

RURAL NON-FARM EMPLOYMENT IN INDIA: TRENDS, COMPOSITION AND DETERMINANTS

*Manjuri Pakhira **
*Pravat Kumar Kuri ***

Abstract: This paper analyzes the trends of rural non-farm employment (RNFE) in India over the period 1983 to 2021-22 using the unit level NSSO and PLFS data on employment unemployment survey. Over the years the importance of RNFE has been found to show an increasing trend in India both in terms of share in employment and in terms of contribution to GDP. The changing characteristics of the compositions of RNFE over time reveal the growing importance of construction sector along with the declining share of community, social and personal services. This trend justified the process of casualization of RNFE in India. Moreover, the gender disparity in RNFE is found to persist in glaring visibility in India. The females are observed to be lagged much behind the male counterparts in terms of their participation in RNFE. The estimated multinomial logit regression model identified the household level socio-economic determinants like castes, gender, level of education, technical knowledge, economic status in terms of the possession of agricultural land etc. to explain the employment diversification towards RNFE in India.

Keywords: Rural Non-farm Employment, Gender, Sectoral Composition, Employment Diversification, Shifts in Casualization.

Introduction

In India, traditionally, rural employment is considered as the synonym of agricultural employment. However, over the years, the growth of agricultural sector has not only become stagnant, but also experienced a decelerating trend. As a result, the ability of this sector to absorb the growing workforce becomes limited. Along with this the slow structural transformation in Indian economy as well

as lower absorption of labour in the organized manufacturing sector led to the emergence of rural non-farm employment (Lama, 2015). Thus, in the recent years rural non-farm sector is emerging as an important instrument for rural development through playing a key role in alleviating poverty and providing gainful employment. It is visibly reflected in the increasing share of non-farm

* *Research Scholar, Department of Economics, The University of Burdwan, Burdwan, India*

Email Id.: manjuripakhira@gmail.com

** *Professor, Department of Economics, The University of Burdwan, Burdwan, India*

employment in total rural employment. In 1977-78, about 81 per cent of the males and 88 per cent of the females among the usual status workers in rural India were engaged in the agricultural sector and these proportions were gradually decreased to 59% and 75% in 2011-12 for males and females respectively (NSS report, Employment and Unemployment Situations in India, 2011-12). And in 2021-22 these percentages have reached to 51% and 75.9% respectively for the males and females (Annual Report, PLFS 2021-22). While, the share of agriculture in the gross domestic product has been decreased from more than 50% at the time of independence to around 14% in recent years (Kumar et al., 2011). Thus, the share of agricultural sector has been declined in terms of both employment and GDP simultaneously. However, its share in GDP, declined at a faster pace than that of employment. Thus, it is evident from the lower share in GDP and higher share in employment of the agricultural sector that there is a widespread disparity in level of productivity and income between the farm and non-farm sector in India.

Under this backdrop this study intends to examine the trends and compositions of rural non-farm employment and its determinants. This study uses different quinquennial rounds of surveys conducted by NSSO on employment and unemployment during the period 1983 to 2011-12 and the Periodic Labour Force survey data for the period 2017-18 to 2021-22. National Accounts Data, MOSPI, GOI, provide the data to study the sectoral contribution on GDP. To

examine the determinants of employment diversification towards the non-farm sector in rural India this study has used the 50th round (1993-94), 61st round (2004-05) and 68th round (2011-12) Employment-Unemployment Survey data and Periodic Labour Force Survey data 2021-22 conducted by NSSO. However, there is another round of employment and unemployment data (66th round) conducted in 2009-10 and four different PLFS data between 2017-18 to 2020-21 which are not taken into consideration while performing this study. The 2009-10 was declared a drought year and hence survey results may have been affected (Shaw, 2013). Similarly in 2020 the dual hit of COVID19 pandemic and nationwide lockdown also have its impact on the survey conducted during 2019-20 and 2020-21. Hence to have a parity between the time gap and to incorporate the recent trends these above mentioned four years have been selected for these 28 years of studied period. Broadly two types of factor 'push' factor and 'pull' factor, are the main reasons of employment diversification towards non-farm sector in rural India (Barrett et al., 2001). Push factors generally force the households to diversify in order to survive and stabilize the flow of income. While the pull factors lead to better employment opportunities. The present study focuses on the determinants of different types of non-farm activities. Here rural non-farm activities have been broadly classified as self-employment, regular wage or salaried employment and casual employment. Since in this present study dependent variable is classified into more

than two categories, a multinomial logit model has been applied.

For convenience this paper is divided into four sections. Section II dealt with the trends and compositions of rural non-farm employment in India. The determinants of rural employment are analyzed in section III. The summary and conclusions appear in section IV.

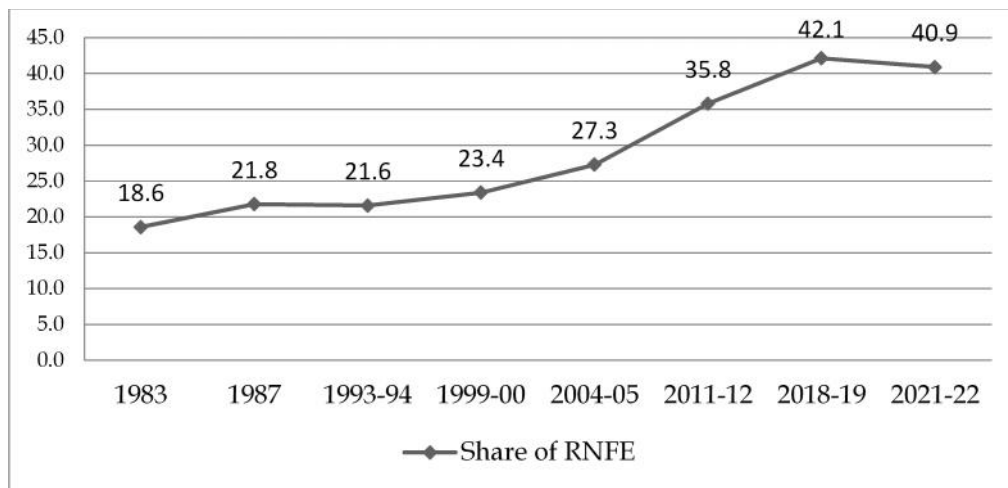
Trends and Compositions of Rural Non-Farm Employment

Distribution of Workers Between Farm and Non-Farm Sector in India

The rural employment can be broadly classified into two categories i.e., farm employment and non-farm employment. Traditionally rural employment in India was dominated by the farm sector. It is

generally observed that as a nation developed over time the dependency of the labour force shifts from the farm sector towards the non-farm one. India has been experiencing the same kind of structural transformation from the last few decades. After remaining at a constant level, share of farm sector in labour force started to decline from the mid 1970's (Himanshu et al., 2011). While the share of rural non-farm employment has been experiencing an increasing trend since then and till now the process is going on. In recent years the share of rural non-farm employment is around 41% (PLFS,2021-22). Thus, it can be argued that the declining share of agricultural employment accelerated the growth of rural non-farm sector in India.

