

EVALUATING THE IMPACT OF WORLD'S LARGEST SOCIAL WELFARE PROGRAMME IN THE CONTEXT OF INDIA'S CLIMATE CHANGE: A SUGGESTED FRAMEWORK

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ABSTRACT

The contributions of Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) programme towards livelihood security and creation of durable assets have been well recognized over time. While the contribution of the scheme towards poverty reduction and job creation is well authenticated, studies that have attempted to systematically examine the impact of natural resource management (NRM) assets created under MGNREGA in the context of climate vulnerable regions are either scanty or lack a comprehensive evaluation framework. The present study aims to fill in this gap by documenting the overall performance of MGNREGA programme at macro level and demonstrates how NRM works can make rural households resilient towards climate shocks through the Sustainable Livelihood Approach (SLA). It is found that the combined share of socially marginalized communities – schedule caste (SC) and schedule tribe (ST) – have declined between the periods 2014-16 and 2017-19. While women participation share at the national level has generally been high in MGNREGA ever since its inception, it has slightly declined over the period under study. Further, the average increase in the MGNREGA wage rates across the country for the financial year 2022-23 is a merely 4.25%. The study delineates a holistic, asset-based Sustainable Livelihood Approach (SLA) framework for understanding poverty and the means to reduce it five types of assets/capitals. Later, the paper

provides a set of suggested measures. In order to build adaptive capacities at the micro level, essential community centric planning and more independent studies and surveys are required that can quantify the scheme's adaptation to climate risks while creating NRM assets. Frequent conduction of training and awareness programmes on gender equality and women's rights in MGNREGA is imperative to fetch positive gender outcomes at the micro level. A substantial increase in the MGNREGA wage is essential to boost rural expenditure and aggregate demand in the economy. In order to deliver lasting development outcomes, policymakers must integrate MGNREGA with disaster management plans in order to address the multifaceted risks posed by escalating climate change risks.

Keywords: MGNREGA; NRM Assets; Climate vulnerability; Social protection; Sustainable livelihood approach

1. Introduction

Poverty is a complex multidimensional concern having origins in both the national and international level. Further, a dramatic increase in climate extreme events and other shocks like COVID-19 pandemic pose a serious threat to the lives and livelihoods of local communities globally (World Bank, 2020). Increasing climatic shocks and threaten sustainable development advances are expected to push over 100 million people back into poverty by 2030 (Differbaugh and Burke, 2019; Lakner et al., 2020). Besides, climate change is leading to irregular precipitation, frequent floods and droughts and creating an imbalance between soil productivity and water availability (Morton, 2007). Moreover, the effects of climate impact are primarily felt in low/middle income countries, and within them, among the resource dependent poor communities in rural areas (Morton, 2007; Mertz et al., 2009).

In India, poverty reduction has been an important objective of development policy since the inception of planning. Since its independence, India has implemented several programmes in order to reduce poverty and restore social security of the resource-dependent communities (Datt et al., 2020; World Bank, 2021). The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was promulgated in the year 2005 by the Indian government in response to widespread poverty in rural India. It is the world's largest social welfare programme for poverty alleviation through employment generation (Singh, 2016). Under this Act, every rural household has a legal right to access 100 days of work per year provided by the state. However, the guidelines provided in the year 2009 under Schedule 1 (Para 5) of the Act have substantially extended the scope of natural resource management (NRM) activities under MGNREGA by covering assets creation on individual lands. In addition to helping poor households cope with

poverty and marginalization, NRM assets addresses the pressing requirements of the rural population in the context of climate change through a range of permissible works.

However, the existing studies, in general, have largely attempted to understand the impact of NRM assets on household welfare in terms income (IEG, 2018; SRC, 2013), livelihood options (TISS, 2019), environmental services and water availability (Esteves, et al, 2013; Aggarwal, et al, 2012), agriculture productivity (Kundu, 2016), and other socio-economic aspects (Sengupta et al., 2019). Few other studies have focused on the subjective assessments and perceptions of benefits and costs associated with NRM assets (Sengupta et al, 2019; IGIDR, 2014). As per the climate risk index (2021), India is the seventh most vulnerable country in the world to effects of extreme weather events. The country is widely regarded to be highly vulnerable to climate change (Maplecroft, 2011). Much of this vulnerability is due to change in monsoonal rainfall, upon which South Asian agriculture depends (World Bank, 2013). Increased prevalence and/or intensity of droughts and uneven rainfall patterns are likely to inflict negative impacts on the livelihoods of the poor (Reddy, 2011).

