



# Trajectory of rural asset creation: the efficacy of MGNREGA vs. Fund security vulnerability of VB G RAM G

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## Abstract

This study attempts to examine the impact of employment generation on asset creation using panel data regression under MGNREGA in Uttar Pradesh from 2014-15 to 2021-22. Regression results show a positive impact of labour days generation on asset creation under the scheme. The generation of more labour days leads to more asset creation. The regression results are also supported by the trends of employment generation and asset creation. This highlights that money spent on the scheme is not a waste of resources, and the scheme can very well achieve the twin objectives of employment generation and development of rural infrastructure. On the contrary, replacing MGNREGA with the new scheme VB-G-RAM-G may lead to less asset creation in rural areas in the absence of a guaranteed supply of funds.

**Keywords:** MGNREGA, Asset creation, Employment generation, VB-G-RAM-G

## 1. Introduction

MGNREGA is a prime example of a development programme that has promoted both economic growth and environmental sustainability. It removed the perceived binary between growth and sustainability. However, the debate about MGNREGA has narrowed to its benefits to the poor in terms of employment and wages. The fact that has been grossly ignored, even from the UPA times, is that assets created under MGNREGA had a strong potential for developing much-needed rural infrastructure, conservation, and upgradation of the natural resource base of the country. Though there are various challenges and loopholes in the implementation of the scheme, it has done well in many areas, especially in southern states.

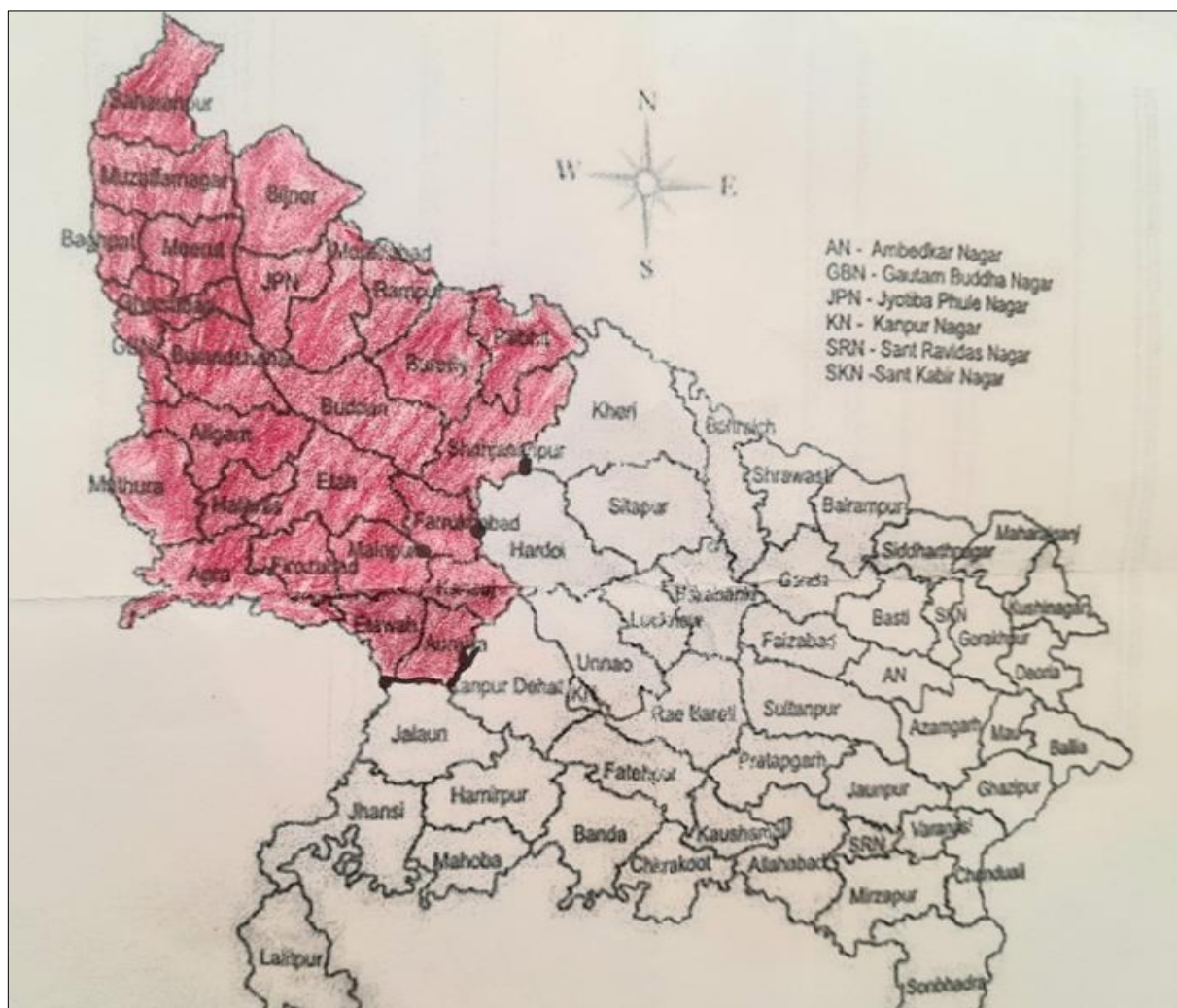
Continuous inadequate allocation of funds to the scheme over the past decade, culminating in its eventual replacement by VB-G RAM G, is the result of the prevailing perception within policy circles and among the public that the MGNREGA benefits only landless unskilled laborers and the employment generation does not result in the creation of any meaningful assets.

