

Measurement of employment, unemployment and underemployment of agricultural labour in tarai regions of Uttaranchal State and Uttar Pradesh

Anil Kumar Singh¹, Sanjay Prakash Singh² and Harendra Pratap Singh³

¹Deptt. of Agril. Economics and Mgmt., S.V.B.P. Univ. of Ag. and Tech., Meerut, U.P., India

²Division of Agricultural Economics and Statistics, SKUAST, J. and K., India

³Deptt. of Agricultural Economics, Institute of Agriculture science, B.H.U.Varanasi,U.P.,India

Corresponding author: drsinghak_eco@rediffmail.com

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ABSTRACT

In rural areas, both unemployment and underemployment exist side by side, the distinction between them is by no means sharp. The various sophistications and refinements brought about in the concepts and measurement of employment and unemployment, have not fully succeeded even in properly quantifying the above problems. Therefore, in the present study, an attempt has been made to measure the unemployment and under employment of agricultural labour in Tarai regions of Uttaranchal state and Uttar Pradesh according to time and income criterion. In each state one district was selected randomly viz. Sidharth Nagar in Uttar Pradesh and U.S. Nagar in Uttaranchal state. From each of these two selected district, the Birdpur block in Sidharth Nagar district and Rudrapur block in U.S. Nagar district was selected randomly. The study is based on the 55 households in Birdpur block and 66 households in Rudrapur block. Thus, total sample consists of 121 agricultural labour households. The study pertained to the year 1999-2000. In order to achieve the objective simple averages and percentages were used. The findings of the study reveals that the unemployment and under employment measured by time and income criteria for agricultural labour household as well as agricultural labour was higher in Uttar Pradesh as compared to Uttaranchal state. It is, therefore, suggested that more avenues of employment must be provided at the village level, including provision of loans for the purchase of inputs, cross bred cattle, and land distribution among agricultural labourers.

Highlights

- The actual labour earning per day per household was highest in tarai regions of Uttaranchal state (Rs.52.00) as compared to tarai regions of Uttar Pradesh (Rs.38.24).
- The average family size (No.) was highest in tarai regions of Uttaranchal state (7.25) as compared to tarai regions of Uttar Pradesh (6.50).
- According to income criterion, the per household employment percentage of total mandays availability was highest in tarai regions of Uttaranchal state (58.36 per cent) and was lowest in tarai regions of Uttar Pradesh (40.53 per cent).
- The per household unemployment as well as underemployment measured by income criterion was higher in tarai regions of Uttar Pradesh as compared to tarai regions of Uttaranchal state.
- The per labour actual income in year was higher in Uttaranchal state male (Rs. 15191) and female (Rs. 10675) labour as compared to Uttar Pradesh male (Rs. 9201) and female (Rs. 6961) labourers
- The per labour unemployment and under employment measured by income criteria (minimum wages) was also higher in Uttar Pradesh as compared to Uttaranchal state labourers

Keywords: Employment, Unemployment, Agricultural Labour, Income criterion

The massive poverty in most of the densely populated underdeveloped countries of the world has often been identified with the presence of massive unemployment and under employment and there has been a general notion for long time that the traditional agriculture provides employment to many more persons than is necessary to produce a given level of output. This notion was very strong during fifties and sixties, particularly in India, and that the problem of disguised unemployment or underemployment in the traditional agricultural sector is the problem of those landless agricultural labourers and small cultivators who are working on small plots, contributing virtually nothing to output (Rodan 1957; Thakur 1993).

In rural areas, both unemployment and underemployment exist side by side, the distinction between them is by no means sharp. The various sophistications and refinements brought about in the concepts and measurement of employment and unemployment, have not fully succeeded even in properly quantifying the above problems (Kurien 1990).

To measure the underemployment and unemployment, four criteria have been, so far, suggested i.e. time norm method, income norm method, willingness and productivity criterion. Among these criterion, time, income and productivity criterion deserve particular attention.

'Underemployment' is a phenomenon peculiar to a family farm situation in under developed countries. Underemployment is a situation where in a worker is visibly employed but the flow of quantity of his labour is not fully utilized. It covers both wage and self-employment labour and may be defined interms of time, productivity or willingness norm or a combination of these, but for measurement, it has essentially to be translated in terms of time. Therefore, for the present study, the gap between the employment days measured according to time and income criterion is defined as underemployment.

