

## Changing the Pattern of Rural Labour Market: A State Level Analysis

**Dr.Chandayya Makeni <sup>1</sup>**

Chandayya Makeni, Assistant Professor in Nagaland University, Lumami, Nagaland. Pin: 798 627, Email: [makenichandu@gmail.com](mailto:makenichandu@gmail.com)

**Venkateswarlu Gunna <sup>2</sup>**

Assistant Professor Dept of Arts KLEF, Vaddeswaram AP 522302 Email: [,drgvenkateswarlu@kluniversity.in](mailto:drgvenkateswarlu@kluniversity.in)

### **Abstract:**

The present article explains about the structure and performance of the rural labour market at the all India and state level. The structure of the rural economy has witnessed changes. In such context rural economy continues to be an agrarian dominated economy in terms of the share of people dependent on agriculture for survival. Cultivators are witnessing a decline in the share of households in the farm sector but the share of agricultural labour households has been increased over period. In the condition how the rural labour structured and performance at India and state level. The performance of rural labour market focused on employment and wage rates. One can say that real wages are increased in all the states over the period of 1980-81 to 2004-05. During the pre-reform period growth rate of real wage increased compared with post-reform period. Agricultural labour households have choices: they may go for tenancy market or else rural non-farm sector. An using the **Fixed Effect** model for analysis, the determinants of real wages shows some interesting trends. Real wages are determined by the structural factors as well as choices open to the households in the farm sector. As the share of large farmers increases (pure demanders of labourers) real wages also increases. As the share of small and marginal farmers increases also witnesses an increase in wages. The choices open to farm sector has diversified. As lease households increases there is a decline in real wages while rural non-farm sector increases there is an increase in wages.

**Keywords:** Labour-supplying households, Labour-demanding households, Rural labour-

---

<sup>1</sup> Chandayya Makeni, Assistant Professor in Nagaland University, Lumami, Nagaland. Pin: 798 627, Email: [makenichandu@gmail.com](mailto:makenichandu@gmail.com)

<sup>2</sup> Assistant Professor Dept of Arts KLEF, Vaddeswaram AP 522302 Email: [,drgvenkateswarlu@kluniversity.in](mailto:drgvenkateswarlu@kluniversity.in)

market, Tenancy market and Rural non-farm households.

## **I INTRODUCTION**

In a vastly heterogeneous and complex country like India, there are widespread regional differences in the structure of rural labour market in general and performance or functioning of rural labour market in particular. The existing literature on performance of the labour market at the state level has shows that the performance of the labour market in terms of determination of real wages is different in various states (Herdt and Baker, 1972; Jose 1988; Parthasarathy, 1996; Sarmah 2002; Narayanamoorthy and Deshapande, 2003; Srivastava and Singh, 2005; Chavan and Bedamatta, 2006; Vinoj Abraham 2007). But the emphasis of the existing literature is on explaining the performance with less emphasis on the structure of the labour market. The structure of the labour market means the allocation of agricultural households into labour-demanding and labour-supplying households and the choices open to the households to meet their subsistence. In a transitional economy like India, the separation of households into pure labour-demanding and pure labour-supplying households may also not be complete with some households being part labour-supplying households with cultivating land and also households who own land but do not cultivate. The choices that are open to households may be vastly different in the different states. Hence the structures could be very different in the different states. That is, the share of pure labour demand and pure labour-supplying households and also households who partly enter the labour market. In addition, the choices open to these households could also be different. In the present paper , an attempt is made to analyse whether the structure of labour market is different over states and to study the impact of the structure on the performance of the labour market. The performance is studied in terms of the impact on wages.

The paper has been divided into six sections; the first section is on Introduction. The second section deals with changes in the farm structure of rural labour market in general, and labour-supplying households and labour-demanding households in particular. The third section explains the choices open to the farm households, agricultural labour households either may enter into tenancy or else rural non-farm sector. The fourth section focuses on the performance of rural labour market in terms of real wages. The fifth section, factors

influencing wages in the rural labour market is analysed with fixed effect model. And the sixth section concludes the paper.

## **II CHANGE IN THE FARM SECTOR**

In the context of these changes it is interesting to see how the rural sector is responding or changing as well as the changes in the structure of the agrarian structure. The following analysis is not based on explaining the causal process of explain the changes but to describe empirically the changes taking place in the rural sector in the context of changing public policy.

### **1. Changes in the Share of Agricultural Labour-supplying Households**

The farm sector has two components: namely agricultural labourers and cultivators. A decrease in the share of farm sector may be due to a decrease in the share of agricultural labour households and/or due to a decrease in the share of cultivators in the rural sector. The implication of these changes could be very different for the rural labour market. A decrease in the share of agricultural labour households would imply an inward shift in the labour-supply schedule. While a decrease of cultivators might either imply increasing land concentration and by implication an increase in demand or land being kept fallow or leased out land which again would influence the demand schedule of labour market. Here an attempt is made to present the trends of these two parts.

Labour-supplying households are those who sell labour time in the labour market. As the aggregate data sets do not classify households based on the labour resource but on land resource it does not give a perfect indication of labour-supplying households. So an attempt is made to classify households in labour-supplying households based on the land owned. Three classes of labour-supplying households have been identified in a land based classification: (a) pure labour-supplying households: households in the farm sector who do not own or operate land, (b) effective labour-supplying households (<1 acre landed Households), and (c) small and marginal farmers who are identified as part labour-supplying households. These households are identified as labour-supplying households.

### **2. Agricultural Labourers and Cultivating Households from Census:**

The agricultural labour households (AGL) labour-supplying that form the main component of the supply-side of the labour market. Agricultural labour households sell labour time in the

labour market. Since this group of households is totally divorced from ownership of land, they might be expected to give an accurate measure of the rural proletariat (Basole and Basu, 2011). According to NSSO data, the extent of landlessness has stayed more or less constant over the last five decades.

