

## Poverty, Literacy and Child Labour in Nepal: A District-level Analysis

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*Intervention programmes aimed at reducing child labour need to focus on both alleviating poverty and increasing literacy*

In developing countries, children have long been largely ignored in public policy-making and the development of programme strategies for improving their welfare. However, this situation is beginning to change; Governments as well as international development agencies have started increasingly to focus attention on the welfare of children. The World Summit for Children held in 1990 epitomized this realization and reaffirmed the collective commitment to changing the situation. Comparative annual reports on the status of children have now become a regular feature of some of the multilateral agencies, e.g. UNICEF's State of the World Children. Country-specific annual reports on women and children have also been initiated as a part of this international effort to monitor the progress.

There is expectedly a considerable difference among countries in the absolute level of the indicators of children's status. But more important is the existence of a wide gulf between male and female children within countries. Periodic stock-taking and assessments are needed to understand the extent of the seriousness of the situation, where special attention might be needed, and how the situation might be improved.

Studies from several settings in South Asia (reviewed in Kanbargi, 1991) have confirmed that children begin to perform several activities useful to their families at a very young age, becoming more productive as they grow. Their activities, depending on their age and the society in which they are living, may include assisting in the household chores (such as cleaning, washing and cooking), fetching water, fodder and fire-wood, fishing, or tending livestock.

Children generally do not get paid for such assistance to their families. In many western countries children may receive pay for their work and are encouraged by their parents to work during their school vacations as a way towards making them independent and appreciative of the value of work and time. However, there is a great divide between these phenomena and the situation in which children in many developing countries are put to work as a source of family income instead of attending school and learning. It is these competing demands between full-time work and the physical and intellectual development of children that are at issue, especially in developing countries.

A family's economic poverty may force the parents to engage their children in the labour market in lieu of schooling. Furthermore, sending children to school may be considered less critical, especially in settings where education appears to have no immediate benefits to parents and encouraging children to begin working could provide immediate economic relief to the family. In some situations, inconvenience or inaccessibility may also deter parents from sending their children to school, leading them to enter the labour force as a result.

Putting children to work instead of into school may create a vicious circle: initially, work may adversely affect schooling; later, low or no education may result in continued child labour. Poverty may thereby be both a cause and effect of low educational attainment.

In agricultural-based societies child labour begins as early as 5-6 years of age, at about the same age when children are expected to enter primary school (Kanbargi, 1991). An in-depth, time-budget allocation study in Indonesian and Nepalese villages has found that the average time inputs of 12-14-year-old girls in all types of work is almost the same as that of adult males (Nag and others, 1978).

Many traditional societies place little value on girls' education, thus putting female children at a particular disadvantage. Special attention needs to be given to female children in data analysis and policy and programme development. Two consistent findings emerging from both micro- and macro-level studies in South Asian countries (reviewed in Kanbargi, 1991) are that lack of education is a major determinant of child labour and that female children are more adversely affected than male children.

This article focuses on child labour in Nepal with two main objectives. We first estimate the prevalence of child labour in the 75 districts of Nepal and then examine the hypothesis that child labour is significantly higher in districts that have a higher

incidence of poverty and lower level of educational attainment. In the analysis, we postulate that poverty and educational attainment affect each other: a higher incidence of poverty may lead to lower levels of educational attainment, and lower levels of educational attainment, in turn, may lead to a higher degree of poverty. The analysis focuses particularly on gender differences.

## Data and methods

Data from the 1991 census of Nepal are used to estimate the prevalence of child labour in the country's 75 districts (CBS, 1993a). The census collected data on child labour among children 10-14 years old and also, for the first time, on children's employment by duration of work: less than three months, 3-6 months, 7-8 months and more than 8 months. But the census did not collect labour data among children 5-9 years old.

In this analysis, child labour refers to the percentage of children gainfully employed (for remuneration in cash or kind) for six months or more among all children 10-14 years old at the time of the census. Employment of more than five months may be considered to represent a serious situation, even if one may contend that a few months of employment may represent work done during school vacation. The census employment data do not include the "unpaid" work performed by children, which remains "invisible". In the manner of adult invisible labour (UNDP, 1995), the invisible contribution of children may also be significant.

