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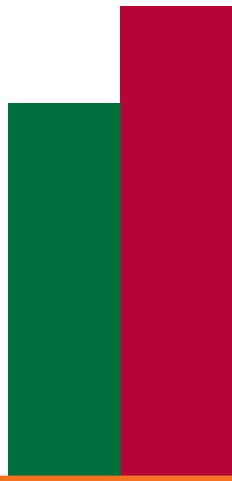
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Rural Non-Farm Employment and Rural Transformation in India

D Narasimha Reddy, A Amarender Reddy, N Nagaraj and
Cynthia Bantilan



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Abstract

This study attempts to assess the changing structure of rural production and employment in the last two decades and its implications on rural labor market. The rural labor market has undergone profound structural transformation with labor moving from agriculture towards non-agricultural activities. Currently, non-farm sector is no longer a residual sector, but an emerging driver of rural development and transformation, contributing 65% to the rural Net Domestic Product in 2010. There has been an absolute decline in labor force in recent times with a decline in agriculture employment for both male and female laborers and this decline in female workforce is much higher than male workforce in agriculture. The key drivers of changes include inter alia – higher growth in non-farm sector specially infrastructure and construction, coupled with improved transportation and communication, differential wage rates, improved literacy and Government programs. Such change in employment structure also led to occupational shifts among different social groups with increased dependence of SC on rural non-farm employment mainly construction work, and reduced dependence on agriculture. This significant movement of rural labor from farm to non-farm activities and migration from rural areas to cities, especially by male workers to relatively higher wage work, has led to tightening of the labor market. Thus labor scarcity has emerged as one of the major constraints to increasing agricultural production in India. This has several implications on agriculture in terms of rise in farm wage along with other rising input costs pushing the cost of production. Labor market also witnessed some structural transformation such as the disappearance of bonded and attached labor and changing contractual arrangement of rural labor. Casual labor is predominant but increasingly shifting from daily wage to contractual work with increasing bargaining power of labor. Based on empirical results of the study a number of policy interventions are suggested such as development of labor saving technologies and machines to mitigate labor scarcity, inclusive farm mechanization program, especially for women and youth, strengthening rural-urban connectivity, social protection to migrant labor and capacity building programs for skill augmentation.

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D Narasimha Reddy, A Amarender Reddy, N Nagaraj and
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PROGRAM ON
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**International Crops Research Institute
for the Semi-Arid Tropics**

About the authors

- D Narasimha Reddy ICSSR National Fellow, CSD, Hyderabad and Hon. Professor, SR Sankaran Chair, NIRD, Hyderabad, Visiting professor of Institute of Human Development (IHD), New Delhi
- A Amarender Reddy Principal Scientist (Agricultural Economics) - Indian Agricultural Research Institute (IARI), New Delhi, India
- N Nagaraj Principal Scientist (Economics) - Markets, Institutions and Policies, ICRISAT, Patancheru-502 324, Telangana; Former Professor and Head, Dept. of Agricultural Economics and Hon. Director, Cost of Cultivation Scheme for Principal Crops, University of Agricultural Sciences, Bangalore, India.
- Cynthia Bantilan Research Program Director, Markets, Institutions and Policies, International Crops Research Institute for the Semi-Arid Tropics, Patancheru-502 324, Telangana, India

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Summary

Of late, there has been a remarkable change in the Indian economy. The share of GDP from agriculture dropped drastically from 41% to 14% during the period 1972 to 2011, while the share of tertiary sector rose rapidly from 35% to 58%. Despite this change, there was no proportionate shift in the employment pattern from agriculture. Agriculture still remains the major employer of rural workforce (68% in 2009-10). Within the rural labor market significant structural transformation was observed with labor moving from agriculture towards non-agricultural activities. Non-agricultural activities account for almost two-thirds (65%) of the rural Net Domestic Product (NDP) in 2009-10 as compared to 37% in 1980-81. It has emerged as one of the key drivers of rural development and transformation. This paper addresses the dynamics of change in the rural labor market with particular reference to rural non-farm employment and rural transformation in India.

Beginning with the 1980s, there has been a continuous decline in the rate of growth of overall employment in the Indian economy. The rate of growth of total employment declined from 2% in 1980s (1983 -1993-94) to 0.4% between 2004-05 and 2011-12. The trend in the growth of total rural employment also reflected a similar decline. For the first time, India has been experiencing an absolute decline in labor force in the recent period with a decline in agriculture employment for both male and female laborers. The decline in female workforce is much higher than the decline in male workforce in agriculture. The Labor Force Participation Rate (LFPR) for the female population has declined from around 33% to 26.10% between 1993-94 and 2009-10 as compared to 55.3% to 54.7% during the same reference period for male workforce. The explanation for the decline of rural female LFPR is partly due to the increasing enrolment of girls in education, and partly due to the increase in the real wages of rural male workers, which result in improved household income that facilitates withdrawal of women from income earning activities.

The shift in the share of rural non-farm employment (RNFE) especially from 1993-94 is quite substantial. Relatively higher growth in sectors especially, infrastructure and construction, coupled with improved transportation and communication, differential wage rates, improved literacy and Government programs are the drivers of change. The foremost driver of change has been the construction sector in which employment has increased to the tune of 12 percent per annum between 1999-2000 and 2009-10, which largely accelerated rural-urban temporary migration, especially by male workers to relatively higher wage work. For women, distress driven self-employment in non-farm sector appears to be more. But the cause for concern is the drastic decline in the rate of growth of employment in manufacturing, community, social and other services. Between 1993-94 and 2009-10, the share of manufacturing in rural non-farm employment declined from 32% to 22% and that of the services mentioned above declined from 25% to 15%. These sectors are segmented with a better quality of employment, but it has reached very low levels leading to a serious cause of concern.

Another noteworthy dimension of changes in the rural employment structure relates to the occupational shifts among different social groups. The Scheduled Caste (SC) workers depending on RNFE has increased significantly from 20% in 1993-94 to 36% in 2009-10, and the agriculture dependence of SCs has become less even when compared to OBCs (67.9%) and "Others" (65.3%). However, in the case of STs the increase in RNFE is at a slower pace from 13% to 20%. Further, the share of construction in the total employment profile of SCs increased from 5.1% in 1993-94 to 15.8% in 2009-10, and in the case of all other social groups construction constitutes a much lower share in their respective total employment profile.

With significant movement of rural labor from farm to non-farm activities and migration from rural areas to cities, especially by male workers to relatively higher wage work has led to tightening of the labor market. Thus labor scarcity has emerged as one of the major constraints to increase agricultural production in India. This has several implications on agriculture in terms of rise in farm wage along with other rising input costs pushing the cost of production. The labor market also witnessed structural transformation such as the disappearance of bonded and attached labor and changing contractual arrangement of rural labor. Casual labor is predominant, but increasingly shifting from daily wage to contractual work with increasing bargaining power of labor.

In the era of globalization, there is a wide discussion of opportunities and threats to RNF activities. The opportunities are associated with the upgrading of technology, improvement in labor productivity and expanding market openings. The threats arise from large quantity requirements, and the quality standards which pose the risk of excluding undercapitalized rural enterprises on which the rural poor rely.

Finally, based on empirical results of the study, some policy interventions were suggested such as strong policy support towards infrastructure, transport, storage, credit and market to address non-farm diversification. There is a growing need for the creation of large-scale employment opportunities for the rural poor. Rural-Urban migration is increasingly opportunity driven. Therefore government interventions are essential to ensure security, safety and social protection to migrant labor. At the same time capacity building programs for skill augmentation especially for females is required in order to enhance their skills.

