption expenditure of households

can be examined under five different models, with each model having different consumption items as outcome variable, that is, (i) share of staple food, (ii) share of fruits and vegetables, (iii) share of meat and egg, (iv) share of milk, and (v) share of durable goods and with each model having different consumption items as dependent variable. However, the independent variables in all the models remain the same. This is to examine if the outcome variable has changed favourably for the participants of the programme. If so, then we can conclude that the programme has a positive impact on the participant households.

One can very well say that the change in consumption expenditure and its pattern can be assessed by just looking at the difference in consumption expenditure between the two survey rounds in 2004-05 and 2023-24. However, even if changes are observed it may be due to various other factors. We may not be able to say exactly whether the participation in the programme had an impact on the consumption expenditure pattern or not, and is so by how much has the programme participation influenced the change. The change in consumption expenditure exclusively due to programme participation can be studied only through techniques, such as DID.

The econometric model representing the DID technique (following Khandker et al 2010) to empirically estimate the impact of MGNREGA programme on consumption expenditure is expressed as:

$$Y_{it} = \alpha + \beta (\text{Participation}_i) + \gamma (\text{Time}_i) + \delta (\text{Participation}_i * \text{Time}) + \theta (X_{it}) + \epsilon_{it}$$

where,

$Y_{it}$  = (Outcome Variable) The distribution of staple foods, fruits and vegetables, meat and eggs, milk, and durable products.

Participation = ‘0’ for those who are not participating in MGNREGA programme and ‘1’ for those who are participating in the MGNREGA programme.

Time = ‘0’ for 2004-05 (Pre-treatment) and ‘1’ for 2023-24 (Post-treatment)

Participation = Interaction between “time”

Time and “programme participation”

$X_{it}$  = It is a vector of individual household characteristics such as age, caste, education, monthly per capita expenditure and household size.

i) The "per capita share of staple food" (the outcome variable) is often increasing upward over time if the Time dummy coefficient is positive, and vice versa.

ii) Regardless of program involvement, a positive coefficient for participation means that participants have a larger percentage of per capita staple food than non-participants, and vice versa.

iii) A positive coefficient for interaction participation\* Time indicates that household's programme participation by itself has led to an increased per capita share of staple food expenditure and vice versa.

iv) The coefficient of the interaction term is the main parameter that needs to be interpreted in the DID technique to assert that the change in the outcome variable is just because of the "treatment", that is, in this study on MGNREGA programme participation. The coefficient of interaction term is called the "treatment effect".

Table 2 presents the descriptive statistics for the various outcome variables that are used in the DID analysis. We can observe from Table 2 that on an average the values of the variables have increased over the two periods, that is, 2004-05 and 2023-24 except for per capita share of staple food and per capita share of durable goods. A look at the minimum and maximum values gives us the impression that there is a huge variation in the consumption expenditure among the households.

**Table 2: Descriptive Statistics of the Outcome Variables used in the Analysis during the Two IHDS Survey Rounds in 2004-05 and 2023-24**

Year	Mean	Standard Deviation	Minimum	Maximum
Monthly per capita consumption expenditure (MPCE) (₹)				
2004-05	763.567	795.7314	4	39,273
2023-24	1899.674	2113.614	36	83,934.09
Share of staple food in MPCE (include pulses, cereals and other cereal products)				
2004-05	0.061	0.061	0	3
2023-24	0.051	0.036	0	0.551
Share of vegetables/fruits in MPCE (include vegetables, fruits and nuts)				
2004-05	0.098	0.060	0	3
2023-24	0.099	0.047	0	0.609
Share of meat, egg and edible oil in MPCE				
2004-05	0.085	0.058	0	0.743
2023-24	0.085	0.058	0	0.751
Share of milk in MPCE				
2004-05	0.057	0.066	0	1
2023-24	0.070	0.075	0	0.646
Share of durable goods in MPCE (includes clothing and bedding, footwear, crockery and utensils, good and jewellery)				
2004-05	0.067	0.056	0	1.583
2023-24	0.062	0.065	0	0.917

Share of "outcome variable" in MPCE (example "share of staple food in MPCE") is calculated by taking the per capita expenditure on staple food and dividing it by monthly per capita consumption expenditure.

**Source:** Tabulated from IHDS unit level data.

The differences in the same set of outcome variables between the participant and non-participant households before the MGNREGA programme was implemented in 2004-05 as shown in Table 3. It can be observed that the monthly per capita consumption expenditure (MPCE) for non-participant households is statistically significantly higher than for the participant households.