Poverty may be defined in various ways (Blackwood and Lynch, 1994) with different policy and programmatic implications (Glewwe and Gaag, 1990). In the present analysis, we have defined poverty firstly as the percentage of people below the per capita income poverty line. Data for estimating this measure of poverty come from a 1991/92 survey conducted in 32 districts by the national bank (Nepal Rastra Bank, 1994). The income data include both the agricultural and non-agricultural sectors. A second, corollary measure of poverty used in the analysis is the percentage of people below the per capita landholding poverty line. The data on landholding are based on the 1991/92 agricultural census (CBS, 1993d). By utilizing these data, Chhetry (1994) has estimated percentages of people belonging to the two definitions of poverty in each of the 32 districts.

Data on literacy come from the 1991 census (CBS, 1993b). Child literacy refers to the percentage of those who can at least read, write and do simple counts among all children 6-14 years old at the time of the census. They are divided into two age groups: 6-9 and 10-14. Adult literacy refers to the percentage of adults who can at least read, write and count among all adults, i.e. those 15 years old and older.

The main techniques of data analysis used are simple correlation coefficients and linear multiple regression. The unit of analysis is the district, not individuals. In this sense, it is "ecological" research.

## Findings

The percentage and number of male and female children between the ages 10 and 14 at the time of census taking among all male and female children 10-14 years of age who worked six months or more in each district of Nepal are shown in table 1.

As of 1991, there were over 2.3 million male and female children aged 10-14 in Nepal. Of these, 422,286 worked at least six months in the year preceding the census time. This represents nearly one-fifth (18 per cent) of all the children 10-14 years old in 1991. (Those who worked fewer than six months consisted of an additional 4.6 per cent.)

There is a wide variation in the prevalence of child labour in the 75 districts, and further, the differences between male and female children are striking. Among male children, the percentage who worked at least six months ranges from a low of 4.5 per cent in Syanja district to a high of 36.2 per cent in Mugu district. In 19 districts, less than 10 per cent of children worked at least six months. At the other extreme, in four districts -- Achham, Jajarkot, Kalikot and Mugu -- at least one-third of the children worked six months or more.

Among female children, the percentage who worked ranges from 5.5 per cent in Jhapa district to a stunning high of 79 per cent in Mugu district. In 30 districts, at least one-third of the female children aged 10-14 worked six months and more. Furthermore, in 11 districts, 50 per cent to 79 per cent of female children were engaged in work for more than six months a year.

In 59 of the 75 districts, the percentage of working female children is considerably higher than that of male children (an average of 224 females for every 100 male children). In the remaining 16 districts, more male than female children (an average of 64 females for every 100 male children) worked at least six months.

As mentioned previously, the data on the incidence of poverty are available for 32 of the 75 districts. Table 2 presents the incidence of poverty in the 32 districts. Three related measures of poverty are included. The first two measures have already been defined. The third is a composite measure consisting of a simple (unweighted) average of the first two measures.

**Table 1: Percentage of male and female children who worked six months or more, among male and female children 10-14 years old, 75 districts, Nepal, 1991**