Methodology

The present study pertains to Tarai region of Uttaranchal state and Uttar Pradesh. The Uttaranchal state, which was formed on 9th November 2000 consist of 13 districts, out of which the 2 districts namely Haridwar and Udham Singh Nagar fall within preview of Tarai regions; and rest 11 districts fall in Hill zone. The Uttar Pradesh is a large state which has been divided into 8 homogenous agro-climatic zones based on climate, rainfall and cropping pattern viz. Bhabhar and Tarai zone, Western Plain zone, Mid Western plain zone, Southern Western Semi Arid zone, Central zone, Bundel Khand zone, Eastern Plain zone and North Eastern plain zone.

The Tarai zone includes two districts in Uttaranchal state namely; Haridawar and U.S. Nagar, and eleven districts in Uttar Pradesh namely; Kushinagar/Deoria, Maharajganj/Gorakhpur, Siddharth Nagar, Balarnpur/Gonda, Shrawasti/Bahraich, Kheri, Pilibhit, Bareilly, Rampur, Bijnour and Saharanpur. In the mentioned Tarai region, the total number of agricultural labourers was 2645.31 thousand which was about 19.44 per cent of total agricultural labourers (13604.81 thousand) in Uttar Pradesh and in Uttaranchal state the number of labourers was 182.10 thousand which was the 70.38 per cent of total agricultural labour (258.75 thousand). Out of the whole Tarai region, one district from Uttaranchal state namely U.S. Nagar and one district from Uttar Pradesh namely Siddharth Nagar was selected randomly.

From each of these two selected districts, one community development block was selected. Thus, Birdpur block in Siddharthnagar district and Rudrapur block in U.S. Nagar district was selected randomly. From each of the Birdpur block (Siddharth Nagar) and Rudrapur block (U.S. Nagar), three villages were selected randomly, subject to the availability of sufficient number of agricultural labour households in each villages. Thus, the Birdpur-12, Chakajot and Bastia villages in Birdpur



block and Pratappur, Narayanpur and Bandia villages in Rudrapur block were selected. Further, in each village twenty five agricultural labour households were selected randomly. Thus, seventy five households in Birdpur block and seventy five households in Rudrapur block were selected for the purpose of present study.

However, at the analysis stage a sampling error was found that some of the households belonging to non-agricultural labour households, Therefore, all the 20 households in Birdpur block and 9 households in Rudrapur block which were non-agricultural labour households were excluded from the present study. Finally, the total of 55 households in Birdpur block and 66 households in Rudrapur block were retained for purpose of the present study (as presented in table 1).

Table 1. Selection of agricultural labour households

State/villages	Total agricultural labour household in the villages	Total agricultural labour household surveyed	Total agricultural labour household selected
Udham Singh Nagar (Uttaranchal state)			
1. Pratappur	116	25	21
2. Narayanpur	83	25	21
3. Bandia	467	25	24
Total	666	75	66
Siddharth Nagar (Uttar Pradesh)			
1. Birdpur-12	28	25	15
2. Chakajot	39	25	19
3. Bastia	93	25	21
Total	160	75	55

Results and Discussion

Measurement of Employment, Unemployment and under Employment of Agricultural labour in Tarai Regions of Uttaranchal State and Uttar Pradesh

Per household and per labour, magnitude of employment, unemployment and under

employment measured by income criterion in Tarai regions of Uttaranchal state and Uttar Pradesh has been presented as follows.

Measurement by income criterion

In this study, the gap between the employment days measured according to time and income criterion was defined as underemployment. The required family labour income was estimated for each state on the basis of income (Rs. 20128 per year for a family consisting of 5 members) required to bring the family above the poverty line. The required labour earning per day in a family was calculated by dividing the required family labour income from the day in a year i.e. 365 days. To measure the employment of agricultural labourers in tarai regions of both states according to income criterion, the actual family labour income was divided by the required labour earning per day.

Table 2: Measurement of employment, unemployment and underemployment of agricultural labour households by income criterion in tarai regions of Uttaranchal state

S. No.	Particulars	Per household
1.	Labour days availability (mandays)	840
2.	Total employment in mandays (according to time criterion)	756.25 (90.00)
3.	Family labour income (Rs. actual)	39194.50
4.	Labour earning per day (Rs. actual)	52.00
5.	Unemployment (mandays)	83.75
6.	Required labour income (per family Rs.)	*29186
7.	Average family size (No.)	7.25
8.	Required labour earning per day in a family (Rs.)	79.96
9.	Total employment (mandays) (according to income criterion)	490.25 (58.36)
10.	Unemployment (mandays)	349.75
11.	Underemployment (mandays)	266.00

*Rs. 20,128 income per year for a family consisting of 5 members is defined for poverty line