Figure 1: Share Of Rural Non-farm Employment In India, During 1983 To 2021-22



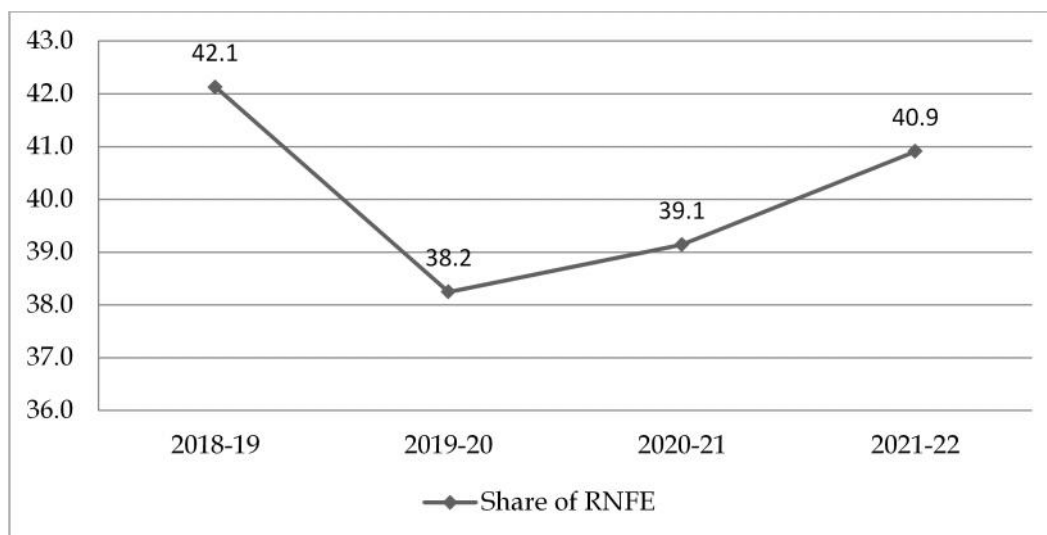
Source: NSSO data of Different rounds and Annual Periodic Labour Force Survey

Figure 1, shows the share of rural non-farm employment to total rural employment in India considering the time period 1983 to 2021-22. There was a sharp

increase in the share of RNFE during 1983 to 1987-88 from 18.6% to 21.8%. This increment can be explained jointly as the impact of growth-related economic diversification and the severe drought in 1987-88 that forced a part of rural population to diversify towards the non-farm activities in order to live a subsistence level of living (Ranjan, 2007). Between 1987-88 to 1993-94 the share of RNFE remained stagnant at around

21.6% may be because of the crisis Indian economy had faced during that period. However, in the post reform period, a steady increase in the share of RNFE has been observed constantly from 21.6% in 1993-94 to 27.3% in 2004-05 to about 42% in 2018-19. The expansion of manufacturing, construction and service sector might be the reason behind the sharp increase in RNFE. In 2021-22 the share of RNFE slightly declined to around 41%.

Figure 2: Share Of Rural Non-farm Employment In India, During 2017-18 To 2021-22



Source: NSSO data of Different rounds and Annual Periodic Labour Force Survey

In figure 2, when the share of RNFE is thoroughly considered during the period 2018-19 to 2021-22 following the annual PLFS data, a downturn has been observed in 2019-20. From 2020-21 this share started to recover again. This drop in the share of RNFE basically reflects impact of COVID19 pandemic. Dual hit of the pandemic and the nationwide lockdown

have led to shut down of different production units and contraction of different industries. Most of the migrated workers have been forced to return to their native land. All these circumstances started to put pressure on farm sector by forcing a number of countrymen to shift their dependency towards the farm sector for their livelihood. As a result, the share

of total rural non-farm employment in total rural employment declined. However, with the passage of time the unlock process have been undertaken leading to recovery in the share of RNFE.

Sectoral Distribution Of Rural Non-Farm Employment In India

Rural non-farm sector consists of a diverse portfolio of activities which can be classified into eight sub-sectors as given in the table -1. Among those sub-sectors

mining & quarrying, manufacturing, utilities and construction together represent the secondary sector and the rest consist the tertiary sector. It can be observed from the table that manufacturing; construction; trade, hotel & restaurants and community, social and personal services are the sectors that absorb the major share of rural non-farm employment whereas rest of the sectors contribute relatively smaller share.

Table - 1: Sectoral Distribution of Rural Non-farm Sector (UPSS) in India, 1983 to 2021-22

<i>Sector</i>	1983 (38th round)	1993-94 (55th round)	2004-05 (61th round)	2011-12 (68th round)	2017-18 (PLFS)	2021-22 (PLFS)
<i>Mining & Quarrying</i>	2.59	2.86	1.89	1.31	0.96	0.78
<i>Manufacturing</i>	36.33	34.03	29.27	23.85	19.16	19.14
<i>Utilities</i>	0.83	0.82	0.57	0.66	0.89	0.83
<i>Construction</i>	9.47	10.87	17.91	30.65	30.22	31.73
<i>Secondary Sector</i>	49.22	48.59	49.64	56.47	51.23	52.47
<i>Trade, Hotel and Restaurants</i>	18.59	19.18	22.57	18.18	19.45	20.41
<i>Transport & Communication</i>	5.84	6.36	9.09	8.43	9.80	9.48
<i>Financing, Insurance, Real estate & Business Services</i>	1.05	1.39	1.77	1.59	1.94	1.82
<i>Community, Social and Personal Services</i>	25.30	24.49	16.93	15.33	17.58	15.82
<i>Tertiary Sector</i>	50.78	51.41	50.36	43.53	48.77	47.53

Source: Estimated from various rounds of NSSO and Annual PLFS data

It is observed from the table that the share of workers in total rural non-farm employment across different sub-sectors does not follow any uniform pattern.

Only the construction sector followed an increasing trend throughout the period 1983 to 2021-22 except the year 2017-18. Trade hotels and restaurants follow a

rising trend till 2004-05 and after a drop in 2011-12 the share of this sector in RNFE started to revive. Though transport & communication and financing, insurance real estate & business services, these two subsectors contribute smaller share in RNFE, have followed an increasing trend till 2004-05. Whereas manufacturing sector followed an ever-decreasing trend during the studied period, Community, social and personal services followed a declining trend till 2011-12 then ups and down in this sector has been observed. However, when we consider the sectoral distribution in broader aspect, initially tertiary sector contributed the greater share in RNFE and followed a rising trend till 1993-94. After that the scenario has altered. The secondary sector started to

provide an increasing share in RNFE till 2011-12. In particular the rapid rise of construction sector and continuous decline of community, social and personal services in providing employment in rural non-farm sector were the important factors in changing the scenario. However, in 2017-18 tertiary sector flourished again due to recovery in every sub-sector of the tertiary sector. In 2021-22 the secondary sector has again showed an increasing trend.

Shift From Casualization Of Rural Non-Farm Employment

Non-farm Employment can be categorized into three sub-sectors depending on the different types of employment, i.e., *self-employed*¹, *regular wage or salaried employee*², *casual labour*³.