District	Males	Females	District	Males	Females
Syanja	4.5	12.9	Parsa	15.0	5.9
Kaski	4.7	9.6	Sankhuwasabha	15.1	29.0
Manang	5.3	9.3	Banke	15.8	11.2
Gulmi	6.0	17.8	Bara	15.8	8.3
Bhaktapur	6.4	10.8	Dolkha	15.9	38.4
Parbat	6.8	15.6	Kapilvastu	16.1	12.7
Tanahu	7.6	18.6	Udayapur	16.4	26.6
Kathmandu	7.7	9.2	Dolpa	16.5	36.3
Terathum	7.8	17.0	Pyuthan	16.7	40.9
Lamjung	7.9	22.1	Okhaldunga	17.1	41.9
Darchula	7.9	42.0	Dhading	17.1	33.2
Jhapa	8.3	5.5	Solukhumbu	17.2	38.6
Ilam	8.3	14.2	Rautahat	17.7	6.1
Gorkha	8.3	22.8	Ramechhap	17.7	43.1
Chitwan	8.6	12.8	Dang	17.8	27.4
Lalitpur	8.7	14.5	Bardiya	18.3	15.5
Baglung	9.0	21.8	Kailali	19.0	18.2
Arghakhanchi	9.2	24.1	Rolpa	19.4	47.6
Palpa	9.4	23.1	Khotang	19.8	41.8
Baitadi	10.2	44.6	Makwanpur	20.0	30.1
Surkhet	10.3	29.4	Nuwakot	20.5	36.0
Rupandehi	10.8	10.1	Sindhuli	21.0	32.8
Morang	11.5	8.5	Mahotari	21.2	6.0
Mustang	11.6	14.7	Sarlahi	21.3	7.1
Dadheldhura <sup>1</sup>	2.0	48.5	Bajhang	21.5	63.4
Nawalparasi	12.1	20.9	Dailekh	22.0	50.0
Taplejung	12.3	23.9	Doti	22.4	48.9
Dhankuta	12.4	26.4	Rukum	22.7	56.0
Dhanusha	12.6	5.6	Sindhupalchowk	24.0	41.2
Kanchanpur	12.7	18.8	Rasuwa	24.3	45.6
Panchthar	13.3	29.1	Bajura	28.3	65.5
Saptari	13.8	13.0	Humla	29.1	54.0
Myagdi	14.1	29.8	Jumla	29.1	56.3
Sunsari	14.6	11.6	Achham	32.6	71.7
Siraha	14.6	8.1	Jajarkot	33.1	61.0
Kavrepalanchowk	14.6	31.6	Kalikot	34.5	66.3
Salyan	14.8	36.6	Mugu	36.2	78.9
Bhojpur	15.0	33.3			
			All Nepal	14.3	22.3

Note: Districts are listed in ascending order (with more exact values than shown in the table) according to the percentage share of the total male children in the labour force.

The incidence of poverty based on income ranges from a low of 16.4 per cent (Jhapa district) to a high of 95.0 per cent (Jajarkot district), with an overall average of 56.2 per cent in the 32 districts. Similarly, the incidence of poverty based on landholding ranges from 14.6 per cent (Kanchanpur district) to a high of 91.9 per cent (Bajura district), with the average being 55.1 per cent. According to the composite measure, the percentage of impoverished people ranges from 23.5 per cent to a high of 89.9 per cent. On average, about 56 per cent of the people live in poverty in the 32 districts.

**Table 2: Incidence of poverty, 32 districts, Nepal, 1991**

Measure of poverty	Incidence of poverty (%)	
	Range	Mean
Percentage of poor based on:		
Income	16.4 - 95.0	56.2
Landholding	14.6 - 91.9	55.1
Income and landholding	23.5 - 89.9	55.6

Source: Adapted from Chhetry (1996).

We carried out a test of significance between the mean percentages of male and female child labour in the 32 districts and the remaining 43 districts (for which poverty data are unavailable). The mean percentages for male child labour are 15.3 and 15.9 in the 32 and 43 districts, respectively. Similarly, the mean percentages for female child labour are 29.5 and 28.3 in the 32 and 43 districts, respectively. The differences in mean percentages between the two groups of districts with respect to gender groups are not statistically significant (based on t-test,  $p > .05$ ). The data thus imply that, at least with reference to the prevalence of male and female child labour, the 32 districts may be considered representative of the 75 districts.

Table 3 shows simple (zero-order) correlations between the three related measures of poverty and male and female child labour. The correlation results clearly indicate that poverty is highly correlated with child labour. Child labour is considerably higher in districts that have a higher incidence of poverty. However, poverty affects female child labour more than male child labour. The results also suggest that the incidence of poverty based both on income and landholding is more robust (particularly with respect to female child labour) than that based either on income or landholding. We have therefore used this composite measure of poverty in the rest of the analysis.

**Table 3: Simple correlation (r) between poverty and child labour (male and female), 32 districts, Nepal, 1991**

Measure of poverty	Child labour	
	Males	Females
Percentage of poor based on:		
Income	.629	.736
Landholding	.533	.717
Income and landholding	.639	.798

Note: All co-efficients are significant at  $p < .01$ .

Table 4 shows the literacy rate of the male and female children and adult populations for all Nepal (as of 1991). About 39 per cent of the total population are literate, but with a wide difference between males and females (54 per cent vs. 25 per cent, respectively). The differentials between males and females exist in three age-groups: 6-9, 10-14 and 15 and older. However, the differences in absolute percentage points between males and females among the child population (less than 15 years) is relatively lower than between the male and female adult populations, indicating perhaps a new pattern of change in recent decades. Of the three age-groups, the literacy rate is highest among 10-14-year-olds.