The effects of climate change may also be exacerbated by other stressors that have contributed to the vulnerability of rural Indians, including unfavourable conditions for local economic activity (O'Brien et al., 2004), and unequal control over key productive assets such as land and water (Taylor, 2013). The rising challenge of climate change could reverse development gains, reinforce structural barriers to development and push people back into penury.

However, studies that have attempted to systematically examine the impact of NRM assets created under MGNREGA in the context of climate vulnerable regions are either scanty or lack a comprehensive evaluation framework. In this context, the present paper aims to – (i) examine the overall performance of MGNREGA programme at macro level; and (ii) discuss a theoretical framework that can comprehensively capture the holistic impacts of MGNREGA initiatives at micro level.

The paper is divided into five sections. While Section 2 reviews major literature studies, Section 3 examines the overall performance of MGNREGA programme. Section 4 presents a theoretical framework for comprehensive evaluation of the programme. Section 5 concludes and puts forth policy suggestions.

2. Review of Literature

The primary objective of the MGNREGA is to increase the livelihood security and the level of welfare of the rural poor households by providing up to 100 days of manual work to the rural

households. Since inception, MGNREGA has undertaken NRM activities such as watershed development. However, the guidelines provided in the year 2009 have substantially extended the scope of NRM activities in MGNREGA by covering assets creation on individual lands. In a study carried out in Sikkim, Kaur et al. (2017) found that MGNREGA in combination with other risk management instruments by supporting absorptive and adaptive resilience helped households transform their livelihood strategies in response to risks and opportunities. It was also revealed that the ground water levels and soil organic carbon content have improved while the soil erosion has reduced in four selected districts in Andhra Pradesh, Karnataka, Madhya Pradesh and Rajasthan due to the creation of assets in MGNREGA (Esteves et al., 2013). The study further found that the adaptive capacities of beneficiaries have increased which ultimately reduced the vulnerability to climate risks of the households. Further it was found that households benefited from multiple environmental services such as increase in ground water recharge and water percolation (implying more water storage in tanks or ponds), increase in crop and livestock production which reduce the vulnerability of the poor (Tiwari et al., 2011). The study conducted by Kareemulla et al. (2009) revealed that two-thirds of the beneficiaries of NRCM works are farmers. The study found that NRM works significantly increased household income. The NRM works under MGNREGA included farm ponds, tank desilting, earthen field bunds, stone bunding on the fields, bush clearance, plantation, drainage and culvert, weeding of fields.

Significant changes were observed through MGNREGA in terms of water conservation, agriculture, cropping pattern and rural infrastructure (like bridge construction) in three selected districts of Madhya Pradesh (Mishra, 2011). A considerable share of farmers perceived positive impact in improving water conservation. The study further reported improvement in cropping pattern and productivity due to proper water conservation. A survey conducted by Ranaware et al. (2015) in 20 blocks of Maharashtra also provided evidence that many of the works generated under MGNREGA have created new and substantive additions to the resource base and infrastructure. Majority of respondents in the sampled blocks reported expansion of cultivated area, irrigated area and cropping pattern, pisciculture, horticulture works. The works provided more control over water and more assured timely and adequate availability of water not only for agricultural and livestock purpose but also for drinking purpose.

A study conducted by Sambodhi Research and Communication (2013) concluded that individual assets creation under MGNREGA has contributed to extra income for the rural households. It was also found that a good proportion of households stopped working under MGNREGA due to additional income. Moreover, it was observed that individual assets creation has improved the quality of land which helped in improving their credit worthiness.

Although community assets under NRM are important, there has been larger emphasis on individual assets in recent years. Generally, the quality of assets on individual land is believed to be better than the assets created on community land. This is because households are likely to pay more attention towards maintenance of assets created on their own land. Considering the importance of individual asset creation, it becomes imperative to understand the impact of NRM individual assets on overall household welfare. Similarly, in the context of climate and weather extremes, it is critical to understand the impact of NRM works with respect to assets created on individual lands.

MGNREGA program has three major objectives – (a) reducing poverty through guaranteed employment; (ii) creating durable assets through NRM at the village and household levels; and, (iii) creating a participatory rural development administration. Some of the resilience power that the households gain is through empowerment to better livelihood such as more employment, greater women labour force participation, increased income and, hence, better health care and child educational levels, and so on. Thus, it is ticklish to isolate household level impact through NRM works from other MGNREGA works.