I. Introduction

1.1 Structural Changes in the Indian Economy

The past experience of most of the developing countries including India shows that the design of their development policies have been premised on the conceptual framework that development as a process of structural transformation from being predominantly rural, agrarian and subsistence economies is becoming predominantly urban, industrial and capitalist economies. The stylized, historical evidence-based models of explanations such as that of Clark (1940) and Kuznets (1966) or development theories such as that of Lewis (1954) were the basis for the policy framework of these countries. As is now too familiar, these received theories explain that as the economies grow, the structure of production changes in a manner where the share of agriculture declines progressively and the share of industry increases until it reaches almost half, and this is followed by an expansion of the share of services. Similarly, the changes in the workforce structure follow a symmetrical shift from agriculture to industry and then to services. Spatially, there will be a shift in production and employment from rural to increasingly urban locations.

Table 1. Changes in the Industrial Distribution of Gross Domestic Product in India (at 2004-05 prices) (%).

Sector/Industry	1972-73	1983-84	1993-94	2004-05	2011-12
(1)	(2)	(3)	(4)	(5)	(6)
Agricultural and Allied Activities	41.1	35.5	28.4	19.0	14.1
Primary Sector	41.1	35.5	28.4	19.0	14.1
Mining and quarrying	2.3	2.9	3.3	2.9	2.1
Manufacturing	13.3	14.8	14.6	15.3	15.7
Electricity, gas and water supply	1.1	1.6	2.2	2.1	1.9
Construction	7.6	6.6	6.6	7.7	7.9
Secondary Sector	24.4	25.8	26.8	27.9	27.5
Trade, hotels, and restaurants	10.5	11.8	12.6	16.1	16.9
Transport, storage and communication	4.0	5.6	5.5	8.4	10.6
Financing, real estate and business services	7.9	9.1	13.3	14.7	18.1
Community, social and personal services	12.1	12.2	13.5	13.8	12.8
Tertiary Sector	34.5	38.7	44.8	53.0	58.4
Non-agriculture	58.9	64.5	71.6	81.0	85.9
Total	100.0	100.0	100.0	100.0	100.0

Source: Institute for Human Development (2014). India Labor and Employment Report 2014: Workers in the Era of Globalization, Academic Foundation, New Delhi.

However, the experience of many developing countries as well as India has been quite different from these models, from the past experience of the presently developed countries. There has been growth and accelerated growth, particularly for the past three decades, and there has been considerable change in the production structure with the share of agriculture and allied activities declining from 41% in 1972-73 to 14% in 2011-12, though the share of secondary sector increased only marginally from 24 to 28%, with the tertiary sector increasing rapidly from 35 to 58% (Table 1). But the changes in the workforce structure were not in tune with the changes in the production structure. There was no proportionate shift in employment from agriculture, but only a decline from 74 to 49 percent. Almost half the workforce is in agriculture with only 14 percent of the share in the national product, and the tertiary sector with close to two-thirds of the output share, which accounts for only a little over one-fourth of the employment share (Table 2).

Table 2. Changes in the Employment (UPSS) Structure of India: 1972-73 - 2011-12 (%).

Sector/Industries (1)	1972-73 (2)	1983 (3)	1993-94 (4)	2004-05 (5)	2011-12 (6)
Agricultural and Allied Activities	73.9	68.6	64.8	58.5	48.9
Primary Sector	73.9	68.6	64.8	58.5	48.9
Mining and quarrying	0.4	0.6	0.7	0.6	0.5
Manufacturing	8.9	10.6	10.5	11.07	12.8
Electricity, gas and water supply	0.2	0.3	0.4	0.3	0.4
Construction	1.8	2.3	3.1	5.6	10.6
Secondary Sector	11.3	13.8	14.7	18.1	24.4
Trade, hotels and restaurants	5.1	6.3	7.4	10.2	11.4
Transport, storage and communication	1.8	2.5	2.8	3.8	4.4
Financing, real estate and business services	0.5	0.7	0.9	1.5	2.6
Community, social and personal services	7.4	8.1	9.4	7.7	8.2
Tertiary Sector	14.8	17.6	20.5	23.4	26.7
Non-agriculture	26.1	31.4	35.2	41.5	51.1
Total	100	100	100	100	100

Note: Same as in Table 1.

Figures for the years 1972-73 are taken from Papola et al. (2013).

With the asymmetrical shifts in the structure of production and employment, the story of the Indian economic development presents certain intriguing structural characteristics (Papola 2013). The structural transformation of the Indian economy witnessed during the past few decades is often described as “distorted”, “stunted” (Binswanger-Mkhize 2013) or “asymmetrical” and features like this may provoke some to call India as the “world’s most incongruous society” (Lindberg 2012).

1.2 Spatial Dimension and Rural India

Though India has grown to be a lower middle income country, and has become one of the fast growing large economies in the world, it remains as one of the poorly urbanized economies in the world. Tables 1 and 2 conceal the spatial dimension, which would reveal that almost 70 percent of its population and 75 percent of its workforce are still working and living in rural areas. At the turn of the Twenty-first century, almost half of the world’s population was living in urban areas and there is a continuing rapid movement of population towards urban areas. But India, with one of the slowest rates of urbanization, and with a rural population of 842 million, which is already larger than China’s rural population (725 million), will remain the home for the largest rural population in the world even in 2050, even if India’s urbanization reaches 65 to 70 percent (Proctor and Lucchesi 2012). True, that there are observations that peri-urbanization is increasing all over rural-urban space in India, and there are no official statistics that measure or cover the extent of peri-urbanization in India and that small towns, especially ‘census towns’ have shown much faster growth during the last decade (2001-2011) and probably accelerate urban growth in future. Notwithstanding these

trends, rural population and workforce in India is likely to be the largest in the world for decades to come. This reality of persistence of substantial share of the Indian population working and living in rural India compels attention to the nature of rural transformation that the country is passing through. Just as the overall structural changes in the Indian economy has been quite in contrast with that of the received theories and the past experience of the developed countries, the structural transformation of rural India too throws up several puzzles. One such puzzle that emerges from the changes in rural India is the growth of rural non-farm employment. Unlike the experience of most of the countries where the growth of the economies and the growth of non-farm employment with it leads to shift of labor from rural to urban locations, in India the growth of non-farm employment in recent decades is more in the form of Rural Non-Farm Employment (RNFE), which is referred to as a unique feature of India's rural transformation (Binswanger-Mkhize 2012).

The emergence of RNFE as an important and fast growing source of rural employment in India in the last few decades, and possibly the persistence of this feature for a few more decades, makes it necessary to analyze the phenomenon comprehensively in all its dimensions such as the nature of changes in the rural employment structure, diversity of emerging activities, shifts in 'pluri-active' and specialization features, levels of productivity and earnings, and sustainability. RNFE employment is a complex phenomenon, and in the context of vast diversity of rural India in terms of agro-climatic, socio-economic and institutional conditions there is a need for detailed analysis of the various dimensions of the phenomenon with a focus on situation analysis based on micro-level studies. Though the macro-level picture may conceal more than what it reveals, the larger patterns may be helpful in raising appropriate questions, and in designing appropriate *a priori* hypotheses that could be subjected to more rigorous analysis based on micro-level data available from sources like the ICRISAT Village Level Studies.