In this context, it is important to find out the impact of employment generation on asset creation. Though there are

some studies that have analyzed asset creation under MGNREGA and their benefits on the basis of primary and secondary data (Ranaware et al, 2015; Mishra, 2011; Abraham, 2018; Pankaj and Bhattacharya, 2022; Shah, 2018) . No study has tried to analyse the relationship between employment generation and asset creation. In this context, this paper makes a critical contribution by conducting an intensive study to analyse and quantify the relationship between employment generation and asset creation.

## 2. Study area

The study area of the scheme is western Uttar Pradesh. Western Uttar Pradesh comprises 26 western districts of Uttar Pradesh. This is the area of Uttar Pradesh, located within the Upper Ganga Yamuna Doab. Because of its alluvial soil and highly rich groundwater reservoirs, the agricultural productivity is very high in this area. This area is characterized by highly commercialized agriculture. The main crops of the area are rice, wheat, and sugarcane. However, 'technological fatigue' and the continuously decreasing size of agricultural holdings are causing a sharp fall in agricultural productivity and agrarian distress.



Source: Census of India, 2011

Fig 1

**3. Data and Methodology**

This paper uses secondary data available on the website of the Ministry of Rural Development for the years 2014-15 to 2021-22. The paper uses descriptive analysis to analyse trends of employment generation and asset creation in Uttar Pradesh and employs panel data regression to examine the impact of labour days generation. The study has used three variants of panel data regression to analyse the impact of labour days generation across 26 districts of western Uttar Pradesh.

**3.1 Fixed-effect panel data regression**

X represents the asset creation dependent variable  
 Y represents labour days generated, the independent variable

$$x_{it} = \beta_1 + \beta_2 y_{it} + u_{it}$$

Where,

$$y_{it} = Y_{it} - \bar{Y}_i + \bar{Y}$$

$$x_{it} = X_{it} - \bar{X}_i + \bar{X}$$

**3.2 Random effect model**

$$x_{it} = \beta_1 + \beta_2 y_{it} + u_{it}$$

Where,

$x_{it}$  = total value of assets created in in district i in year t

$y_{it}$  = total value of labour days generated in district i in year t

**3.3 Random effect with the dummy variables of district and year**

A random effect model with dummy variables of year and district has been used to identify the impact of district-specific and year-specific factors (which are difficult to measure) on asset creation.

**4. Analysis of secondary data of western Uttar Pradesh**

In this section, the number and pattern of assets created in Western Uttar Pradesh during 2014-15 to 2021-22 have been discussed and analysed.

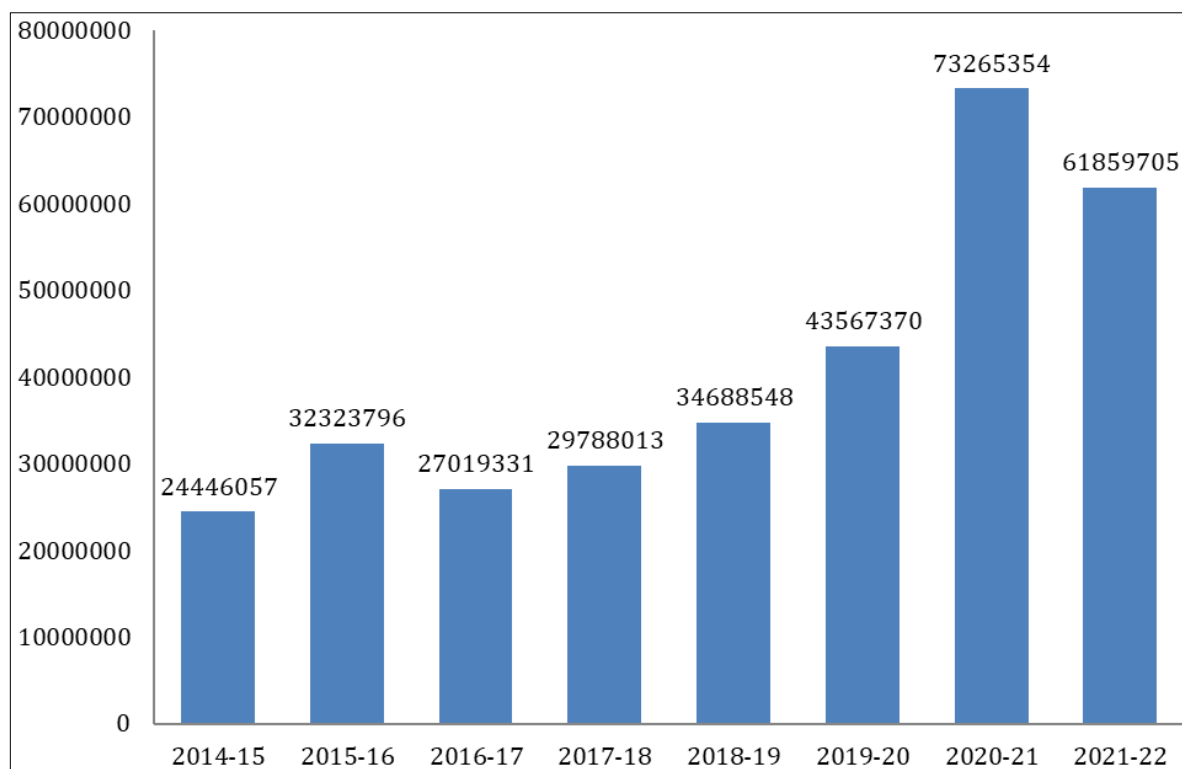
**4.1 Employment generation in western Uttar Pradesh**