Similarly, the share of "vegetables, fruits and sugar," "meat, egg and oil," "milk" and "durable goods" is lower for participant households than for the non-participant households, and results of the independent sample t-test indicate that the observed differences in outcome variables between participants and non-participants are statistically significant at 1% level. These observations indicate

that comparatively poorer households have chosen themselves to participate in the MGNREGA programme. Examining whether the household's

involvement in the program has raised consumption levels and altered consumption patterns over time is worthwhile.

**Table 3: Differences in various Outcome variables between the participant and Non Participant Households before MGNREGA Programme implementation, 2004-05**

Name of the Outcome Variable	Participant (Treatment Group)	Non Participant (Control Group)	Difference Treatment and Control Group (T-C)	B/W
MPCE	607.856 (533.483)	876.875 (925.936)	-269.019***	
Per capita share of staple food	0.064 (0.055)	0.059 (0.066)	0.005***	
Per capita share of vegetables, fruits and sugar	0.096 (0.050)	0.099 (0.067)	-0.003***	
Per capita share of meat, egg and oil	0.089 (0.058)	0.083 (0.074)	0.006***	
Per capita share of milk	0.047 (0.060)	0.064 (0.069)	-0.017***	
Per capita share of durable goods	0.061 (0.048)	0.066 (0.056)	-0.005***	

- i) Figures in the parenthesis are standard deviation
- ii)\*\*\* represents statistical significance of the differences at 1% level; examined using an independent sample t- test.

Source: Tabulated from IHDS unit-level data.

Table 4 shows the DID estimates for the impact of MGNREGA programme participation on MPCE. A negative coefficient (-.1442) for the programme participation dummy means that, irrespective of their participation in the programme, the treatment

group on an average has a lesser per capita consumption expenditure compared to their non participating counterparts. The case is similar for the participant households classified into poor and non-poor households (-.0821 and -.1545). The time dummy shows a positive coefficient for all households (.8544) as well as for "poor" and "non-poor" households (.9055 and .8443), indicating that per capita consumption expenditures are rising for all households over time, regardless of whether they are poor or not.

**Table 4: DID Assessment of the MGNREGA Program's Effect Monthly Per Capita Consumption Expenditure Participation**

Ln (MPCE) (Dependent Variable)	All Households	Poor Households	Non-Poor Households
Variable	Coefficients		
Participation (dummy)	-.1442*** (.0064)	-.0821*** (.0088)	-.1545*** (.0079)
Time (dummy)	.8544*** (.0062)	.9055*** (.0085)	.8433*** (.0071)
Interaction (Participation* Time)	.0143* (.0087)	.0153*** (.0117)	.0095*** (.0106)
R squared	0.6413	0.7295	0.4725
Total observations	47,328	9,585	37,743

Figures in parenthesis are standard error of the estimates.

Source: Tabulated from IHDS unit level data.

The main variable of interest is the interaction term (MGNREGA\* Time) which gives the DID estimate. The coefficient of interaction term for all households is (.0143) suggesting that there is a positive impact of participation in the programme

on MPCE and the impact is statistically significant at 10% level. Classified by the poverty level of the households, for both the poor and non-poor participating households the coefficient of the interaction term is positive and statistically

significant at 1% level indicating that there is a positive impact of participation in the programme. However, compared to non-poor families (.0095), the impact appears to be larger for poor households (.0153). Therefore, we can infer with confidence from the study that the monthly per capita consumption expenditure of participating families is positively impacted by program participation, and that the impact is greater for poor households than for non-poor households.

The DID estimates for examining the impact of MGNREGA programme participation on various consumption items is shown in Table 5. From the results in Table 5 we can observe that for the models with outcome variables, such as “share of staple food” and “share of milk”, the coefficient for the interaction term is negative. The interaction term’s coefficient for the “share of staple food” is statistically significant at 5% level but the negative sign is indicating that the “share of staple food” has decreased by 0.003 percentage points particularly due to the participation in the MGNREGA programme. For the models with outcome

variables, such as “ share of vegetables/ fruits and sugar,” “share of egg, meat and oil” and “share of durable goods” the interaction term has a positive and statistically significant coefficients suggesting that the share of the above three consumption items has increased by 0.005, 0.002 and 0.006 percentage points respectively due to participation in the MGNREGA programme. The implication of the results in Table 5 is that the participation in the MGNREGA programme leads to a change in the pattern of consumption of the participating households. The DID results show that, on average, the share of more expensive and nutrient-dense consumption items (like fruits, vegetables, oil, meat, and eggs) has increased following the implementation of the MGNREGA program, while the share of less expensive and staple foods (like cereals and pulses) has decreased. A rise in household savings and smoothing of consumption as a result of MGNREGA membership can also be attributed to the increase in the percentage of durable items in the MPCE.