**Table 1 Change in Agricultural Labourers and Cultivators Households from Census: 1981 to 2011**

State	<i>Change in AGL1991 over 1981</i>	<i>Change in AGL 2001 over 1991</i>	<i>Change in AGL 2011 over 2001</i>	<i>Change in AGL 2011 over 1981</i>	<i>Change in Cul 1991 over 1981</i>	<i>Change in Cul 2001 over 1991</i>	<i>Change in Cul 2011 over 2001</i>	<i>Change in Cul 2011 over 1981</i>
<b>Andhra Pradesh</b>	4.83	0.84	3.40	9.07	-3.89	-3.81	-6.05	-13.76
<b>Assam</b>	-	2.80	2.17	-	-	-4.89	-5.18	-
<b>Bihar*</b>	1.67	8.47	0.63	10.78	-0.98	-8.47	-6.81	-16.25
<b>Gujarath</b>	2.32	1.24	3.33	6.88	-5.98	-1.00	-5.31	-12.29
<b>Haryana</b>	3.13	-2.31	1.87	2.69	-4.20	0.18	-8.20	-12.22
<b>Karnataka</b>	2.01	-0.01	-0.78	1.21	-3.62	-2.07	-5.64	-11.33
<b>Kerala</b>	-1.49	-7.42	-4.38	-13.29	-0.31	-4.13	-1.21	-5.65
<b>Madhya Pradesh**</b>	-1.00	8.89	10.63	18.52	-0.96	-2.26	-11.24	-14.47
<b>Maharashtra</b>	0.30	1.75	1.02	3.07	-1.95	-1.31	-3.26	-6.52
<b>Orissa</b>	1.13	9.97	3.41	14.51	-1.74	-8.95	-6.36	-17.05
<b>Punjab</b>	2.55	-6.88	-0.27	-4.61	-2.80	-7.99	-3.08	-13.88
<b>Rajasthan</b>	2.04	2.48	5.91	10.43	-3.44	7.45	-9.72	-5.71
<b>Tamil Nadu</b>	2.75	-1.65	-1.77	-0.68	-4.11	-5.06	-5.43	-14.60
<b>U P***</b>	2.28	6.43	-3.56	5.16	-6.50	-7.62	-6.67	-20.78
<b>West Bengal</b>	-0.57	1.91	4.34	5.68	-2.12	-6.58	-4.46	-13.16
<b>India</b>	1.06	2.80	-1.95	1.91	-2.58	-3.59	-1.65	-7.83

Research paper

© 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 8, Issue 4, 2019

**Source:** Census data are compiled from different issues of Statistical Abstract of India and Census of India 2011.

**Note:** (1)\* Jharkhand is included in Bihar.

\*\* Chhattisgarh is included in Madhya Pradesh.

\*\*\* Uttarakhand is included in Uttar Pradesh. (2001 Census)

(2) ('91-'81) refers to change in value over the period 1991 to 1981, and ('01-'91) refers to change in

value between 2001 and 1991, (11-01) refers to change in value over the period 2011 and 2001.

(3) *AGL* – Agricultural Labourers and *CUL* - Cultivators

According to the Census of India data, the share of agricultural labour households has increased by 1.06 per cent during 1981-91, and by 2.8 per cent during 1991-2001. At the all India level, there is a decrease of 1.95 per cent in the share of labour households during the period of 2001-2011. But using recent data on Census 2011 agricultural labour households has increased 1.91 per cent during the period of 1981 to 2011.

The state-wise trends of the share of agricultural labour households are presented in Table 1. It can be observed that the share of agricultural labour households has seen a steady increase in all the fifteen states (Census of India), while in Andhra Pradesh, Haryana, Tamil Nadu and Punjab it has increased more. Andhra Pradesh saw 4.83 per cent, Haryana about 3.13 per cent, Tamil Nadu 2.75 per cent and Punjab 2.55 per cent increase from 1981-1991. During this period, 1981-1991 the following states have declined Kerala 1.49 per cent, Madhya Pradesh 1 per cent and West Bengal 0.57 per cent.

During the period 1991-2001, the share of agriculture labour households increased in Orissa 9.97 per cent, Madhya Pradesh 8.89 per cent, Bihar 8.47 per cent and Uttar Pradesh 6.43 per cent respectively. Again during this period 1991-2001 there is a decline of 7.42 per cent in Kerala, 6.88 per cent in Punjab, Haryana 2.31 per cent and Tamil Nadu 1.66 per cent respectively. During 1981-2001 share of agriculture labour households have increased in Orissa 11.10 per cent, Bihar 10.15 per cent, Uttar Pradesh 8.71 per cent and Madhya Pradesh 7.89 per cent respectively. Again during this period 1981-2001 there was deceleration in Kerala 8.91 per cent and Punjab 4.33 per cent respectively. When it comes 1981 to 2011 the

change of agricultural labour households increased in Rajasthan 10.43 per cent, Bihar 10.78 per cent, and Andhra Pradesh 9.07 per cent and Gujarath state also 6.88 per cent registered respectively. Again during the period 1981-2011 there is a decline of Kerala 13.29 percent, and Punjab 4.61 per cent respectively.

The cultivators are main source of demand for labour in agrarian economy. The composition of cultivators has a significant impact on the demand for labour. Using land ownership data to derive the demand for labour, one could assume that medium and large scale land owners can be assumed to demand for labour. A caveat here is that, a household may be owner of land but may not be operating the land and so may not have a demand for labour. Given the limitation, one may assume that as the size of land ownership increases demand for labour also increases. Medium and large scale land owners may also use their own family labour for production but as the size of land cultivated increases the share of family labour decreases and the component outside labour increases or need for labour from the outside the households increases. The study of Basole and Basu(2011) indicates that medium and large scale farmers can generate employment for agricultural labour households. Small and marginal farmers do not give employment for agricultural labour households, as their output is low. Land holders, who have at least 10 acres can generate employment and as well as output in the market.

The percentage of cultivators households at the all India and state levels during 1981-2001 was sourced from Census of India. According to Census the share of cultivators has declined by 2.58 per cent during 1981-1991 and further again declined by 3.59 per cent during 1991-2001. We can observe cultivators point of view at the all India level, there is decrease 7.83 per cent during 1981-2011, which means cultivators are withdrawal from agriculture and diversified towards to non-farm sector. One can say that non-cultivating peasant households are generating (NCPH) decade to decade (R Vijay 2012).

According to Census of India data at the state level in Uttar Pradesh, the share of cultivators households have decreased by 5.98 per cent during the period of 1981-1991, while during the period of 2001 it shows a whopping 7.62 per cent declined. Whereas rests of states the share of cultivators witnessed a decline in Gujarat by 5.98 per cent Haryana by 4.20 per cent and Andhra Pradesh 3.89 per cent have improved their share. When it comes 1991-2001 of cultivators Orissa 8.95 per cent and Bihar 8.47 per cent increased. And declined households

states are Punjab 7.99 per cent and Uttar Pradesh 7.62 per cent. Whereas during 2001-2011 over the period of the following states are Madhya Pradesh 11.24 per cent, Rajasthan 9.72 per cent and Haryana 8.20 per cent declined. During the period 1981-2011 percentage of cultivators have declined in state wise, those states are Uttar Pradesh 20.78 per cent, Orissa 17.05 per cent and Bihar 16.25 per cent.