1.3 Objective of the Review

The main objective of this review is to identify, based on the available literature on RNFE in general and on RNFE in India in particular, the issues relating to RNFE in terms of the definition, measurement, sources of data, types, patterns of participation by different socio-economic groups in different regions, the main determinants or drivers and the impact on the employment and earning conditions in rural India. (Data related issues are discussed in section 4.2). These issues are expected to serve as a basis for initiating detailed further studies that could help in evolving appropriate policy design for promoting rural employment in particular and rural transformation strategies in general. At this stage, it may be necessary to draw attention to the self-imposed basic limitation of this review paper, which is confined to RNF employment, and does not deal with RNF economy as a whole. There are a number of review papers which deal in detail with RNF economy. To mention a few, Visaria and Basant (1994) and Coppard (2001) are the comprehensive reviews of literature on the RNF economy in India, and Haggblade et al. (2010), World Bank (2010), Carletto et al. (2007), Davis and Berzemer (2004), and Onchan (2004) are some of the other papers that review different dimensions of RNF economy across different locations. The present review from these papers and others focuses on issues relating to RNF employment. However, in the analysis and discussion of the role of rural non-farm employment, there is often an overlap of its contribution to employment and income, which are related dimensions.

II. Analytical Framework for RNFE

2.1 Definitional and Conceptual Aspects

Generally, the definition of ‘rural’ has not attracted as much attention as the definition of ‘urban’, perhaps because of the notion that all societies begin as rural, and what emerges is the urban and therefore ‘new’, requiring a definition. As a consequence, in most of the literature ‘rural is treated as residual or that which is not yet urbanized’! There are suggestions, however, for a broad definition of rural areas “as encompassing both dispersed rural settlements as well as the functionally linked rural towns where many agro-processing and ancillary non-farm service and commercial activities congregate to service surrounding agricultural settlements” (Haggblade et al. 2010). In the Indian context, however, apart from the statutory municipal towns, ‘urban’ is defined based on demographic and economic criteria of settlements with population of more than 5000, a density of 400 persons per square kilometer and 75% of male workforce in the non-agricultural sector (Bhagat 2011). All the residual areas which do not fall under the above definition of urban are treated as rural.

All the rural economic activities may be divided into the following six categories: i) crop production, ii) livestock production, iii) agricultural wage employment, iv) non-agricultural wage employment, v) non-agricultural self-employment, and vi) transfer incomes. The first three qualify as agricultural employment while the last three constitute non-farm sources of income. But from RNFE, the fourth and fifth are the relevant activities (Davis et al. 2007). Rural Non-Farm Employment (RNFE) may be defined in a number of different ways but the more elegant is the one suggested by Barret and Reardon (2000) as reproduced in Davis and Bezemer (2004). The first step is the distinction between wage and self-employment. This functional distinction may further be classified into sectoral space. Once these distinctions are made, the RNFE may fall anywhere within the shaded part in Table 3 below:

Table 3. The Heterogeneity of Rural Non-Farm Employment.

Type of Employment	Primary				Secondary				Tertiary	
	Agriculture and Allied		Mining Extractive		Manufacturing		Others		Services	
Wage Employment	L	M	L	M	L	M	L	M	L	M
Self-Employment	L	M	L	M	L	M	L	M	L	M

L: Local, M: Migrant Source: Adopted from Barret and Reardon (2000) as referred in Davis and Bezemer (2004)

2.2 Dynamics of Rural Diversification and RNFE

However, the above simplified notion of RNFE space assumes that a person or household will have work in one or the other segment either in the form of self-employment or wage-employment. But the reality in the context of countries like India is much more complex. In rural areas of developing countries like India where the average farm size is small and continues to shrink with the demographic pressure, and where wage employment in a wide range of activities is casual and seasonal, it is likely that any single source of income is not sufficient to meet rural individual or household needs. Diversity of activities of an individual as well as a household is likely to be more common. Further, a self-employed farmer may be pursuing certain activity that could be

self-employment in non-farm space or may be seasonally working as a wage-worker in non-agriculture. Rural households or individuals may pursue a number of different activities, resulting in 'pluriactive' households or individuals. Employment patterns vary seasonally and across different years (Coppard 2001). The diversity of economic activities may follow a trajectory of movement of rural households from multiple occupations at low level of development to specialization with more development, which suggests an "inverted U" hypothesis (World Bank 2010, Coppard 2001), as illustrated in Figure 1. It shows that at a very low level of income, rural households are fully into subsistence farming, and as the need for more income in the face of limited assets makes them diversify into more activities, which include non-farm employment, and with the improved income and asset position along with improved productivity, the rural households would move into specialization in farming or non-farm activities. Increasing number of rural households in developing countries such as India are supposed to be passing through the upward slope of this inverted 'U' trajectory.

The heterogeneous diversification strategies of rural households are often simplified for analysis into two distinct paths viz., "demand-pull" and "distress-push" diversification (Davis and Bezemer 2001). Distress-push diversification is associated with inadequate agricultural employment, and is triggered by economic adversity, which sets the household on the downward trajectory. It implies engaging in economic activities that are less productive than agricultural production and is motivated by the need to avoid further income decreases. Demand-pull diversification, on the other hand, is characterized as a response to evolving market or technological opportunities, which

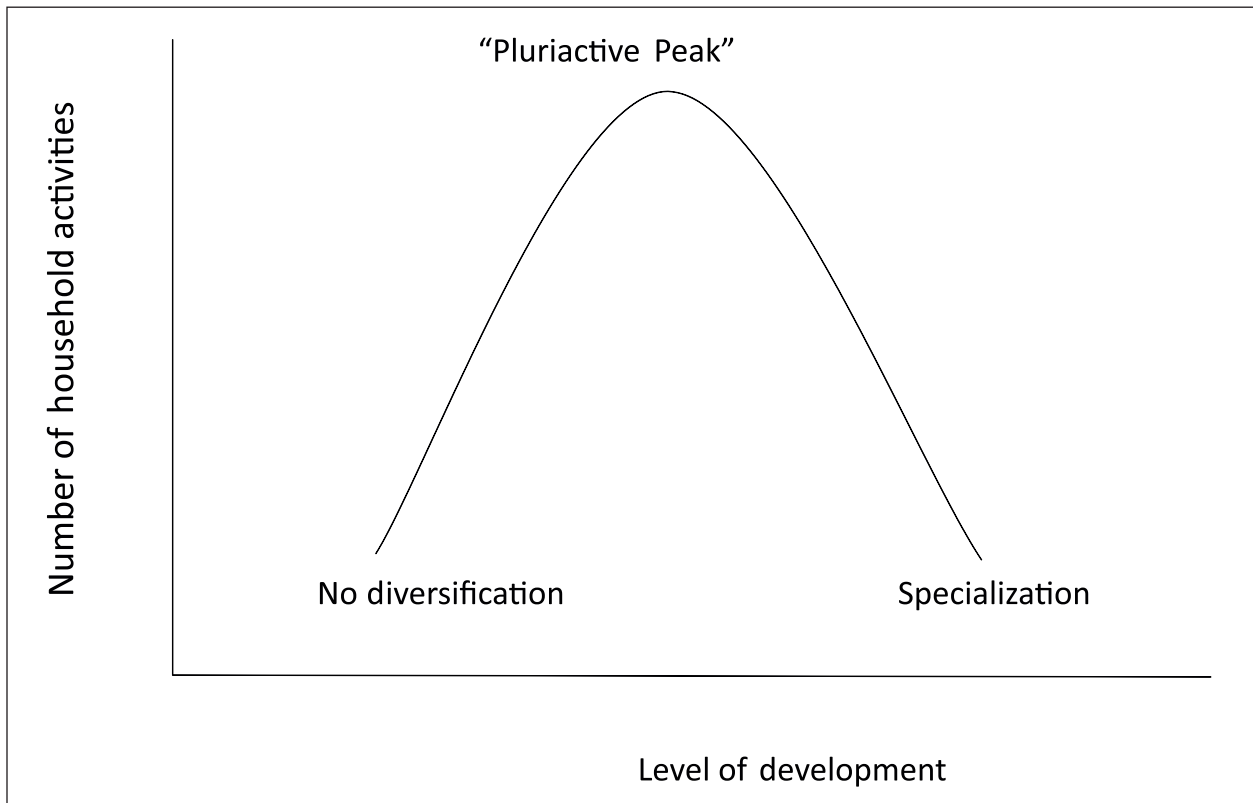


Figure 1. Trajectory of Level of Development and Rural Employment Diversification.