Figure 3: Distribution of Rural Non-farm Employed (UPSS) by Category of Employment



Source: Various rounds of NSSO data and PLFS data

According to the NSSO 68th round report, in the rural India, the share of self-employed, regular wage/salaried

employees and casual labour were 56 %, 9 % and 35 % respectively. The distribution pattern remains unchanged

even if the rural non-farm employment is considered only. Figure-3 depicts the distribution of rural non-farm employed persons in these three employment categories considering the time period 1983 to 2021-22. It is evident from the figure that self-employment provided the major share of RNFE all along the period. Up to 2004-05 its share remained around 50% and after that it started to decline. Generally, it is considered that regular non-farm employment is associated with relatively high and stable incomes. However, over the time the share of regular wage or salaried employment slowly declined from around 26% in 1983 to 20% in 2011-12. While that of casual employment rose from around 23% to 36% during the same time span. Regular employment is more commonly associated with social services and casual labours are predominant in the construction sector. Thus, the declining trend in employment in social services could be the reason behind the falling share of regular wage or salaried employment, whereas the rapidly increasing share of construction sector in RNFE might enhance the share of casual labours (Himanshu et al., 2011). These scenarios clearly indicating that casualization of rural workforce in nonfarm sector is taking place in India (Misra, 2013). Broadly the tertiary sector can be considered as the major source of regular wage or salaried employment.

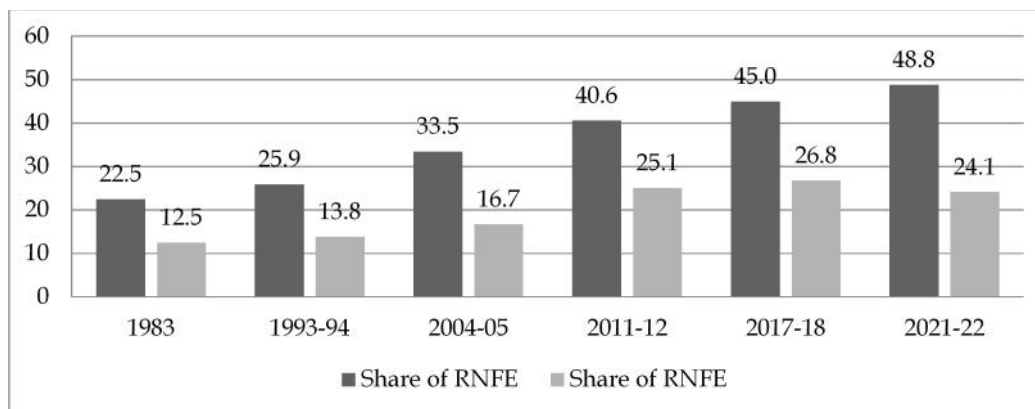
Since 2017-18 the scenario has been changed drastically. Till 2011-12 a shift from self-employment and regular wage employment towards casual employment has been observed. However, in 2017-18

a spike in the share of regular wage or salaried employment has been taken place from around 20% in 2011-12 to 31.5% in 2017-18 following a decline in share of both self-employment and casual labour. In 2021-22 the share of both regular employment and casual labour declined slightly following an increase in self-employment. The increment in the share of tertiary sector might be an explanation behind the improvement in the share of regular wage employment. However, since 2017-18 comparatively a more equitable distribution in rural non-farm employment has been observed among these three categories of employment.

Gender-Wise Distribution Of Rural Workers In Farm And Non-Farm Sector

The employment diversification towards nonfarm sector in rural India has not been uniform across the gender. Whether we consider the labour force participation rate (LFPR)⁴ or workforce participation rate (WPR)⁵, females have always lagged behind the males. In the rural areas, WPR for females were 26.6 per cent compared to the 54.7 per cent of males in 2021-22 (Annual PLFS report 2021-22). This trend is not different when we consider the urban India or India as a whole. However, in rural employment, the gender dimension is more important as the concentration of female workers in farm sector is observed to be more than that of the males. Following figure 4 portrayed the share of rural workers in nonfarm employment for both male and females during the period 1983 to 2021-22.

Figure 4: Gender-wise Share Of Rural Workers (UPSS) In RNFS During 1983 To 2021-22 (In%)

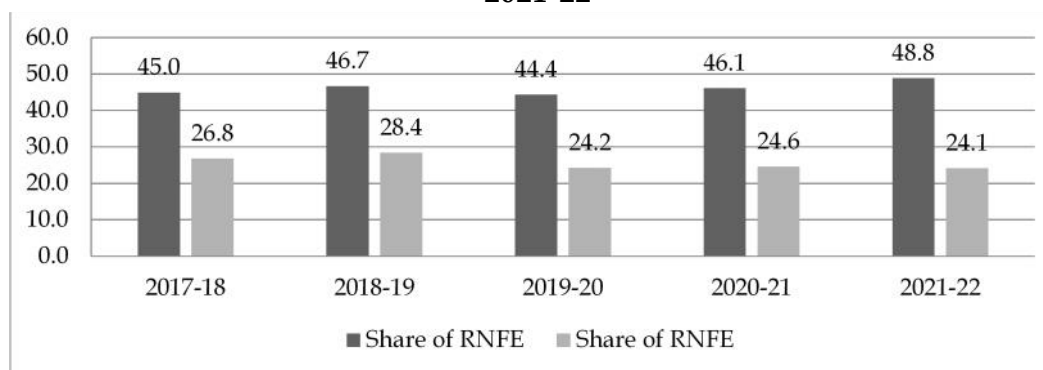


Source: NSSO data of Different rounds and Annual Periodic Labour Force Survey

It can be observed from the diagram that the share of male workers in RNFE has been reported to be at a quite higher level compared to the females throughout the whole period (Ph. D Thesis, Lama, 2015), indicating the greater concentration of rural females in agriculture. An increasing trend has also been found in the share of RNFS workers irrespective of gender. The share of male workers in RNFS consistently increased from 22.5% in 1983

to 48.8% in 2021-22. However, for the females this share has followed an increasing trend till 2017-18 and then declined. Finally, the share female workers in RNFS to the total rural female workers has been reached to 24.1% in 2021-22 from 12.5% in 1983. After 1993-94 the share of nonfarm employment for both the gender has been increased in a much steeper way than prior to that year.

Figure 5: Gender-wise Share Of Rural Workers In RNFS During 2017-18 To 2021-22



Source: NSSO data of Different rounds and Annual Periodic Labour Force Survey

During the period 2017-18 to 2021-22 the gender-wise share of rural workers in RNFE is little bit fluctuating. In 2019-20 a drop has been observed in the share of RNFE for both males and females, basically due to the impact of COVID 19 Pandemic and nationwide lockdown. As a result, the gender-wise share of rural workers in RNFS also followed a declining trend. From 2020-21 the share of RNFE for the males started to recover. However, for the females, the share of RNFE has remained more or less stagnant around 24% after the pandemic.