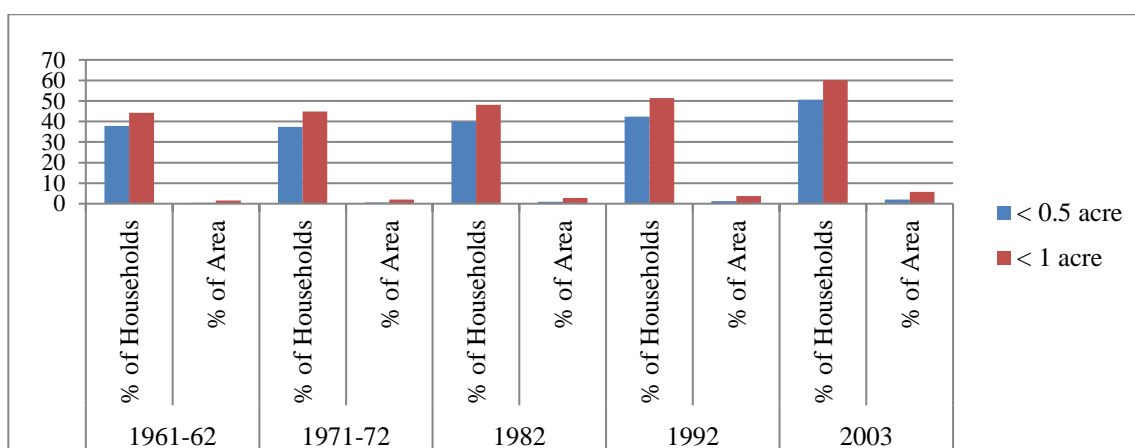
### 3.Changes in Share of Agricultural Partial Labour-supplying and Labour-demanding Households

#### (A)Effective Labour-supplying Households:

NSSO defines landless households as only those households which own less than 0.05 hectares. However, data put out by the NSSO itself for 2002-03 show that those households owning less than one acre use more than 90 per cent of their land as homestead. Thus if landlessness is understood as pertaining to land that can be used for cultivation and that can generate some income for the family, then a more realistic definition must consider all households owning less than 1 acre as “effectively landless”(Basole and Basu, 2011). Two pieces of evidence can be offered in support of this claim. First, NSSO data reveal that 62 per cent of agricultural labourers come from households that own more than 0.025 hectares but less than 1 acre of land. These are the every households that we have clubbed together with pure landless in the category “effective landless”.

**Figure 1: Proportion of Effectively Landless among All Rural Households**

(Percentage of rural households)



Source: Report No 491, NSS 59<sup>th</sup> Round, January-December 2003, p.12.

Second, in keeping with the foregoing finding, households owning less than one acre of land derive 60 per cent of their income from wages. One caveat that should be added is that “effective landless” households may still cultivate their small plots. This means effective landless households also contribute to the agricultural operations.

**Table 2 Partial Labour-supplying and Labour-demanding Households**

(Rural)

State	Partial Labour Supplying Households						Labour-demanding Households					
	1981		1991-92		2002-03		1981		1991-92		2002-03	
	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area	No.	Area
AP	70.7	25.7	80.7	40.8	81.4	39.7	13.7	53.3	6.2	32.9	6.6	37.6
Assam	85.9	55.6	90.8	65.4	94.6	78	2.8	15.1	1.7	11.7	0.6	4.9
Bihar	86.3	48.3	90.5	54.1	94.8	70.4	3.8	24.7	2.7	22.1	1.2	11.9
Gujarat	59	17.8	67.8	22.3	77.3	28.1	19.7	59.7	14.6	52.8	11.6	52.9
Haryana	54.9	11	64.2	14.1	79.1	23.9	22.2	63.5	15.5	60.4	8.7	50.1
Karnataka	60.9	19	70	25	78.6	36.2	16.9	56.8	12.1	49.8	8.2	38.9
Kerala	96.2	69.6	97.5	76.7	98	81.1	0.9	12	0.5	8.5	0.5	7.2
M P	55.4	17	63.1	22.3	74.5	33.4	21.5	58.8	16	52.3	8.9	38.2
Maharashtra	54.8	13	62.5	18.5	70.9	29.7	24	67	17.1	56.9	10	39.9
Orissa	80.6	43.5	84.3	52.3	93.6	71.7	5.3	30.3	3.7	19.9	1.2	9.5
Punjab	69.4	12.8	74.6	16.9	77.5	19	16.7	65.5	11.5	56.4	9.7	54.9
Rajasthan	48	10.6	59.2	15	67.9	19.9	29.9	72.4	22.3	67.9	16.2	61.5
T N	88.1	49.1	91.3	57	90.5	55.1	3.7	25.5	2.1	18.3	2.8	21.9
U P	81.2	41.9	86.5	51.3	92.6	64.9	5.9	30.1	3.6	22.5	1.8	15.3
W B	90.1	58.1	94.1	70.7	97.7	85	1.8	13.7	0.9	7.3	0.2	2.7
India	75.3	28.1	80.6	34.3	86	43.5	10.5	48.4	7.4	41.6	5	34

Source: NSS Report No.492: Household Ownership Holdings in India, 2003.

### (B) Small and Marginal Farmers

A small and marginal farmer owns land but it can be assumed that their land may not be enough to meet their consulting so might also be entering the labour market as suppliers of land. Unlike agricultural labour households who are pure labour-supplying households, these households can be identified as part labour-supplying households. As these households



own land, they will use their family labour to organize production and any 'surplus' labour will enter the labour market. An increasing importance of small farmers influences the demand as well as the supply of labour. The specification of demand for labour also poses certain problems in the analysis of rural labour markets. First, the employment of workers in agricultural operations, most of whom work on family farms, gets extended to the extent of supply, rather than being fixed at the point of equality between wage rates and the marginal product. The number of workers engaged in agriculture is, therefore, not a reliable indicator of the demand for labour and most of it may be invariant in relation to the wage rates (Papola and Misra, 1980).

The share of small and marginal holding has witnessed a continuous increase over time and the land owned by these households is also increasing. This trend is true for all the states over time. If one sees the trends with respect to labour-supplying households, the share of pure labour-supplying households (landless labour households) is increasing marginally over time but the share of part labour-supplying households (small and marginal farmers) is showing a consistence increasing over time. The part labour-supplying households also own land and so internalize part of the supply households. Interestingly, the share of part labour supply is increasing consistently over time and space.

### **(C)Medium and Large Farmers:**

We have considered medium and large scale farmers as the main demanders for labourers. Considering the country as a whole, the large and medium holdings, who make up 10 per cent of the total cultivators, owned 5.4 per cent of the total land during 1971-72. However, their share of land continued to decline to 3.5 per cent in 2003 while their proportion has declined by half to 5 per cent<sup>3</sup>. The NSSO data on medium and large farmers is one important source that gives information about land classifications from where we can infer how the cultivators generate employment to agricultural labourers.