offer the potential for increasing labor productivity and household incomes. In the literature, the distress-push diversification is associated with poorer regions and lower endowed or lower income poorer households diversifying into non-agricultural activities that are low productive and low-paying in character, while the demand-pull diversification is associated with regions experiencing technological innovations and better market linkages and with richer households, which can afford higher investment. This approach suggests that diversification of activities across households would follow a bimodal distribution of household incomes in the presence of both demand-pull and distress-push diversification, and that “there would be two clusters of low return and high return activities, engaged in by poor and affluent households respectively” (Davis and Bezemer 2004). There are also conceptualizations of differences in non-farm diversification induced by factors attributable to dualism in regional development. Better endowed or agriculturally more developed regions will provide opportunities for all households for “demand-pull” diversification, whereas poorly endowed or agriculturally less developed areas would still offer opportunities for the rich to “demand pull” diversification while the poor will have only “distress-push” opportunities. If we superimpose bimodal distribution of household diversification on the regional dualism in diversification we obtain a simplified framework that captures bimodal household RNFE diversification possibilities in the context of regional or spatial dualism as could be seen in Table 4.

Table 4. Bimodal Household RNFE Diversification in the Context of Spatial Dualism.

Nature of RNFE	Better Endowed* or Agriculturally Developed Regions		Poorly Endowed or Agriculturally Less Developed Regions	
	Rich Households**	Poor Households**	Rich Households	Poor Households
Demand-Pull	√	√	√	X
Distress-Push	X	X	X	√

*'Better endowed' as a proxy for better resources, skills, infrastructure and institutions.

** 'Rich' and 'poor' are used in relative sense.

The framework presented in Table 4 is an over simplification of an otherwise complex reality. There is need for caution since “the situation on the ground is not so clear, therefore, it is important that diversification typologies are not oversimplified” (Davis and Bezemer 2004). However, it is hoped that this simplified framework would serve to engage with the diverse findings and debates that surround the sources or drivers of RNFE.

2.3 Stages in the Composition of RNFE

An important dimension of RNFE is that the composition differs across the regions and countries depending upon the levels of development. The FAO (1998) identifies three broad ‘stages’ of rural transformation reflecting in the form of changes in the composition of RNFE (Carletto et al. 2007). The first stage of RNFE is linked to agriculture when the workforce is concentrated mainly on agriculture in rural areas. At this stage, the RNFE is limited and concentrated in the countryside with little dependence on rural-urban linkages. The RNF activities are mostly home based, and tradable non-farm goods (mostly sold locally) produced in the countryside are limited. Agricultural inputs depend on local supplies from small to medium firms engaged in manufacturing and mixing of fertilizers; manufacturing, repair and rental of animal traction equipment, cart production, tractor services, crop processing, transport, construction and local commerce. Some of these non-farm

activities may actually decline and disappear at the higher stages of rural transformation. Many regions in Africa and South Asia are seen falling under the first stage of RNFE (Onchan 2004).

The second stage of RNFE is associated with rural areas where a lower share of households directly depend on agriculture with greater rural-urban linkages. There is mixed levels of capital intensity. Labor-intensive manufacturing finds increasing competition from capital-intensive imports. It is services that take off more strongly at this stage. The Latin American region is seen as close to the second stage (Onchan 2004). The third stage witnesses the maturing of trends that emerge in the second stage, with stronger links to the urban sector. RNFE will be increasingly seen in sectors with little relation to agriculture. There will be more advanced forms of business linkages, sub-contracting and rural-urban labor commuting. RNFE in East Asian countries is seen as reflecting the characteristics of the third stage (Onchan 2004). However, there may not be any linear movement in RNFE along these stages for all countries. There are varying historical experiences in different parts of the world depending upon resource endowments and institutional processes (Saith 1992).

An interesting observation relating to the composition of RNFE is that “contrary to the conventional wisdom of development practitioners, manufacturing is rarely the main component of the RNF economy”, (Carletto et al. 2007). It is pointed out that manufacturing normally accounts for only 20-25 percent of the total RNF employment, and over time it declines in relative importance because of more competition from urban producers and service and construction activities take the place of primacy (Haggblade et al. 2002).

III. Structural Changes in Rural Non-Farm Employment (RNFE) in India

3.1 Rural Production and Employment Structures

As pointed out earlier, the Indian economy, from the point of view of the locus of the working population, is predominantly rural, and during the past few decades we notice considerable dynamism within the rural production and employment structures. One of the significant changes in the rural production structure is the growing share of the non-farm sector, which increased from 37% in 1980-81 to 65% in 2009-10 (Table 5), and thus shows that in terms of value of production, rural is no longer merely agricultural. This provides much justification for the observation that “the old vision of rural economies purely focused on agriculture no longer fully reflects the reality” (Haggblade et al. 2010). The asymmetry noticed between the shifts in production structure and the employment structure in the overall Indian economic development persists in rural India as well. Within the rural employment structure, however, there has been considerable shift in favor of non-farm employment. Table 5 shows that ‘manufacturing’ was the single largest contributor.

Table 5. Changing Structure of Rural NDP (%).

	1980-81	1993-94	2004-05	2009-10
I. Agriculture	64.36	56.99	38.34	35.00
II. Non-Agriculture	35.64	43.01	61.66	65.00
Manufacturing	9.16	8.15	11.13	11.85
Construction	4.05	4.61	7.91	15.00*
Trade / Hotels, etc	6.68	7.77	14.98	18.00*
Transport / Storage	1.32	3.41	5.81	7.00*

Note: Figures rounded to nearest integer
Source: Papola et al. (2013) *Projected

Beginning with the 1980s there has been continuous decline in the rate of growth of overall employment in the Indian economy. The rate of growth of total employment declined from 2.4% in 1970s (1972-73 to 1983) to 2% in 1980s (1983-1993-94) to 1.8% in 1990s (1993-94 to 2004-05) to 0.4% between 2004-05 and 2011-12. The trend in the growth of total rural employment too reflected a similar trend of decline.

Though there has been no substantial change in the rural labor force participation, barring fluctuations in female labor force, there has been a considerable change in the rural employment structure. Rural male labor participation rates have been more stable at about 55 percent for the last two decades but rural female participation rate has been fluctuating around 30 percent with a steep decline to about 26% by 2011-12. Between 1993-94 and 2011-12 the share of agriculture in rural employment declined from 78% to 64% and the pace of decline in the last quinquennium was much faster. During 1990s, agriculture experienced a net decline in employment at the rate of 0.19 percent per annum (Table 7), which suggests that non-agricultural sector in rural and urban areas has to absorb all the increase in the growth of rural labor force as well as the workforce that is likely to be made redundant due to improved productivity and mechanization in agriculture.