Employment generated under the scheme has risen continuously in Western Uttar Pradesh. The total employment generated, which was just 24446057 person-days in 2014-15, rose to the level of 73265354 person-days in 2020-21. However, the highest rise was registered in the period 2019-2020 to 2020-21 (Table 5.8).

**Table 1:** Employment generation in districts of western Uttar Pradesh (in person-days)

District	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Total
Agra	1231670	1682119	1271504	1272535	1481666	2256604	3962774	3159199	16318071
Aligarh	1231845	1838668	1430830	1641380	1821040	2390045	4281100	3407705	18042613
Amroha	1908943	2292224	1651140	1882157	2419703	2312678	3366472	2999733	18833050
Bagpat	316564	218274	157718	115607	98564	75902	146655	81636	1210920
Bareilly	1269713	1705391	1177067	1539612	2023523	2812580	4782181	4858851	20168918
Bijnor	1694585	2227247	1853533	1739203	1869192	2338986	4626650	4210505	20559901
Budanun	1459623	2373483	2110117	2348997	2768113	3964714	5031238	3652193	23708478
Bulandshahar	478966	371974	196846	187518	265358	256589	1098191	849457	3704899
Etah	1082048	1604614	1523614	1584792	1497403	1966229	3581440	2713606	15553746
Firozabad	1355318	1754502	1315789	1398718	1698115	2140478	3381491	3352548	16396959
Gautam Budhha Nagar	20301	39459	14310	11504	9667	13136	20596	9344	138317
Gahziabad	52113	1141	2186	1406	0	0	0	62	56908
Hapur	207988	161599	185626	149836	138499	136878	265075	233301	1478802
Hathras	285599	527211	376600	426328	565556	746185	1812916	1292491	6032886
Kasganj	1079543	1408577	1081213	1015884	1406186	1797097	3234358	2699185	13722043
Mainpuri	1005614	1552749	1585372	1743713	2038467	2438619	4556844	3806642	18728020
Mathura	771138	790965	881004	900376	1095293	1479102	3538217	3016088	12472183
Meerut	281669	384057	404498	324778	340796	551245	1628681	960326	4876050
Moradabad	1551120	1735272	1382899	1730484	2158257	2128179	3694638	3446520	17827369
Muzaffar Nagar	665098	556382	418194	466009	601955	673508	1496388	1210403	6087937
Pilibhit	1714635	1986146	1963779	2617535	2598673	3160288	3959129	3465286	21465471
Rampur	911921	1575219	1088938	1363685	1824712	2441795	3358575	3281858	15846703
Saharanpur	753471	869394	873025	954129	1051455	1148676	2542891	1736153	9929194
Sambhal	1410755	2029783	1797387	1700802	2068453	2571288	3414973	2781579	17775020
Shahjahan	1510078	2409655	1979525	2314109	2419281	3453818	4928980	4127142	23142588
Shamli	195739	227691	296617	356916	428621	312751	554901	507892	2881128
<b>Total</b>	<b>24446057</b>	<b>32323796</b>	<b>27019331</b>	<b>29788013</b>	<b>34688548</b>	<b>43567370</b>	<b>73265354</b>	<b>61859705</b>	<b>326958174</b>

Source: Data compiled from MGNREGA website



Source: Data compiled from MGNREGA website

**Fig 1:** Total labour days generated in western Uttar Pradesh

The employment generated rose by 68.16% during this period. The reason behind such a huge increase was a rise in demand for MGNREGA jobs due to the COVID-19 related lockdown. However, after that, it fell to 61,859,705 person-days in 2021-22.