Structurally one is witnessing a decline in the share of farm sector over time as well as across states. The changing structure is due to a decline in the proportion of cultivating households

---

<sup>3</sup> Amit Basole and Deepankar Basu (2011), using NSSO data, classified states on the basis of medium and large scale farmer households and identified two types of states based on this, which they have classified as large land holding states and small and marginal land holding states. Based on their classification, Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab and Rajasthan have been identified as large land holding states, while Assam, Bihar, Kerala, Orissa, Tamil Nadu, Uttar Pradesh and West Bengal have been classified as small and marginal holding states.

and also a relatively constant share of agricultural labour households. This trend is true at the all India level as well as across states with some minor exceptions. In other words, the share of pure labour-supplying households is relatively constant while a partial labour-supplying household is witnessing a major increase. These households partly sell their labour power and partly use their family labour for self cultivation. An increase in this form of households not only decreases the aggregate labour-supplying schedule in the village but also decrease the demand for labour in the labour market. If one sees the demand side of the labour market, the major source of demand for labour is the medium and large scale farmers who are witnessing a decline in their number as well as land owned by in terms of the share of households. So here is a situation where the pure labour-supplying households witness a relatively constant proportion but the major source of labour-demanding households witness a significant decline in their number and area owned. In such a situation, it is interesting to see what are the alternative institutional arrangements open to the households in the farm sector to meet their subsistence. The following section presents those options are open.

## **II CHOICES OPEN TO HOUSEHOLDS IN THE FARM SECTOR**

Households in the farm sector have many options to earn an income for their subsistence. These options could be either to enter the land lease market or to enter the non-farm sector. These options would influence the functioning of the labour market. So here we present the options open to the households in the farm sector households at the state level.

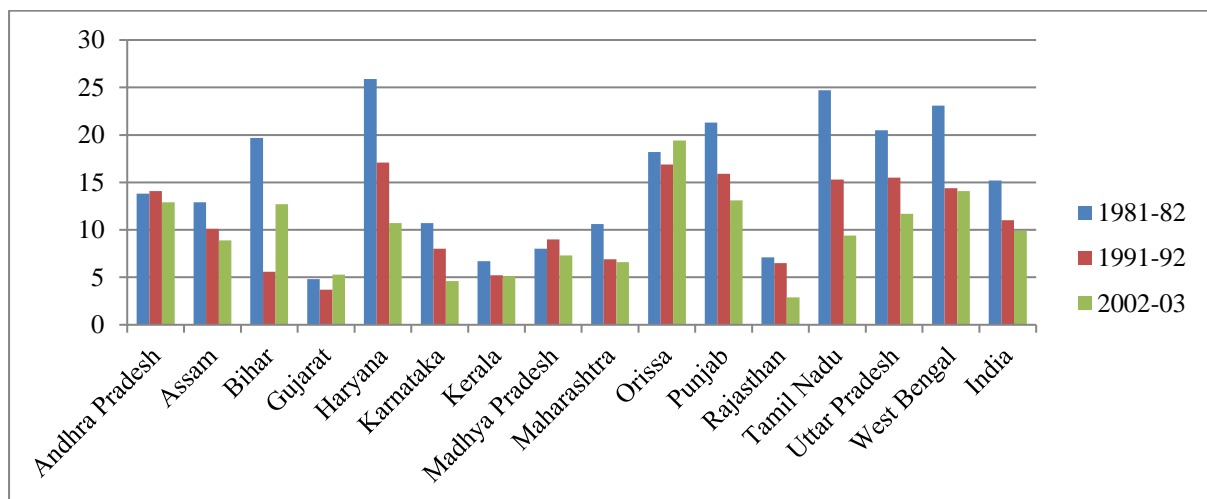
### **1. The Proportion of Tenant Households Holdings**

One of the options open to the households in the farm sector is to enter the land lease market. An agricultural labourer can become a land operator by leasing in land while a cultivator can increase the land under operation. In the first case a landless labourer household enters the land lease market and converts themselves from pure labour-supplying households to part labour-supply households. While in the second case, the demand for labour increases.

While the table below gives a good idea regarding the inter-state differential in both the percentage of tenant holdings and share of leased-in area, little can be said definitely regarding the trends in the latter parameter at the state level. The last survey had noted an increase in the share of leased-in area in Punjab and Haryana during the 1980's, but this increase, even if genuine, does not appear to be consistent one.

The results of these three years suggest that, despite the clear fall in the percentage of tenant holdings, the share of leased-in area has increased during the 1980's. But the results of the 59<sup>th</sup> round indicate that both the percentage of tenant holdings and the share of leased-in area are declining. Most States appear to conform to this pattern. Orissa and Gujarat are, however, exceptions.

**Figure 2: The Percentage of Tenant Holdings Households for Different States from 1981-82 to 2002-03**



**Source:** Report No.491 NSS 59<sup>th</sup> Round: Household Ownership Holdings in India, 2003.

The change in the percentage of tenant households during the period of 1981-1991 at all India level is 4.20 per cent decline, but this has declined to 1.10 per cent during the period of 1991-2002. Over the period from 1981-2002 there has been a 5.30 per cent decline in tenant households. When it comes to the state wise analysis, Bihar (14.10 per cent) Tamil Nadu (9.40 per cent), Haryana (8.80 per cent) and Punjab (4.20 per cent) have registered a decline, whereas Madhya Pradesh (1.00 per cent) and Andhra Pradesh (0.30 per cent) have registered increase during the period of 1981-1991. Considering the period between 1991-2002, the percentage of tenant households has declined in Haryana (6.40 per cent), Tamil Nadu (5.90 per cent) and Uttar Pradesh (3.80 per cent), while the states of Bihar (7.10 per cent), Orissa (2.50 per cent), and Gujarat (1.60 per cent) (see Figure 2).

During 1981-2002, the per cent of tenant households have declined in the states of Tamil Nadu (15.30 per cent), Haryana (15.20 per cent) and West Bengal (9.00 per cent). However,

Orissa (1.20 per cent) and Gujarat (0.5 per cent) have shown increase. So one can see a decline in the share of tenant households over time and space (see Figure 2).

## 2. Rural Non-farm Sector Households

A second option open to households in the farm sector is the non-farm sector. The rural non-farm economy or sector includes all rural economic activities outside of agriculture. Non-farm activity may take place at home or in factories or be performed by itinerant traders. It includes small and large activities of widely varying technological sophistication (Steven Haggblade, Hazell, Reardon, 2007). Some others see it as a voluntary choice due to the agrarian growth while some see the movement of the labourers from the agriculture as distress driven due to lack of employment opportunities in agriculture, and the excess of the labourers settle in non-agricultural sector as the residual sector (Vaidyanathan, 1986; Mahendra Dev 1990; Jeemol Unni 1991).