There has been increasing mechanization in agriculture, although the extent is extremely varied and there are large regional disparities, with Punjab and Haryana possessing the highest levels of mechanization and eastern states such as Bihar and Orissa, with the lowest levels (Biggs et al. 2014). The two major operations that are being increasingly mechanized are ploughing and harvesting / thrashing, which together account for about thirty percent of labor use in certain crops. Policies have tended to favor larger-scale equipment such as four-wheeler tractors, combine harvesters and large pump-sets, and have focused less on the mechanization needs of smaller holdings. There has been substantial increase in the number of farmers receiving subsidized credit under Farm Mechanization Schemes (FMS) of various states. For instance, in Andhra Pradesh, the beneficiary farmers under the FMS increased from 9,342 in 2001-02 to 210,000 in 2011-12 (Reddy and Venkatnarayana 2013). Although, there are no clear data about the recent increase in the combined harvesters, Table 6 shows the rapid increase in tractors in contrast with the slow spread of power tillers.

Table 6. Spread of Selected Agricultural Machinery in India ('000).

Type	1971-72	1981-82	1991-92	2005-06
Tractors	119	513	1244	3819
Power Tillers	16	32	60	181
Combined Harvesters	-	-	10	NA

Source: Singh (2009).

Table 7. Sectoral Growth Rates of Rural Employment (%).

	1983 – 1993-94	1993-94 to 2004-05	1999-2000 to 2009-10
I. Agriculture	1.37	0.69	-0.19
II. Non-Agriculture	3.23	3.64	4.03
Total	1.68	1.40	0.96
II. Sectors within Non-Agriculture			
Manufacturing	2.02	2.74	0.62
Construction	5.35	8.27	12.04
Trade/Hotels, etc	3.76	4.88	3.41
Transport/Communication	4.35	6.56	4.44
Financial Services	-	6.13	5.20
Other Services	-	0.08	0.77

Source: NSSO Employment and Unemployment Surveys: 38th Round (1983), 50th Round (1993-94), 61st Round (2004-05) and 66th Round (2009-10).

Table 8. Changing Structure of Rural Employment (UPSS) in India: 1983 to 2011-12 (%).

Sector / Industry	1983			1993-94			2004-05			2011-12		
	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female	Person
Agricultural and allied activities	77.7	87.7	81.5	74.0	86.2	78.4	66.5	83.3	72.7	59.4	74.9	64.1
Mining and quarrying	0.6	0.3	0.5	0.7	0.4	0.6	0.6	0.3	0.5	0.5	0.3	0.5
Manufacturing	7.0	6.4	6.8	7.0	7.1	7.0	7.9	8.4	8.1	8.2	9.8	8.7
Electricity, gas, and water supply	0.2	0.0	0.2	0.3	0.0	0.2	0.2	0.0	0.2	0.3	0.1	0.2
Construction	2.3	0.7	1.7	3.2	0.8	2.3	6.8	1.5	4.9	13.0	6.6	11.1
Trade, hotels, and restaurants	4.4	2.0	3.5	5.5	2.1	4.3	8.3	2.5	6.2	8.5	3.0	6.8
Transport, storage, and communication	1.7	0.1	1.1	2.2	0.1	1.4	3.8	0.2	2.5	4.2	0.1	2.9
Other services	6.1	2.8	4.9	7.1	3.4	5.7	5.8	3.9	5.1	5.9	5.2	5.7
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: Same as in Table 1.

In this bleak scenario of declining rates of growth of employment in the economy as a whole and in rural India as well, what emerges as a silver lining is the continuous rate of growth of employment in the RNFE at 3.23% in the 1980s to 3.64% between 1993-94 and 2004-05, and 4.03% during 1999-2000 to 2009-10 (Table 7). A close look at the gender-wise growth of RNFE also shows that much against the general notion, women tend to be left out of non-farm employment opportunities and are more employed in agriculture. The experience beginning with the 1990s shows that the rate of growth of female employment in RNFE in activities such as construction, electricity, gas, etc; transport, storage, etc; finance, real estate, etc; and community, social services is as high or even higher than that of male employment growth (Table 8). With the negative growth of employment in agriculture, declining rate of growth of employment in the urban organized sector and with urban areas becoming inhospitable to migrant workers from rural areas, the question raised is as to where do growing rural labor force find employment opportunities. It emerges clearly that since 1990s the RNFE has become much more dynamic (Binswanger-Mkhize 2013).

3.2 Structural Changes within RNFE in India

The growth of rural non-farm employment showed considerable dynamism in the period under discussion, though the changes do leave a number of issues that are a cause for concern. The growth of rural non-farm employment has drawn more of relatively younger male persons with some education. The absorption of women in rural non-farm employment is much lower. While men move from agriculture to non-farm employment, the limited opportunities for women in non-farm activities keep them in agriculture, which is also a contributing factor to feminization of agriculture. While agriculture experienced a net decline, the share of non-farm sector in rural employment increased from 22% to 36% with an annual growth rate of about 4 percent per annum. The entire growth of rural non-farm employment was driven by the construction sector in which employment increased at an accelerated rate of about 12 percent per annum between 1999-2000 and 2009-10 (Table 9).

Table 9. Changes in Rural Employment Structure (%).

Sector	1983	1993-94	2004-05	2009-10
I. Agriculture	81	78	73	68
II. Non-Agriculture	19	22	27	32
III. Distribution within Non-Agriculture (100)				
Manufacturing	37	32	29	22
Construction	9	11	18	29
(All Secondary Sector)	(49)	(47)	(50)	(54)
Trade/Hotels, etc	19	20	23	20
Transport/Communication, etc	9	7	9	9
Community, social & personal services	26	25	17	15
(All Tertiary)	(51)	(53)	(50)	(46)

Note: Figures rounded to nearest integer, Source: Same as in Table 6.

The other segments of rural non-farm employment such as trade, hotels, transport, communications and financial services witnessed modest rates of growth ranging from 3 to 5 percent. But the cause for concern is the drastic decline in the rate of growth of employment in manufacturing, and community, social and other services to 0.62% and 0.77% per annum, respectively. As a result, between 1993-94 and 2009-10, the share of manufacturing in rural non-farm employment declined from 32% to 22% and that of the services mentioned above declined from 25% to 15%. From the point of view of quality of employment, manufacturing and services are the activities where there is more of regular employment. In the total rural employment, though regular employment constitutes only about 7%, substantial proportion (90% or 21.8 million) of regular rural employment is provided by non-construction – non-farm employment such as manufacturing and ‘other services’. The self-employment component of non-construction – non-farm employment – is substantially higher at about 54% and 58% in the case of rural male and female employment, respectively. Non-construction – non-farm employment is considered to have better linkages and synergies with employment in both farm sector and urban activities.

Another noteworthy dimension of changes in the rural employment structure relates to the occupational shifts among different social groups. The SC workers depending on RNFE has increased significantly from 20% in 1993-94 to 36% in 2009-10, and the agriculture dependence of SCs has become less even compared to OBCs (67.9%) and “Others” (65.3%). However, in the case of STs the increase in RNFE is at a slower pace from 13% to 20%. Further, the share of construction in the total employment profile of SCs increased from 5.1% in 1993-94 to 15.8% in 2009-10, and in the case of all other social groups, construction constitutes a much lower share in their respective total employment profile.

