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EFFECTS OF THE AGRICULTURAL REVOLUTION ON THE AGRICULTURAL AND INDUSTRIAL LABOUR IN HARYANA

D. K. GROVER AND K. N. RAI

*Department of Statistics and Department of Economics
Haryana Agricultural University, Hissar (Haryana)*

INTRODUCTION

In a country like India where population pressure is very high and capital resources are meagre, proper exploitation of labour resource is of strategic importance. This consideration has always dominated in our national efforts for planned economic development. This has also had to study the impact of development plans on employment, unemployment, efficiency as well as money wages of agricultural and industrial labour. However, little attempt seems to have been made to work out the relationship among the wages of agricultural and industrial labour, real wages of agricultural labour, relationship between real and money wages with consumer price index and to study the impact of different agricultural and industrial development plans on farm labour. More specifically, the main objectives of this study are (i) to find out the trend in real wages of agricultural and industrial labour, (ii) to work out the relationship among real wages of agricultural and industrial labour, (iii) to make a comparison between real and money wages, and (iv) to examine the impact of development plans on the real wages of agricultural labour.

METHODOLOGY

The present study relates to the State of Haryana and is based on the secondary data collected from published and unpublished sources. The data regarding wages of agricultural as well as industrial labour were obtained from the Statistical Abstract of Haryana for 1961-62 to 1970-71 at current prices. Similarly, the data on consumer price index of both the groups of labour were collected from the Statistical Abstract of the State. The index numbers of these data were constructed considering 1961-62 as the base period. To find out the rate of growth of real as well as money wages, regression equation of the following form was fitted.

$$Y = a + b_t$$

where, Y = wage rate in terms of commodity for real wages and in terms of money for nominal wages,
 a = constant.
 b = regression coefficient, and
 t = time period.

To work out the relationship among agricultural and industrial wages in terms of important agricultural commodities, the wages for the year 1961-62 and 1970-71 were evaluated in terms of wheat, bajra, gram and sugarcane (*gur*) and correlation coefficient was also worked out. Further, paired 't' test was used to test the significance of relationship between the growth rate of real and money wages as well as consumer price index for agricultural and industrial labour.

RESULTS AND DISCUSSION

(i) *Trend in the Rate of the Real Wage of Agricultural and Industrial Labour*

Table I shows the trend of real wages in the State of Haryana during the last ten years. It shows wages in terms of important agricultural commodities for both agricultural and industrial labour. From the table, it is clear

TABLE I—TREND OF REAL WAGES IN TERMS OF WHEAT, GRAM, BAJRA AND GUR

Crops	Agricultural		Industrial	
	Constant	Regression coefficient	Constant	Regression coefficient
Wheat	5,569	—0.020 (0.1132)	7,724	0.059 (0.1281)
Gram	5,272	—0.069 (0.1156)	7,308	—0.017 (0.1485)
Bajra	6,319	0.122 (0.1485)	8,505	0.337* (0.1600)
Gur	4,879	0.131 (0.1828)	6,722	0.248 (0.2378)

Figures in parentheses indicate standard errors of respective coefficients.

* Significant at five per cent level.

that there has been no change in the wage rate in the rural areas of Haryana in terms of wheat, gram, bajra and sugarcane (*gur*). Even the regression coefficient for wheat and gram was negative but statistically non-significant. Similarly, though the coefficients for bajra and *gur* were positive but they were non-significant. Thus, it shows the same condition of standard of living of agricultural labour which prevailed ten years ago prior to the inception of agricultural revolution. The trend observed for industrial labour in terms of wheat, bajra, and *gur* was positive but it was also non-significant except for bajra, which is significant at five per cent level of significance. The coefficient in terms of gram for industrial labour was also negative and non-significant. The trend observed revealed that, though the condition of industrial labour has not appreciably increased during 1961-62 to 1970-71, this group was a little better off, as compared to agricultural labour. These findings show that even though labour is a major resource for agricultural production, agricultural labourers have not benefited from the agricultural revolution, primarily due to inflationary pressure on the economy.

(ii) *Trend of Money Wage and Consumer Price Index for Agricultural and Industrial Labour*

The growth rates of money wages and consumer price index for both the groups of labour have been summarised in Table II. It is clear from this table that at current prices, the wage as well as consumer price index has

TABLE II—TREND OF MONEY WAGE AND CONSUMER PRICE INDEX

Items	Agricultural		Industrial	
	Constant	Regression coefficient	Constant	Regression coefficient
Wage	143.2	10.727* (1.3766)	198.9	16.391* (1.2982)
Consumer price index Food	149.3	13.172* (1.5998)	147.8	10.682* (0.7899)
General	141.0	10.555* (1.2154)	156.1	12.754* (1.2440)

* Significant at one per cent level.

increased simultaneously. The coefficients of wages were 10.727 and 16.391 for agricultural and industrial labour, respectively and were significant at one per cent level of significance. Similarly the coefficients of consumer price index for food and in general were 13.172 and 10.555 for agricultural labourers and 10.682 and 12.754 for industrial labour, respectively. The statistical significance of these coefficients shows that the consumer price index has increased along with the wages. A comparison of the agricultural and industrial wages during the last ten years shows (Appendix) that the distribution of wages for industrial labour was more even than the agricultural wages.