The theoretical explanation of growth of non-farm sector is as follows. The agricultural sector is passing through a complex crisis of low productivity, poor competitiveness and adverse climatic conditions. The compound annual growth rate of agriculture and the allied sector from 2000-01 to 2004-05 was 2.02 per cent, the lowest annual growth recorded in the sector since 1980-81. Vinoj Abraham (2009) also shows this decline in agriculture, extending the time period slightly earlier, starting from 1997-98; which shows the widespread decline in the sector, including all the subsectors. Mostly in the underdeveloped countries, surplus labour or disguised employment is prevailed, so this surplus labour leads to another sector. Even development theories (Lewis 1954; Ranis and Fei, 1961; and Yujiro Hayami, 2003) who analysed traditional sector (represented by agriculture) and the modern sector (represented by industry) explain in their theories that the surplus labour is leads to non-farm sector in the process of development.

**Table 3**

### Changes of Rural Households in Rural Non-farm Sector from 1983 to 2004-05

State	1983-1993	1993-1999	1999-2004	1983-2004
Andhra Pradesh	0.47	0.6	7	8.07
Bihar	-0.94	3.8	2.6	5.46
Gujarat	5.69	-1.1	2.6	7.19

Haryana	4.86	3.4	4.3	12.56
Karnataka	3.01	-0.9	1	3.11
Kerala	6.43	8.1	6.3	20.83
Madhya Pradesh	0.24	2.7	4.6	7.54
Maharashtra	2.98	0	2.7	5.68
Orissa	-1.78	2.7	9.3	10.22
Punjab	7.38	2	5.6	14.98
Rajasthan	6.69	2.2	4.8	13.69
Tamil Nadu	3.9	2.6	2.7	9.2
Uttar Pradesh	1.86	3.8	3.5	9.16
West Bengal	10.12	-0.3	0.8	10.62
India	-1.09	2.1	3.6	4.61

**Source:** NSSO, Reports, 341, 409, 458 and 515, Employment and Unemployment Situation in India, Part I.

From the above table Table 3, one can infer the trends of rural non-farm employment structure at the all India and also state levels during the time periods of 1983, 1993-94, 1999-2000 and 2004. The intermediate data set for 1987-88 is not used first because, weather-wise, the year was not a normal one, (Jemol Unni 1997; Chadha G.K and Sahu PP 2002; and Easwaran Kotwal *et al.*, 2009). This table shows the structure of rural non-farm employment over the 21 year period (1983 to 2004-05) and is based on the one digit daily status classification of economic activities. However, instead of presenting the shares of all the seven sectors, they aggregated them and displayed as the rural non-farm structure in both the state level and all India level.

One can observe that during the period of 1983 to 1993-94, rural non-farm activities increased in almost all most all the states, except Bihar and Orissa. Whereas from the period 1993-94 to 1999-2000 the states of Gujarat, Karnataka and West Bengal have registered a decline while the rest of the states exhibited an increase in rural non-farm activities. During the period between 1999-2000 to 2004-05, rural non-farm sector has picked up over all the states and also at the all India level. From this we can infer that during the period before globalisation (1983), rural non-farm sector has very less opportunities and most of the people are being

engaged in agriculture which is the predominant sector. However post liberalization, i.e., from 1991 onwards, later activities in the rural non-farm sector picked up across all the states.

#### **IV.PERFORMANCE OF THE RURAL LABOUR MARKET**

Performance of the rural labour market can be seen in terms of agricultural wages and employment. Agricultural Wages in India (AWI) is one of its kind sources providing extensive data on agricultural wages year-wise. Even though Directorate of Economic Statistics Bureau provides the data, the error was highlighted by VM Rao (1972) comparing it with two other important other sources of data on agricultural wages, viz., National Sample Survey and Studies in Economics Farm Management.

The comparison shows that the Agricultural Wages India (AWI) data contain errors in relation to both the levels of seasonal variation and operational wise. He found that AWI data has problem with methodology while other sources data methodology is very strong. Pallavi Chavan and RajashreeBedamatta (2006) have found that there are five limitations in Agricultural Wages in India (AWI).

##### **1.Literature on the Functioning of Rural Labour Market**

There are number of studies on analysing real wages and rate of growth of real wages at both all India and state levels. In agriculture, labour wages are influenced by both demand and supply side factors. (C.Ramaswamy and K.N Selvaraj 1991; Krishnaiah, 2004).

Parthasarathy (1987) studied real wages for male agricultural labour based on data on money wages for agricultural labour for 21 centers in the state of Bihar, Haryana, Madhya Pradesh, Karnataka, Kerala, Punjab, Tamil Nadu, Uttar Pradesh and Andhra Pradesh. The results showed a mixed trend. Acharya Sarathi(1989) conducted the most disaggregated study of real wages for 58 agro-climatic homogeneous regions in the country as defined by the NSS. He covered the period from 1970-71 to 1984-85 for his study. He fitted trends for real wages and tested the significance for males and females separately. Out of the 58 observations, significant rise in the trend was noticed in 34 regions for male workers at less than 10 per cent significance level.Parthasarathy(1996) examined compiled information of real wages at centre-wise in nine states, namely, Andhra Pradesh, Karnataka, Bihar, Haryana, Madhya Pradesh, Punjab, Tamil Nadu, Uttar Pradesh and Kerala. Real wages are obtained using the CPIAL 1985-86 prices of Agricultural labourers for the states concerned. He analysed yearly

---

*Research paper*

© 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 8, Issue 4, 2019

average wages for male agricultural workers by centres from the *Agricultural Wages India* for the period 1985 to 1994. He observed that out of 35 observations, nine centres clearly showed negative rates of growth of real wages, while out of the rest only 16 centres had a significant rising trend in male real wage rates in agriculture over the said period. Based on the above study, we can infer that in more than half of the centres examined no clear increasing trend in real agricultural wage rates could be identified. Jeemol Unni's (1997) study using AWI data for 14 major states during the period from 1987 to 1995 shows that real wages rates of adult males in agriculture rose in most states up to 1990s and thereafter declined during the post-reform period or from 1991-92. However, Unni identifies that the wage rates rose in 1993 and more or less stagnated thereafter. There were slight variations that are observed in some states, for example, in Gujarat, Kerala, Rajasthan and Madhya Pradesh, the rise was observed in 1992 followed by stagnation thereafter. A more or less similar pattern of a dip and stagnation of real agricultural wage rates was also observed for adult women in most of the states.

SasankSarmah (2002) analyses agricultural wage rate in India by addressing three issues: construction of agricultural wage series at the levels of state and *NSS region* from 1970-71 onwards, analysing the trends in the constructed wage series, and examining the determinants of wage rate at different points of time. In the trend analysis, growth rates of real wages are estimated for different sub-periods from 1970-71 through 1998-99, and as corollaries to this, the issues of structural break and inter-regional variation in wage rates are examined. The determinant analysis uses the standard demand-supply framework to study the wage determinants. The results suggest a deceleration in the growth of real wages in the post-reform period. This is accompanied by a disturbing tendency of widening inter-regional disparities in agricultural wages during the same period. Chavan and Bedamatta (2006) examined the trends in agricultural wages in India from 1964-65 to 1999-2000, using data from *Agricultural Wages in India (AWI)* and *Rural Labour Enquiry (RLE)*, and noted that there are certain limitations in the AWI data. The trends show that there was a slowdown in the rate of growth of real daily wages of male and female agricultural labourers in more than half of the districts in the sample in the 1990s. Earlier, there was a striking rise in the growth of daily real earnings across all states between 1983 and 1987-88. Second, there was a rising trend in the variations in real wages across districts in the 1990s. Third, the differences

between the average wages of male and female agricultural labourers have widened over the years. Fourth, the daily wages of male agricultural labourers exceeded the minimum wage levels in most states, while those of women were below the minimum in most states.