Self-employment is one of the biggest puzzles for analysis because of its range of activities from dire subsistence rag-picking or street-vending to practicing law or medicine or real estate brokering. Often questions are raised on whether non-farm self-employment is distress driven or driven by opportunities to improve earnings. Distress driven self-employment appears to be more among women going by the information that about 20 million women dropped out of self-employment in a matter of five years between 2004-05 and 2009-10. The drastic decline in female labor force participation during this period was entirely due to the withdrawal of women from self-employment. In contrast, there is evidence locating the self-employment of rural men in the trajectory of agricultural to non-agricultural diversification, improved productivity and earnings. This is an area that requires further analysis to throw light on factors facilitating men to move on, and women to withdraw from self-employment in rural areas.

IV. RNFE in India: Sources, Determinants and Debates

In this section an attempt is made to review RNFE aspects such as sources of data, definitions used, the findings relating to the trends, patterns, determinants and impact with particular reference to India. The RNFE literature is growing and scattered but some studies are not accessible. The limitations of the present review are at least two: one is that it is confined to the accessible (from the local libraries and online) literature and the second is that there do exist fairly comprehensive reviews like Visaria and Basant (1994) and Coppard (2001), which deal with RNF economy as a whole and by comparison the present one is very lean. However, since the objective of the present review is to set out issues in the broader context of the state of knowledge on RNFE, it is hoped that it still may be of use for researchers initiating RNFE studies based on micro-level data sets.

4.1 Sources of Data

The main sources of data for national level assessment of RNFE in India are decennial Census and the quinquennial rounds of employment and unemployment surveys by the National Sample Survey Organisation (NSSO). The comparability problem involved with the Census and NSSO survey data are well documented (Fisher et al. 1997). Census data are found to be under-estimates (Hazell and Haggblade 1991) and also there have been variations in census definition of work participation. Over the years there has been growing reliance on NSSO surveys. But even in the case of NSSO survey data, there are a number of limitations regarding the RNFE data. First, the focus of NSSO is on primary occupation and the supplementary occupation is often not adequately captured. However, for many rural households RNF activities are only a secondary or tertiary activity. Second, neither the NSSO surveys nor any other official national surveys record household income data in India, which may be also a reason for not probing multiple activities of an individual or a household. Third, NSSO surveys do not capture the complexity of much of the rural-employment where households and individuals may pursue a number of different activities, and employment patterns may vary seasonally and across years (Fisher et al. 1997). It must, however, be recognized that capturing “pluriactivity” or “multi-activities” of an individual or a household may not be practicable as a part of a national survey and hence the need for micro-level surveys. Lastly, there is ambiguity whether non-farm employment refers to employment anywhere by rural households or solely rurally located employment (Chadha 1997, Coppard 2001).

The literature on RNFE in India is replete with quite a bit of divergent findings partly because, across the regions and over time, there have been primarily different factors influencing the participation in RNFE. This compels us to recognize the fact that it would be futile to expect the factors influencing RNFE to be invariant across geographical space and time. The nature of RNFE of the ‘high road’ kind or the ‘low road’, and the factors influencing its nature and magnitude are likely to differ within the region over time and across the regions at the same time.

An interesting aspect that is emerging from some of the recent literature shows that there is a clear turning point in the RNFE beginning with 1999-2000, which marks a break from the past trends in the growth and structure of RNFE in India (Jha 2013). The pre-1999-2000 period was marked by a modest growth in late 1970s and 1980s but there has been actual decline in 1990s, showing overall slow growth as much as near stagnant structure of RNFE. But the period that followed shows not only faster growth but rapid changes within the structure of RNFE.

Taking the above aspects into consideration, following the classification adopted by Coppard (2001) and paying attention to changes in the post-1999-2000 period, the relevant literature on RNFE in India is classified into four broad groups, i.) the RNFE in India over time with special reference to participation, ii.) the determinants of RNFE, iii.) the debate on the nature of RNFE and iv.) the emerging nature of RNFE in the post-reform period, especially since 1999-2000. The following review is confined to these four broad groups of literature and presented in the same order.

Though there were some studies even in 1980s on rural employment, widespread research interest on RNFE is largely a post-1990 phenomenon across the developing countries. Several studies are aimed at finding broader patterns of RNFE across the regions of developing countries. Before reviewing the relevant literature relating to RNFE in India, it would be useful to have a look at the broad picture of RNFE across the regions of developing countries. Full time RNFE accounts for about 30 percent of total rural employment in Asia and Latin America, about 20 percent in West Asia and North Africa and about 10 percent in sub-Saharan Africa, and the RNFE contribution to rural household income is much higher than the share of employment indicating better levels of productivity of RNF activities than that of farming (Hagglblade et al. 2010). Another study concludes that RNF sector contributes in many countries in excess of 50 percent of rural income. "The 'sector' has grown too large to condone its continued neglect in rural development policies and poverty reduction programmes alike" (Carlletto et al. 2007).

4.2 RNFE in India over Time

Some of the studies focusing on late 1970s and 1980s show that RNFE did grow at a reasonable faster pace of 5 percent from 17.9 percent of rural employment in 1977-78 to 23.4 percent in 1987-88 and accounted for almost half of all manufacturing jobs in the country (Papola 1992). But most of these RNF activities were in small or household units in traditional activities such as handlooms, pottery, tobacco products, etc, some of which were also on the decline. Most non-farm units were small with an average employment of 2.2 workers (Fisher et al. 1997). Modern sector activities like powerlooms, garments, furniture, etc, constituted a relatively smaller share. This was also a period of shrinkage of some of the household industries, parallel to the expansion of non-household segment of rural industries (Visaria 1995). Most of the RNFE during this period was in services (60%) such as petty shops, repair works, restaurants, local transport services like autos and rickshaws, etc, with the secondary sector accounting for the rest (Chadha 1993, Visaria and Basant 1994, Reddy 2005). There were wide regional differences with high concentration in about six states including Punjab, Kerala, Haryana, Gujarat, Tamil Nadu, Rajasthan (Bhalla 1993, Chadha 1997, Fisher et al. 1997, Mitra and Mitra 2005).

The RNFE provided mostly casual work and very little regular work, and the bulk of seasonal fluctuations in RNFE were due to casual labor shifting from agriculture to non-agriculture. The incidence of non-agricultural work as secondary source among casual agricultural labor was on the rise in 1980s, which also indicated that poor rural labor was into multiple occupations and much of the increase in RNFE was in the case of male workers than female (Visaria and Basant 1994). Female participation in RNFE is more into household sector such as tobacco products, handlooms, wood products and ceramics, and matches, and is often part-time and low paid (Fisher et al. 1997). Men in RNFE are more with education and are more in the younger age group while older men are left behind in agriculture (Unni 1996). But there are divergent findings on the relationship between assets and RNFE. Some reported that participation in RNFE inversely related to the size

of the household land holding (Visaria and Basant 1994), but others found that men in households with significant assets (including land) specialize in non-farm activities (Unni 1996). The findings of Vaidyanathan (1986) and Dev (1990) show inequality in land distribution as negatively correlated with RNFE.

4.3 Determinants of RNFE

The literature relating to RNFE in India as well as in other regions is replete with the debates on the main determinants or drivers. The debate is divided between two groups of studies, one group finding that agricultural growth is the main driver of the growth of RNFE, and the other group arguing that the prime movers of RNFE are outside agriculture. Beginning with Mellor's (1976) growth linkage theory, there was considerable literature explaining growth of agricultural incomes generating both consumption linkages through increased demand for non-farm products, and production linkages in the form of backward linkages stimulating demand for agricultural inputs and forward linkages stimulating agroprocessing resulting in the increase in RNFE. In a study covering 16 states, Vaidyanathan (1986) reported significant positive relationship between crop output per head of agricultural population and non-farm employment, while Dev's (1990) findings show agricultural productivity more than crop production that stimulates RNFE. Papola (1994) also found that development of rural industrial sector was associated with agricultural productivity levels, and Hazell and Haggblade's (1991) and Chadha's (1994) study of 18 villages in three states (Bihar, Uttar Pradesh and Andhra Pradesh) find positive linkages between agricultural growth and the growth of non-agricultural activities. Harris' (1991) study in Tamil Nadu observed that agricultural growth was a necessary condition for non-farm growth.