Moreover, findings of a number of studies indicate that land holding pattern potentially impacts the involvement of household in NRM activities under MGNREGA (IEG, 2018; Mummulla, 2015; Pankaj and Tankha, 2010; Ganeriwala, 2010). For instance, a study conducted by IEG (2018) takes access to land as one of the criteria for selecting households so that individual NRM beneficiaries are included in the sample. The study finds that higher the land holding of a household, the more is the chance of it taking up asset creation on individual land. Moreover, Pankaj and Tankha (2010) find that 92 percent of the beneficiaries belonged to small and marginal farmer category. Similarly, Ganeriwala (2010) reported that a majority of MGNREGA participants were small and marginal farmers and that their major source of livelihood is agriculture.

Mainstreaming climate concerns in development programs in order to build the resilience of vulnerable communities has been a matter of debate in academic and policy circles. However, this raises a pertinent question whether there is scope to improve the design and implementation of the program to ensure that the rural poor step out of climate vulnerability through NRM works? What measures can be taken to create new opportunities in order to enhance their resilience to long-term climate change through NRM works? Studies in the Indian context that attempt to systematically examine the impact of NRM assets created under MGNREGA in the context of climate vulnerable regions are either scanty or lack a comprehensive evaluation framework.

3. Current Macro Status and Performance of MGNREGA

Since its inception, MGNREGA has generated as many as 3,456 crores person days of employment at a total wage expenditure of Rs. 6,96,952 (till April 10, 2021). Overall, the programme has played a polar role in promoting livelihood securities, increasing purchasing power of the poor, boosting labor force participation, empowering women, and creating pressure on the rural economy to improve terms of trade in favour of agriculture. However, performance of the scheme across key parameters over the past few years leaves much to be desired.

Both the nominal and real budgetary allocation on MGNREGA between the periods 2014-16 and 2017-19 is depicted in table 1. It is observed that the allocation has increased by about 39 percent. But deflating nominal allocations with Consumer Price Index Rural (CPI-R) holding 2012 as the base year shows that the allocations have been much lower in real terms. Annual CPI-R values from 2011-12 onwards has been taken to make these calculations. Real allocation is observed to have increased by around 24 percent. The gap between nominal and real allocation has, in fact, increased by a whopping 91 percent during this period.

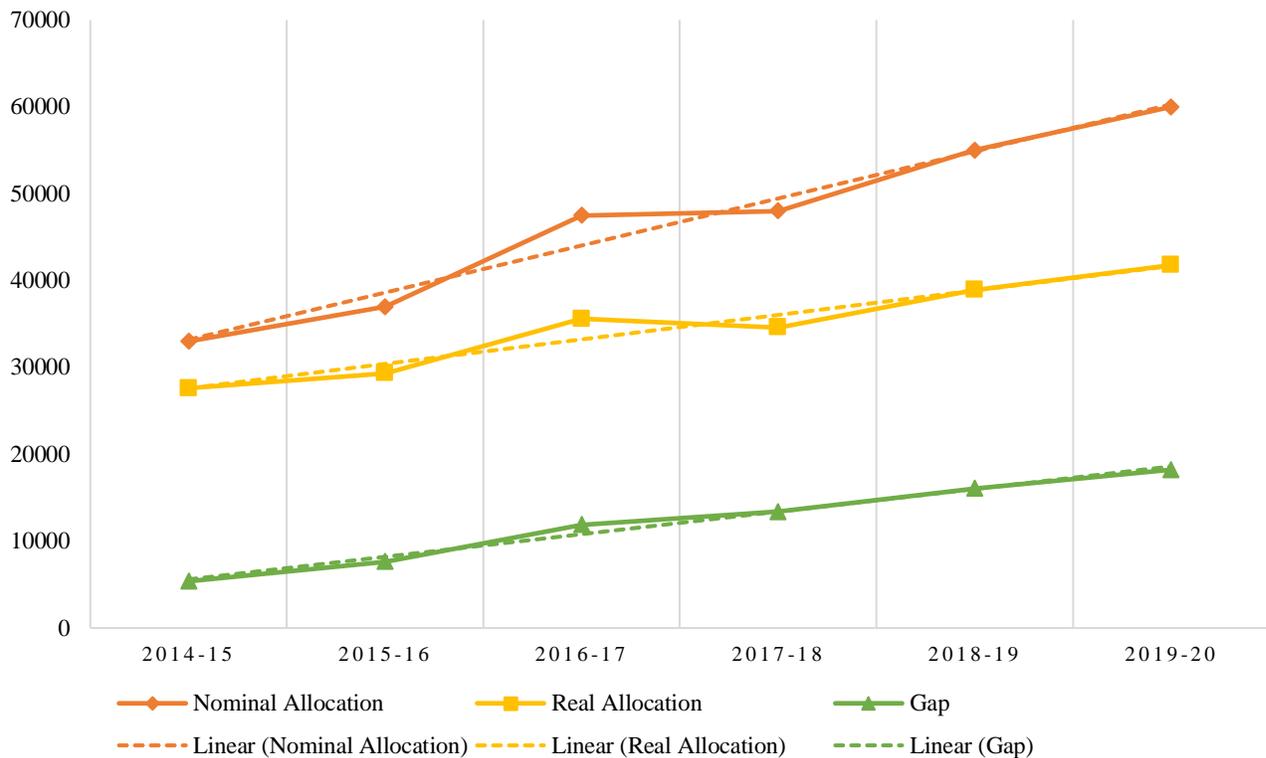
Table 1: Budget Allocation of MGNREGA during the period 2014-15 and 2019-20