**Table 4: Literacy rate (%) of the population by three age groups, male and female, all Nepal, 1991**

	Age group			
	6-9	10-14	15 and older	All (6 and over)
Males	55.1	75.8	48.9	54.1
Females	37.5	49.1	17.2	24.7
Both sexes	46.4	62.9	32.7	39.3

Total numbers (literate)	1,007,903	1,464,915	3,485,930	5,958,748
Total numbers (illiterate)	1,162,079	862,371	7,161,873	9,186,323

Source: Calculations based on CBS (1993b).

Table 5 shows zero-order correlation of the literacy rate of the male and female populations by age-group. Correlation between the literacy rate of males in all the three age-groups is very strong. Similarly, the literacy rate of females in all three age-groups is also very high. However, the correlation between males and females is relatively weak. Overall, these data reconfirm that literacy of children and adults in the districts is closely linked -- a pattern that holds for both males and females.

**Table 5: Simple correlation (r) between three age groups of male and female literacy rates, 75 districts, Nepal, 1991**

	Males			Females		
	(6-9)	(10-14)	(15+)	(6-9)	(10-14)	(15+)
<b>Males:</b>						
6-9	1.00					
10-14	.91	1.00				
15 and older	.90	.90	1.00			
<b>Females:</b>						
6-9	.93	.86	.87	1.00		
10-14	.86	.84	.85	.98	1.00	
15 and older	.83	.72	.87	.92	.91	1.00

Note: All correlations are significant at  $p < .01$ .

Table 6 shows correlation between literacy and child labour for male and female children for all 75 districts. Child labour and literacy are strongly inversely related. This holds true for both males and females. Female literacy has even stronger association with the prevalence of male child labour. This suggests the importance of female education. A district that has a higher percentage of females literate most probably reflects a different type of social values that discourage child labour.

**Table 6: Simple correlation (r) between three age groups of literacy and child labour (male and female), 75 districts, Nepal, 1991**

Literacy (age group)	Child labour (r)	
	Males	Females
<b>Males:</b>		
6-9	--.75	--.37
10-14	--.76	--.26ns
15 and older	--.76	--.41
<b>Females:</b>		
6-9	--.83	--.58
10-14	--.82	--.62
15 and older	--.73	--.64

Notes: ns = not significant at  $p < .05$ ; all other correlations are significant at  $p < .01$ .

The association between male literacy and female child labour is relatively weak. This suggests that female children are employed even in the districts that may have higher male literacy. This seems to indicate also that a skew towards male literacy is an effect of discrimination. Female child labour is, however, significantly lower in districts that have higher female literacy. This underscores the importance of specifically emphasizing female literacy to minimize female child labour.

In tables 7 and 8, we present the results of linear multiple regression analysis in which poverty (composite measure) and literacy are used as independent variables. The measure of literacy also includes a composite measure which refers to all the three age-specific measures of literacy.

The results in the two tables reveal two essential findings. Firstly, as hypothesized, the two variables, poverty and literacy, are powerful factors explaining the prevalence of child labour in Nepal. They explain 73 per cent to 75 per cent of the variables in male child labour (as indicated by R2 values) and 70 per cent to 71 per cent of the variances in the prevalence of female child labour.

Secondly, both poverty and literacy have significant independent effects on male and female child labour. However, poverty is more powerful than literacy in the case of the prevalence of female child labour. In the case of male child labour, poverty has a secondary effect: male literacy is the primary factor in determining male child labour. The reverse is true for female child labour: poverty is the primary factor affecting female child labour. The relative importance of the two explanatory variables is, therefore, gender-dependent.

**Table 7: Effects of male literacy and poverty \* on male child labour, based on linear regression analysis, 32 districts, Nepal, 1991**

Equation and independent variables	Beta	R2	F-ratio
Equation 1			
Poverty	.428		
Male literacy (6-9)	--.636		
		.753	48.29
Equation 2			
Poverty	.511		
Male literacy (10-14)	--.608		
		.746	46.41
Equation 3			
Poverty	.454		
Male literacy (15+)	--.608		
		.727	42.20
Equation 4			
Poverty	.460		
Male literacy (6+)	--.625		
		.752	47.93

Notes: \* Defined as the percentage of people below the poverty line with respect to income and landholding. All co-efficients and F-ratio values are significant at  $p < .01$ .