Even though the share of employment in RNFE has been increasing overtime, agriculture is still dominating in terms of employment share. This trend is more prominent among the women. The gender-wise distribution of workers

under the broad industrial divisions in rural India is presented in table-2. The share of agricultural sector in rural employment is observed to show a declining trend over time and this decline is found to be sharper among the rural male as compared to the female. After agriculture, with the passage of time, construction, manufacturing and trade, hotel & restaurants have become the major sources of employment for the rural males. In 2021-22 those shares were 16.6%, 7.9% and 10.6% for the construction, manufacturing and trade, hotel & restaurants sector respectively. Manufacturing sector is equally important for the rural females. Construction, trade, hotel & restaurants, and transport & communication these three sub-sectors

Table-2: Gender-wise Distribution of Workers (UPSS) in Rural India (in Percentage)

<i>Broad Industrial Division</i>		<i>38th (1983)</i>	<i>50th (1993-94)</i>	<i>61st (2004-05)</i>	<i>68th (2011-12)</i>	<i>PLFS 2017-18</i>	<i>PLFS 2021-22</i>
<i>Agriculture and Allied Sector</i>	Male	77.5	74.1	66.5	59.4	55.0	51.0
	Female	87.5	86.2	83.3	74.9	73.2	75.9
<i>Mining & Quarrying</i>	Male	0.6	0.7	0.6	0.5	0.5	0.4
	Female	0.3	0.4	0.3	0.3	0.2	0.1
<i>Manufacturing</i>	Male	7.0	7.0	7.9	8.1	7.7	7.9
	Female	6.4	7.0	8.4	9.8	8.1	7.9
<i>Electricity, Gas and Water Supply</i>	Male	0.2	0.3	0.2	0.3	0.5	0.5
	Female	-	-	0.0	0.1	0.0	0.1
<i>Construction</i>	Male	2.2	3.2	6.8	13.0	14.5	16.6
	Female	0.7	0.9	1.5	6.6	5.3	5.3

<i>Broad Industrial Division</i>		<i>38th (1983)</i>	<i>50th (1993-94)</i>	<i>61st (2004-05)</i>	<i>68th (2011-12)</i>	<i>PLFS 2017-18</i>	<i>PLFS 2021-22</i>
<i>Trade, Hotel and Restaurants</i>	Male	4.4	5.5	8.3	8.0	9.2	10.6
	Female	1.9	2.1	2.5	3.0	4.0	3.7
<i>Transport & Communication</i>	Male	1.7	2.2	3.8	4.2	5.2	5.6
	Female	0.1	0.1	0.2	0.2	0.3	0.3
<i>Other Services</i>	Male	6.1	7.0	5.9	6.4	7.6	7.5
	Female	2.8	3.4	3.9	5.2	8.9	6.8

Source: NSSO data of different rounds and Annual Periodic Labour Force Survey, GOI

have experienced an increasing trend in employing rural males, while the share of rural females in these sub-sectors remained quite low. When the financing, insurance, Community, Social & Personal Services etc. (other services in table -2) are considered, a substantial proportion of workers irrespective of gender have been absorbed in these sectors. However, the share of rural males has reported a fluctuating trend over the period, while for the females a consistently increasing trend was observed except 2021-22. The share of workers in the sub-sectors Mining and quarrying and electricity, gas and water supply, both male and female remained at a marginal level as well as at

a stagnant level throughout the period.

Sectoral Share of Employment and GDP in India

Different industries of an economy can be broadly classified into three sectors, which are *Primary Sector*, *Secondary Sector* and *Tertiary Sector*. According to the Clark-Fisher thesis, with the development of a nation, there will be a shift in the dependency from primary sector to secondary sector and then from secondary to the tertiary sector. Primary sector considers mainly the agriculture and allied activities whereas secondary sector incorporates the industrial activities.

Table -3: Sectoral Share in Employment and in GDP (at Factor Cost), 1983 to 2011-12

<i>NSSO Data</i>	<i>Year</i>	<i>Agriculture and allied Sector</i>		<i>Industry</i>		<i>Tertiary Sector</i>	
		<i>% of Workforce</i>	<i>% share of GDP</i>	<i>% of Workforce</i>	<i>% share of GDP</i>	<i>% of Workforce</i>	<i>% share of GDP</i>
<i>38th round</i>	<i>1983</i>	68.52	34.97	13.87	25.86	17.61	38.25
<i>43rd round</i>	<i>1987-88</i>	65.99	29.86	15.58	26.81	18.43	42.76

NSSO Data	Year	Agriculture and allied Sector		Industry		Tertiary Sector	
		% of Workforce	% share of GDP	% of Workforce	% share of GDP	% of Workforce	% share of GDP
50th round	1993-94	66.22	28.24	14.69	26.73	19.09	44.76
55th round	1999-00	61.96	23.18	15.66	26.77	22.38	50.05
61st round	2004-05	58.49	19.03	18.14	27.93	23.37	53.05
64th round	2007-08	57.12	16.81	18.72	28.74	24.16	54.45
66th round	2009-10	53.12	14.64	21.53	28.27	25.35	57.09
68th round	2011-12	48.86	14.37	24.26	28.22	26.88	57.42
PLFS	2017-18	44.14	15.29	24.80	31.38	31.06	53.33
PLFS	2021-22	45.46	15.58	24.88	31.44	30.66	52.98

Source: NSSO, relevant rounds & PLFS data and National Accounts Data, MOSPI, GOI.

Table- 3 deals with the share of these three broadly classified sectors in employment as well as in GDP over the period 1983 to 2021-22. It is evident from the table that the agriculture and allied sector has experienced a steady decline over time for both in the share of workforce and GDP. However, the share of this sector in GDP has declined at a faster rate (from 34.97% in 1983 to 15.58 % in 2021-22) than that of the work force (from 68.52% to 45.46% during the same period of time). While the secondary sector is considered, its contribution in GDP as well as in employment has increased at a very slower pace. Around 13.87% of workforce has contributed about 25.86% of GDP share in 1983. In 2021-22, the share of this sector in GDP rose to only 31.44% providing employment to 24.88% of workforce. For the tertiary sector both the share of employment and GDP reported an increasing trend. About 38.25% of GDP has been contributed by

17.61% of workers in 1983. Indicating a rapid increase in share, in 2021-22, 30.66% of workers in tertiary sector have contributed about 52.98% of GDP.

Hence, the data clearly represents that the share of primary sector in employment consistently decreases with the passage of time. Still a larger share of rural population depends on primary sector for their livelihood. While on the other hand the secondary and tertiary sector together provide a greater share of GDP as compared to their share in employment, which indicates that these sectors can provide more productive employment opportunities.

Incidence of Rural Non-Farm Employment In Major States of India

The incidence of non-farm employment in rural India has not been appeared uniformly in the different regions of India (Bhaumik, 2007). Hence in this section this study has focused on the development of

rural non-farm sector in the different states of India, for which the percentage of rural non-farm workers to the total workers in terms of usual status activity considering both principal and subsidiary status activity have been taken into account over the period 1993-94 to 2021-22.