Figures in parentheses show the percentage of total available labour days

Source : 1. EPW, Aug, 11, 2001, pp. 3039-3049

2. EPW, Nov. 29, 1997, pp. 3050-3051

A perusal of family labour income and labour earning per day in tarai regions of both the states indicated that, family labour income was highest in tarai regions of Uttaranchal state (**Table 2**) and lowest in tarai regions of Uttar Pradesh (**Table 3**). The actual labour earning per day was also highest in tarai regions of Uttaranchal state as compared to tarai regions of Uttar Pradesh. It happened due to variation in employment labour days and wage rate in the tarai regions of the respective state. The unemployment of agricultural labour households by time criterion, which was calculated by labour days availability in a year by households less total employment days in a year per household by time criterion was highest in tarai regions of Uttar Pradesh (216 mandays in a year) as compared to tarai region of Uttaranchal state (84 mandays in a year).

Table 3: Measurement of employment, unemployment and underemployment of agricultural labour households by income criterion in tarai regions of Uttar Pradesh

S. No.	Particulars	Per household
1.	Labour days availability (mandays)	900
2.	Total employment in mandays (according to time criterion)	683.75 (75.97)
3.	Family labour income (Rs. actual)	26147.25
4.	Labour earning per day (Rs. actual)	38.24
5.	Unemployment (mandays)	216.25
6.	Required labour income (per family Rs.)	*26166
7.	Average family size (No.)	6.50
8.	Required labour earning per day in a family (Rs.)	71.69
9.	Total employment (mandays) (according to income criterion)	364.75 (40.53)
10.	Unemployment (mandays)	535.25
11.	Underemployment (mandays)	319.00

*Rs. 20,128 income per year for a family consisting of 5 members is defined for poverty line

Figures in parentheses show the percentage of total available labour days

Source : 1. EPW, Aug, 11, 2001, pp. 3039-3049

2. EPW, Nov, 29, 1997, pp. 3050-3051

The average family size was highest in tarai regions of Uttaranchal state as compared to tarai regions of Uttar Pradesh. Taking in to account the income norms, the required family labour income (Rs. 29186) as well as required labour earning per day in a family (Rs. 79.96) were highest in tarai regions of Uttaranchal state, while in tarai regions of Uttar Pradesh, required family labour income (Rs. 26166) and labour earning per day (Rs. 71.69) was the lowest. According to income criterion, the employment percentage of total mandays availability was highest in tarai regions of Uttaranchal state (58.36 per cent) and was lowest in tarai regions of Uttar Pradesh (40.53 per cent). This was due to low level of employment and low wage rate in tarai regions of Uttar Pradesh as compared to tarai regions of Uttaranchal state. Thus, unemployment as well as underemployment measured by income criterion was higher in tarai regions of Uttar Pradesh as compared to tarai regions of Uttaranchal state.

Measurement of employment, unemployment and under employment of agricultural labour by income criterion in tarai regions of Uttaranchal state and Uttar Pradesh

The magnitude of unemployment and underemployment of per agricultural labour measured by income criterion tarai regions of Uttaranchal state and Uttar Pradesh is presented in Table 6 and 7 The methodology followed in measuring the unemployment and underemployment per labour was same as in case of per household, the only difference was that for household the poverty line was used to measure the magnitude of unemployment and underemployment.

Since, male and female labour for moderate works required the higher energy as compared to other members of the family (dependent members) i.e. 2880 for male and 2160 kilo calories per day for female labourers. Therefore, to maintain the loss of energy exhausted in work, they required the minimum wages because if their earnings were less than minimum wages, they were suffering from undernourishment/undernutrition which affected quality/quantity and productivity of labour, which



further caused the problem of unemployment and under employment among agricultural labourers. The measurement of employment, unemployment and underemployment was excluded for child labour because of child labour was only self employed in livestock raising activity and business without receiving the wages and if we consider the full employment days in a year by time criteria (Table 4 and 5) they remained unemployed during a large part of the year.