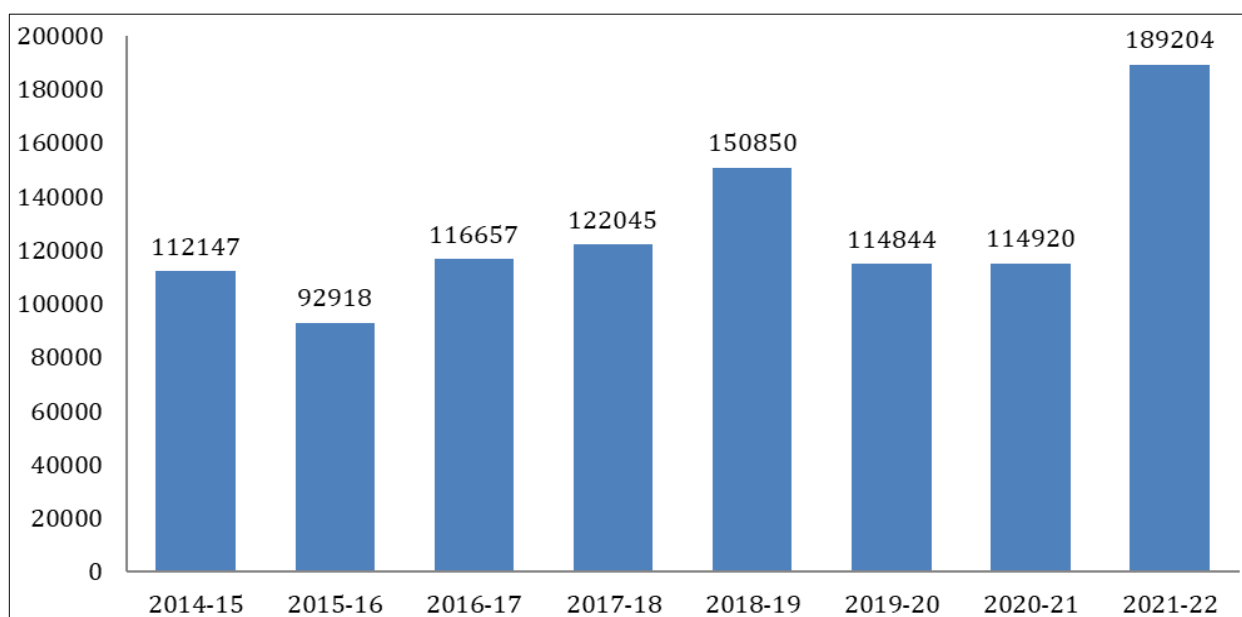
#### 4.2 Assets creation in western Uttar Pradesh

The number of assets created has increased continuously since 2015-16, after showing a decrease during 2014-15 to 2015-16 (Table 2).

**Table 2:** Completed assets in western Uttar Pradesh (Units)

Assets	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Total
Anganwadi / Other Rural Infrastructure	17	110	261	522	914	956	1934	2401	7115
Bharat Nirman Sewa Kendra	48	41	31	75	9	0	0	0	204
Coastal Areas	0	29	269	22	7	0	0	0	327
Drought Proofing	4129	4161	7636	7832	5785	5371	4911	4897	44722
Fisheries	8	6	9	2	4	0	3	0	32
Flood Control and Protection	5746	5527	8100	7461	6366	4991	8105	10926	57222
Food Grain	0	0	0	0	0	0	0	0	0
Land Development	2698	3849	18147	20812	22270	26014	39970	50416	184176
Micro Irrigation Works	2218	2198	4721	3649	2429	2776	4314	9236	31541
Other Works	2659	3033	2698	1317	484	485	12	65	10753
Play Ground	28	11	79	83	23	8	3	1	236
Renovation of Traditional Water Bodies	1469	2622	3307	2807	2051	1312	1811	1875	17254
Rural Connectivity	36171	27964	16264	15923	13062	6410	9884	10560	136238
Rural Drinking Water	41	17	31	51	75	6	0	0	221
Rural Sanitation	51866	28094	8126	4716	3444	1298	3119	3718	104381
Water Conservation and Water Harvesting	2055	4608	8424	7170	5408	5442	6579	7892	47578
Works on Individuals Land (Category IV)	2994	10648	38554	49603	88519	59775	34275	87217	371585
Total	112147	92918	116657	122045	150850	114844	114920	189204	1013585