(iii) *Relationship between Agricultural and Industrial Wages*

The relationship of agricultural and industrial labour wage in terms of wheat, gram, bajra and *gur* during the year 1970-71 over 1961-62 has been presented in Table III. It can be seen from the table that there is positive change in wages in terms of important agricultural commodities except for bajra. The correlation coefficient was 0.7518.* This shows a positive relationship in agricultural and industrial wages.

TABLE III—COMPARATIVE STUDY OF AGRICULTURAL AND INDUSTRIAL WAGES
(kgs. per day)

Crops	1961-62		1970-71		Percentage change	
	Agri-cultural	Industrial	Agri-cultural	Industrial	Agri-cultural	Industrial
Wheat	6.03	8.29	6.58	9.00	9.12	8.56
Gram	6.10	9.08	6.42	0.74	5.25	—3.74
Bajra	6.45	8.88	8.78	11.95	36.12	34.57
Gur	6.11	6.42	6.58	9.00	7.69	40.18
Coefficient of correlation 0.7518*						

* Significant at one per cent level.

To compare the relative gain to the industrial labour as compared to the agricultural labour, of different development plans, the paired 't' test was used to test the different regression equations observed for both the groups. The values observed have been presented in Table IV. The 't' values observed for wheat, gram, bajra and *gur* were 9.75, 8.52, 5.18 and 7.21, respectively. It shows that as compared to the growth rate of wages for agricultural labour, the growth rate of wages of industrial labour was significant at one per cent level. It was also significant in terms of money wages, whereas the consumer price index for food item was non-significant leaving general consumer price index significant at five per cent level of significance. These findings again show that during the last ten years, industrial labourers were better off than the agricultural labourers.

TABLE IV—PAIRED 'T' VALUE FOR DIFFERENT REGRESSION EQUATIONS OBSERVED FOR AGRICULTURAL AND INDUSTRIAL WORKERS

Regression equations for									't' values
1. Wages in terms of commodities :									
(a) Wheat	..	..	..	..	..	..	..	..	9.75*
(b) Gram	..	..	..	..	..	..	..	..	8.52*
(c) Bajra	..	..	..	..	..	..	..	..	5.18*
(d) Sugarcane (<i>gur</i>)	..	..	..	..	..	..	..	..	7.21*
2. Wages in money terms	..	..	..	..	..	..	..	..	8.33*
3. Consumer price index									
(a) Food	..	..	..	..	..	..	..	..	0.26
(b) General	..	..	..	..	..	..	..	..	2.60**

* Significant at one per cent level.

** Significant at five per cent level.

A comparison of the findings observed in Tables III and IV shows that in absolute terms the percentage change in the year 1970-71 over 1961-62 was more or less the same for both agricultural and industrial wages. The correlations worked out between agricultural and industrial wages were also positive and highly significant. But the test of trend observed gives a significant difference in the wages of industrial labour as compared to the agricultural wages. It reveals a higher growth rate of industrial wages than agricultural wage rate during 1961-62 to 1970-71.

CONCLUSION

This study shows that during ten-year period from 1961-62 to 1970-71, which can be termed as the period of agricultural revolution, the wages of

agricultural labour remained constant in terms of wheat, gram, bajra and *gur* in Haryana State. Similarly no change was observed for the wages of industrial labour during this period. Though the money wages showed considerable increase during the period under study, the inflationary trend in prices has brought down the real wages at the same level, *i.e.*, as in 1961-62. Thus the agricultural labourers were not benefited by the green revolution. With regard to the trend of real as well as money wages, the gains of agricultural revolution to the industrial labour were higher in comparison to agricultural labour. There was no significant difference in the trend worked out for the consumer price index between both the groups.

APPENDIX

WAGES OF AGRICULTURAL AND INDUSTRIAL LABOUR IN TERMS OF WHEAT, GRAM, BAJRA AND GUR DURING THE PERIOD 1961-62 to 1970-71

Year	Agricultural labour				Industrial labour			
	Wheat	Gram	Bajra	Gur	Wheat	Gram	Bajra	Gur
1961-62	6.06	5.91	6.16	5.78	8.34	8.13	8.48	7.95
1962-63	6.77	6.83	7.23	5.96	7.99	8.07	8.07	7.04
1963-64	6.11	5.32	7.08	3.64	6.99	6.09	6.09	4.18
1964-65	5.56	5.94	4.88	3.96	8.60	9.19	7.55	6.13
1965-66	4.35	3.90	5.28	4.10	7.03	6.30	8.52	6.10
1966-67	3.32	3.19	4.83	3.56	4.84	4.65	7.04	5.11
1967-68	5.10	5.46	5.29	2.34	7.61	8.14	7.89	3.48
1968-69	5.29	4.30	5.53	3.87	7.67	6.24	8.03	5.62
1969-70	6.06	5.26	7.14	7.66	8.56	7.43	10.09	10.83
1970-71	7.06	6.61	9.77	7.92	9.61	8.94	13.29	10.78