Ravi Srivastava and Richa Singh (2006), analysed at the all-India level, the annual growth rate of total real wages for casual labour in agriculture during the period from 1983 to 1999-2000 (pre and post-reform period). Their results show that there is a slowdown of growth rate of real wages of casual labour from 3.4 per cent per annum in 1983-94 to 3 per cent per annum in 1999-2000.

**Table 4 Compound Annual Growth Rate of Agricultural Real Wages for Different States (1980-81 to 2004-05)**

Base Year: 1986-87 (in ₹)

State	Phase-I		Phase-II	
	1980-81 to 1989-90		1990-91 to 2004 -05	
	IP RW	CAGR	LP RW	CAGR
Andhra Pradesh	8.17	2.36	13.57	0.70
Assam	10.72	2.18	17.52	0.17
Bihar	8.08	2.26	13.29	1.68
Gujarat	11.17	0.93	14.01	1.75
Haryana	17.96	0.96	23.64	0.86
Karnataka	8.91	1.43	11.32	2.43
Kerala	17.63	1.17	22.23	3.48
Madhya Pradesh	6.61	2.44	12.17	0.94
Maharashtra	7.38	2.77	14.38	0.57
Orissa	6.72	2.34	10.84	1.11
Punjab	16.19	1.87	24.04	0.09
Rajasthan	11.63	1.55	16.39	1.29
Tamil Nadu	8.07	1.21	11.04	2.14
Uttar Pradesh	9.57	1.52	14.81	1.05
West Bengal	10.07	4.29	17.75	0.96

**Note:** IP-Initial Phase-wise, LP- Later Phase.



RW -Real Wage,

**CAGR**- Compound Annual Growth Rate.

**Source:** Compiled from different issues of Agricultural wages in India 1980-81 to 2004-05.

There was a steady increase in nominal wages during the period from 1980-81 to 2004-2005, for male agricultural labourers. As the nominal wages do not give a correct picture of agricultural labourer's position, state-wise trends in real wages were examined. The real wages at the state level are arrived after deflating nominal wages using 1986-87 consumer price index. The state-wise indices of real wage<sup>4</sup> data thus obtained is shown in Table 5.

Real wages and growth rate of real wages (CAGR) at the all India level are over the period and later classified into different phases for the analysis purpose. The first phase is from 1980-81 to 1989-90, whereas the second phase corresponds to the period from 1990-91 to 2004-05. It has been observed that in the two phases the real wages have increased while the growth of real wages has decelerated steadily across all the 15 major states. When comparing the real wages of different states in phase-1 period, Haryana (₹ 17.96), Kerala (₹ 17.63) Punjab (₹ 16.19), Gujarat (₹ 11.17) and Rajasthan (₹ 11.63) per cent have showed the highest increase in real wages among 15 the major states studied. During the second phase which is 15 years after the initial phase, the real wages have shown a double digit rise across all the 15 major states. The highest increase in real wages was observed in the states of Punjab (₹ 24.04), Haryana (₹ 23.64), Kerala (₹ 22.23), Assam (₹ 17.52) and Rajasthan (₹ 16.39).

When we compare the rate of growth in both the phases, out of 15 major states four states shows positive growth rate. When we compare to the period of 1980-1989 to 1990-2004 the rate of growth has decelerated. Those states are West Bengal, Maharashtra, Assam, and Gujarat. Interestingly, it is observed that Punjab and Haryana being agriculturally richer states, have higher agricultural wages as the demand for labour is high in these regions. In Kerala and Rajasthan wages are high due to the presence of strong agricultural labour unions who have fixed wages which are followed in these states. In the state of Gujarat, which is industrially richer state, supply of labour is very less as more people are concentrated in

<sup>4</sup> Real Wage = Nominal wages / Consumer Price Index for Agricultural Labourers CPIAL (1986-87 Prices) \* 100.

industrial employment and hence there is a scarcity of agriculture labour which has necessitated higher wages for agricultural labourers.

## **2 Factors Influencing Real Wages in Labour Market: A Panel Regression Analysis**

The theoretical literature on wage determination in developing countries depends on the standard demand and supply framework (SasankSarmah 2002). Ravi Srivastava and Richa Singh (2005) also emphasise that in the Indian context the most common approach for wage determination has been the neoclassical demand and supply framework.

In this context, there are already a large number of studies explaining variations in wages across region and states wise in India. The majority of these studies is cross sectional studies and uses a number of variables affecting the demand or supply conditions in the rural labour market. The demand side variables are size of holding, extent of irrigation, cropping pattern, farm productivity, total average area under crops, agricultural output yields, cropping intensity, agricultural output yields, ecological condition obtaining in the farm degree of farm meachnisation and working expenditure and investment. Supply variable like agricultural labour force, surplus labour, alternative employment opportunities, land concentration ratio etc.

Productivity has been considered a dominant factor on the demand side; while on the supply side, size of agricultural labour force and proportion of non-agricultural labour force have been used to explain determination of agricultural wages. Lal Deepak (1976) in terms of a cross sectional analysis between 1956-57 and 1970-71 explains demand and supply factors using NSS data, that those variables are per cent increase in cereal output representing a demand variable and per cent increase in male agricultural labour force a supply variable. While Jose (1988) used only agricultural product per worker as determinants of agricultural wages. During the nineties diversification of rural labour force was identified as an important factor in explaining agricultural wages.