**Source:** Data compiled from MGNREGA website

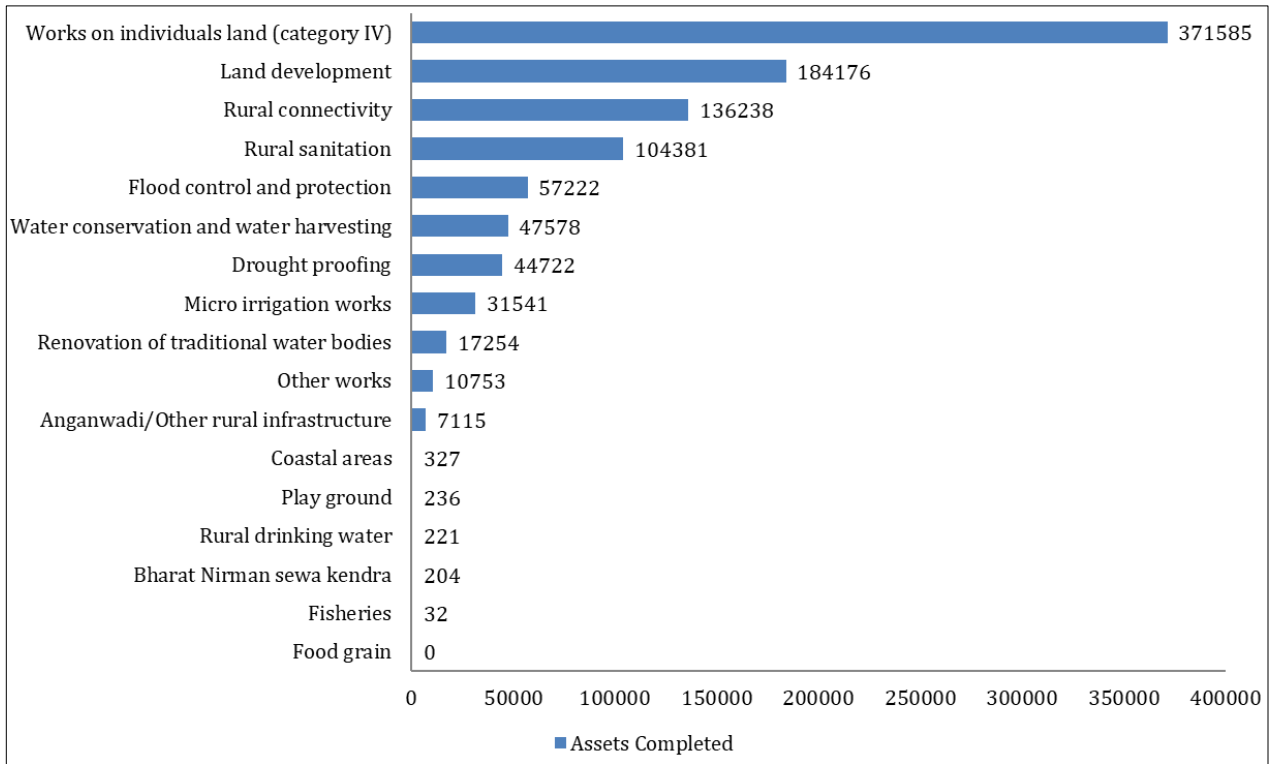


**Source:** Data compiled from MGNREGA website

**Fig 2:** Completed assets in western Uttar Pradesh (Units)

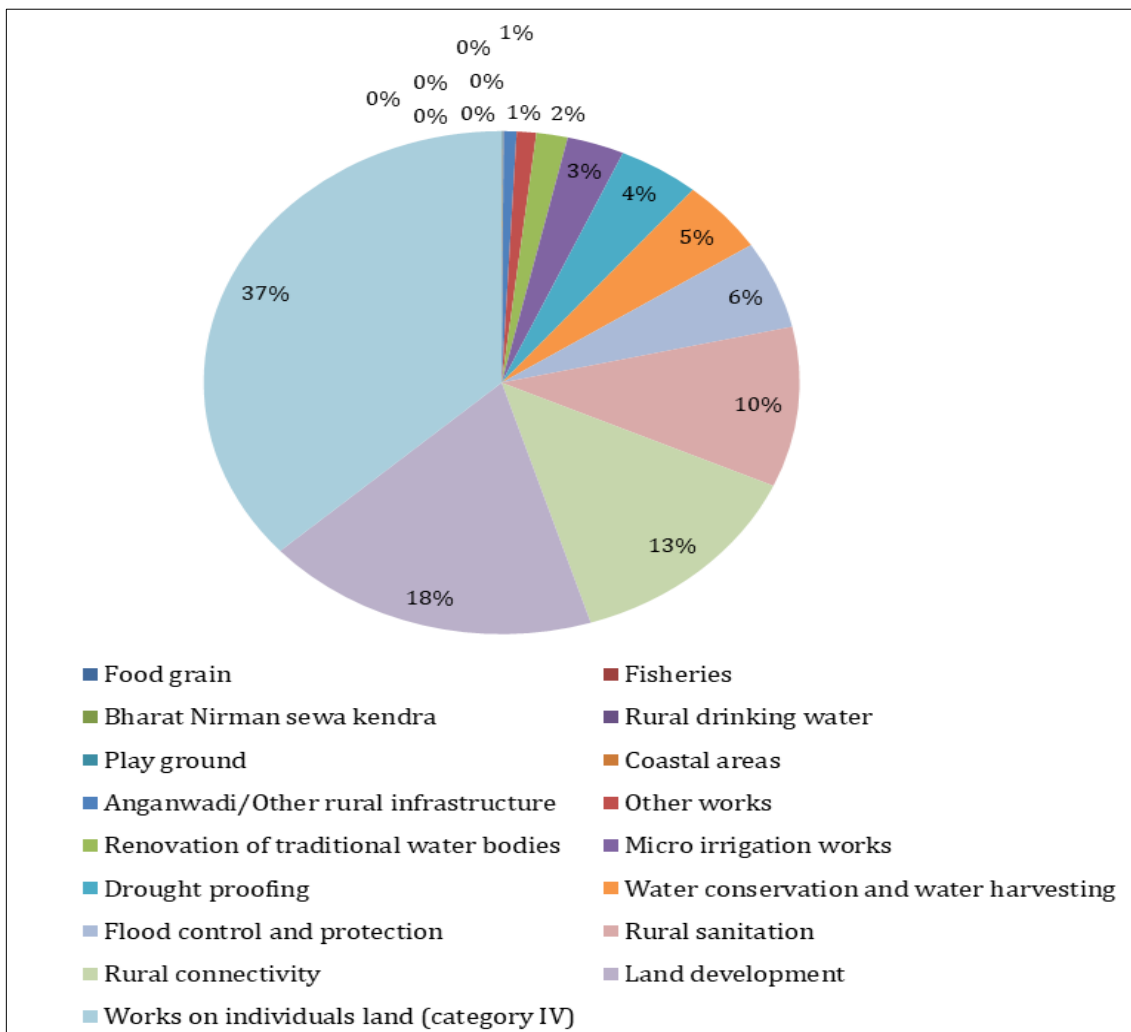
The reason behind this decrease in asset creation during this period is the decline in the rate of asset completion under MGNREGA at the all-India level. Researchers have termed as the 2016-15 as “worst years” year for MGNREGA. After that, asset creation increased from 2015-16 onwards, and asset creation in 2018-19 was 62% higher than in 2015-16. But then again, assets created have decreased by 23% from 2018-19 to 2020-21, despite the fact that employment generation showed a record growth during this period due to COVID-19-related