**Table 5: DID Estimate for Effect of MGNREGA Programme Participation on Share of various Consumption items in Monthly per Capita Consumption Expenditure (All Participating Households)**

<b>Share of various Consumption Items in MPCE All Participating Households</b>		
Estimates of DID Models	Coefficient	Standard Error
DID Model I – Share of staple food in MPCE MGNREGA participation (Dummy)	0.0024*	(0.0008)
Time (Dummy)	-0.0042***	(0.0008)
Interaction (Participation* Time)	-0.0031**	(0.0009)
R squared	0.0540	
Total observations	45738	
DID Model II- Share of vegetables/ fruits and sugar in MPCE		
MGNREGA participation (Dummy)	-0.0065***	(0.0008)
Time (Dummy)	0.0082***	(0.0011)
Interaction (Participation * Time)	0.0053***	(0.0012)
R squared	0.0800	
Total observations	47255	
DID Model III- Share of meat, egg and edible oil in MPCE		
MGNREGA participation (Dummy)	0.001	(0.0010)
Time (Dummy)	0.0061***	(0.0013)
Interaction (Participation*Time)	0.0024*	(0.0011)
R squared	0.0733	

Total observations	47.317	
DID Model IV- Share of milk in MPCE MGNREGA participation	-0.0144***	(0.0009)
Time	0.0162***	(0.0008)
Interaction (Participation* Time)	-0.0011	(0.0012)
R squared	0.0411	
Total observations	47,286	
DID Model V- Share of durable goods in MPCE MGNREGA participation	-0.0035***	(0.0007)
Time	-0.0114***	(0.0012)
Interaction (Participation* Time)	0.0061***	(0.0003)
R squared	0.0300	
Total observations	47,329	

- I) Figures in parenthesis are standard errors.
- II) \*Significant at 10% level; \*\* Significant at 5% level; \*\*\* Significant at 1% level.
- III) Each model in Table 4 also includes household level socio-economic and demographic characteristics as control variables, such as (I) age of the head of the household, (II) household size, (III) monthly per capita expenditure, (IV) Dummy for education, and (V) dummy for caste. However the coefficients are not shown in the results as they are not of particular interest for this study.
- IV) The coefficient of the interaction term in each model shows the exclusive impact of MGNREGA programme participation on the particular outcome variable.
- V) Difference in number of observation in each model is due to missing values.

**Source:** Tabulated from IHDS unit- level data.

Despite the fact that the MGNREGA program is designed to promote the involvement of low-income households, a sizable portion of non-poor households participate. Under such a situation it

will not be reasonable to go without examining whether the effect of the programme participation on various outcomes is same for both poor and non-poor participating households. An attempt is made in this paper to Examine the differences in impact on various outcome variables between poor and non- poor participating households and the results are presented in Table 6. By analyzing the effect of MGNREGA program participation on the percentage of several consumption items of interest in MPCE, categorized by the families poverty status, it displays the DID estimations.

By observing the coefficients of the interaction term for various outcome variables of interest, such as share of (i) staple food, (ii) vegetables/ fruits and sugar (iii) egg, meat and edible oil, (iv) milk and (v) durable goods, we can understand that the direction of impact of the programme participation is more or less same for both poor and poor households. However, the magnitude of the impact differs mainly in case of “share of egg, meat and edible oil”. The data show that poor families' "share of egg, meat, and edible oil" in MPCE increased by 0.006 percentage points as a result of program participation; however, the rise for non-poor households was insignificant and not statistically significant.

**Table 6: DID Estimate for Effect of MGNREGA Programme Participation on Share of Various Consumption items in Monthly per Capita Consumption Expenditure (Participating households by poverty status)**

Share of Various Consumption Items in MPCE Poor and Non Poor Households				
Estimate of Various DID Models	Poor Households		Non-poor Households	
	Coefficients	Standard Error	Coefficients	Standard Error
DID Model I –Share of staple food in MPCE				
MGNREGA participation (Dummy)	-0.0022	(0.0019)	0.001*	(0.0007)
Time (Dummy)	-0.0015	(0.0024)	-0.003***	(0.0017)
Interaction (Participation * Time )	-0.0014	(0.0023)	-0.002***	(0.0008)
R squared	0.0190		0.0688	
Total observations	9,125		36,600	
DID Model II- Share of vegetables/ fruits and sugar in MPCE				
MGNREGA participation (Dummy)	-0.0115***	(0.0015)	-0.005***	(0.0017)
Time (Dummy)	0.0072***	(0.0025)	0.007***	(0.0009)
Interaction (Participation * Time )	0.0041*	(0.0021)	0.004***	(0.0011)
R squared	0.0397		0.0979	
Total observations	9,563		37,679	
DID Model III- Share of meat, egg and edible oil in MPCE				
MGNREGA participation (Dummy)	0.0073***	(0.0017)	0.004***	(0.0009)
Time (Dummy)	0.01235***	(0.0027)	0.005***	(0.0011)
Interaction (Participation * Time)	0.0062**	(0.0023)	0.0049	(0.0013)
R squared	0.0498		0.0839	
Total observations	9,579		37,725	
DID Model IV- Share of milk in MPCE MGNREGA participation (Dummy)				
MGNREGA participation (Dummy)	-0.0061***	(0.0016)	-0.0112***	(0.0011)
Time (Dummy)	-0.0314***	(0.0029)	0.0181***	(0.0009)
Interaction (Participation * Time)	-0.0013	(0.0025)	-0.0035*	(0.0014)
R squared	0.1213		0.03801	
Total observations	9,578			
DID Model V- Share of durable goods in MPCE MGNREGA participation (Dummy)				
MGNREGA participation (Dummy)	-0.0044**	(0.0013)	-0.0025**	(0.0008)
Time (Dummy)	-0.0071***	(0.0018)	-0.0123***	(0.0012)
Interaction (Participation* Time)	.0053***	(0.0017)	0.0061***	(0.0015)
R squared	0.0046		0.0335	
Total observations	9,581		37,731	