	Average		
	2014-16	2017-19	Percentage Change
Nominal Allocation (Rs. in Crores)	39,155.33	54,333.33	38.76
Real Allocation (Rs. in Crores)	30,845.70	38,431.92	24.59
Gap (Rs. in Crores)	8,309.63	15,901.41	91.36

Source: Compiled by authors. Retrieved from the Official Webpage of MGNREGS, Ministry of Rural Development, Government of India (<http://nrega.nic.in/netnrega/home.aspx>).

Figure 1 shows the trend of nominal and real allocations. Not only the gap between nominal and real allocations has widened but also is clearly showing an increasing trend.

Figure 1: Trend of Budget Allocation on MGNREGA during 2014-15 and 2019-20



Source: Compiled by authors. Retrieved from the Official Webpage of MGNREGS, Ministry of Rural Development, Government of India (<http://nrega.nic.in/netnrega/home.aspx>)

The year-on-year change in the allocations during 2014-15 and 2019-20 is displayed in figure 2. The average change in the allocations between 2014-16 and 2017-19 is presented in figure 3. As compared to the earlier phase, the year-on-year change in both forms of allocations is observed to have gone down in the later period. In the Union Budget 2020-21, the government has allocated INR 61,500 crore for the scheme, which is lower than the previous year's revised estimates of INR 71,002 crore by 13.4 percent. Announcing the fifth and final tranche of the Union Government's mega economic stimulus package in the wake of COVID-19 pandemic, the Ministry of Finance allocated an additional INR 400 billion to Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) Scheme – world's largest public welfare programme. The decision to allocate this amount in addition to the annual budgetary allotment comes at a time when India is witnessing largest ever forced reverse migration since partition.

Figure 2: Year-on-Year Change in Allocations during 2014-15 and 2019-20 (in %)