lockdowns. This is because there was more focus on completing bigger projects, where large numbers of person-days were generated in a smaller number of projects. So, the volume of work done was quite large, though the number of works was less. However, the number of assets generated increased from 2020-21 to 2021-22, registering a growth of 64%, as works related to the category of individual asset holdings and micro-irrigation registered a very good growth.



Source: Data compiled from MGNREGA website

Fig 3: Categories of completed assets in Western Uttar Pradesh (Units)



Source: Data compiled from MGNREGA website

Fig 4: Categories of completed assets in Western Uttar Pradesh (Percentage)

Figure 5.17 shows the categories of the number of assets created during the study period. Out of the total assets created, the maximum belongs to the category of works on individual land (37%). Second, the place is occupied by the number of land development works (18%), followed by works of rural connectivity (13%) and rural sanitation (10%). Land development works in Western Uttar Pradesh mainly comprise the building of *Chakroads*. This is the asset demanded by both rich and poor farmers. So, the creation of *Chakroads* has immensely benefited the farmers of western Uttar Pradesh. An important point to be noted is that the share of assets created on private land among the total assets created is continuously increasing. This trend is likely to have a transformative impact on the rural poor. The building of assets will enhance sources of income for the rural poor, thereby reducing their dependence on MGNREGA for their livelihood. To enhance the

effectiveness of private assets created, it is necessary to examine the capability and endowment of the beneficiary before the selection of the assets to be built on his land. Focus on *Pakke* assets under MGNREGA, like drainage, CC roads, *Panchayat Ghar*, *Anganwaris*, etc., is good. This will strengthen rural infrastructure in the study area.

**4.3 Impact of labour days generation on assets creation**

The study has tried to assess the impact of employment generation under the scheme on asset creation by running panel data regression by taking data of total person-days generated and total assets created in Western Uttar Pradesh districts during 2014-15 to 2021-22.

**4.3.1 Results of fixed effect panel data regression**

**Table 3:** Results of fixed effect panel data regression

Ta	Coef.	St. Err.	t-value	p-value	[95% Conf	Interval]	Sig
Tl	.003	0	17.04	0	.002	.003	***
Constant	552.699	282.49	1.96	.052	-4.359	1109.756	*
Mean dependent var		4554.413		SD dependent var		3627.590	
R-squared		0.593		Number of obs		208.000	
F-test		290.495		Prob > F		0.000	
Akaike crit. (AIC)		3798.902		Bayesian crit. (BIC)		3805.577	

\*\*\* p<.01, \*\* p<.05, \* p<.1

The regression results show that if total labour days generated increase by one unit, then total asset creation under the scheme increases by 0.003 units. *The findings obtained from the random effect model depict a positive and significant impact of*

*labor days generation on asset creation at a 5% level of significance.*

**4.3.2 Results of random effect panel data regression**

**Table 4:** Regression results of random effect panel data regression

Ta	Coef.	St. Err.	t-value	p-value	95% Conf	Interval	Sig
Tl	.002	0	16.43	0	.002	.003	***
Constant	731.961	452.847	1.62	.106	-155.604	1619.526	
Mean dependent var		4554.413		SD dependent var		3627.590	
Overall r-squared		0.474		Number of obs		208.000	
Chi-square		269.952		Prob > chi2		0.000	
R-squared within		0.593		R-squared between		0.147	

\*\*\* p<.01, \*\* p<.05, \* p<.1

The random effect regression coefficient also shows that an increase in total labour days by one unit across districts and over time leads to, on average, a 0.002 unit increase in total assets created under the scheme. Again, results are significant at the 5% level of significance.