From table -4 it is found that in 1993-94 only Kerala (43.6%) and West Bengal (36.7%) were the two states which have reported their share of RNFE above 30%. As the time passes the share of rural non-farm employment has increased in every

state, however, this increment has taken place in different states at a varying degree. In 2021-22 only two states Chhattisgarh (25.8%), and Madhya Pradesh (26.3%), have reported their share in RNFE below 30%. However, Maharashtra has just crossed that threshold with its 30.1% share in RNFE. On the other hand, Kerala (70%), Punjab (63%), Haryana (56%), Tamil Nadu (53.9%), Jammu & Kashmir (53.7%), and West Bengal (51.5%) have been found as the top six states in terms of the percentage share in RNFE.

Table 4: Share of Rural Non-farm Employment (UPSS) in Major States of India

<i>State</i>	<i>1993-94</i>	<i>1999-00</i>	<i>2004-05</i>	<i>2011-12</i>	<i>2017-18</i>	<i>2021-22</i>
<i>Andhra Pradesh</i>	20.7	21.2	28.2	30.5	33.1	43.7
<i>Assam</i>	20.8	32.3	25.7	38.0	49.8	51.4
<i>Bihar</i>	15.7	19.4	22.1	32.4	51.2	40.0
<i>Chhattisgarh</i>	-	-	13.8	14.9	22.0	25.8
<i>Gujarat</i>	21.3	20.2	22.7	25.4	33.4	36.3
<i>Haryana</i>	28.1	31.5	35.9	42.2	59.3	56.0
<i>Himachal Pradesh</i>	19.7	26.4	30.4	36.7	40.1	39.1
<i>Jammu & Kashmir</i>	24.2	23.7	36.1	49.1	52.3	53.7
<i>Jharkhand</i>	-	-	30.0	39.4	44.6	40.5
<i>Karnataka</i>	18.8	17.9	19.0	29.4	32.8	35.3
<i>Kerala</i>	43.6	51.7	58.0	68.6	73.4	70.0
<i>Madhya Pradesh</i>	10.2	12.9	17.5	27.9	25.7	26.3
<i>Maharashtra</i>	17.4	17.4	20.0	22.9	25.5	30.1
<i>Orissa</i>	19.1	21.8	31.0	37.8	44.0	49.0
<i>Punjab</i>	25.3	27.4	33.1	47.6	59.3	63.0
<i>Rajasthan</i>	20.1	22.3	27.1	39.2	39.1	34.5
<i>Tamil Nadu</i>	29.5	32.1	34.6	48.8	57.5	53.9
<i>Telangana</i>	-	-	-	-	34.2	31.5
<i>Uttarakhand</i>	-	-	21.6	38.6	43.7	48.4
<i>Uttar Pradesh</i>	20.0	23.8	27.2	36.3	40.3	35.5
<i>West Bengal</i>	36.7	36.4	37.3	46.8	49.3	51.5
<i>All India</i>	21.6	23.7	27.3	35.9	40.6	41.0

Source: Estimated from different NSSO reports.

Note: The share of RNFE for the states Chhattisgarh, Jharkhand and Uttarakhand was not available for the years 1993-94 and 1999-00. Prior to 2004-05 these values are available as combined values with the states Madhya Pradesh, Bihar and Uttar Pradesh respectively. For Telangana the share of RNFE is available from 2017-18. Prior to this year the values of Andhra Pradesh represent the combined values for Andhra Pradesh and Telangana.

However, the share of RNFE at all India level has been reported at 41%. Thus, considering all workers, at rural India as

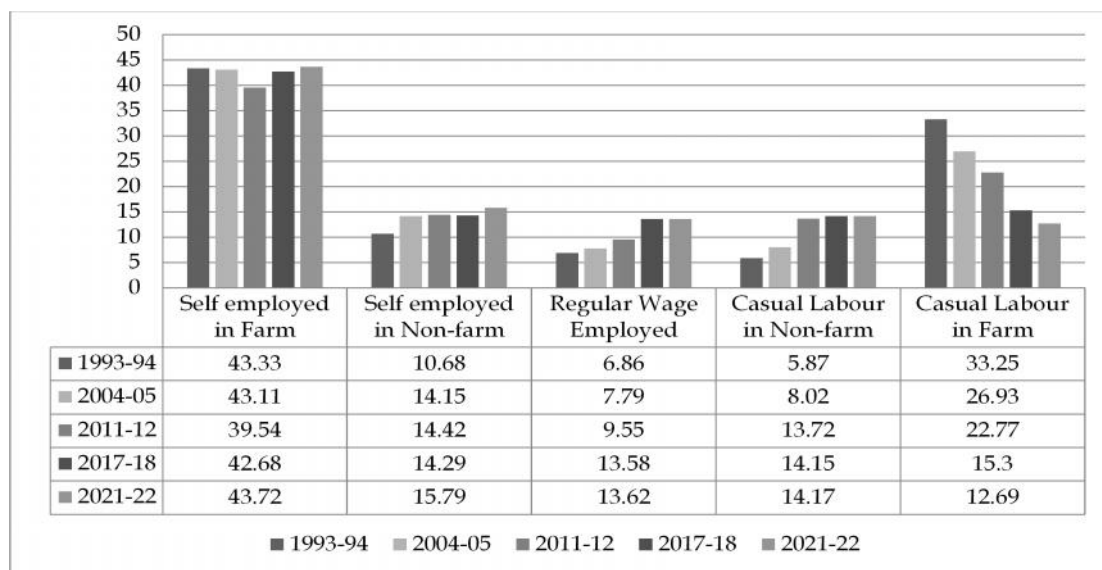
well as in several states, the share of RNFE is experiencing significant improvement.

Determinants of Rural Non-Farm Employment

Categorization of Rural Employment

Rural employment can be categorized into five subsectors i.e., *self-employed in farm*, *self-employed in non-farm*, *regular wage or salaried employee*, *casual labour in non-farm* and *casual labour in farm*. Before considering the determinants of the choices among various forms of economic activities, let us first have a glance on the trends of these forms of employment taking into account usual principal status⁶

Figure 6: Distribution Of Rural Employed In Different Employment Categories (Usual PS)



Source: NSSO data of Different rounds and Annual Periodic Labour Force Survey

It is observed that during the period from 1993-94 to 2021-22 the share of self-employment in the farm sector initially follows a declining trend till 2011-12 and

then started to increase again. Self-employment in non-farm sector is consistently observed an increasing trend except in 2017-18. Interestingly, the share

of regular employment and casual labour in non-farm sector are both found to follow an increasing trend excepting in 2017-18 and 2021-22. Moreover, the share of casual labour in farm sector is found to follow a declining trend throughout the studied period.