Radha Krishna, *et al.*, 1991; Sheila Bhalla, 1997; and Parthasarathy, 1996; for example, used share of non-agricultural workers along with labour productivity as explanatory variables in their models of wage determination. Landlessness and land-labour ratio have also been used as explanatory variables by some economists such as, Parthasarathy (1996), and Sharma (2001). Another study by Sarmah (2002) uses the variables such as occupational diversification, urbanisation, land productivity, irrigation rate, male literacy and child

mortality. Mostly variables like productivity per worker, output or per hectare output as additional variables, along with irrigation and rural occupational diversification which have emerged as key determinants of wages positively. He has introduced two variables like male literacy and life expectancy related human development indices which have also been found to play a positive role in wage determination. Narayanamoorthy A and Deshapande (2003) explains about the dependent variable real wages based on four variables independent variables like irrigated area per agricultural labour households (IAPL), gross cropped area per agricultural labour households (GCAPL), Cropping Intensity (CI) and production of food grain per agricultural labour households (PFGPL). They have taken 17 major states to study the real wages of both male and female labourers. They used gross cropped area divided by labour households as supply side variable instead of percentage of agricultural labour households, while many studies have used percentage of agricultural labour households or percentage of agricultural labour to total population as supply side variable to explain the variation in wage rates. They found that irrigated area per agricultural labour households has a positive significance, and hence irrigation is considered as an engine of growth. Sharma; (2005) study can found used the variables demand and supply variables influencing the wage determination demand side proportion of workers employed in the rural non-farm sector (NFARM), per agricultural worker net state domestic product (PWNSDP). These two variables are influencing positively for agricultural wages. On other hand the proportion of agricultural labour households (ALH) to rural households captures the supply side of the market and normally lowers the wage earnings. Ravi Srivastava and Richa Singh (2005) have taken five variables like (1) Agricultural productivity: The net state domestic product in agriculture per agricultural worker or per hectare. (2) Agricultural Diversification: percentage area under non-food grains; (3) Non-farm Diversification: Percentage share of rural non-farm workers in total rural workforce; or Percentage share of total non-farm workers in total (urban rural) workforce and (4) Capital Investment: Percentage of net area irrigated (IRRI). Although they focused mainly on variables which may change under the impact of reforms, thereby affecting the demand for labour and the growth rate of wages, along with one supply variable, viz., (5) percentage of agricultural labourers to total rural workers. We have also followed the pattern of demand and supply side variables of Ravi Srivastava and Richa Singh for our analysis. Their results have found out that growth of agricultural and non-agricultural

*Research paper*

© 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 8, Issue 4, 2019

wages have decelerated from pre-reform to post-reform period. To analyse the drivers of real wages, the present study has have selected 14 major states, during the time periods of 1981-82, 1991-92 and 2002-03. In our regression analysis, we have pooled together our cross-section data across different points of time and have used panel data analysis to obtain the results. Results have been computed using E-Views- 6 econometric package.

There are large variations in the real wages for male labourers across the states. These variations could be attributed to different factors operating on both the demand and supply side factors of the labour market. While most studies used common variables to determine the agricultural wages, the present study has used extra variables like (tenancy) tenant households to determine the agricultural wages. In present analysis, we have included variables that surrogate both the demand and supply side of agricultural wages.

The demand side variables includecrop intensity (CI), medium and large farmers operated area (MLLOP), irrigation rate (IRRI), while the supply side variables include gross cropped area/ agricultural labour households (SHGCA), tenant households (TH) and RNFS rural non-farm sector, small and marginal land operated farmers area (SMLOP). The effects of these variables on the real wages (RW) for agricultural labourers are discussed below. By combining time series with cross section data, we arrive at panel data. Panel data analysis gives more informative data, has more variability, has less co-linearity among variables, more degrees of freedom and has more efficiency. The technique of panel data analysis can take into account the heterogeneity among states by allowing for individual-specific variables. Panel data analysis is also more suited to studying the dynamics of change. Finally, panel data analysis is more suited to detect and measure effects that simply cannot be observed in pure time series data. Thus, panel data analysis can enrich empirical analysis in ways that may not be possible if we use only cross section data.

Our general functional form is as follows:

$$RW_{it} = \alpha_i + \beta X_{it} + \varepsilon_{it} \quad (1)$$

Where

$RW$  is real wage/daily earnings at 86-87 price level

$\alpha$  is the intercept

$X$  is the array of independent variable

$\beta$  is the array of coefficients

$i=1, 2, 3, 4, \dots, 14$ , for the 14 major states

and  $t=1981-82, 1991-92$  and  $2002-03$  in the case of AWI data

We assume that X's are non-stochastic and that the error term is normally distribution with zero means and constant variance viz.  $\varepsilon \sim N(0, \delta^2)$ .

However, as long as there is no groupwise or other heteroskedasticity effects on the dependent variable, OLS may be used for fixed effects model estimation as well. For OLS to be properly applied, the errors have to be independent and homoskedastic. However, as noted and confirmed in the previous studies that the problem of heteroscedasticity is very common in cross section data set, for the most part; simple panel OLS models with groupwise heteroskedasticity cannot be efficiently estimated with OLS. So we went for EGLS analysis and we found that the result is efficient and has improved from the simple OLS result.

### Fixed Effect Model

Above model i.e. equation (1) assumes that intercept and slope coefficients are the same for all the states and across time, which is a restrictive assumption. We may therefore allow the intercept term for each state to vary, while keeping the slope coefficients the same. Thus we estimate the Fixed Effects Model (FEM), which allow the intercept term for each state to vary and keep the slope coefficients same for each state. The empirical result is shown in the table 5.

**Table 5 Fixed Effect Model**

**Results for the Model with Cross Section Fixed Effect:**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-40.99361	4.422021	-9.270335	0.000*
SHGCA	-0.067381	0.056813	-1.18603	0.236
TH	-0.492253	0.036539	-13.47183	0.000*
RNFS	0.603267	0.030751	19.61789	0.000*
SMLOP	0.36942	0.053931	6.849829	0.000*
CI	12.19554	1.322642	9.220591	0.000*
IRRI	0.055905	0.010858	5.148831	0.000*
MLLOP	0.441323	0.057164	7.720254	0.000*

Notes: \*, \*\* imply significant at 1 and 5 per cent levels, respectively.

$R^2 = 0.7629$ , Adjust  $R^2 = 0.754$ , Durbin -Watson stat =1.533, F-Stat = 91.249.

### Hausman Test

The Hausman test is formulated to assist in making a choice between the fixed effect and random effects approaches. In this test Hausman assumed that there are two estimators  $\hat{\beta}_0$  and  $\hat{\beta}_1$  of the vector  $\beta$  and he added two hypothesis-testing procedures. Under  $H_0$ , both estimators are consistent but  $\hat{\beta}_0$  is inefficient, and under  $H_1$ ,  $\hat{\beta}_0$  is consistent and efficient, but  $\hat{\beta}_1$  is inconsistent.

In order to decide between FEM and REM model, Hausman test has been employed. If the value of the statistics is large, then the difference between the estimates is significant, so we reject the null hypothesis that the random effects model is consistent and we use the fixed effects estimators. In contrast, a small value of the Hausman statistics implies that the random effects estimator is more appropriate.

**Table 6 Hausman Test Results**

Hausman Test		
Null Hypothesis	Chi-Sq. d.f	Chi-Sq. Statistic
No correlation between the observed person specific random effect and the regressors.	7	17.6174 (0.0138)

The Hausman test result is reported in table 8. The result indicates that the null hypothesis of no correlation between the observed person specific random effect and the regressors has been significantly rejected. So the results suggest that fixed effect model is a consistent and efficient one. Therefore we report the fixed effect model in the table 6.