There are a number of studies which find agricultural development is not a necessary condition for the growth of RNFE, and show that the determinants are outside agriculture. While Basant (1994) shows that no relationship exists between regions of agricultural growth and the extent of RNFE in Gujarat, Chandrasekhar (1993) finds a negative relationship between agricultural growth and RNFE in West Bengal. Singh (1994) also reports that in UP, the areas of increased agricultural productivity experience low level of RNFE. According to Unni (1998), the prime movers of RNFE are rural infrastructure, urbanization and government rural development programs. Bhalla (1997) observes growth of non-farm activities along the transport corridors, emphasizes the importance of proximity to urban centers for rural livelihood diversification and shows that high agricultural development may actually shift demand for urban made goods than create demand for local production and hence may not be locales of high RNFE. Papola (1992) brings out the role of 'rural towns', finds higher productivity in regions with even spread of small towns with better backward and forward linkages and shows that between 1971 and 1981 'rural towns' with a population of twenty to fifty thousand experienced highest growth with workers coming predominantly from rural areas. There are a number of studies such as Samal (1997) on Orissa, Shukla (1992) on Gujarat, Jayaraj (1994) on Tamil Nadu and Eapen (1995) on Kerala that show increase in urbanization stimulating RNFE. Based on the results of the 1991 census, Visaria (1995) finds the role of the size of the village and hence the development of labor, product and service markets in the growth of non-farm activities. Rural physical and social infrastructure in general (Hazell and Haggblade 1991) emerges as one of the prime movers, although different studies emphasize different constituents such as transport (Jayaraj 1994), electricity (Singh 1994), rural roads (Harris 1991, Shukla 1992) and education, for instance, in Kerala (Eapen 1994), Tamil Nadu (Jayaraj 1994) and Gujarat (Basant 1993).

Harris (1987), based on the Tamil Nadu experience, questions the agricultural development and the local linkages in promoting rural non-farm activities, and shows that growth of non-local and national markets, growing regional integration in terms of commodity flows, flow of agricultural surpluses to the urban, commercial and the industrial activities, search by the industrial capital for low cost production, and state support in the form of subsidies and concessions play an important role in the location of rural non-farm activities. Similarly, other studies (Basu and Kashyap 1992, Fisher et al. 1997 and Unni 1998) emphasize multiple factors influencing the growth of RNF activities and the heterogeneity within the RNF activities requiring different entry requirements.

4.4 Is RNFE Distress Driven?

An important aspect on the literature on RNFE relates to the debate on whether it is distress driven residual activity or a progressive structural shift as a part of the process of rural transformation. The “distress” or “residual hypothesis” relating to RNFE in India was proposed by Vaidyanathan (1986) based on his finding of high correlation of non-farm employment and unemployment. According to him, growth of labor absorption in agricultural sector is strained. It is RNF activities that absorb surplus labor when the potential of agricultural growth is limited. Hence RNFE is the response to distress driven diversification, or RNFE is the residual labor from agricultural distress. This explanation has come to be called widely as “distress” or “residual hypothesis” of RNFE.

It may be recalled here, the “distress hypothesis” is similar to “distress-push” that is discussed in the earlier part of this review. What is to be recognized is that the explanation on “distress-push” is time and space specific. The problem with “distress hypothesis” is, it is generalized and hence there has been extensive rejection of the same. Based on the NSS data, Unni (1991) shows that there is no correlation between either incidence of rural poverty or landlessness and RNFE, and points out that lack of demand in regions of rural distress inhibits non-agricultural growth. Some of the key arguments against ‘distress hypothesis’ are based on the evidence that in the face of growth of RNF activities in 1970s and 1980s real wages in agriculture steadily increased (Visaria 1995, Vaidyanathan 1994, Bhalla (1994)), and the cause for increase in the real agricultural and rural wages during the period was seen as the rise in RNFE (Mukherjee 1995). And the turnaround in the RNFE post-1999-2000 categorically denies the generalization of RNFE as distress driven (Lanjouw and Murgai 2009, Jha 2013, Binswanger-Mkhize 2013). Some of the recent findings turn the ‘distress hypothesis’ upside down. Based on the studies in Tamil Nadu, Lindberg (2012) comes out with an alternative hypothesis: wherever the role of non-farm sector is found in increasing employment, there is decline in poverty. Besides the experience of Tamil Nadu, in support of the hypothesis, he cites evidence based on the studies of (Bhalla 2005, Eswaran et al. 2009, Nayyar and Sharma 2005), and he shows that non-farm sector and employment have grown with increased investments in infrastructure, industrial growth and agricultural development in and around bigger and smaller urban centers along with growth of general level of education and overall rural development. He also cites all-India evidence from the studies made based on NCAER panel data (ARIS-REDS) of 250 villages across 99 districts in 12 states and shows that the share of rural household non-farm income increased from 21% in 1971 to 28% in 1982 and to 57% in 1999, and rural households now derive more than half of their income from non-farm activities. But, of course, with the growth of RNF activities, there has also been increase in inequality with Gini ratio increasing from 0.46 in 1971 to 0.52 in 1999. He observes that after Green Revolution, it is rural non-farm activities that are the most dynamic force in the development and structural transformation of rural India (Lindberg 2012).

4.5 Liberalization, Globalization and RNFE in India

There is wider discussion of opportunities and threats to RNF activities in the era of globalization (Haggblade et al. 2010). The opportunities are associated with the upgrading of technology, improvement in labor productivity and expanding market, opening up more RNFE. The threats arise from large quantity requirements, and the quality standards, which pose the risk of excluding undercapitalized rural enterprises on which rural poor rely. For instance, India's protection, trade barriers, reservation for small scale industries and handicrafts, which protected women and poor households working in low productivity industries, may be threatened by the cheap imported goods (Reardon et al. 2007). But in recent years, in countries such as India and China the new forces of globalization appear to be stimulating the urban-led rural transformation. "The tantalizing new evidence from India" shows that the correlation between agricultural growth and growth of non-farm income and employment has become weaker in many rural areas (Foster and Rosenzweig 2004, Haggblade 2010). The rising wages and rents in urban areas has started more of rural-urban commuting, temporary migration and urban to rural subcontracting (Otsuka 2007). A large survey in Tamil Nadu (Jayaranjan 2013) shows that rural non-farm activities draw more rural households and many employment opportunities are stable with higher wages drawing more educated youngsters.