Table 4. Total employment, unemployment and full employment days of agricultural labour in tarai regions of Uttaranchal state

(Mandays/labour/year)

S. No.	Sex	Full employment days	Total employment	Unemployment
a.	Male	300 (100)	287.50 (95.83)	12.50 (4.17)
b.	Female	240 (100)	219.00 (91.25)	21.00 (8.75)
c.	Children	180 (100)	67.75 (37.64)	112.25 (62.36)
Figures in parentheses show the percentage				

Table 5. Total employment, unemployment and full employment days of agricultural labour in tarai regions of Uttar Pradesh

(Mandays/labour/year)

S.No.	Sex	Full employment days	Total employment	Unemployment
a.	Male	300 (100)	241.25 (80.42)	58.75 (19.58)
b.	Female	240 (100)	179.75 (74.90)	60.25 (25.10)
c.	Children	180 (100)	53.50 (29.72)	126.50 (70.28)
Figures in parentheses show the percentage				

A perusal of Table 6 and 7 revealed that the per labour actual income in year was higher in Uttaranchal state male (Rs. 15191) and female (Rs. 10675) labour as compared to Uttar Pradesh male (Rs. 9201) and female (Rs. 6961) labourers.

Table 6. Measurement of employment, unemployment and underemployment of agricultural labour by income criterion in tarai regions of Uttaranchal state

S. No.	Particulars	Per labour	
		Male	Female
1.	Labour days availability (mandays)	309	260
2.	Total employment in mandays (according to time criterion)	287.50 (93.00)	219.00 (84.23)
3.	Total per labour income (Rs. actual)	15190.75	10674.75
4.	Per labour earning per day (Rs. actual)	52.84	48.74
5.	Unemployment (mandays)	21.50	41.00
6.	Required per labour income (Rs.)	*21170.00	*21170.00
7.	Total labour per family (No.)	2.00	0.75
8.	Required per labour earning per day (Rs.)	58.00	58.00
9.	Total employment (mandays) (according to income criterion)	262.00 (84.79)	184.00 (70.77)
10.	Unemployment (mandays)	47.00	76.00
11.	Underemployment (mandays)	25.50	35.00

*Rs. 58/- is the minimum wage required per labour per day which is fix by state Govt. U.P. in May, 2000 for the labourers of unorganized sector.

Figures in parentheses show the percentage of total available labour days

The per day earning was also higher for Uttaranchal state labourers as compared to Uttar Pradesh labourers. The unemployment by time criteria which was measured by labour days availability less total mandays employment was higher for Uttar Pradesh labourers as compared to Uttaranchal state labourers.

Considering the minimum wages Rs. 58 which was required to bring the labourers above the specified/recommended nutritional level/calorie intake, the total employment by income criteria was estimated to be 84.79 and 70.77 per cent of labour days availability of Uttaranchal state male and female labourers. While, male and female labourers of Uttar Pradesh got 52.39 and 47.62 per cent of employment of labour days availability in a year. This higher

employment days of Uttaranchal state labourers as compared to Uttar Pradesh labourers was found due to higher wage rate prevailing in Uttaranchal state as compared to Uttar Pradesh. Thus, both the unemployment and under employment measured by income criteria (minimum wages) was higher in Uttar Pradesh as compared to Uttaranchal state labourers.

lack of purchasing the requisite inputs. It is, therefore, suggested that more avenues of employment must be provided at the village level, including provision of loans for the purchase of inputs, cross bred cattle, and land distribution among agricultural labourers, if these labourers are to be pulled out from the morass of chilling poverty.

Table 7. Measurement of employment, unemployment and underemployment of agricultural labour by income criterion in tarai regions of Uttar Pradesh

S. No.	Particulars	Per labour	
		Male	Female
1.	Labour days availability (mandays)	303.00	252.00
2.	Total employment in mandays (according to time criterion)	241.25 (79.62)	179.75 (71.33)
3.	Total per labour income (Rs. actual)	9200.50	6961.25
4.	Per labour earning per day (Rs. actual)	38.14	38.73
5.	Unemployment (mandays)	61.75	72.25
6.	Required per labour income (Rs.)	21170.00	21170.00
7.	Total labour per family (No.)	2.00	1.00
8.	Required per labour earning per day (Rs.)	58.00	58.00
9.	Total employment (mandays) (according to income criterion)	158.75 (52.39)	120.00 (47.62)
10.	Unemployment (mandays)	144.25	132.00
11.	Underemployment (mandays)	82.50	59.75

*Rs. 58/- is the minimum wage required per labour per day which is fix by state Govt. U.P. in May, 2000 for the labourers of unorganized sector.

Figures in parentheses show the percentage of total available labour days

Conclusion

The unemployment and under employment measured by time and income criteria for agricultural labour household as well as agricultural labour was higher in Uttar Pradesh as compared to Uttaranchal state. The magnitude of unemployment and under employment was higher for Uttar Pradesh labourers as compared to Uttaranchal state labourers. Further, the earning from farming (owned + share) and livestock (owned + share) contributed very less in total earnings of the labourers due to small size of holding, local breed of cattle they were raising and

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