Determinants of the RNFE: Multinomial Logistic Regression Model

In order to identify the determinants of different employment activities available in rural areas, multinomial logistic regression model has been applied in the present study. Multinomial logistic regression model (MLRM) is applicable in a study where the dependent variable has more than two unordered categories (Kaur et al.2019). Following Cameron and Trivedi (2005) Multinomial logistic regression model can be represented as,

$$P_{ij} = P [y_i = j] = \frac{e^{S_j x_i}}{\sum_{n=1}^N e^{S_n x_i}}, (j=1,2,\dots,N)$$

Where, P is the probability of being in an

economic activity, i represents the individuals, j denotes the unordered employment categories, y_i s symbolizes the choice of jth occupation of the ith individual, x_i s denotes the vector of independent variables and β s represents the coefficients. Generally, a positive value of the coefficient for an explanatory variable signifies higher probability of a household for being in an activity compared to the reference category.

Dependent and Independent Variables

In the present study, to analyze the determinants of different activities spread in the rural areas, dependent variable has been categorized into five different farm and non-farm occupations. In the model the different categories of dependent variable are as follows: Self-employed in farm (SEF), Self-employed in non-farm (SENF), Regular wage earner (RWE), Casual labour in non-farm (CLNF) and Casual labour in farm (CLF). Here Self-employed in farm (SEF) has been considered as the reference category.

Table-5: Description of Independent Variables

Variables' Description	Categories	Justification
<i>Social Group(Caste of the household)</i>	Scheduled Caste, Scheduled Tribe, Other Backward Classes, Others	Social group is an important determinant behind diversification in rural India.
<i>Land Holdings (Size of agricultural land possessed by a household) [in hectars]</i>	Landless= not own any land; Marginal land owner =<1hector; Small land owner =1 to 2 hector; Semi	The size of land holdings is an important variable while choosing the employment activities among different farm and non-farm activities available in rural areas. Generally, the household with lower farm size has a positive relationship

	medium =2 to 4 hector; Medium= 4 to 10 hectors; Large land owner =10 hector and above.	towards diversification.
Gender (Gender of the household head)	0= if male headed household 1= if female headed household	Gender of the household head plays a significant role in determining the choice of economic activities. The participation of women in non-farm activity is observed to be limited in rural India. Mostly they are involved in farming and household activities.
Age (Age of the household head)	In absolute value	Age of the household head is another crucial factor in determining diversification. Young people are more likely to diversify their activity towards non-farm sector for their dynamic nature.
Education (Education level of the household head)	Illiterate, Literate without formal schooling, Below Primary, Primary to middle, Secondary to Higher Secondary, Diploma, Graduate and above	Education is an important source of human capital, which enhances the ability of a person to be absorbed in the non-farm activity more specifically higher return activities. Hence the education level of the household head will have a positive relation with the incidence of non-farm employment.
Technical education (Attainment of technical education by the household head)	0=No technical education 1= Yes (have technical education)	Technical education enhances the human capital through absorbing technological skill or knowledge. Thus, attainment of technical education will also have a positive impact on non-farm employment diversification.
BPL(Poor or non-poor)	0= if MPCE<Poverty line (poor) 1= if MPCE> =Poverty line (non-poor)	Economic status of a household plays dual role behind diversification. Sometimes poverty force the households to diversify in order to secure their livelihood. On other hand better economic condition open up better opportunity in non-farm sector.

Result and Discussion

To identify the reasons behind opting non-farm activities as the principal occupation by the rural people at the household level or individual level is very important. Several studies have identified different characteristics such as social group, gender, age, level of education, technical education, land etc. as the determining factors responsible for movement towards RNFE (Bhaumik, 2007; Datta and Sing, 2011, Khatun and Roy, 2012; Lama and Kuri, 2015, Kaur et al. 2019; Ghosh & Ghosal, 2022). The present study has been focused on the household level determinants of different types of principal occupations within farm and non-farm sector considering the period around three decades (1993-94 to 2021-22).

In a country like India, social group or caste of a household plays a determining role while choosing from different livelihood activities. It has been observed from the study that the probability of being employed in any activity other than self-employed in farm is positive and

significant for the persons who belong to SC category compared to the STs. The OBCs and others also have reported greater probability for being self-employed or casual labour in non-farm sector relative to self-employed in farm. The second important factor at the household level for determining livelihood activity is land holdings. Generally, size of land holdings is positively associated with the self-employment in farming activity, i.e., with the increase in the size of land holdings probability of being employed in framing activity increases. From the analysis of MLRM, it has been observed that marginal, small, semi-medium and medium land owners have greater probability to be associated with any non-farm activity as well as being casual labour in farm compared to be self-employed in farming activity. However, households with large size of land holdings are more likely to be involved in self-employed in farm which is reflected in the negative significant value of log odds associated with large size of land holdings for each of the employment category.

Table: 6(a) Determinants of Rural Employment in India

Variables	Self-Employed in Non-farm				Regular Wage Earner			
	1993-94	2004-05	2011-12	2021-22	1993-94	2004-05	2011-12	2021-22
Social_Group : ST reference								
SC	1.313*** (0.049)	1.114*** (0.042)	0.744*** (0.047)	0.906*** (0.034)	0.435*** (0.046)	0.299*** (0.045)	0.309*** (0.052)	0.634*** (0.034)
OBC		0.855*** (.035)	0.493*** (0.036)	0.645*** (0.029)		- 0.447*** (0.037)	- 0.396*** (0.04)	0.052* (0.028)
Others	0.953*** (0.043)	0.644*** (0.037)	0.366*** (0.039)	0.611*** (0.032)	- 0.202*** (0.036)	-0.55*** (0.038)	- 0.414*** (0.043)	0.116*** (0.031)

Land_Possessed: Landless reference								
Marginal	- 2.681*** (0.089)	1.711*** (0.268)	2.147*** (0.386)		- 3.008*** (0.091)	1.564*** (0.28)	2.437*** (0.4)	
Small	- 4.688*** (0.095)	1.623*** (.250)	2.166*** (0.347)		- 4.493*** (0.096)	1.44*** (0.262)	1.966*** (0.364)	
Semi medium	- 5.093*** (0.102)	1.382*** (0.224)	2.162*** (0.308)		- 4.649*** (0.1)	1.088*** (0.236)	1.887*** (0.326)	
Medium	- 5.390*** (0.113)	1.432*** (0.212)	2.222*** (0.282)		- 5.427*** (0.111)	0.86*** (0.224)	1.91*** (0.3)	
Large	- 2.778*** (0.097)	- 1.524*** (0.2)	- 1.098*** (0.259)		- 2.907*** (0.1)	- 2.014*** (0.211)	- 1.477*** (0.277)	
Sex: Male reference	- 0.490*** (0.050)	- 0.583*** (0.05)	-0.33*** (0.058)	- 0.643*** (0.023)	- 0.309*** (0.058)	0.022 (0.058)	0.398*** (0.063)	- 0.407*** (0.025)
Age	- 0.014*** (0.001)	-0.03*** (0.001)	- 0.032*** (0.001)	- 0.016*** (0.001)	- 0.018*** (0.001)	- 0.024*** (0.001)	- 0.036*** (0.001)	- 0.026*** (0.001)
General Education: Illiterate reference								
Literate without formal schooling	0.450*** (0.083)	0.258*** (0.058)	0.277** (0.141)	0.662*** (0.253)	0.499*** (0.113)	0.68*** (0.087)	0.545*** (0.209)	0.936*** (0.27)
Below Primary to Middle	0.572*** (0.025)	0.388*** (0.026)	0.418*** (0.032)	0.818*** (0.031)	0.842*** (0.033)	1.137*** (0.041)	0.881*** (0.049)	0.857*** (0.039)
Secondary to Higher Secondary	0.873*** (0.041)	0.487*** (0.0362)	0.507*** (0.038)	1.064*** (0.035)	2.637*** (0.039)	2.454*** (0.046)	1.981*** (0.052)	1.543*** (0.041)
Graduate and above	1.159*** (0.077)	0.623*** (0.063)	0.73*** (0.064)	1.231*** (0.049)	3.659*** (0.06)	3.476*** (0.06)	3.482*** (0.065)	2.558*** (0.049)
Technical education	0.834*** (0.090)	0.768*** (0.116)	0.751*** (0.149)	0.371*** (0.104)	1.379*** (0.073)	0.56*** (0.101)	0.203 (0.135)	1.036*** (0.084)
BPL: Poor reference	-0.038 (0.028)	- 0.296*** (0.026)	-0.077** (0.034)	0.245*** (0.029)	0.259*** (0.036)	0.361*** (0.037)	0.421*** (0.048)	0.481*** (0.034)
Cons	1.758*** (0.121)	1.542* (0.207)	1.776*** (0.267)	- 1.467*** (0.068)	2.000*** (0.129)	0.632*** (0.222)	1.096*** (0.290)	- 1.258*** (0.076)