**4.3.3 Hausman test**

This test is conducted to find out which model, FEM or REM, is more suitable for our data. If the error term is correlated with any of the explanatory variables, then FEM is more suitable for our data, if not, then REM is better.

**Hausman (1978) Specification Test**

	Coef.
Chi-square test value	0
p-value	.

Hausman fe re

---- Coefficients ----

| (b) (B) (b-B) sqrt(diag(V\_b-V\_B))  
 | fe re Difference S.E.

-----+-----  
 tl | .0025457 .0024317 .000114 .0000201  
 -----

b = consistent under Ho and Ha; obtained from xtreg  
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic  
 $\chi^2(1) = (b-B)'[(V_b - V_B)^{-1}](b-B)$   
 = 32.11

Prob>chi2 = 0.0000

**Hausman (1978) specification test**

	Coef.
Chi-square test value	0
p-value	.

The results of the Hausman Test reject our null hypothesis, implying that FEM is more appropriate for our data.

**4.3.4 Results of random effect regression with dummy variables of year and districts**

Though the results of the Hausman test show that Fixed Effect is more suitable for the data, the random effect regression has been run with dummies of year and district to examine the impact of year-specific and district-specific factors on asset creation.

**Table 5:** Results of random effect regression with dummy variables of year and districts

Ta	Coef.	St. Err.	t-value	p-value	95% Conf	Interval	Sig
T1	.001	0	4.29	0	.001	.002	***
1b.district	0	.	.	.	.	.	
2.district	9.714	985.32	0.01	.992	-1921.477	1940.906	
3.district	1777.184	988.002	1.80	.072	-159.264	3713.632	*
4.district	-958.286	1151.775	-0.83	.405	-3215.725	1299.152	
5.district	3149.736	994.775	3.17	.002	1200.013	5099.459	***
6.district	3019.38	997.283	3.03	.002	1064.741	4974.02	***
7.district	1580.502	1025.873	1.54	.123	-430.171	3591.176	
8.district	573.975	1103.361	0.52	.603	-1588.573	2736.524	
9.district	252.457	983.403	0.26	.797	-1674.977	2179.891	
10.district	-15.939	982.938	-0.02	.987	-1942.463	1910.585	
11.district	-1423.312	1174.557	-1.21	.226	-3725.402	878.777	
12.district	-1587.779	1176.272	-1.35	.177	-3893.23	717.673	
13.district	-1328.796	1146.263	-1.16	.246	-3575.43	917.837	
14.district	-646.235	1064.528	-0.61	.544	-2732.672	1440.202	
15.district	177.123	988.333	0.18	.858	-1759.973	2114.219	
16.district	1044.577	987.588	1.06	.29	-891.061	2980.214	
17.district	-362.081	994.745	-0.36	.716	-2311.745	1587.582	
18.district	-474.287	1083.012	-0.44	.661	-2596.951	1648.378	
19.district	2019.633	984.762	2.05	.04	89.535	3949.73	**
20.district	952.886	1063.69	0.90	.37	-1131.908	3037.681	
21.district	5104.486	1003.993	5.08	0	3136.696	7072.276	***
22.district	3496.175	983.112	3.56	0	1569.311	5423.039	***
23.district	421.881	1015.195	0.42	.678	-1567.863	2411.626	
24.district	419.425	984.637	0.43	.67	-1510.428	2349.279	
25.district	4591.655	1019.662	4.50	0	2593.154	6590.156	***
26.district	-1150.191	1118.613	-1.03	.304	-3342.633	1042.252	
2014b.year	0	.	.	.	.	.	
2015.year	-1103.89	553.677	-1.99	.046	-2189.077	-18.703	**
2016.year	-68.922	546.141	-0.13	.9	-1139.338	1001.494	
2017.year	267.221	549.132	0.49	.627	-809.058	1343.5	
2018.year	718.401	559.436	1.28	.199	-378.073	1814.876	
2019.year	-1149.985	593.255	-1.94	.053	-2312.743	12.773	*
2020.year	-2481.46	808.476	-3.07	.002	-4066.044	-896.877	***
2021.year	801.192	711.737	1.13	.26	-593.786	2196.17	
Constant	1995.305	901.959	2.21	.027	227.497	3763.112	**
Mean dependent var		4554.413		SD dependent var		3627.590	
Overall r-squared		0.753		Number of obs		208.000	
Chi-square		530.853		Prob > chi2		0.000	
R-squared within		0.732		R-squared between		1.000	

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

Even after the introduction of dummy variables for districts and years in the random effect model, the regression coefficient is

0.001. It implies that one unit change in the total employment generation across districts and over time leads to, on average, a

0.001 unit change in the asset creation under the scheme. The results are statistically significant.