It is observed that up to 1990s rural growth was the most important factor in reducing rural poverty, national poverty, even urban poverty. Since 1991 rural growth has been important for reducing rural poverty but urban growth is a major driver for decreasing urban poverty, national poverty and even rural poverty (Ravallion and Dutt referred to in Binswanger-Mkhize 2013). While women are barely transiting, RNFE is drawing more younger males with education moving from agriculture to non-agriculture. Based on the NCAER (ARIS-REDS) panel data that covers 250 villages across 99 districts in 12 states, Binswanger-Mkhize (2013) shows that self-employment in non-agricultural sector far from being distress driven is tending to be a source of new opportunities. Between 1999 and 2007, households in non-farm employment doubled from 10 percent to 20 percent, and non-farm self-employment component earnings increased faster than agricultural incomes. Income data for non-farm household's shows, distress is not the main driver of its expansion but it is the most dynamic source of income growth, including for farmers. Farms are diversifying not only in agricultural production but also to more remunerative self-employment in the non-farm sector, while farming is increasingly tending to be more productive; but the tendency is towards part-time farming, which indicates the growing importance of multiple sources of income with an increasing share of non-farm contribution both in income and employment. Farm and non-farm rural labor markets are more integrated and are also integrated with urban labor markets, but to a lesser extent. Non-farm wages are higher than farm wages. Growth of non-farm activities, and employment in it, is not only in more favorable agro-climatic zones but also in less favored zones.

With this significant movement of rural labor from farm to non-farm activities and migration from rural areas to cities, especially by male workers, to relatively higher wage work has led to tightening of the labor market. Thus labor scarcity has emerged as one of the major constraints to increasing agricultural production in India. This has several implications on agriculture in terms of rise in farm wage along with other rising input costs pushing cost of production. The labor market also witnessed some structural transformation such as the near disappearance of bonded and attached labor, changing contractual arrangement of rural labor; casual labor is predominant but increasingly shifting from daily wage to contractual work with increasing bargaining power of labor.

In this apparently dynamic scenario of the emerging rural non-farm activities and employment, there are certain aspects that are cause for concern. RNFE is increasingly accessed primarily by young males with some education but access to females is much less, limited by lack of education and mobility. This impediment to women makes them increasingly concentrated in agriculture, resulting in feminization of agriculture and to an extent relatively low productive home-based self-employment in non-farm activities. Yet another aspect of growing RNFE is that it is more casual and informal. There are hardly any social security measures that go with the informal RNFE, resulting in the entire non-farm led rural transformation being characterized as 'stunted' (Binswanger-Mkhize 2013).

V. Conclusions and Policy Implications

Rural economy in India is undergoing a rapid structural transformation of which rural non-farm employment has a pivotal role. The study suggests that RNFE is emerging as one of the key drivers of rural development and transformation, contributing 65% to the rural Net Domestic Product in 2010. While agriculture experienced a net decline in production from 64% in 1980-81 to 35% in 2009-10, the share of non-farm sector in Net Domestic Product experienced a sharp increase to the tune of 36% in 1980-81 to 65% in 2009-10. Though there is growing share of rural non-farm employment (19% in 1980-81 to 31% in 2009-10), still, agriculture is the major employer of the rural workforce (68% in 2009-10). The shift in the share of rural non-farm employment especially from 1993-94 is quite substantial. Relatively higher growth in the non-farm sector, specially infrastructure and construction, coupled with improved transportation and communication, differential wage rates, improved literacy and Government programs are the drivers of change. Within non-farm sector, the foremost drivers of change have been construction, the share of which increased from about 4% in 1980-81 to 15% in 2009-10. On the contrary, the growth of employment in manufacturing and community services, which are segmented with a better quality of employment, reached very low levels leading to a serious cause of concern. There is growing evidence of rural-urban temporary migration, especially by male workers to relatively higher wage work with improved road connectivity. The absolute decline in labor force for both male and female laborers, have not only tightened the rural labor market, but also within the rural economy the substantial shift of labor from farm to non-farm sector contributes to scarcity of labor for farm work. As a result there is growing tendency towards piece rate or contracting agricultural work than employing labor on daily wages, thereby increasing bargaining power of labor. Some of the policy implications are listed below:

- Rural economy is at the threshold of rapid shift to non-farm activities. Interventions are suggested to improve productivity in both farm and non-farm activities
- Improvements in rural infrastructure is becoming mandatory
- Growth of small-towns, increasing rural-urban communities directed the need for strengthening rural-urban connectivity
- Rural-Urban Migration is Increasingly Opportunity Driven, not distress driven – Government interventions are recommended to ensure security, safety and social protection to migrant labor.

VI. Way forward

Though there have been increasing number of studies on RNFE in recent years, considering the complexity and diversity of the phenomenon and its policy significance in improving the living conditions of the large proportion of people who are likely to live in rural areas for decades to come in countries like India, the subject offers immense opportunities for further research. While the large nation-wide periodic surveys offer indications of the patterns of change, the detailed processes of change can be captured only by micro-level studies. Large surveys also reveal aggregate changes in the status of employment in terms of casual, permanent and self-employment. But if one has to understand the nature of self-employment, which varies widely in terms of productivity, earnings and skill requirements, more micro level studies are suggested. In RNFE there are trajectories of movement from wage employment to self-employment and vice versa on which the need is detailed micro-level studies. For instance, macro-level surveys reveal massive withdrawal of rural women from self-employment in India in recent years even as RNFE is on the rise. Gender dimension of factors behind these trajectories of change in RNFE can be captured only through micro-level studies. Similarly, employment status of a large proportion of those engaged in RNF activities can only be described as “pluri-active”, since they are engaged in multiple economic activities on which only micro-level studies could provide better understanding. The stages of development of RNFE and the triggers at each stage are other dimensions on which more studies are needed with specific reference to different regions of India. The broad outline of the issues identified in this review, it is hoped, would help in initiating further detailed studies based on micro-level data sources that would help policymakers in designing appropriate approach to promote RNFE.

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About ICRISAT: www.icrisat.org

ICRISAT-India (Headquarters)

Patancheru 502 324
Telangana, India
Tel +91 40 30713071
Fax +91 40 30713074
icrisat@cgiar.org

ICRISAT-Liaison Office

CG Centers Block, NASC Complex,
Dev Prakash Shastri Marg, New Delhi 110 012, India
Tel +91 11 32472306 to 08
Fax +91 11 25841294

ICRISAT-Ethiopia

C/o ILRI Campus, PO Box 5689
Addis Ababa, Ethiopia
Tel: +251-11 617 2541
Fax: +251-11 646 1252/646 4645
icrisat-addis@cgiar.org

ICRISAT-Kenya (Regional hub ESA)

PO Box 39063, Nairobi, Kenya
Tel +254 20 7224550, Fax +254 20 7224001
icrisat-nairobi@cgiar.org

ICRISAT-Malawi

Chitedze Agricultural Research Station
PO Box 1096, Lilongwe, Malawi
Tel +265 1 707297, 071, 067, 057, Fax +265 1 707298
icrisat-malawi@cgiar.org

ICRISAT's scientific information: <http://EXPLOREit.icrisat.org>



ICRISAT is a member
of the CGIAR Consortium

ICRISAT-Mali (Regional hub WCA)

BP 320, Bamako, Mali
Tel +223 20 709200, Fax +223 20 709201
icrisat-w-mali@cgiar.org

ICRISAT-Mozambique

C/o IIAM, Av. das FPLM No 2698
Caixa Postal 1906, Maputo, Mozambique
Tel +258 21 461657, Fax +258 21 461581
icrisatmoz@panintra.com

ICRISAT-Niger

BP 12404, Niamey, Niger (Via Paris)
Tel +227 20722529, 20722725
Fax +227 20734329
icrisatsc@cgiar.org

ICRISAT-Nigeria

PMB 3491
Sabo Bakin Zuwo Road, Tarauni, Kano, Nigeria
Tel: +234 7034889836; +234 8054320384,
+234 8033556795
icrisat-kano@cgiar.org

ICRISAT-Zimbabwe

Matopos Research Station
PO Box 776, Bulawayo, Zimbabwe
Tel +263 383 311 to 15, Fax +263 383 307
icrisatzw@cgiar.org