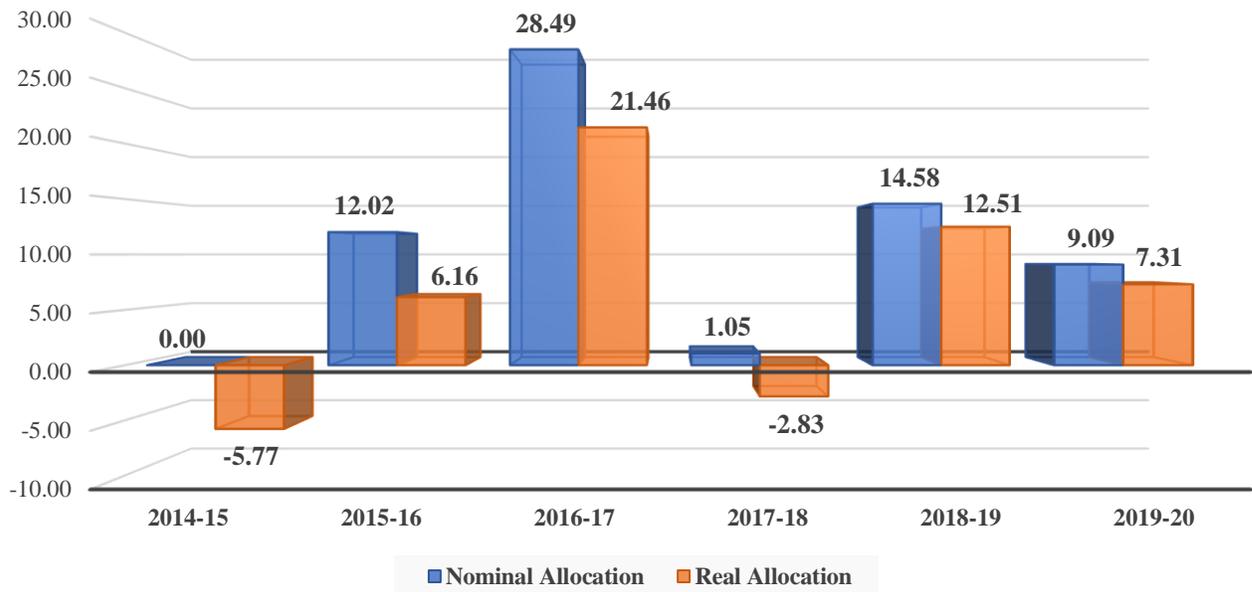
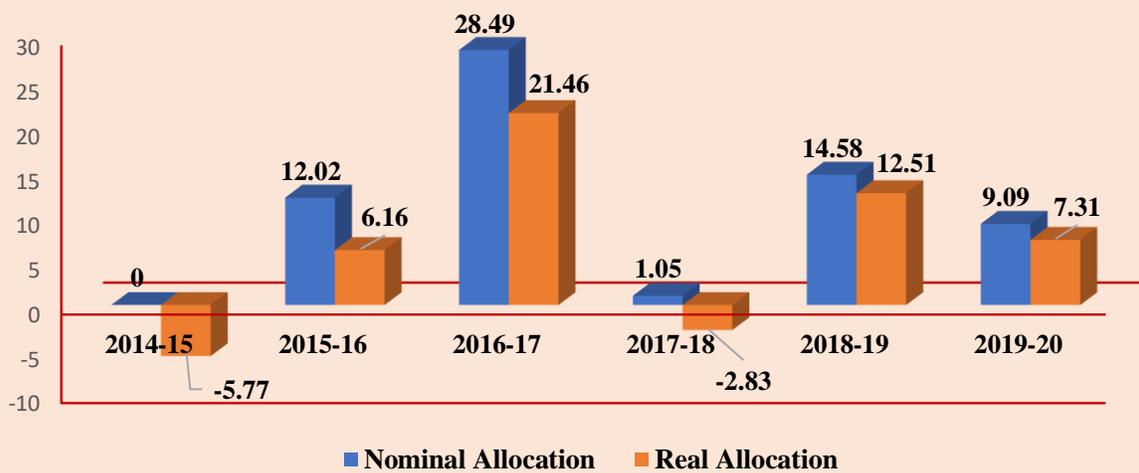
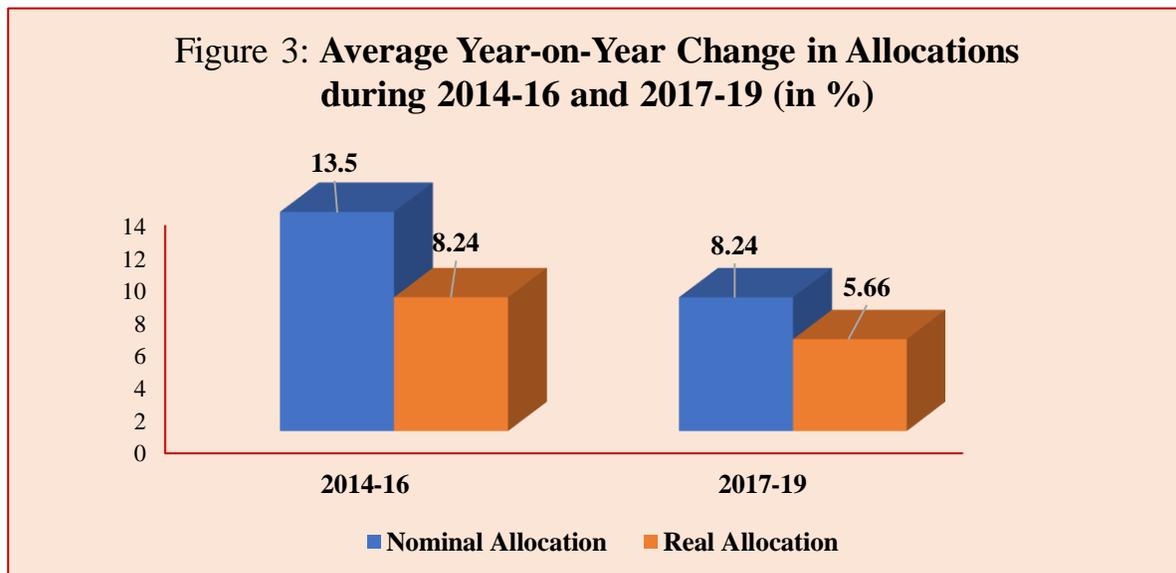
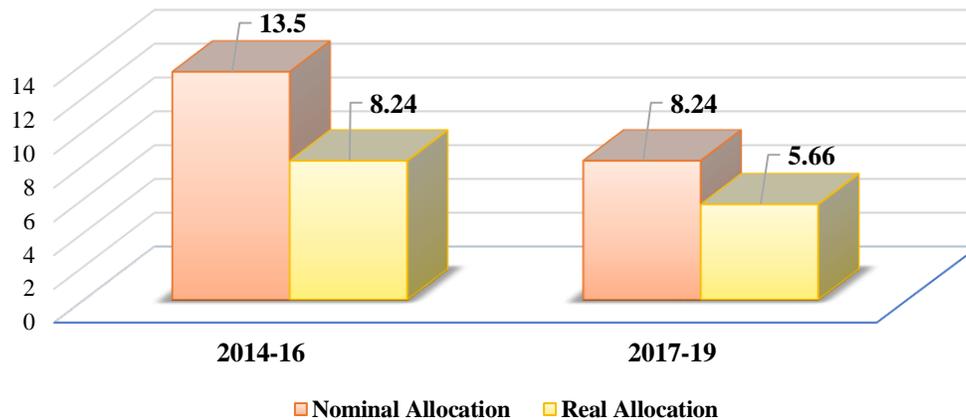