Hence, all three regression results show a positive impact of labour days generation on asset creation under the scheme. The generation of more labour days leads to more asset creation. Thus, it can be said that money spent on the scheme is not a waste of resources; rather, it leads to the creation of productive assets in rural areas. The regression results are also supported by the trends of employment generation and asset creation depicted in the graphs.

#### 4.3.4.1 Impact of district-specific factors on asset creation

Agra district has been chosen as the base district. The intercept value of the base district is 0. The intercept value of other districts shows the difference between the intercept of the concerned district and that of the base district. The intercept shows whether district-specific conditions are more or less conducive to asset creation in comparison to the base district, that is, Agra. *District Pilibhit's intercept is 5104 units more than the base district's. It implies that district-specific characteristics (like better administration of the scheme at the district, block, and Gram Panchayat level) are more conducive to asset generation in Pilibhit.*

In district Ghaziabad, the intercept is lower by 1587 units, in comparison to the base district. It reflects that in Ghaziabad, specific characteristics are not conducive to asset generation. This is especially true because Ghaziabad district is a largely urbanized district and the labour days generation is very low in the district.

#### 4.3.1.2 Impact of year-specific factors on asset creation

The impact of year-specific factors on asset creation is examined, taking the year 2014-15 as the base year. Regression results show that in the year 2021-22, the conditions were the most conducive for the asset creation (the value of the intercept is higher than the base year by 801 units). In the year 2020-21, the value of the intercept is lower than the base year by 2481 units. However, *this does not mean that in the year 2020-21 the conditions were less conducive in comparison to other years of the study period. The smaller number of asset creations in the year 2020-21, despite the large number of person-days generated under the scheme, is because, in that year, the renovation of large water bodies was done.* And a large number of workers were employed in one project. Hence, numbers depict less asset creation, but in reality, the volume of work done under the scheme was quite large in the year 2020-21.

### 5. Funding uncertainty under VB G RAM G

The above analysis shows that the MGNREGA scheme is leading to both employment generation and asset creation in rural areas. Government is planning to replace the scheme with VB G RAM G with the claims that new scheme will guarantee 125 days of employment and focus on productive asset creation. However, replacement of the scheme by VB G RAM G may worsen the performance of the scheme in terms of both employment generation and asset creation due to changes in the

pattern of funding. While MGNREGA ensured open-ended funding, under the new scheme, the central government will determine funds to be allotted to each state, each financial year on the basis of certain objective parameters. Under MGNREGA, the centre contributed 100% of the wage bill; VB G RAM G passes 40% of the funding burden onto the states. Further, states will have to bear the entire burden of any additional expenditure made on the scheme, over and above the pre-fixed budget of the central government.

Under the MGNREGA scheme, there is a strong incentive for the states to implement the scheme, as most of the funding comes from the centre. It is a real opportunity for them to work for rural development at a low cost. However, under the VB G RAM G scheme, many states, especially poor states (where the scheme is needed the most) may not sanction projects quickly. Further, in the new scheme, states are being made liable for providing employment guarantees, without a guarantee of adequate funding from the centre and without any prior consultation. Hence, many states may oppose the scheme. In addition, under the new scheme, the provision of normative allocation may lead to partisan funding. Lastly, in times when free handouts have become more lucrative to political parties for winning elections, states are unlikely to spend more on VBG RAM G. So in the absence of guaranteed supply of funds, it seems hard to believe that VB G RAM will perform better on the front of rural asset creation.

### 6. Conclusion

Our study shows that in the study area employment generation has increased by 68.16% and asset creation has increased by 68% during the study period. The trend of asset creation has been positive in all the years of the study period, except the year of 2015-16. Results of panel regression also show that employment generation under the scheme is leading to asset creation. This demonstrates that the scheme can very well achieve the twin objectives of employment generation for poor and marginalized rural people as well as development of rural infrastructure. Hence, it can make a significant contribution to achieving the objective of sustainable development of the agriculture sector and rural India.

Therefore, the perception that "MGNREGA is a dole to dig holes", or the scheme is benefiting only rural workers without any meaningful asset creation is misplaced. And the government's claim that it is necessary to replace MGNREGA for enhancing asset creation seems ill-founded. Particularly, in the absence of a guaranteed supply of funds, the VB-G RAM G scheme is likely to perform poorly, not only in terms of employment guarantee, but also in terms of building assets. Hence, rather than replacing MGNREGA scheme with VBG RAM G, the Government should focus on ensuring sufficient funding for MGNREGA and its effective implementation.

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