Note:

1. Reference category: Self-employed in farm
2. *** Statistically significant at 1% level
3. ** Statistically significant at 5% level
4. * Statistically significant at 10% level
5. Standard Errors are given in parentheses.

6. Data regarding land information is unavailable in PLFS data. Hence no association is given for land holdings and different employment categories during the 2021-22 in the table presenting the multinomial logistic regression result.

7. Till 2011-12 Tendulkar's poverty line has been used from the Handbook of Statistics, RBI and for 2021-22 CPI adjusted poverty line has been estimated by the author to consider BPL.

Table:6(b) Determinants of Rural Employment in India

Variables	Casual Labour in Non-farm				Casual Labour in Farm			
	1993-94	2004-05	2011-12	2021-22	1993-94	2004-05	2011-12	2021-22
Social_Group : ST reference								
SC	0.822** * (0.049)	1.348*** (0.05)	1.268** * (0.05)	1.339** * (0.033)	1.026** * (0.031)	1.342** * (0.043)	1.395*** (0.06)	1.169*** (0.035)
OBC		0.318*** (0.047)	0.298** * (0.043)	0.337** * (0.03)		0.373** * (0.0386)	0.448*** (0.054)	0.168*** (0.032)
Others	- 0.142** * (0.043)	0.099* (0.052)	0.013 (0.048)	0.06 (0.036)	- 0.121** * (0.026)	0.022 (0.044)	0.066 (0.062)	-0.268*** (0.043)
Land_Possessed: Landless reference								
Marginal	- 2.845** * (0.092)	1.877*** (0.298)	2.41*** (0.409)		- 2.623** * (0.085)	1.608** * (0.277)	2.579*** (0.438)	
Small	- 5.332** * (0.115)	1.503*** (0.283)	2.447** * (0.372)		- 4.863** * (0.09)	1.493** * (0.259)	2.471*** (0.404)	

Semi medium	- 5.816** * (0.147)	1.344*** (0.258)	2.388** * (0.336)		- 5.566** * (0.102)	1.456** * (0.233)	2.612*** (0.37)	
Medium	- 6.152** * (0.202)	1.341*** (0.246)	2.468** * (0.312)		- 6.748** * (0.163)	1.398** * (0.221)	2.591*** (0.348)	
Large	- 2.686** * (0.104)	-1.558*** (0.235)	- 0.977** * (0.291)		- 2.513** * (0.091)	- 1.576** * (0.21)	-1.088*** (0.329)	
Sex: Male reference	- 0.347** * (0.059)	-0.808*** (0.07)	- 0.656** * (0.068)	- 1.517** * (0.03)	- 0.231** * (0.034)	- 0.267** * (0.048)	0.044 (0.065)	0.178*** (0.025)
Age	- 0.046** * (0.001)	-0.06*** (0.001)	- 0.061** * (0.001)	- 0.045** * (0.001)	- 0.029** * (0.001)	- 0.039** * (0.001)	-0.035*** (0.002)	-0.027*** (0.001)
General Education: Illiterate reference								
Literate without formal schooling	0.381** * (0.105)	-0.027 (0.077)	- 0.372** (0.173)	0.611** * (0.218)	- 0.226** * (0.073)	- 0.549** * (0.071)	-0.479** (0.206)	0.218 (0.234)
Below Primary to Middle	0.085** * (0.032)	-0.196*** (0.034)	- 0.277** * (0.034)	0.007 (0.029)	- 0.512** * (0.021)	- 0.514** * (0.029)	-0.506*** (0.04)	-0.393*** (0.028)
Secondary to Higher Secondary	- 0.381** * (0.075)	-0.897*** (0.066)	- 0.968** * (0.05)	- 0.415** * (0.035)	- 1.298** * (0.057)	- 1.546** * (0.067)	-1.38*** (0.069)	-0.931*** (0.04)
Graduate and above	- 1.355** * (0.274)	-2.17*** (0.246)	- 1.728** * (0.142)	- 1.34*** (0.078)	- 2.136** * (0.197)	- 2.211** * (0.201)	-2.223*** (0.229)	-1.67*** (0.103)
Technical education	0.553** * (0.164)	-0.469 (0.304)	0.686** (0.3)	-0.049 (0.192)	- 0.814** * (0.19)	-0.268 (0.361)	0.158 (0.583)	-0.251 (0.274)
BPL: Poor reference	- 0.398** * (0.035)	-0.703*** (0.035)	- 0.602** * (0.037)	- 0.442** * (0.028)	- 1.109** * (0.021)	- 1.112** * (0.029)	-0.766*** (0.043)	-0.664*** (0.03)
Cons	4.353**	3.292***	3.855**	1.636**	5.85***	3.65***	2.631***	1.272***

Note:

1. Reference category: Self-employed in farm
2. *** Statistically significant at 1% level
3. ** Statistically significant at 5% level
4. * Statistically significant at 10% level
5. Standard Errors are given in parentheses.
6. Data regarding land information is unavailable in PLFS data. Hence no association is given for land holdings and different employment categories during the 2021-22 in the table presenting the multinomial logistic regression result.
7. Till 2011-12 Tendulkar's poverty line has been used from the Handbook of Statistics, RBI and for 2021-22 CPI adjusted poverty line has been estimated by the author to consider BPL.