All the seven variables are chosen for the panel regression analysis, to find out how change in one variable affects the real wages. Here share of gross cropped area (SHGCA) is taken as supply variable, which means that the share of gross cropped area is not affecting the real wages. It has been observed from that the tenant households (TH) who constitute the supply side of agricultural households are declining and hence the contributing to the impact the agricultural wages negatively significant. As a result tenant households are decrease real

wages increases. The rural non-farm sector shows t-statistic significance to the level of 1 per cent, which means due to the diversification of agricultural labour households towards rural non-farm sector there has been an increase in real wages. The small and marginal farmers shows significance to the level of 1 per cent, which implies that when the small and marginal farmers increases it results in the decline of supply of labour households which in turn contributes to rise in real wages. From the demand side variables like crop intensity (CI) irrigation (IRRI), medium and large farmers operated area (MLLOP) have all shown positively significant results, which implies that these variables are influence the agricultural wages.

## V CONCLUSION

This paper explains about the structure and performance of rural labour market at the all India and state levels. The structure of the rural economy has witnessed changes. There is a fall in the proportion of farm sector which dominantly attributed to a fall in the share of cultivators. The supply side in the labour market, which constitutes the pure labour-supplying households as well as partial labour-supplying households, witnesses changes. The share of agricultural labour households are marginally increasing while partial labour-supplying households are witnessing a major increase. In case of demand for labour the share of households and land owned by medium and large farmers is decreasing over time. In addition, the choices open to households in the farm sector is also changing it is increasing. According to NSSO, tenancy households share has declined over a period. While in the case of rural non-farm sector, their share has increased at the all India level. Among the northern states like Gujarat, Haryana and Rajasthan those decreasing trend during the period of 1993 to 2004 while in the Southern states like Karnataka, Maharashtra and Tamil Nadu share of non-farm sector has declined during the same period.

The performance of rural labour market focused on wages rates, the real wages are increased in all the states over the period of 1980-81 to 2004-05. During the pre-reform period growth rate of real wage increased compared with post-reform period. However from the employment point of view, during 1983 to 1999-2000 self-employment, regular-salaried and casual labourers increased, while the salaried employees have declined during the period of 2004-05

at all the states and at the all India level. Agricultural labour households have choices: they may go for tenancy market or else rural non-farm sector.

An analysis of the determinants of real wages shows some interesting trends. Real wages are determined by the structural factors as well as choices open to the households in the farm sector. As the share of large farmers increases (pure demanders of labourers) real wages also increases. As the share of small and marginal farmers increases one also witnesses an increase in wages. The choices open to farm sector has diversified results. As lease households increases there is a decline in real wages while rural non-farm sector increases there is an increase in wages.

### Reference:

- [1] Abraham, Vinoj, (2007), "Growth and Inequality of Wages in India: Recent Trends and Patterns", Indian Journal of Labour Economics, Vol.50, No.4, December, pp.927-941.
- [2] ----- (2009), "Employment Growth in Rural India: Distress-Driven?", Economic and Political Weekly, Vol. 44, No. 16, April 18, pp. 97-104.
- [3] Acharya, Sarathi (1989), "Agricultural Wages in India: A Disaggregated Analysis", Indian Journal of Agricultural Economics, Vol. 44, No. 2, pp. 121-139.
- [4] Basole, Amit and Deepankar, Basu (2011) "Relations of Production and Modes of Surplus Extraction in India: Part- I Agriculture", Economic and Political Weekly, Vol. 46, No.14, April 2, pp. 41-58.
- [5] Bhalla, Sheila (1997), "Trends in Poverty Wages and Employment in India", Indian Journal of Labour Economics, Vol.40, No.2, April-June, pp.213-223.
- [6] Chadha G.K. and Sahu P.P. (2002), "Post-Reform setbacks in Rural Employment: Issues That Need Further Scrutiny" Economic and Political Weekly, Vol. 37, No.21, 25 May, pp.1998-2026.
- [7] Chavan, Pallavi and Bedamatta, Rajashree (2006), "Trends in Agricultural Wages in India 1964-65 to 1999-2000", Economic and Political Weekly, Vol. 61, No. 38, September 23-29, pp. 4041-4052.



Research paper

© 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal Volume 8, Issue 4, 2019

- [8] Dev, S. Mahendra (1990), “Non-agricultural Employment in Rural India: Evidence at a Disaggregate level”, Economic and Political Weekly, Vol. 25, No.28, Jul 14, pp.1526-1536.
- [9] Enyinna, Chuta and Carl Liedholm (1979) Rural non-farm employment: A review of the state of the art, MSU Rural Development, Paper No.4, p.4.
- [10] Eswaran, M.; Kotwal, A.; Ramaswami, B. and Wadhwa, W. (2009), “Sectoral Labour Flows and Agricultural Wages in India, 1983-2004: Has Growth Trickled Down?” Economic and Political Weekly, Vol. 44, No. 2, January 10-16, pp. 46-55.
- [11] Government of India, (1987), Statistical Abstract India, Economic Classification of the Population, Census 1981, Directorate of Economic & Statistics, New Delhi, pp.29-31.
- [12] ----- (1997), Statistical Abstract India, Economic Classification of the Population, Census 1991, Directorate of Economic & Statistics, New Delhi, pp.38-40.
- [13] ----- (2008), Statistical Abstract India, Economic Classification of the Population, Census 2001, Directorate of Economic & Statistics, New Delhi, pp.25-27.
- [14] Government of India, (NSSO), (1997), Employment and Unemployment in India 1993-94, 50<sup>th</sup> round (July 1993- June 1994) Report No.409, National Sample Survey Organisation, Department of Statistics, New Delhi.
- [15] ----- (2001), Employment and Unemployment Situation in India 1999-2000, Parts I and II, NSS 55<sup>th</sup> round (July 1999- June 2000) Report No.458, National Sample Survey Organisation, Ministry of Statistics and Programme Implementation, New Delhi.
- [16] ----- (2006), *Employment and Unemployment Situation in India 2004-05*. Parts I and II NSS 61<sup>st</sup> Round (July 2004- June 2005) Report No.515, National Sample Survey Organisation Ministry of Statistics and Programme Implementation, New Delhi.
- [17] ----- (2006), *Household Ownership Holdings in India 2003* NSS 59<sup>th</sup> round (Jan – Dec 2003) Report No.491, National Sample Survey Organisation, Ministry of Statistics and Programme Implementation, New Delhi.
- [18] Government of India, (NSSO), (1986), *Some Aspects of Operational Land Holdings 1981-82*, NSS 37<sup>th</sup> Round, Report No. 331, National Sample Survey Organisation, Ministry of Statistics and Programme Implementation, New Delhi.