Figure 2: Year-on-Year Change in Allocations during 2014-15 and 2019-20 (in %)



Source: Compiled by authors. Retrieved from the Official Webpage of MGNREGS, Ministry of Rural Development, Government of India (<http://nrega.nic.in/netnrega/home.aspx>).

Figure 3: Average Year-on-Year Change in Allocations during 2014-16 and 2017-19 (in %)



Source: Compiled by authors. Retrieved from the Official Webpage of MGNREGS, Ministry of Rural Development, Government of India (<http://nrega.nic.in/netnrega/home.aspx>).

Table 2 makes a comparison of the performance of MGNREGA on key parameters between the periods 2014-16 and 2017-19. The person-days generated as a proportion of total labour budget has increased dramatically. The combined share of socially marginalized communities – schedule caste (SC) and schedule tribe (ST) – have declined. While SC participation has dropped, ST participation has more or less remained constant. It indicates that there is still a

great scope in the programme to transform rural caste inequalities. It is possible that the beneficiaries of backward classes lack necessary access to MGNREGA works or the entitlements do not reach them due to inefficient functioning of the institutions. The Act mandates that one-third of the beneficiaries should be women (Schedule II, Section 6 of MGNREGA). In the year 2019, women workforce participation in the programme was about 55 percent. Women participation share at the national level has generally been high in MGNREGA ever since its inception.

Table 2: Performance of MGNREGA during the period 2014-15 and 2019-20

	Average	
	2014-16	2017-19
Approved Labour Budget (Rs. in Crores)	226.99	254.88
Person-days Generated (as percentage of total labour budget)	93.41	100.46
SC Person-days (as percentage of total person-days)	22.00	20.69
ST Person-days (as percentage of total person-days)	17.46	17.73
Women Person-days (as percentage of total person-days)	55.43	54.27
Average Days of Employment provided per Household	45.01	48.32
Average Wage Rate Per Day Per Person (Rs.)	153.22	176.89
Total Households Worked	4,69,00,000	5,29,00,000
Total No of HHs completed 100 Days of Wage Employment	37,77,277	40,91,723
Share of HHs completing 100 days wage employment in total	7.97	7.72
Total Individuals Worked	7,04,00,000	7,75,00,000
Differently-abled Persons Worked	4,48,244	4,63,973
Percentage Share of Differently-abled Persons	0.64	0.60

Source: Compiled by authors. Retrieved from the Official Webpage of MGNREGS, Ministry of Rural Development, Government of India (<http://nrega.nic.in/netnrega/home.aspx>).

However, the share has slightly declined over the period under study. Setting quotas has perhaps proven to have a positive impact though the actual women participation rate varies widely across states¹. The average no. of days of employment provided per household in MGNREGA has

¹ In South Indian states, the women participation rates reach as high as 89 percent in Kerala. But in North Indian states the number is lower than the national average. For instance, in the year 2019, the women participation rate was 35 percent in Uttar Pradesh, and 30 percent in Jammu and Kashmir. For details, please visit <https://socialprotection.org/discover/blog/policies-and-potentials-women-empowerment-mahatma-gandhi-national-rural-employment>.

although increased, it is still under 50 days. The average per day wage rate for unskilled work under the Scheme has increased. For the fiscal 2020-21, the wage rate has been fixed at INR 202 – an 11 percent hike (from INR 182) over the previous year.