Gender is another important variable while choosing among different types of employment. It is observed from the different studies that involvement of the females in the non-farm activity is very low. Even if they do participate in non-farm activity it is in the low remunerative counterpart. The present study also observed that the value of log odds ratios is negative and significant for self-employed and casual labour in non-farm activity for the females compared to males, i.e., probability of joining non-farm activity is lower for the rural females. This scenario might be explained by the declining LFPR and WPR of the females mainly due to greater participation in the higher education for young age group

and others for domestic work (Mamgain and Khan, 2022). However, the probability of being employed in regular or salaried job experienced a fluctuating trend for the females compared to males. The age of the household head is also a determinant variable as the decisions of the household head regarding the choice of livelihood are prioritized in the rural society. Younger household heads are keen to join non-farm activities and diversification. With the increase in age, the heads of the households restricted themselves within the farming activities. Hence the result of the multinomial logit model reflects a negative and significant relation i.e., probability of being employed in any activity other than self-employment in farm declines with the increase in the age of the household head. The general education as well as technical education is found to have a positive impact on the log of odds ratios of being in rural non-farm activities. Therefore, the heads of the households having higher level of general education or technical education are expected to be association with the higher probability of getting the regular jobs and self-employment in non-farm activity relative to self-employment in farm. The economic status of a household plays a determining role in their choice of employment. It is observed that the probability of being absorbed in regular employment has a positive and significant relationship with non-poor category throughout the period, while the probability of being absorbed in less remunerative casual employment is found to have negative relationship with non-poor category. Therefore, better economic

status generally endowed the households with adequate access to the resources which is essential for getting absorbed in high remunerative non-farm activities.

Summary and Conclusion

In this present study the trends and composition of rural non-farm sector have been observed for India over the period 1983 to 2021-22 based on several rounds of NSSO data on employment and unemployment and PLFS data. It is clearly visible from the study that the importance of rural non-farm sector is growing over time, both in terms of share in employment and in GDP. While considering the compositions of rural non-farm sector, the growing importance of construction sector and the declining share of Community, Social and Personal Services justified the falling share of salaried or regular wage employed persons and casualization of rural non-farm workforce. However, in post 2011-12 period the share of tertiary sector started to rise again due to an improvement in trade, hotel and restaurants and Services, leading to a shift from the trend of casualization towards regular employment. The gender disparity is visible in RNFE in India, women are found to be lagged much behind men in the participation of RNFE. After agriculture, construction has been reported to be the major source of employment for the rural males, while sub-sectors manufacturing and services (financing, insurance, Community, Social & Personal Services etc.) found to be

equally important in providing employment for both male and female. Though the share of agriculture has declined both in terms of employment and GDP, share in GDP has fallen at a sharper rate. When the incidence of rural non-farm employment has been considered, there was no such uniform pattern across the different states of India. Kerala have remained at the top throughout the period. While determining the choices among the various employment categories, the factors like age, gender, general education, technical education, land holdings, economic status are found to play a very crucial for decision making at the household level. Aged household heads and females are generally restricted in the farming activities. Whereas higher level of education and technical knowledge raise the probability of getting absorbed in secured regular jobs or better remunerative self-employment activities in nonfarm sector. However, the larger size of agricultural land holdings discourages the households to diversify towards non-farm activity. Finally, the economic status of the households determines whether the worker will join a high remunerative or low remunerative economic activity.

Notes

¹ *Self-employed persons have their own business.*

² *Regular wage or salaried employees have long term contract and hence any daily or weekly or monthly basis renewal is not required.*

³ *Casual labour has to renew their work contract daily or in a periodic interval.*

⁴ Labour force participation rate (LFPR) is defined as the proportion of the number of persons in the labour force to total population.

⁵ Work-force participation rates (WFPR) or worker-population ratio (WPR) refers to the proportion of total person employed to the total population.

⁶ The economic activity in which a person is engaged for a longer period of time during the reference period of 365 days is referred as the usual principal activity. The economic activity which is pursued by a person for a relatively shorter period but not less than thirty days during the last 365 days is called the usual subsidiary activity. Thus, the activities under principal status considers only the employment which is of permanent in nature i.e., providing gainful or beneficial employment to the worker for the major period in a year.

Conflict of Interests

The authors declare that there is no conflict of interests that are directly or indirectly related to this research work.

Funding

The authors declare that they did not received any financial support from any organization to undertake this study.

References

- Barrett, C. B., Reardon, T., & Webb, P. (2001). Nonfarm income diversification and household livelihood strategies in rural Africa: concepts, dynamics, and policy implications. *Food policy*, 26(4), 315-331.
- Bhaumik, S. K. (2007). Growth and composition of rural non-farm employment in India in the era of economic reforms. *The Indian Economic Journal*, 55(3), 40-65.
- Cameron, A. C. (2005). Microeconometrics: methods and applications. *Cambridge University*.
- Datta, S. K., & Sing, K. (2011). Livelihood diversification: Case study of some backward region of India. *International Journal of Current Research*, 3(2), 139-151.
- Ghosh, M., & Ghosal, S. (2022). Households' choices and their drivers to rural non-farm livelihood diversification in West Bengal, India. *Journal of Asian and African Studies*, 57(6), 1158-1178.
- Himanshu, H., Lanjouw, P., Mukhopadhyay, A., & Murgai, R. (2011). Non-farm diversification and rural poverty decline: A perspective from Indian sample survey and village study data.
- Kaur, A., Arora, A., & Singh, S. P. (2019). Employment diversification in rural India: nature, pattern and determinants. *Ager. Revista de Estudios sobre Despoblación y Desarrollo Rural*, (27), 189-226.
- Khatun, D., & Roy, B. C. (2012). Rural livelihood diversification in West Bengal: determinants and constraints. *Agricultural Economics Research Review*, 25(1), 115-124.
- Kumar, A., Kumar, S., & Singh, D. K. (2011). Rural employment diversification in India: trends, determinants and implications on poverty. *Agricultural Economics Research Review*, 24, 361-372.
- Lama, S (2015). A Study of Rural Non-Farm Sector in The Darjeeling District of West Bengal with Reference to Employment Diversification, Gender and Rural Poverty. (Ph. D thesis), The University of Burdwan, West Bengal.
- Lama, S., & Kuri, P. K. (2015). Livelihood Diversification, Rural Poverty And Income Inequality: A Study In The Hill Regions Of

- Darjeeling District In West Bengal. *International Journal of Current Research*, 7(04), 15425-15435.
- Mamgain, R. P., & Khan, K. (2022). Declining Women Work Participation in Rural India: Trends, Causes and Policy Implications. *The Indian Economic Journal*, 70(2), 347-364.
 - Misra, S. B. (2013). Growth of rural non-farm employment in India: Pre and post reform trends and patterns. *Journal of Land and Rural Studies*, 1(2), 99-112.
 - Ranjan, S. (2007). *Review of rural non-farm sector in India: Recent evidence* (No. id: 1215).
 - National Sample Survey Office (2014). *Employment and Unemployment Situation in India*. Ministry of Statistics and Programme Implementation, Government of India, New Delhi.
 - National Sample Survey Office (2023), *Annual Report: Periodic Labour Force Survey, 2021-22*. Ministry of Statistics and Programme Implementation, Government of India, New Delhi.
 - Shaw, A. (2013). Employment trends in India: An overview of NSSO's 68th Round. *Economic and Political Weekly*, 23-25.