1. Figures in parenthesis are standard errors.
2. \*Significant at 100% level; \*\* Significant at 5% level; \*\*\* Significant at 1% level.
3. Each model in Table 4 also includes household level socio-economic and demographic characteristics as control variables, such as (i) age of the head of the household, (ii)

- household size, (iii) monthly per capita expenditure, (iv) dummy for education and (v) dummy for caste. However, the coefficients are not shown in the results as they are not of particular interest for this study.
4. The coefficient of the interaction term in each model shows the exclusive impact of

MGNREGA programme participation on the particular outcome variable.

- Difference in number of observations in each model is due to missing values.

**Source:** Tabulated from IHDS unit level data.

**Conclusions:**

The MGNREGA programme is currently operationalised in almost all states and has huge economic and social implications. This study makes a modest attempt to study the impact of the programme on the consumption level and consumption pattern of the participant households at the national level. The study uses two rounds of IHDS data sets published in 2004-05 and 2023-24, each round representing a year before and after the implementation of the MGNREGA programme.

The two rounds of survey published before and after the implementation of the programme five us the scope to use the DID method to examine its impact. The variables of interest, that is, the variables relating to the MGNREGA programme participation and variables relating to socio-economic and demographic characteristics of the participant and non participant households are available in both IHDS rounds making it easy to make comparisons. The major objectives of the current study are to examine the effect of the MGNREGA programme on the (i) level of consumption expenditure and (ii) pattern of consumption expenditure. The impact of the MGNREGA programme on various variables of interest is tabulated in Table 7.

**Table 7: Summary Table showing the Impact of MGNREGA Programme on Variables of Interest**

Variable of Interest	Hypothesis	Direction of change According to DID Estimator	Favourable/ Unfavourable Outcome (for MGNREGA Programme and Participant)
Per capita share of staple food in MPCE	Expected to decrease with respect to other items in food basket, such as vegetables, fruits, meat and egg	Negative	This result is in favour of achieving the objectives of MGNREGA. The staple food is not a very nutritious food as compared to vegetables, fruits and nuts. So, if the consumption of this is decreasing. It means that households are shifting their consumption from staple food to some other more nutritious foods.
Per capita share of vegetables, sugar, fruits and nuts in MPCE	Expected to increase with respect to other food items, such as pulses, cereals and other cereal products	Positive	This result is in favour of achieving teh objectives of MGNREGA. Households are consuming more nutritious food like different vegetables, fruits and nuts
Per capita share of meat, egg and edible oil in MPCE	Expected to increase with respect to other food items, such as staple food	Positive	This result is in favour of achieving the objectives of MGNREGA. Households are spending more on meat and egg. These are highly nutritious food items and expensive also.
Per capita share of milk in MPCE	Expected to increase with respect to other food items	Negative	The result is not in favour of achieving MGNREGA objective although results are insignificant.
Per capita share of durable goods in MPCE	Expected to increase with respect to other commodities	Positive	This results in favour of achieving teh objectives of MGNREGA. The households are spending more on durable goods, which shows that there living standard has been improved.

Source: Tabulated by the author.

The DID estimates shows a significant impact of the MGNREGA programme on MPCE. The

estimates also indicates that the participation in the MGNREGA programme leads to a change in pattern of consumption expenditure of participating

households. The DID results show that, on average, the share of more costly and nutrient-dense consumption items like fruits, vegetables, oil, meat, and eggs has increased since the MGNREGA program was put into place, while the share of less costly and stable food items like cereals, pulses, and milk has decreased. Increased household investments and smoothing of consumption as a result of MGNREGA program participation are shown by the rise in the percentage of durable items in the MPCE.

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