The Ministry of Rural Development has notified the revised wage rates under MGNREGA for financial year 2022-23 in March 2022. The average increase in the MGNREGA wage rates across the country is a merely 4.25% (Dey et al. 2022). The maximum of 7.14% increase (from INR 294 per day in 2021-22 to INR 315 per day in 2022-23) has been recorded only in Goa of all the 31 states and UTs. This is even lower than the minimum wages paid to unskilled agricultural workers². A recently constituted committee under Dr. Anoop Satpathy, *Fellow (Faculty Member)*, *V. V. Giri National Labour Institute* has also recommended that the MGNREGA wages be linked to the CPI-Rural and suggested that at INR 375 the national minimum wage rate be fixed³. Further, share of households having completed 100 man-days of work is as low as 8 percent and has declined slightly. Similarly, share of differently-abled persons in total persons worked have also somewhat declined.

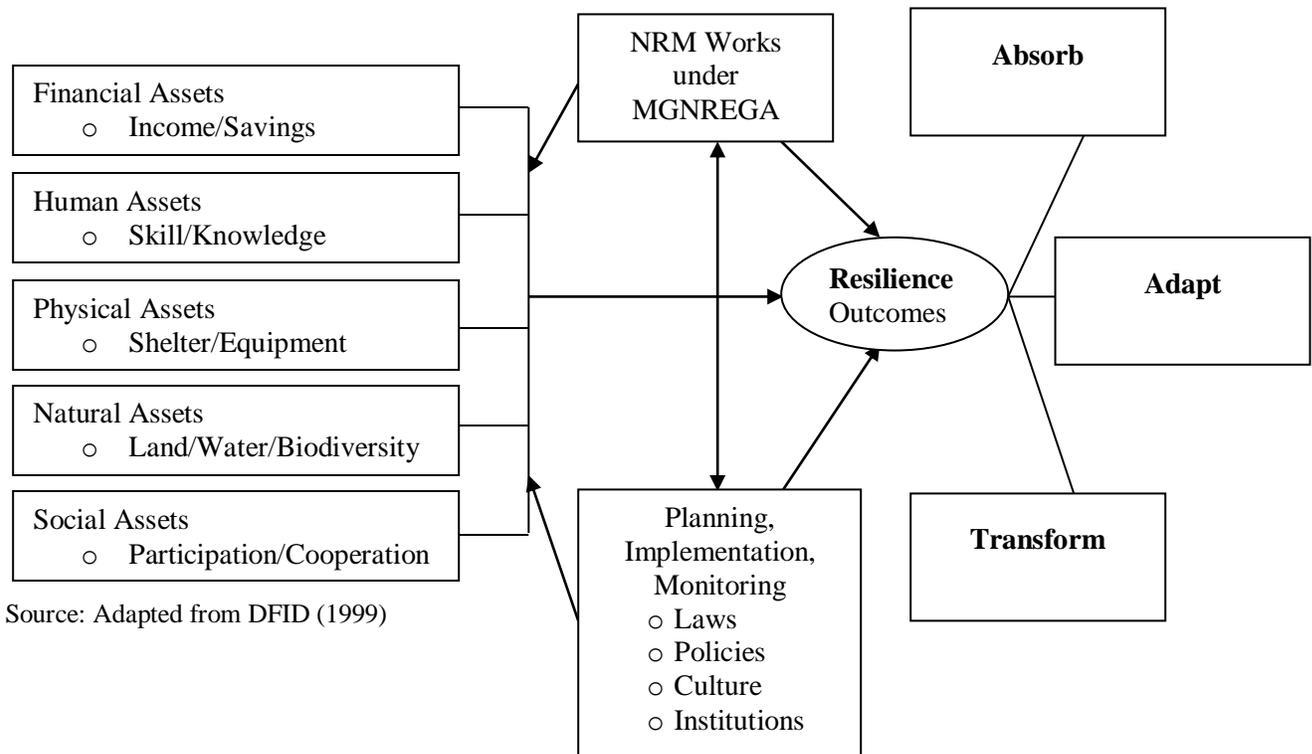
4. Proposed Framework

The evaluation of MGNREGA programme could be based on a theory of change that identifies how NRM works can lead to changes in five livelihood capitals, building household resilience to climate change so as to address complex risks and take advantage of new opportunities. Figure 4 presents the Sustainable Livelihood Approach (SLA) and its applicability to NRM works and resilience of the households to climate shocks. Researchers have emphasized on the importance of asset creation at the household level that will provide capacity to withstand any shock and uncertainty. Asset or capacity building models focus on developing the underlying resources and capacities that are needed to escape poverty on a sustainable basis. They depict the critical mass of assets required to cope with stresses and shocks, and to maintain and enhance capabilities at present and in the future. They may focus on a more limited (e.g., specifically economic) or a wider set of assets (e.g., physical, social, natural).

² The prevailing rates for unskilled agricultural workers are between Rs. 347-383 per day, depending on the region of employment. For further details, see <https://www.thehindubusinessline.com/economy/mgnrega-wages-up-about-11-yet-at-least-40-lower-than-minimum-wages/article31197140.ece>.

³ For details, see <https://www.downtoearth.org.in/blog/agriculture/does-centre-s-move-to-hike-mgnrega-wages-hold-any-value--63732>.

**Figure 4: Evaluation Framework for Capturing the Impact of MGNREGA works:
Based on Sustainable Livelihood Approach**



The SLA framework was adapted from a model developed by the UK’s Department for International Development (DFID). It is a holistic, asset-based framework for understanding poverty and the work of poverty reduction. It provides a simple but well-developed way of thinking about complex issues. Further, it can be applied at various levels– as a broad conceptual framework or as a practical tool for designing programs and evaluation strategies (DFID, 1999). The DFID has defined a ‘sustainable livelihood’ in the following way: “A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future”. Figure 4 depicts the details of various components of sustainable livelihood framework in the context of asset creation in the individual land. In total five assets/capitals have been identified. They are:

(1) Financial Capital (Assets), (2) Social Capital (Assets), (3) Human Capital (Assets), (4) Physical Capital (Assets), and (5) Personal Capital (Assets).

5. Conclusion

In order to address the challenges of poverty, climate vulnerability and gender inequality, governments across the world employ two public policy responses, i.e., social protection and climate change programmes (Johnson et al. 2013; Davies et al. 2013; Béné et al. 2014). While the social protection programmes provide a safety net for the poor households by providing various cash transfers and labour market instruments, climate change programmes target to address climate-induced risks to rural livelihoods, due to flood, drought etc. (Béné et al. 2014). Although majority of the countries have implemented various comprehensive strategies for both social protection and climate change, very few have attempted to align them (Davies et al. 2013; Devereux, Roelen, & Ulrichs, 2016). In reality, they remain in separate institutional homes. This limits their potential to build synergies for sustained efforts to reduce social, economic and environmental vulnerability (Devereux, Roelen, & Ulrichs, 2016). While MGNREGA has been playing an instrumental role in generating rural employment and acts as safety net, as also seen in the migrant crisis during pandemic time, its role in building ecosystems resilient to the climate crisis is being increasingly recognised. The present paper documents the current status of the world's largest social protection programme and demonstrates how NRM works can make rural households resilient towards climate shocks through the Sustainable Livelihood Approach (SLA).

Mainstreaming climate resilience into strengthen MGNREGA requires a number of intervention measures. First, building adaptive capacities at the micro level calls for essential community centric planning and more independent studies and surveys that can quantify the scheme's adaptation to climate risks while creating NRM assets. This also requires application of robust methodologies for measurement and accounting of environmental services (Adam, 2015). Second, MGNREGA has potential to empower women in a sense that it provides opportunity to experience their collective strength and potential, while redefining relations with men through involvement in the programme (Jayachandran, 2019). Therefore, frequent conduction of training and awareness programmes on gender equality and women's rights in MGNREGA can fetch positive gender outcomes at the micro level. Third, it is high time to acknowledge MGNREGA as a climate-smart green employment generation programme. A study conducted by Chathukulam et al. (2021) discussed how an urban employment guarantee scheme in Kerela, *Ayyanakali Urban Employment Guarantee Scheme*, similar to the MGNREGA has been used for urban ecological restoration and resulted in enhancing household's quality of life. Four, a

significant increase in the MGNREGA wage is essential to boost rural expenditure and aggregate demand in the economy, which is crucial for its recovery (Dey et al., 2022). Last but not the least, increasing climate shocks compounded by other political, economic and health shocks necessitate the integration of MGNREGA with disaster mitigation plans (Cinner et al., 2018).

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