**Table 8: Effects of female literacy and poverty \* on female child labour, based on linear regression analysis, 32 districts, Nepal, 1991**

Equation and independent variables	Beta	R2	F-ratio
Equation 1			
Poverty	.656		
Female literacy (6-9)	--.314		
		.696	36.41
Equation 2			
Poverty	.648		
Female literacy (10-14)	--.331		
		.704	37.93
Equation 3			
Poverty	.613		
Female literacy (15+)	--.357		
		.711	39.16
Equation 4			
Poverty	.632		

Notes: \* Defined as the percentage of people below the poverty line with respect to income and landholding. All co-efficients and F-ratio values are significant at  $p < .01$ .

## Discussion and conclusion

In recent times, much has been said in the Nepali media about child labour in the carpet and garment industries. New policies and legislation are being enacted and specific programmes implemented towards eliminating child labour from such industries. However, the data presented in this article indicate that the problem in the export-oriented carpet and garment industries is only the tip of the iceberg. In many districts, the prevalence of child labour, particularly female child labour, is high, with the vast majority of the children concerned living in rural areas. Therefore, national attention and efforts to discourage child labour should not consider child labour a problem confined merely to the carpet and garment sectors. The child labour situation in some districts may have improved since 1991 (when the data analyzed in this article were collected), but the absolute numbers of children in the age group 10-14 have increased to 2.6 million by 1996, up by 350,000 children since the 1991 census (CBS, 1994).

We presumed that poverty and literacy are interrelated. At the household level, poverty may deter parents from sending their children to school and cause them to engage the children in work instead. Engagement in work itself may block school attendance, which in turn may mean less opportunity for access to higher levels of resources. It is difficult to differentiate cause from effect in the cross-sectional data; most probably both mechanisms operate. Based on the findings of longitudinal studies in other countries in South Asia, we postulated in this analysis that the two factors -- poverty and literacy -- affect child labour more strongly than the possible effects of child labour on those factors.

Our analysis of the data shows that child labour in Nepal exists largely due to a lack of access to resources (poverty) and low levels of literacy. Furthermore, poverty affects proportionately more female than male children; female children bear the brunt of the incidence of poverty. Child labour has been an integral part of survival and family welfare, especially in remote and rugged terrain areas (Thapa, 1996). Low levels of literacy may be due to lack of an immediate apparent benefit from schooling and, to some extent, access to and availability of schooling facilities. Even if facilities were to be improved and access increased, however, school attendance may not be expected to increase without a concomitant improvement in the family poverty situation in many of the districts.

The data analyzed in this article suggest that a two-pronged policy intervention is needed: one which would make it possible for people to raise their income, and the other which would make simultaneous efforts to increase literacy. The former intervention (such as income-generating activities) would have relatively more influence in reducing female child labour, while the latter would have relatively more influence in reducing male child labour. Improvements in schooling would both discourage child labour and significantly improve the "human development index" of each district of Nepal (Thapa, 1995). The two-pronged interventions could have considerable impact if they are targeted to the most deprived groups of people. For example, poverty may be clustered in certain groups of people differentiated by ethnicity or other classifications. The data also suggest that there are different underlying social and economic conditions affecting the prevalence of male and female child labour. Because of this also, a one-pronged approach to reducing poverty may be less effective than a multi-pronged approach.

The rural agricultural sector lacks legislation prohibiting the employment of children and enforcing schooling. However, even if such legislation were formulated, it would be tantamount to further increasing family poverty. There are several policy options: access to resources would have to increase substantially in order to add to the resources of the family, draconian policies would need to be implemented to eradicate child labour, or families would need to be given direct economic subsidies for sending their children to school. Although these are extreme measures, they do underscore the basic challenge: wishful thinking and minor corrective measures will not bring about the desired changes in child labour in the vast majority of districts in Nepal. Specific strategies and programmes need to be developed in an organized and systematic way for the rural agricultural sector. The data analysed in this article provide the macro-level context to examine micro-level factors affecting specific causes of poverty and illiteracy towards developing specific intervention programmes.

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